



OUR VANCOUVER

OUR FUTURE 2045

State Environmental Policy Act Draft Environmental Impact Statement

July 2025



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Nếu quý vị muốn thông tin về dự án này được dịch sang tiếng Việt, xin gọi 360-487-7937.

Если вы хотите чтобы информация об этом проекте была переведена на русский язык, пожалуйста, звоните по телефону 360-487-7937.

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July 8, 2025

Subject: OUR VANCOUVER Comprehensive Plan Update Draft Environmental Impact Statement

Dear Community Members,

The City of Vancouver invites you to read and comment on the **OUR VANCOUVER** Comprehensive Plan Update State Environmental Policy Act (SEPA) Draft Environmental Impact Statement (EIS). This document is a key part of the City's ongoing process to update its Comprehensive Plan, which will establish a vision that guides our growth and development for the next 20 years, from 2025 to 2045.

The City is required by the Washington State Growth Management Act to adopt an updated comprehensive plan and changes to its zoning code by December 31, 2025. The proposed update will plan for growth of at least 38,129 new housing units and 43,198 new jobs by the year 2045. The proposal would update the City's current land use map, as well as rename and simplify its land use designations and associated zoning code.

This nonproject Draft EIS is an informational document required by SEPA before the City can move forward with updates to the Comprehensive Plan. The Draft EIS provides community members; local, state, and federal government agencies; and tribal governments with qualitative and quantitative information to consider in the decision-making process for the Comprehensive Plan Update.

This Draft EIS reviews the potential impacts and benefits of three future land use alternatives possibilities for the city as a whole:

- **No Action Alternative**, required by SEPA, assumes that the Comprehensive Plan Update and associated changes to the zoning code and development regulations would not be adopted. Future growth and development would occur in line with the current adopted City Comprehensive Plan and development regulations, as well as recent amendments to state law allowing new housing types in single-family zones, which will automatically take effect and override local regulations even if Vancouver does not act. The No Action Alternative would not meet the City's minimum 2045 targets for new housing units and jobs.
- **Alternative 1** assumes the proposed Comprehensive Plan Update and associated changes to the zoning code and development regulations would be implemented, including new zoning districts that allow more dense housing, employment, and activity centers in more areas across the city. Alternative 1 would allow for more dense, mixed-use development

patterns than the No Action Alternative but in fewer areas than Alternative 2. Alternative 1 would exceed the City's minimum 2045 targets for new housing units and jobs.

- **Alternative 2**, like Alternative 1, assumes the proposed Comprehensive Plan Update and associated changes to the zoning code and development regulations would be implemented. Alternative 2 would allow for the highest density, intensity, and mix of uses of all of the alternatives in a greater number of areas of the city than Alternative 1. Alternative 2 would exceed the City's minimum 2045 targets for new housing units and jobs and would provide the highest capacity among the alternatives.

This Draft EIS follows an extended SEPA scoping period held in August through October 2024, which allowed community members, agencies, interested parties, and tribes to review and comment on the environmental topics to be studied. Since then, the City has finalized the descriptions of the alternatives, analyzed their potential environmental impacts and benefits, and developed potential mitigation measures to address impacts, as presented in this Draft EIS.

The comment period for the Draft EIS from July 8 to September 8, 2025, offers the opportunity for community members to review our analysis so far, provide us with missing information, identify inaccurate information, and/or provide input on possible mitigation or alternatives. Please see the Fact Sheet for more information about the comment period dates and how to provide your comments.

For more information about the **OUR VANCOUVER** Comprehensive Plan Update, please visit our website at: <https://www.beheardvancouver.org/plan2045>

If you have any questions about the Draft EIS process, please contact Meredith Herbst, associate planner, at OurVancouver2045@cityofvancouver.us.

Sincerely,



Chad Eiken, AICP
Director, Community Development, City of Vancouver
SEPA Responsible Official

Fact Sheet

Proposal Title

OUR VANCOUVER Comprehensive Plan Update

Proposal Description

The City of Vancouver (City) is proposing to update its Comprehensive Plan, which will establish a vision that guides the entire city's growth and development for the next 20 years, from 2025 to 2045. The City is required by the Washington State Growth Management Act to adopt an updated comprehensive plan and changes to its zoning code by December 31, 2025. The proposed update will plan for growth of at least 38,129 new housing units and 43,198 new jobs by the year 2045. The proposal would update the current land use map, as well as rename and simplify existing land use designations and the associated zoning code. This "non-project" Draft EIS reviews the potential impacts of three future alternatives at a high level for the city as a whole, rather than a detailed analysis of an individual site:

- **No Action Alternative**, required by SEPA, assumes that the Comprehensive Plan Update and associated changes to the zoning code and development regulations would not be adopted. Future growth and development would occur in line with the current adopted City Comprehensive Plan and development regulations, as well as recent amendments to state law allowing new housing types in single-family zones, which will automatically take effect and override local regulations if Vancouver does not act. The No Action Alternative would not meet the City's minimum 2045 targets for new housing units and jobs.
- **Alternative 1** assumes the proposed Comprehensive Plan Update and associated changes to the zoning code and development regulations would be implemented, including new zoning districts that allow more dense housing, employment, and activity centers in more areas across the city. Alternative 1 would allow for more dense, mixed-use development patterns than the No Action Alternative, but in fewer areas than Alternative 2. Alternative 1 would exceed the City's minimum 2045 targets for new housing units and jobs.
- **Alternative 2**, like Alternative 1, assumes the proposed Comprehensive Plan Update and associated changes to the zoning code and development regulations would be implemented. Alternative 2 would allow for the highest density, intensity, and mix of uses of the alternatives in a greater number of areas of the city than Alternative 1. Alternative 2 would exceed the City's minimum 2045 targets for new housing units and jobs and would provide the highest capacity among the alternatives.



Proposal Location

Vancouver city limits

Proposal Proponent and Lead Agency

City of Vancouver Community Development Department
City Hall
PO Box 1995
Vancouver, WA 98668

Proposed Date of Implementation

February 2026

SEPA Responsible Official

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Permits, Licenses, and Approvals Likely Required for Proposal

Vancouver City Council approval, based on recommendations from the Vancouver Planning Commission, is required to implement the proposal. In addition, all Comprehensive Plan amendments and implementing regulations require a 60-day review by the Washington Department of Commerce and other state agencies. The Regional Transportation Council is also required to certify the Transportation Element of the Comprehensive Plan.



After adoption of the Comprehensive Plan Update, individual development proposals would be required to obtain applicable land use, construction, building, and right-of-way permits and conduct additional SEPA review as required by City and state law.

Authors and Principal Contributors to the EIS

With direction from the City of Vancouver, the following consultant team prepared and/or contributed analysis to this Draft EIS:

- WSP USA (prime consultant): Overall document management; Land and Shoreline Use; Housing; Aesthetics; Historic and Cultural Preservation; Transportation; Noise; Public Services and Utilities; Earth; Air Quality, Greenhouse Gases and Climate; Water; Plants and Animals
- Alta Planning + Design, Inc.: Transportation
- BERK Consulting: Land and Shoreline Use; Housing; Air Quality, Greenhouse Gases and Climate; Plants and Animals
- Design Workshop: Figures and text adapted from the Community Atlas
- ECONorthwest: Land and Shoreline Use, Housing

Date of Issue of Draft EIS

July 8, 2025

Deadline for Comments on the Draft EIS

September 8, 2025, at 11:59 p.m.

How to Provide Comments

Comments may be provided via online comment form, email, postal mail or voicemail.

Online Comment Form (preferred): <https://www.surveyhero.com/c/VancouverDEIS>

Email: OurVancouver2045@cityofvancouver.us

Postal Mail:

Meredith Herbst
City Hall
PO Box 1995
Vancouver, WA 98668

Voicemail: 360-487-7929



Public Meeting Information

The City is hosting two public meetings to allow community members to learn about the Draft EIS, provide comments, and ask questions to City staff:

Wednesday, July 30, 2025, 4 p.m. to 7 p.m.

East Vancouver

Firstenburg Community Center, Community Room

700 NE 136th Avenue, Vancouver, WA 98684

Saturday, August 9, 2025, 11 a.m. to 2 p.m.

West Vancouver

City Hall, Aspen Room

415 W. 6th Street, Vancouver, WA 98660

Please visit the Be Heard Vancouver website for more information about the public meetings and other informal opportunities to review and discuss the Draft EIS with City staff:

<https://www.beheardvancouver.org/plan2045>

Date of Final Action

February 2026

Type and Timing of Additional Environmental Review

After the Draft EIS public comment period, the City will review and respond to comments and determine whether updates to the alternatives and associated environmental analyses are needed. The City will publish a Final EIS that provides comment responses, revises alternatives and analyses as necessary, and identifies a Preferred Alternative. The City anticipates publishing the Final EIS in late 2025.

Location of Related Environmental Documents and Data

Please visit the Be Heard Vancouver website to view related documents and data for the **OUR VANCOUVER** Comprehensive Plan 2045:

<https://www.beheardvancouver.org/plan2045>

Availability/Purchase of Draft EIS

The Draft EIS is available for download on the Be Heard Vancouver website:

<https://www.beheardvancouver.org/plan2045>



Community members may review printed copies of the Draft EIS at the front desk of City Hall, 415 W. 6th Street, Vancouver, WA 98660 by appointment. Please contact Community Development staff at OurVancouver2045@cityofvancouver.us or (360) 487-7937 to request an appointment and/or a printed copy of the document for the cost of production.

Distribution List

Tribes

Chinook Tribe
Confederated Tribes of Grand Ronde
Confederated Tribes of the Warm Springs
Confederated Tribes and Bands of the Yakama Nation
Cowlitz Indian Tribe

Federal Agencies

U.S. Army Corps of Engineers

Washington State Agencies

Washington State Department of Agriculture
Washington State Department of Archaeology and Historic Preservation
Washington State Department of Commerce
Washington State Department of Corrections
Washington State Department of Ecology
Washington State Department of Fish and Wildlife
Washington State Department of Health
Washington State Department of Natural Resources
Washington State Department of Social and Health Services
Washington State Department of Transportation
Washington Energy Facility Site Evaluation Council
Washington State Parks and Recreation Commission

Regional/Other Agencies

Lower Columbia Fish Recovery Board
Port of Vancouver
Puget Sound Partnership
Puget Sound Regional Council
Southwest Washington Regional Transportation Council
Southwest Clean Air Agency



County Agencies

Clark County Community Development Department
Clark County Public Health Department

Cities

City of Battleground
City of Camas

Service Providers

Clark County PUD
Clark Regional Wastewater District
C-TRAN
Evergreen School District
Fort Vancouver Library
TriMet
Vancouver School District

Community Organizations and Businesses

Airport Green	DuBois Park
Arnada	East Mill Plain
Bagley Downs	East Vancouver Business Association
Bella Vista	Edgewood Park
Building Industry Association of Clark County	Ellsworth Springs
Burnt Bridge Creek	Emerald Landing
Burton Ridge	Esther Short
Burton-Evergreen	Evergreen Highlands
Carter Park	Evergreen Shores
Cascade Highlands	Father Blanchet Park
Cascade Southwest	Fircrest
Central Park	First Place
Cimarron	Fisher's Creek
Columbian	Fisher's Landing East
Columbia River	Forest Ridge
Columbia River Economic Development Council	Fourth Plain Forward Business Association
Columbia Riverkeeper	Fourth Plan Village
Countryside Woods	Friends of Clark County
	Fruit Valley
	Green Meadows

Harney Heights
Hough
Hudson's Bay
Identity Clark County
Image
Kevanna Park
Landover-Sharmel
Lewis and Clark Woods
Lincoln
Maplewood
Marrion
Meadow Homes
Mountain View
North Garrison Heights
North Image
Northcrest
Northfield
Northwest
Northwood
Neighborhood Traffic Safety Alliance

Oakbrook
Ogden
Old Evergreen Highway
Oregonian
Parkway East
Riveridge
Riverview
Rose Village
Shumway
Southcliff
Uptown Village Association
Vancouver Business Journal
Vancouver Downtown Association
Vancouver Heights
Village at Fisher's Landing
Walnut Grove
West Minnehaha
Wildwood
Woodland Meadows

Interested Individuals

The distribution list also includes individuals who submitted comments during the scoping period and others who signed up for email updates on the Comprehensive Plan Update.



TABLE OF CONTENTS

Fact Sheet..... v

 Proposal Title v

 Proposal Description v

 Proposal Location..... vi

 Proposal Proponent and Lead Agency vi

 Proposed Date of Implementation vi

 SEPA Responsible Official..... vi

 Contact Person..... vi

 Permits, Licenses, and Approvals Likely Required for Proposal..... vi

 Authors and Principal Contributors to the EIS vii

 Date of Issue of Draft EIS vii

 Deadline for Comments on the Draft EIS..... vii

 How to Provide Comments vii

 Public Meeting Information..... viii

 Date of Final Action viii

 Type and Timing of Additional Environmental Review viii

 Location of Related Environmental Documents and Data..... viii

 Availability/Purchase of Draft EIS viii

Distribution List ix

 Tribes..... ix

 Federal Agencies..... ix

 Washington State Agencies ix

 Regional/Other Agencies..... ix

 County Agencies x

 Cities x

 Service Providers..... x

 Community Organizations and Businesses x



Interested Individuals.....	xi
Abbreviations and Acronyms.....	xix
Chapter 1: Summary.....	1
Description of Proposal, Purpose and Need, and Objectives	1
Proposal Location and Study Area	4
State Environmental Review Process	6
Community and Partner Engagement.....	6
EIS Scoping Process.....	7
Public Comment on Draft EIS.....	8
Final EIS and Next Steps	9
Summary of Description of Alternatives.....	9
Summary of Impacts, Benefits and Mitigation Measures.....	10
Significant Areas of Controversy and Issues to be Resolved.....	14
Benefits and Disadvantages of Delaying Implementation	14
Chapter 2: Alternatives.....	15
Proposal Location and Study Area	15
Description of Alternatives	16
No Action Alternative.....	17
Action Alternatives.....	20
Comparison of Alternatives.....	30
Chapter 3: Built Environment	34
Land and Shoreline Use	34
Methodology	34
Affected Environment.....	36
Potential Impacts	51
Avoidance, Minimization, and Mitigation Measures.....	57
Significant Unavoidable Adverse Impacts	58
Housing	59
Methodology	59

Affected Environment.....	59
Potential Impacts	63
Avoidance, Minimization, and Mitigation Measures.....	69
Significant Unavoidable Adverse Impacts	70
Aesthetics.....	71
Methodology	71
Affected Environment.....	71
Potential Impacts	75
Avoidance, Minimization, and Mitigation Measures.....	77
Significant Unavoidable Adverse Impacts	78
Historic and Cultural Preservation.....	78
Methodology	78
Affected Environment.....	79
Potential Impacts	84
Avoidance, Minimization, and Mitigation Measures.....	87
Significant Unavoidable Adverse Impacts	88
Transportation.....	88
Methodology	88
Affected Environment.....	89
Potential Impacts	96
Avoidance, Minimization, and Mitigation Measures.....	103
Significant Unavoidable Adverse Impacts	106
Noise.....	107
Methodology	107
Affected Environment.....	108
Potential Impacts	110
Avoidance, Minimization, and Mitigation Measures.....	114
Significant Unavoidable Adverse Impacts	114
Public Services and Utilities.....	115

Methodology	115
Affected Environment.....	115
Potential Impacts	128
Avoidance, Minimization, and Mitigation Measures.....	137
Significant Unavoidable Adverse Impacts	142
Chapter 4: Natural Environment.....	143
Earth	143
Methodology	143
Affected Environment.....	143
Potential Impacts	150
Avoidance, Minimization, and Mitigation Measures.....	153
Significant Unavoidable Adverse Impacts	154
Air Quality, Greenhouse Gases and Climate	155
Methodology	155
Affected Environment.....	155
Potential Impacts	166
Avoidance, Minimization, and Mitigation Measures.....	173
Significant Unavoidable Adverse Impacts	175
Water	175
Methodology	175
Affected Environment.....	176
Potential Impacts	179
Avoidance, Minimization, and Mitigation Measures.....	181
Significant Unavoidable Adverse Impacts	182
Plants and Animals	182
Methodology	182
Affected Environment.....	183
Potential Impacts	190
Avoidance, Minimization, and Mitigation Measures.....	192



Significant Unavoidable Adverse Impacts194

Chapter 5: Potential Cumulative Effects195

Chapter 6: References197

Appendix A: Scoping Information.....A-1

Appendix B: Market and Land Capacity Analysis Process MemorandumB-1

Appendix C: Land Use and Zoning Information.....C-1

Tables

Table 1. Summary of Potential Impacts and Benefits by Alternative..... 11

Table 2. Proposed New Comprehensive Plan Designations/Zoning Districts and Allowances
and Corresponding Current Comprehensive Plan/Zoning Designations 20

Table 3. Comparison of Acreage of Zoning Districts by Alternative..... 31

Table 4. Comparison of 2045 Estimated Housing and Jobs Capacity by Alternative 32

Table 5. Current Comprehensive Plan Designations and Corresponding Zoning Districts.....37

Table 6. Shoreline Designations, Descriptions, and Allowed Uses..... 41

Table 7. Existing Population Characteristics for Vancouver and Washington State (2023).. 44

Table 8. Average Annual Wages for Job Types and Corresponding Zoning Districts 51

Table 9. Estimated Capacity for New Housing Units in High Displacement Risk Areas..... 64

Table 10. Estimated Capacity for New Housing Units in Connected and Accessible
Neighborhoods..... 65

Table 11. National Register of Historic Places Sites in Vancouver 81

Table 12. Modeled Existing and Future Daily Vehicle Miles Traveled in Vancouver..... 98

Table 13. Modeled Existing and Future Mode Split in Vancouver 99

Table 14. Mobility Units Originating from Transportation Analysis Districts as Compared to No
Action Alternative in 2045 100

Table 15. Modeled Daily Volume Differences between No Action Alternative and Action
Alternatives for Safety Corridors in 2045..... 103

Table 16. Planned Large Capital Transportation Improvement Projects, 2026-2031 104

Table 17. Maximum Washington State Permissible Noise Levels 108

Table 18. Existing Transportation Noise Levels in Vancouver..... 109

Table 19. Vancouver Fire Department Response Times 117

Table 20. EMS Response Times 118

Table 21. Vancouver Police Department Response Times 119

Table 22. Average Student Generation Rates for Vancouver Public Schools (2022) 120



Table 23. Average Student Generation Rates for Evergreen School District (2023–2024)...	121
Table 24. Existing (2025) City Parks and Natural Areas Demand, Inventory, and Need by District (in acres)	124
Table 25. Estimated Number of New Firefighters Needed by Alternative and Area of City ..	130
Table 26. Estimated Number of New Police Officers Needed by Alternative and Area of City	131
Table 27. Future Projected New Students based on New Housing Unit Capacity by Alternative	132
Table 28. Future (2045) City Parks and Natural Areas Demand, Inventory, and Need by District (in acres)	133
Table 29. Projected Park Land Demand by Park Impact Fee District and Alternative (in acres)	134
Table 30. Carbon Monoxide Measured Concentrations in Parts per Billion	157
Table 31. PM ₁₀ Measured Concentrations in Micrograms per Cubic Meter	158
Table 32. PM _{2.5} Measured Concentrations in Micrograms per Cubic Meter	158
Table 33. Ozone Measured Concentrations in Parts per Million.....	159
Table 34. Modeled 2045 Daily Air Pollutant and GHG Emissions from Vehicle Exhaust	168
Table 35. Estimated Capacity for New Housing Units in Areas with High PM _{2.5} Exposure Risk	169
Table 36. Estimated Capacity for New Housing Units in Areas with Ozone Concentration Risk	169
Table 37. Estimated Capacity for New Housing Units and Jobs in Heat Islands.....	170
Table 38. Estimated Capacity for New Housing Units in Areas with Low Existing Tree Canopy Cover.....	191

Figures

Figure 1. Proposed Comprehensive Plan Designations and Associated Zoning Districts.....	4
Figure 2. Proposal Location and Study Area.....	5
Figure 3. Proposal Location and Study Area.....	16
Figure 4. No Action Alternative Comprehensive Plan Designations Map	18
Figure 5. No Action Alternative Zoning Map.....	19
Figure 6. Alternative 1 Proposed Comprehensive Plan Designations Map.....	25
Figure 7. Alternative 1 Proposed Zoning Districts Map	26
Figure 8. Alternative 2 Proposed Comprehensive Plan Designations Map.....	28
Figure 9. Alternative 2 Proposed Zoning Districts Map	29



Figure 10. Centers and Corridors from Current Vancouver Comprehensive Plan 40

Figure 11. Current Shoreline Designations..... 43

Figure 12. Equity Index Map 48

Figure 13. Social Vulnerability Index Map 49

Figure 14. Downtown Vancouver72

Figure 15. East Fourth Plain Boulevard72

Figure 16. Aerial View of SE 164th Avenue and Mill Plain Boulevard Vicinity73

Figure 17. Views of Mt. Hood at Vancouver Lake 74

Figure 18. Federal, State, and County Historic Sites 80

Figure 19. Archaeological Predictive Risk Probability Map 83

Figure 20. Road Classification Map 91

Figure 21. Citywide Locations of Traffic Collisions in 2020 92

Figure 22. Citywide Critical Freight Corridors 93

Figure 23. Existing Citywide Transit and Active Transportation Facilities 95

Figure 24. Active Trip Potential in Clark County by Census Block Group Origin 96

Figure 25. Locations of Transportation Analysis Districts 101

Figure 26. Distribution of Existing Transportation Noise Levels in Vancouver Area.....109

Figure 27. Schools by Type and District Boundaries 122

Figure 28. City Parks by Type and Impact Fee District.....125

Figure 29. Steep Slopes, Gravel Pits, and Mines145

Figure 30. Severe Erosion Hazard Areas146

Figure 31. Landslide Hazard Areas 147

Figure 32. Earthquake Hazards, Liquefaction Areas, and Volcanic Hazard Zones.....149

Figure 33. Radon Exposure Test Levels in Vancouver Area Census Tracts150

Figure 34. PM_{2.5} Exposure Ranking Compared to Other Census Tracts in Washington..... 161

Figure 35. Ozone Exposure Ranking Compared to Other Census Tracts in Washington162

Figure 36. Washington’s Total Greenhouse Gas Emissions 1990–2019163

Figure 37. City of Vancouver 2023 Greenhouse Gas Inventory by Sector164

Figure 38. Heat Exposure Index166

Figure 39. Water Resources 178

Figure 40. Biodiversity Areas and Corridors.....186

Figure 41. Tree Canopy Concentration 189



Abbreviations and Acronyms

Acronym/Abbreviation	Term
ADU	accessory dwelling unit
AMI	area median income
AMR	American Medical Response
ATSDR	Agency for Toxic Substance and Disease Registry
BRT	bus rapid transit
CAO	Critical Areas Ordinance
CDC	Centers for Disease Control
CFP	Capital Facilities Plan
CIP	Capital Improvement Plan
CO	carbon monoxide
CO ₂ e	carbon dioxide equivalent
CPU	Clark Public Utilities
City	City of Vancouver, Washington
dBA	A-weighted decibel
DEQ	Oregon Department of Environmental Quality
DS	Determination of Significance

Acronym/Abbreviation	Term
DOH	Washington Department of Health
Ecology	Washington State Department of Ecology
EDNA	environmental designations for noise abatement
EIS	Environmental Impact Statement
EMS	emergency medical services
EPA	U.S. Environmental Protection Agency
Evergreen SD	Evergreen School District
FEMA	Federal Emergency Management Agency
GHG	greenhouse gas
GMA	Washington State Growth Management Act
H.B.	House Bill
I-5	Interstate 5
I-205	Interstate 205
ITS	intelligent transportation system
LOS	level of service
MOVES5	Motor Vehicle Simulator
NAAQS	National Ambient Air Quality Standards

Acronym/Abbreviation	Term
NFPA	National Fire Protection Association
NO _x	oxides of nitrogen
NRHP	National Register of Historic Places
OFM	Washington State Office of Financial Management
PIF	Park Impact Fee
PM _{2.5}	particulate matter 2.5 microns or less in diameter
PM ₁₀	particulate matter 10 microns or less in diameter
RCW	Revised Code of Washington
RTC	Regional Transportation Council
SEPA	State Environmental Policy Act
SMP	Shoreline Master Program
SR	State Route
SVI	Social Vulnerability Index
TIP	Transportation Improvement Program
TSP	Transportation System Plan
USFWS	U.S. Fish and Wildlife Service
VBLM	Vacant Buildable Lands Model

Acronym/Abbreviation	Term
VFD	Vancouver Fire Department
VMC	Vancouver Municipal Code
VMT	vehicle miles traveled
VPD	Vancouver Police Department
VPRCS	Vancouver Department of Parks, Recreation and Cultural Services
VPS	Vancouver Public School District
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WSHR	Washington State Heritage Register

Chapter 1: Summary

This chapter provides an overview of the Draft Environmental Impact Statement (EIS) and its major findings, including a description of the proposal; its objectives, purpose and need, and location; the environmental review and public involvement process; a summary of the alternatives evaluated in this EIS; potential impacts and mitigation measures for each alternative; significant areas of controversy and issues to be resolved; and benefits and disadvantages of delaying implementation of the proposal.

Description of Proposal, Purpose and Need, and Objectives

The City of Vancouver, Washington (City) is proposing to update its Comprehensive Plan, which will establish a vision that guides its growth and development for the next 20 years, from 2025 to 2045. Since the last plan update in 2011, Vancouver has experienced substantial growth, as well as demographic, economic and social changes.

Pursuant to Revised Code of Washington (RCW) 36.70A.070, the Washington State Growth Management Act (GMA) requires that all fully planning jurisdictions, including Vancouver, update their adopted comprehensive plans and development regulations every 10 years. The GMA specifies mandatory elements that Washington cities are legally required to integrate into their comprehensive plans. These elements include land use, housing, capital facilities, utilities, transportation, economic development, parks and recreation, and climate change and resiliency. Through its visioning process, the City has elected to include additional elements that are not mandated by state law, including equity and inclusion.

The purpose of the Comprehensive Plan Update is to set the vision and direction for Vancouver for the next 20 years, including a focus on the following key questions:

- What types of services, facilities, and infrastructure will be needed?
- How can we help make Vancouver a healthier community for all people?

Plan Vision Statement

“Vancouver is an equitable and prosperous community, which ensures that all residents, businesses and organizations benefit from the growth and advancement we make together. Vancouver will be recognized for our quality of life, as evidenced by affordable housing in vibrant, safe and walkable neighborhoods, access to jobs and economic opportunity for all, and leading-edge efforts to address climate change.”

- How will infrastructure and land use be resilient and responsive to natural disasters, threats and unexpected circumstances?
- How will we provide housing that is affordable and accessible to everyone?
- How will the plan's overall vision and investments inform equitable access to opportunity, employment, and the benefits from those investments?

The City has named the forthcoming comprehensive plan **OUR VANCOUVER** to reflect the process of co-creating the plan with the community. The Comprehensive Plan Update is needed to meet the requirements of the GMA and must be adopted by December 31, 2025. As part of this proposal, the City is currently:

- Conducting a full rewrite of the existing Comprehensive Plan, including changes to all existing elements and the land use map.
- Developing a detailed strategy for implementing the goals, policies, and strategies outlined with the revised plan.
- Modifying the existing zoning code (Title 20 of the Vancouver Municipal Code [VMC]), which regulates the scale, size and location of buildings and uses, to reflect the goals and policies identified in the revised plan.
- Completing the EIS process outlined within the State Environmental Policy Act (SEPA).
- Establishing a process to develop and create the plan with members of the community, and conduct community engagement activities in a method consistent with state law.

The Comprehensive Plan Update will plan for growth of at least 38,129 new housing units and 43,198 new jobs by the year 2045. These minimum growth targets are based on population projections from the Washington State Office of Financial Management (OFM), Clark County, recent trends, state law, and City policy to plan for long-term housing and employment needs.

The proposal would also update the current land use map that guides growth and development under the Comprehensive Plan. The Comprehensive Plan land use designations and associated zoning code would be renamed and simplified to focus on the following zoning districts and as shown on Figure 1:

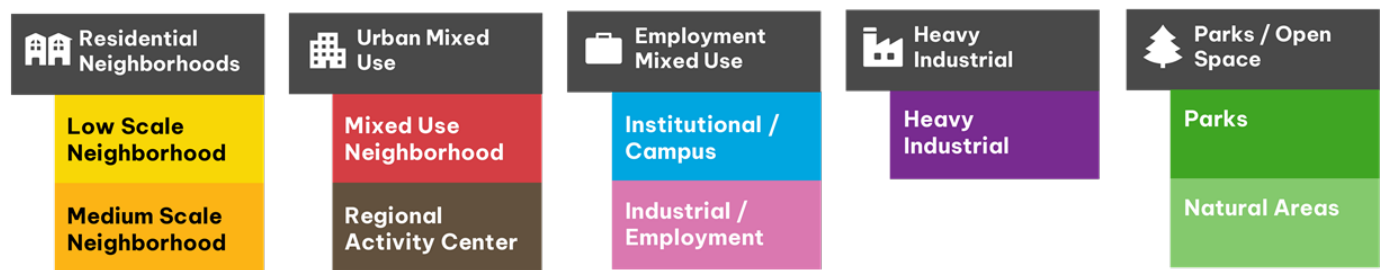
- **Low-Scale Neighborhood:** Focuses on low-scale housing choices, typically with up to six units per parcel and building heights of up to three stories (maximum of 45 feet tall). Any lot would be allowed to have at least four units. Housing types include single-family homes, accessory dwelling buildings, and multifamily residential buildings sometimes referred to as “middle housing,” including duplexes (two-unit structures), townhouses

(attached single-family homes), quadplexes (four-unit structures), and sixplexes. Small-scale commercial activities like cafés, salons, professional services, and restaurants mostly serving the surrounding neighborhood would also be allowed.

- **Medium-Scale Neighborhood:** Provides a broad range of housing types and building heights of 2 to 5 stories (maximum of 75 feet tall). Housing types include all of the types allowed in the Low-Scale Neighborhood plus additional multifamily building types, including courtyard buildings and multifamily mixed-use buildings. Civic/institutional buildings and commercial activities like cafés, restaurants, small offices, and other retail goods would also be allowed.
- **Mixed-Use Neighborhood:** Provides for a broad range of housing, commercial, and civic/institutional use types, with building heights of 3 to 8 stories (maximum of 110 feet tall). Housing types include multifamily buildings at a variety of scales. Commercial or retail uses may include professional offices, medical providers, cafés, restaurants, small grocery stores, markets, and other retail goods.
- **Regional Activity Center:** Includes lands that offer opportunities for economic, entertainment, civic, and housing needs, with minimum building heights of three stories and no maximum building heights. Size and makeup of this zoning district would vary based on location but would typically consist of compact, mixed-use development that maximizes residential, commercial, and open space opportunities. Typical housing options would be mixed-use residential, apartment, mid-rise and podium buildings.
- **Institutional/Campus:** Includes lands that support academic, civic, or medical buildings up to 12 stories (maximum of 150 feet tall). Allowable housing types include townhouses, multifamily, and mid-rise buildings. Buildings for athletic facilities, event spaces, equipment or other accessory uses needed to support an educational, medical, or large institution would also be allowed.
- **Industrial/Employment:** Includes lands with large-scale, single-tenant industrial, warehouse and flex space building and smaller, multi-tenant industrial buildings up to 12 stories (maximum of 150 feet tall). The buildings would be grouped to support and serve one another and to provide opportunities for employment clusters. New housing would not be allowed in this zoning district.
- **Heavy Industrial:** Includes lands that are currently zoned for heavy industrial uses, such as manufacturing and production, within the city and would remain unchanged. New housing would not be allowed in this zoning district.
- **Parks:** Includes lands currently zoned as public community and neighborhood parks. Housing would not be allowed in this zoning district.

- **Natural Areas:** Includes lands currently zoned for greenways and natural areas, which are generally undeveloped lands managed for both natural and ecological value and light-impact recreational use. Housing would not be allowed in this zoning district.

Figure 1. Proposed Comprehensive Plan Designations and Associated Zoning Districts



The proposed zoning code update would allow or require a mixing of uses, depending on the zoning district; emphasize density minimums and building height and parking maximums; and focus on building placement as it relates to the street and building types. A major goal of the zoning code update is to make requirements easier and simpler to understand for residents, developers, homebuilders, and staff, and in turn to reduce costs and barriers to housing production.

Proposal Location and Study Area

The primary study area is all of the Vancouver city limits, as shown in Figure 2. The study area includes areas across the city that have been identified as planned growth centers or corridors.

Figure 2. Proposal Location and Study Area



Source: Clark County n.d.

State Environmental Review Process

This nonproject Draft EIS is an informational document required by SEPA, which is regulated under Washington Administrative Code (WAC) 197-11, before the City can move forward with adopting updates to the Comprehensive Plan. A nonproject EIS covers governmental actions involving decisions on policies, plans or programs, including the adoption or amendment of comprehensive plans, ordinances, rules and regulations. Environmental analysis at the nonproject stage is typically less detailed and is intended to form the basis for future environmental reviews and permitting processes for specific projects.

The Draft EIS provides the public; city, state, and federal government agencies; and tribal governments with qualitative and quantitative information to consider in the decision-making process. It also allows the public, government agencies, interested parties, and tribes to comment on the potential alternatives.

This Draft EIS describes the following:

- Methodology, legal framework and data sources used for the analysis
- Existing conditions (called “affected environment” in this document) of the study area
- A No Action Alternative and two action alternatives
- Potential significant, unavoidable, and adverse impacts
- Potential beneficial outcomes of the alternatives
- Mitigation measures, which are changes or conditions designed to avoid, minimize, or compensate for potential adverse impacts

Community and Partner Engagement

Since early 2023, the City has been engaging in extensive community outreach and engagement to help planners address key questions about housing; land use, development and infrastructure; economic development; equity and opportunity; and climate and environment.

The first year of the process focused on gathering input from the community to identify a collective vision for the future of Vancouver, as well as vision statements for each element of the Comprehensive Plan. The City met community members where they already were and sought to learn what makes them feel connected to **OUR VANCOUVER**. The City also invited a group of community partners to co-create the plan with the City. The City has met regularly with community partners to discuss the needs of the communities they serve and identify with, lending a voice from folks outside the typical planning process. In-language liaisons gathered community input to make sure community members could express their

needs without language barriers. The City also distributed a community survey to learn more about community members' priorities and vision for future growth.

Throughout 2024, the City reviewed how its land is currently used and how it can be used more efficiently to meet the needs of a growing population. The City held community mapping workshops in the spring to help develop a series of land use possibilities, which were later refined into the two action alternatives analyzed in this Draft EIS.

EIS Scoping Process

To start the environmental review process, the City issued a SEPA Determination of Significance (DS), which is a public notice stating that this proposal is likely to have a significant adverse impact on the environment. A DS means the proposal to update the Comprehensive Plan has a reasonable likelihood of negative effects on environmental quality that could be considered more than moderate. For proposals that fall into this category, an EIS is required under state law [RCW 43.21C.030 (2)(c)].

The City published this notice in the SEPA Register and *The Columbian* on July 12, 2024, and on the Be Heard Vancouver website for the Comprehensive Plan Update. The City also provided the notice via an email distribution list consisting of federal, state, and local agencies; tribes; community groups; and other interested parties.

The scoping notice initially requested comments during an expanded comment period of 30 days, which is greater than the SEPA-required 21 days. The comment period was originally scheduled to end on August 12, 2024. In order to provide additional opportunities for review and comment by local agencies and communities, the City extended the scoping comment period to August 23, 2024, and again to September 6, 2024. The City issued a revised scoping notice on October 22, 2024, to clarify proposed future growth levels, the number of alternatives that will be analyzed in the Draft EIS, and the role of desired community outcomes and goals in the Comprehensive Plan Update and SEPA process. The deadline for comments was November 21, 2024. The scoping notices requested comments via postal mail or email.

The notices identified the City's intent to evaluate the No Action Alternative and two to three action alternatives that outline different land use and growth scenarios in specific areas of the City. The notices also identified the following areas for discussion in the EIS in accordance with WAC 197-11-444:

- Land and shoreline use
- Housing
- Aesthetics (including light and glare)

- Historic and cultural resources
- Transportation
- Noise
- Public services and utilities (including emergency services, water, sewer, schools, parks and recreation)
- Earth (geologic hazard areas, soils, topography)
- Air quality, greenhouse gases, and climate
- Water resources
- Plants and animals

The City received eight comments during the two scoping periods covering a wide variety of topics. Appendix A, Scoping Information, provides a more detailed summary of the comments received. None of the comments included objections to the environmental elements identified in the scoping notice. Most of the comments provided detailed input or questions about specific topics of interest, including EIS elements to be studied, analysis methods, and potential mitigation measures. Based on these comments, the City determined that the topics identified in the scoping notice were appropriate and proceeded with the Draft EIS analysis.

Public Comment on Draft EIS

The public comment period for this Draft EIS is from **July 8 to September 8, 2025**. Comments may be provided via the following methods:

- Online Comment Form (preferred): <https://www.surveyhero.com/c/VancouverDEIS>
- Email: OurVancouver2045@cityofvancouver.us
- Postal Mail:
Meredith Herbst
City Hall
PO Box 1995
Vancouver, WA 98668
- Voicemail: 360-487-7929

The City is also hosting two public meetings to allow community members to learn about the Draft EIS, provide comments, and ask questions to City staff:

- **Wednesday, July 30, 2025, 4 p.m. to 7 p.m.**
East Vancouver
Firstenburg Community Center, Community Room

700 NE 136th Avenue
Vancouver, WA 98684

- **Saturday, August 9, 2025, 11 a.m. to 2 p.m.**

West Vancouver
City Hall, Aspen Room
415 W. 6th Street
Vancouver, WA 98660

Please visit the [Be Heard Vancouver website](https://beheardvancouver.org) for more information about the public meetings and other informal opportunities to review and discuss the Draft EIS with City staff.

Final EIS and Next Steps

After the public comment period concludes, the City will review the comments received and prepare a Final EIS that responds to comments on the Draft EIS. The Final EIS will describe the potential impacts and benefits of a Preferred Alternative that is within the range of the alternatives studied in the Draft EIS.

After issuance of the Final EIS, the City will submit the draft Comprehensive Plan Update and specific edits to the land use map that reflect the Preferred Alternative for review by the Planning Commission and City Council. The Planning Commission and City Council will hold additional public hearings and work sessions to review and receive further public comment on the details and implementation of the Comprehensive Plan Update. Community members will have additional opportunities to provide comments on the proposed Comprehensive Plan Update and land use and zoning code amendments as part of this process.

Summary of Description of Alternatives

This Draft EIS evaluates the potential impacts and benefits of three alternatives:

- The **No Action Alternative**, required by SEPA, is a future scenario that assumes future growth and development would occur in line with the current adopted City Comprehensive Plan and development regulations, and state statutory requirements that impose a state middle housing model zoning ordinance on local jurisdictions which do not take action to allow middle housing in single-family zones. The new zoning districts proposed for the Comprehensive Plan Update and zoning code would not be adopted. The No Action Alternative is not projected to meet the City's minimum 2045 targets for housing units and jobs because it would allow less dense development than the action alternatives.

- **Alternative 1** is a future scenario that assumes the proposed Comprehensive Plan Update and associated changes to the zoning code and development regulations would be implemented. Although many areas of the city would have similar land use designations under all alternatives, Alternative 1 would generally accommodate more density and greater mixes of land uses than the No Action Alternative but less density and mixes of uses than Alternative 2. The amount of land designated for Regional Activity Centers, Medium-Scale Neighborhoods, and Mixed-Use Neighborhoods would be lower than under Alternative 2. The amount of land designated as Low-Scale Neighborhoods and Industrial/Employment would be higher under Alternative 1 than Alternative 2. Alternative 1 would exceed the City’s minimum 2045 targets for housing units and jobs.
- **Alternative 2** is a future scenario that assumes the proposed Comprehensive Plan Update and associated changes to the zoning code and development regulations would be implemented. Although many areas of the city would have similar land use designations under all alternatives, Alternative 2 would provide the most options for higher density, mixed uses in more areas of the city. The amount of land designated as Regional Activity Centers, Medium-Scale Neighborhood, and Mixed-Use Neighborhoods would be the highest of the alternatives. The amount of land designated for Low-Scale Neighborhoods would be the lowest of the alternatives. Alternative 2 would exceed the City’s minimum 2045 housing and jobs targets and would have the highest capacity of all the alternatives.

Chapter 2 provides a more detailed description of each alternative, including figures showing their major elements and a comparison of their features.

Summary of Impacts, Benefits and Mitigation Measures

Table 1 summarizes the impacts and benefits of each alternative studied in the EIS, as well as the proposed measures to avoid, minimize, or mitigate adverse impacts.

Table 1. Summary of Potential Impacts and Benefits by Alternative

Element of the Environment	No Action	Alternative 1	Alternative 2
Land and Shoreline Use	<ul style="list-style-type: none">• Not consistent with proposed Comprehensive Plan Update and associated policies• Does not meet housing and jobs growth targets• Some potential for land use compatibility issues• Lowest capacity for new jobs; similar average wages for new jobs among all alternatives• Lowest potential for commercial displacement, fewer new spaces for businesses	<ul style="list-style-type: none">• Consistent with proposed Comprehensive Plan Update and associated policies• Exceeds housing and jobs growth target• Some potential for land use compatibility issues• Substantially higher capacity for new jobs than No Action; similar average wages for new jobs among all alternatives• Moderate potential for commercial displacement, more new spaces for businesses	<ul style="list-style-type: none">• Consistent with proposed Comprehensive Plan Update and associated policies• Exceeds housing and jobs growth target by higher amount than Alternative 1• Some potential for land use compatibility issues• Highest capacity for new jobs; similar average wages for new jobs among all alternatives• Similar potential for commercial displacement to Alternative 1
Housing	<ul style="list-style-type: none">• Lowest capacity for new housing units, does not meet growth targets• Lowest potential for diversity of housing types and affordable housing supply• Highest potential for new housing units in displacement risk areas• Lowest capacity for new housing units in connected and accessible neighborhoods• Least compatible with existing housing plans and policies	<ul style="list-style-type: none">• Higher capacity for new housing units, exceeds growth targets• Higher potential for diversity of housing types and affordable housing supply• Lowest potential for new housing units in high displacement risk areas• Higher capacity for new housing units in connected and accessible neighborhoods• Highly compatible with existing housing plans and policies	<ul style="list-style-type: none">• Highest capacity for new housing units, exceeds growth targets• Highest potential for diversity of housing types and affordable housing supply• Moderate potential for new housing units in high displacement risk areas• Highest capacity for new housing units in connected and accessible neighborhoods• Similarly compatible with existing housing plans and policies compared to Alternative 1
Aesthetics	<ul style="list-style-type: none">• Some changes to visual setting through new development but overall modest impacts to aesthetics• Lowest potential for aesthetic improvements associated with redevelopment of parking lots and vacant lots and structures	<ul style="list-style-type: none">• Moderate potential for larger-scale buildings and associated light, glare, shadow and visual impacts compared to No Action• Moderate potential for aesthetic improvements associated with redevelopment of parking lots and vacant lots and structures	<ul style="list-style-type: none">• Moderately higher potential for larger-scale buildings and associated light, glare, shadow and visual impacts than Alternative 1• Highest potential for aesthetic improvements associated with redevelopment of parking lots and vacant lots and structures
Historic and Cultural Preservation	<ul style="list-style-type: none">• Lowest potential for disturbance of individual sites and associated impacts to cultural, archaeological and historic resources	<ul style="list-style-type: none">• Moderate potential for disturbance of individual sites and associated impacts to cultural, archaeological and historic resources	<ul style="list-style-type: none">• Similar potential for disturbance of individual sites and associated impacts to cultural, archaeological and historic resources compared to Alternative 1

Element of the Environment	No Action	Alternative 1	Alternative 2
Transportation	<ul style="list-style-type: none"> • Lowest total daily citywide vehicle miles traveled (VMT); highest VMT per household • Similar mode split (vehicle/transit/walk/bike) and average trip length for all alternatives • Generally lowest mobility units (person miles per day) • Generally lowest projected new traffic volumes on city safety corridors 	<ul style="list-style-type: none"> • Higher total daily citywide VMT; lower VMT per household than No Action • Similar mode split (vehicle/transit/walk/bike) and average trip length for all alternatives • Generally higher generation of mobility units (person miles per day) • Generally higher projected new traffic volumes on city safety corridors 	<ul style="list-style-type: none"> • Similar total daily citywide VMT to Alternative 1; lowest VMT per household • Similar mode split (vehicle/transit/walk/bike) and average trip length for all alternatives • Generally highest generation of mobility units (person miles per day) • Generally highest projected new traffic volumes on city safety corridors
Noise	<ul style="list-style-type: none"> • Lowest potential for substantial construction noise impacts in residential/noise-sensitive areas • Lowest potential for increased transportation noise impacts in residential/noise-sensitive areas • Similar capacity for new housing units in areas with high transportation noise for all alternatives 	<ul style="list-style-type: none"> • Moderate potential for substantial construction noise impacts in residential/noise-sensitive areas • Moderate potential for increased transportation noise impacts in residential/noise-sensitive areas • Similar capacity for new housing units in areas with high transportation noise for all alternatives 	<ul style="list-style-type: none"> • Highest potential for substantial construction noise impacts in residential/noise-sensitive areas • Highest potential for increased transportation noise impacts in residential/noise-sensitive areas • Similar capacity for new housing units in areas with high transportation noise for all alternatives
Public Services and Utilities	<ul style="list-style-type: none"> • Lowest new demand citywide for public services and utilities, including firefighters; police officers; schools; parks and recreation facilities; water, wastewater, and sewer services; energy; and solid waste services • Most new demand projected in Central and East Vancouver 	<ul style="list-style-type: none"> • Higher new demand citywide for public services and utilities, including firefighters; police officers; schools; parks and recreation facilities; water, wastewater, and sewer services; energy; and solid waste services • Similar geographic distribution of new demand for both action alternatives, with lowest new demand projected in West Vancouver and highest new demand projected in East Vancouver 	<ul style="list-style-type: none"> • Highest new demand citywide for public services and utilities, including firefighters; police officers; schools; parks and recreation facilities; water, wastewater, and sewer services; energy; and solid waste services • Similar geographic distribution of new demand for both action alternatives, with lowest new demand projected in West Vancouver and highest new demand projected in East Vancouver
Earth	<ul style="list-style-type: none"> • Similar consistency with city regulations for geologic hazard areas for all alternatives • Lowest potential for ground disturbances, potential erosion, and increases in impervious surfaces 	<ul style="list-style-type: none"> • Similar consistency with city regulations for geologic hazard areas for all alternatives • Higher potential for ground disturbances, potential erosion, and increases in impervious surfaces 	<ul style="list-style-type: none"> • Similar consistency with city regulations for geologic hazard areas for all alternatives • Similar potential for geologic hazard and erosion risks to Alternative 1. • Greatest potential for ground disturbances and increases in impervious surfaces

Element of the Environment	No Action	Alternative 1	Alternative 2
Air Quality, Greenhouse Gases and Climate	<ul style="list-style-type: none">• Lower modeled 2045 air pollutant and greenhouse gas emissions than existing conditions• Similar capacity for new housing units in areas with air pollutant exposure risks for all alternatives• Lowest capacity for new housing units and jobs in heat islands• Lowest potential for construction-related air quality impacts	<ul style="list-style-type: none">• Lower modeled 2045 emissions than existing conditions, higher modeled emissions than No Action Alternative• Similar capacity for new housing units in areas with air pollutant exposure risks for all alternatives• Highest capacity for new housing units and moderate capacity for new jobs in heat islands• Higher potential for construction-related air quality impacts	<ul style="list-style-type: none">• Lower modeled 2045 emissions than existing conditions, similar modeled 2045 emissions to Alternative 1• Similar capacity for new housing units in areas with air pollutant exposure risks for all alternatives• Moderate capacity for new housing units and highest capacity for new jobs in heat islands• Highest potential for construction-related air quality impacts
Water	<ul style="list-style-type: none">• Lowest potential for new impervious surfaces (e.g. rooftops, pavement) and associated runoff, but lower density could pressure development of more individual sites• Lowest potential for new development subject to updated Critical Areas regulations and stormwater management best practices	<ul style="list-style-type: none">• Higher potential for new impervious surfaces and associated runoff• Higher potential for new development subject to updated Critical Areas regulations and stormwater management best practices	<ul style="list-style-type: none">• Highest potential for new impervious surfaces and associated runoff• Highest potential for new development subject to updated Critical Areas regulations and stormwater management best practices
Plants and Animals	<ul style="list-style-type: none">• Lowest potential for new construction and/or redevelopment and associated impacts to vegetation and habitat areas• Lowest potential for new development subject to updated Critical Areas regulations protecting plants and animals• Lowest capacity for new housing units in areas with existing low tree canopy cover	<ul style="list-style-type: none">• Higher potential for new construction and/or redevelopment and associated impacts to vegetation and habitat areas• Higher potential for new development subject to updated Critical Areas regulations protecting plants and animals• Moderate capacity for new housing units in areas with existing low tree canopy cover	<ul style="list-style-type: none">• Highest potential for new construction and/or redevelopment and associated impacts to vegetation and habitat areas• Highest potential for new development subject to updated Critical Areas regulations protecting plants and animals• Highest capacity for new housing units in areas with existing low tree canopy cover

Significant Areas of Controversy and Issues to be Resolved

The key issues to be resolved by decision makers regarding the **OUR VANCOUVER** Comprehensive Plan Update proposal include:

- Finalization and adoption of the Comprehensive Plan Update through a public process
- Finalization and adoption of associated land use and zoning code updates
- Development and implementation of policies to address issues regarding:
 - What types of services, facilities, and infrastructure will be needed to support Vancouver's future
 - How to make Vancouver a healthier community for all people
 - How to set up infrastructure and land use to be resilient and responsive to natural disasters, threats and unexpected circumstances
 - How to provide affordable and accessible housing for everyone in a way that is well-integrated with the city's existing built and natural environment
 - How to provide equitable access to opportunity, employment, and the benefits from the plan's investments

Benefits and Disadvantages of Delaying Implementation

If the City does not implement the Comprehensive Plan Update, growth in Vancouver would continue under the current Comprehensive Plan and zoning designations. In single-family neighborhoods, growth would also be enabled by imposition of the state model middle housing ordinance, which by law is applied when cities make no changes to their zoning code. However, this growth would generally not be consistent with GMA requirements to adopt a new Comprehensive Plan and zoning standards to accommodate new 20-year growth forecasts.

Updating the Comprehensive Plan will bring the City up to date with recent changes to state law to address housing and climate needs, land use changes, and population growth projections. The plan update will inform the City's future decisions about land use, housing, public facilities, parks and open space, economic development, historic preservation, community design, and environmental considerations to meet the needs of a growing population.

Chapter 2: Alternatives

This chapter provides a more detailed description of the proposal location, study area, and three alternatives studied in this Draft EIS, including figures showing their major features.

Proposal Location and Study Area

The proposal location and study area consist of lands within Vancouver city limits, as shown in Figure 3.

The study area contains areas across the city that have been identified as existing or planned growth corridors and existing or planned centers of activity.

Many of these areas are linear corridors along arterial streets or transit routes, such as Main Street, Mill Plain Boulevard, Fourth Plain Boulevard, West 39th Street, West 33rd Street, 112th Corridor, Northeast 136th Avenue, Southeast 164th Avenue, and Southeast 192nd Avenue.

Other identified growth nodes include the Port of Vancouver, Fruit Valley, Downtown, Clark College, Vancouver Mall, The Heights, Garrison Square, PeaceHealth, Section 30, Columbia Tech Center, and Vancouver Innovation Center. Slower growth is anticipated outside of these nodes.

Figure 3. Proposal Location and Study Area



Source: Clark County n.d.

Description of Alternatives

This Draft EIS studies the potential effects of the No Action Alternative and two action alternatives, Alternative 1 and Alternative 2, as described in the next subsections.

No Action Alternative

The No Action Alternative, required by SEPA, is a future scenario that assumes future growth and development would occur as allowed under current adopted City Comprehensive Plan and development regulations, and recent amendments to state statutory requirements that contain self-executing provisions.

The No Action Alternative assumes the implementation of House Bill (H.B.) 1110, which generally requires cities of at least 75,000 people to permit “middle housing” of at least four homes per residential lot, and imposes a new state model ordinance permitting middle housing in single-family zones on local jurisdictions that do not adopt their own standards allowing this practice. However, the No Action Alternative does not assume the implementation of other state laws that do not contain self-executing provisions, such as H.B. 1220, which requires planning for and accommodating housing affordable to all economic segments of the population, and H.B. 1337, which requires cities like Vancouver to allow up to two accessory dwelling units (ADUs) on a residential lot, assuming development regulations are met.

Under the No Action Alternative, the Comprehensive Plan land use designations would remain the same as they are today. The Comprehensive Plan Update and associated new zoning code and development regulations would not be adopted, although the state model ordinance permitting middle housing in single-family zones would be imposed in accordance with H.B. 1110.

Figure 4 shows a map of the Comprehensive Plan land designations for the No Action Alternative, and Figure 5 shows a map of the zoning designations for the No Action Alternative. These designations would be the same as the existing Comprehensive Plan and zoning designations. To allow for a comparison between the no action alternative and action alternatives, Table 2 summarizes the proposed future zoning districts and their corresponding current Comprehensive Plan land use and zoning designations. Table 5 in Chapter 3 provides more detailed information about current Comprehensive Plan designations and corresponding zoning designations, which would remain the same under the No Action Alternative.

Figure 4. No Action Alternative Comprehensive Plan Designations Map

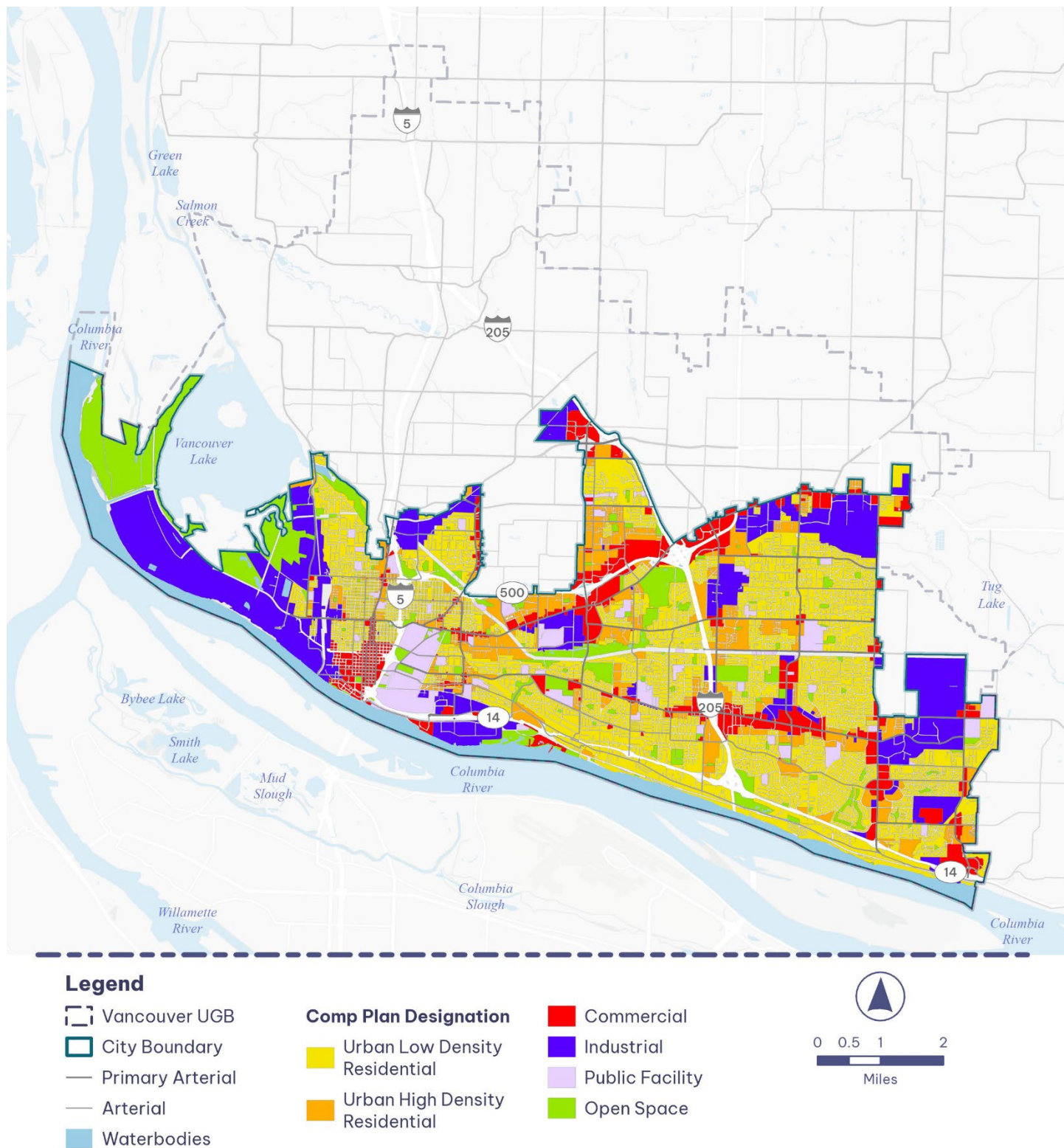
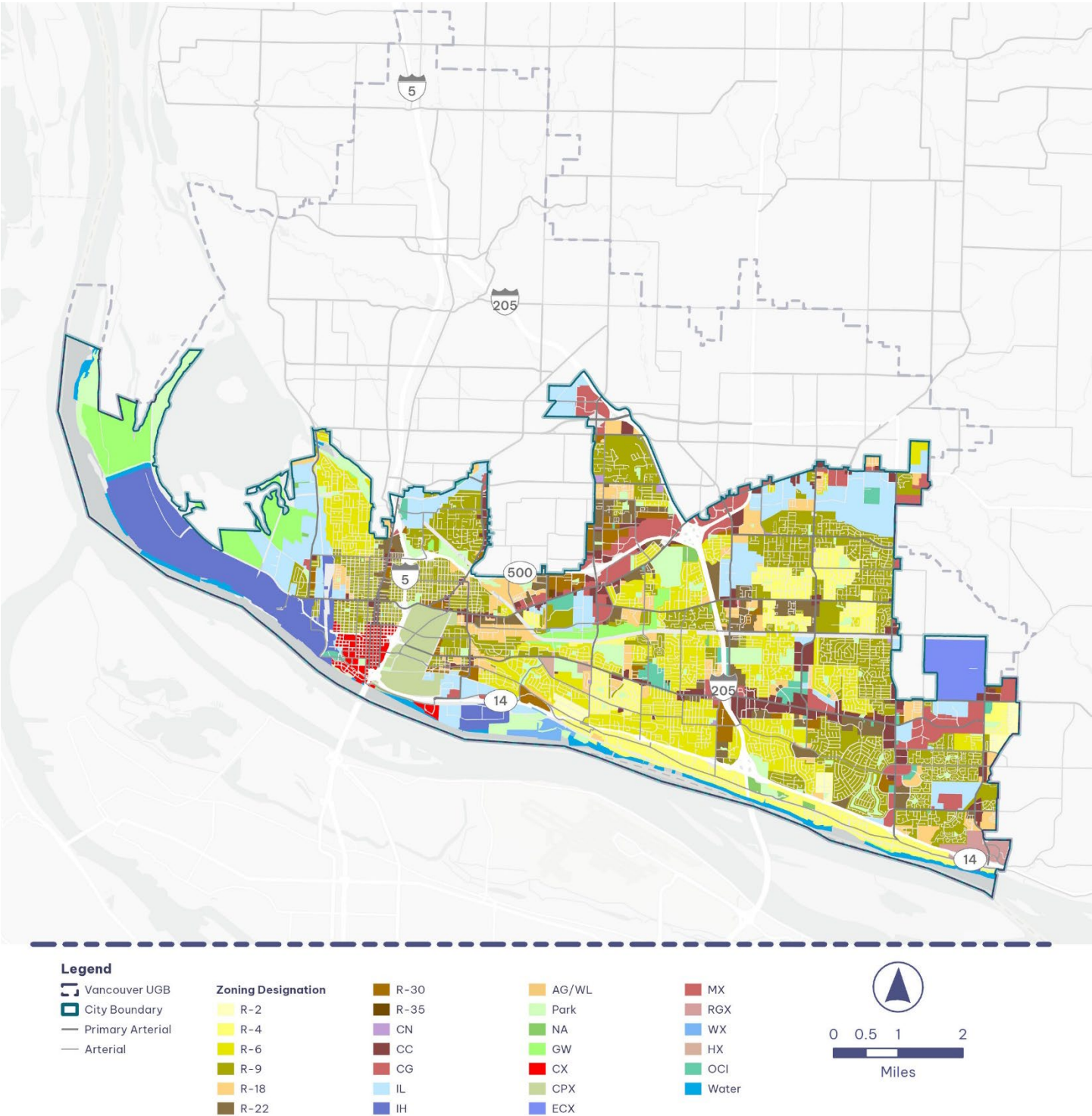


Figure 5. No Action Alternative Zoning Map



The No Action Alternative would have capacity for approximately 29,600 new housing units and 16,600 new jobs citywide by 2045. The No Action Alternative would not meet the GMA requirement to accommodate new 20-year growth forecasts, or the City’s specific 2045 targets of at least 38,129 new housing units and 43,198 new jobs. Refer to Appendix B for the methods and assumptions for forecasting future housing and jobs capacity.

Action Alternatives

Both action alternatives assume that future growth and development would occur in line with the proposed Comprehensive Plan Update and the associated revised zoning code and development regulations. The action alternatives assume implementation of all applicable new state laws that affect comprehensive planning and development processes, including H.B. 1110, H.B. 1220, and H.B. 1337, as described in the No Action Alternative section.

Under both action alternatives, the Comprehensive Plan land use designations and associated zoning code would be updated, renamed, and simplified to a smaller set of zoning districts, as discussed in Chapter 1: Summary and described in Table 2.

The locations and sizes of the proposed zoning districts would differ between the two action alternatives, as would the distribution of new housing units and jobs. Both action alternatives are forecasted to exceed the City’s minimum 2045 targets of at least 38,129 new housing units and 43,198 new jobs.

The following subsections summarize the major features of Alternative 1 and Alternative 2 by area of the city (west, central, and east).

Table 2. Proposed New Comprehensive Plan Designations/Zoning Districts and Allowances and Corresponding Current Comprehensive Plan/Zoning Designations

Proposed New Comprehensive Plan Designation/Zoning District for Action Alternatives	Proposed New Zoning Code Allowances	Corresponding Current and No Action Comprehensive Plan/Zoning Designation
Residential Neighborhoods (Low-Scale Neighborhood)	<ul style="list-style-type: none">Up to six housing units per parcel.Minimum density of eight units per maximum density.Building heights up to three stories (maximum of 45 feet tall).Typical housing types: Single-family homes, townhouses, rowhouses, accessory	Residential Urban Lower Density R-2, R-4, R-6, R-9, R-17

Proposed New Comprehensive Plan Designation/Zoning District for Action Alternatives	Proposed New Zoning Code Allowances	Corresponding Current and No Action Comprehensive Plan/Zoning Designation
	<p>dwelling buildings, duplexes, quadplexes, and sixplexes.</p> <ul style="list-style-type: none"> • Small-scale commercial activities like cafés, salons, professional services and restaurants mostly serving the surrounding neighborhood. 	
<p>Residential Neighborhoods (Medium-Scale Neighborhood)</p>	<ul style="list-style-type: none"> • Minimum density of 16 units per acre, no maximum density. • Building heights up to five stories (maximum of 75 feet tall). • Low-Scale Neighborhood housing types plus additional multifamily housing types. • Civic/institutional buildings and commercial activities like cafés, restaurants, small offices, and other retail goods. 	<p>Residential Urban Higher Density R-18, R-22, R-30, R-35, R-50</p>
<p>Urban Mixed Use (Mixed Use Neighborhood)</p>	<ul style="list-style-type: none"> • Allows a broad range of housing, civic/institutional, commercial use types. • Minimum density of 32 units/acre, no maximum density. • Building heights of 3 to 8 stories (maximum of 110 feet tall). • Typical housing types: Multifamily buildings at a variety of scales. • May include multiple neighborhoods connected to an activity center by a network of pathways or walkable streets. • Commercial or retail uses may include professional offices, medical providers, cafés, restaurants, small grocery stores, markets, and other retail goods. 	<p>Commercial and Mixed Use CC (Community Commercial) CN (Neighborhood Commercial) CG (General Commercial)</p>

Proposed New Comprehensive Plan Designation/Zoning District for Action Alternatives	Proposed New Zoning Code Allowances	Corresponding Current and No Action Comprehensive Plan/Zoning Designation
Urban Mixed Use (Regional Activity Center)	<ul style="list-style-type: none"> Includes lands with opportunities for economic, entertainment, civic, and housing needs. Minimum density of 64 units per acre, no maximum density. Minimum building heights of three stories, no maximum height. Typical housing types: mixed-use residential, apartment, mid-rise, and podium buildings. Size and makeup would vary based on location but would typically consist of compact, mixed-use development that maximizes residential, commercial, and open space opportunities. 	Commercial and Mixed Use CX (City Center intensity) ECX (Employment Center Mixed Use) HX (Heights District) MX (Mixed Use) RGX (River Gateway) WX (Waterfront Mixed Use)
Employment Mixed Use (Institutional/Campus)	<ul style="list-style-type: none"> Includes lands that support academic, civic, or medical buildings. Building heights of up to 12 stories (maximum of 150 feet tall). Allowable housing types: townhouses, apartments, mixed-use residential, and mid-rise buildings. Buildings for athletic facilities, event spaces, equipment or other accessory uses needed to support an educational, medical, or large institution would also be allowed. 	Commercial and Mixed Use CPX (Central Park Mixed Use)
Employment Mixed Use (Industrial/Employment)	<ul style="list-style-type: none"> Includes lands typically with large-scale, single-tenant industrial, warehouse and flex space building and smaller, multi-tenant industrial buildings. Building heights of up to 12 stories (maximum of 150 feet tall). 	Industrial OCI (Office-Campus-Industrial) IL (Light Industrial)

Proposed New Comprehensive Plan Designation/Zoning District for Action Alternatives	Proposed New Zoning Code Allowances	Corresponding Current and No Action Comprehensive Plan/Zoning Designation
	<ul style="list-style-type: none"> Buildings would be grouped to support and serve one another and to provide opportunities for employment clusters. New housing not allowed. 	
Heavy Industrial (Heavy Industrial)	<ul style="list-style-type: none"> Includes lands currently zoned for heavy industrial uses and would remain unchanged. New housing not allowed. 	Industrial HI (Heavy Industrial)
Parks/Open Space (Parks)	<ul style="list-style-type: none"> Includes lands currently zoned as public community and neighborhood parks. Housing not allowed. 	Parks/Open Space P (Parks)
Parks/Open Space (Natural Areas)	<ul style="list-style-type: none"> Includes lands currently zoned for greenways and natural areas, which are generally undeveloped lands managed for both natural and ecological value and light-impact recreational use. Housing not allowed. 	Parks/Open Space GW (Greenway) NA (Natural Area)

Alternative 1

Alternative 1 would allow greater intensity and density of development in more areas of the city than the No Action Alternative but in fewer areas of the city than Alternative 2. Figure 6 shows the proposed Comprehensive Plan designations map, and Figure 7 shows the proposed zoning map for Alternative 1.

In West Vancouver (western city limits to west of I-5), large areas of Heavy Industrial and Industrial/Employment lands would remain. The existing Commercial areas of downtown Vancouver would be designated as Regional Activity Center, allowing for continued development of housing, office, civic, and entertainment uses. Existing commercial and residential corridors along Main Street would be designated as Mixed-Use Neighborhood. Existing lower-density residential areas just north of downtown Vancouver would be designated as the denser Medium-Scale Neighborhood. Lower-density residential areas north of Fourth Plain Boulevard would be similarly designated as Low-Scale Neighborhood.

In Central Vancouver (between I-5 and I-205), the lower-density residential neighborhoods south of East Mill Plain Boulevard would be similarly designated as Low-Scale Neighborhood. There would be greater areas of denser Mixed-Use and Medium-Scale Neighborhoods along the East Mill Plain Boulevard and Northeast Fourth Plain Boulevard corridors compared to the No Action Alternative. The Vancouver Mall and adjacent areas along Northeast Fourth Plain Boulevard would be rezoned from Commercial to Industrial/Employment and Regional Activity Center, allowing for some potential job growth and denser housing development. Most of the area north of the Vancouver Mall would be designated as Medium-Scale Neighborhood, allowing for denser housing types than under the No Action Alternative.

In East Vancouver (from I-205 east to the eastern city limits), there would be expanded areas of Mixed-Use Neighborhood along Mill Plain Boulevard, 164th Avenue, and 192nd Avenue, which would allow for more housing compared to the Industrial and Commercial designations under the No Action Alternative. The vacant Section 30 site at the far east end of the city would be designated as Mixed-Use Neighborhood, bordered by Regional Activity Center, a change from the largely Industrial designation under the No Action Alternative.

These changes in land use designations would result in a higher capacity for new housing units and jobs than the No Action Alternative but a lower capacity than Alternative 2. Based on market feasibility and redevelopment potential, Alternative 1 would have capacity for approximately 45,100 new housing units and 46,000 new jobs citywide, which exceeds the City's minimum 2045 planning targets. Refer to Appendix B for the methods and assumptions for forecasting future housing and jobs capacity.

Figure 6. Alternative 1 Proposed Comprehensive Plan Designations Map

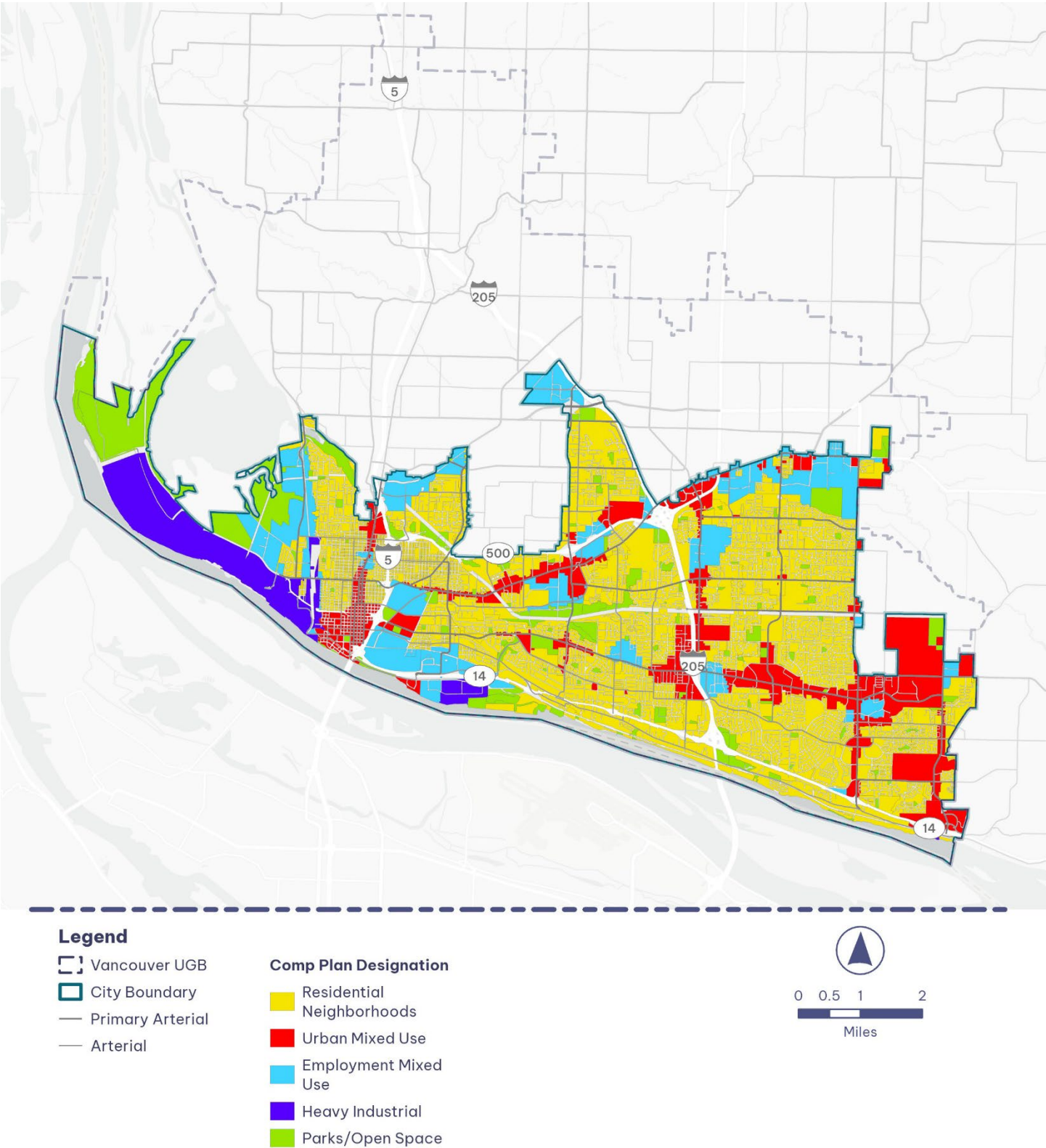
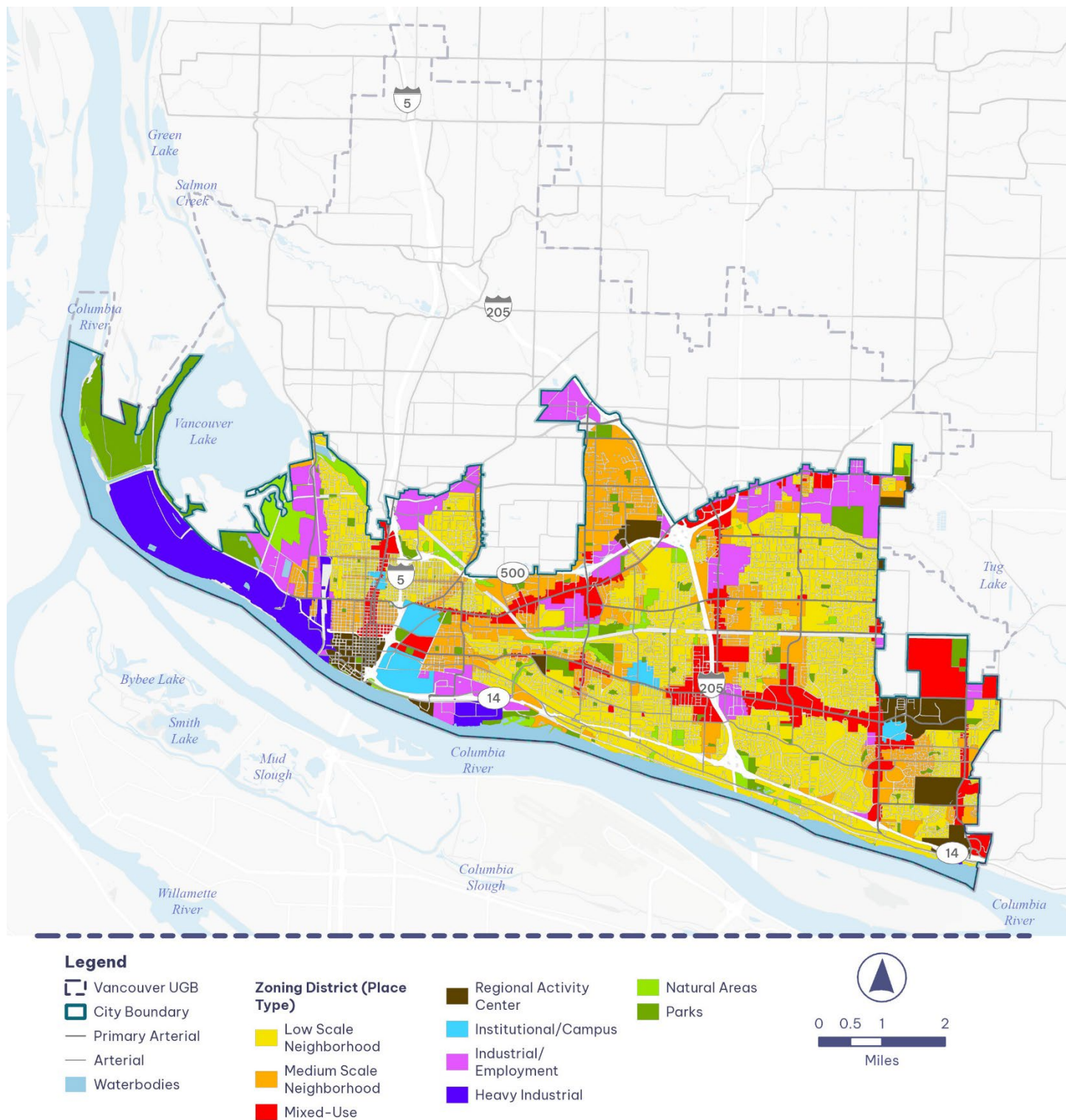


Figure 7. Alternative 1 Proposed Zoning Districts Map



Alternative 2

Alternative 2 would allow the greatest intensity and density of development in more areas of the city. Figure 8 shows the proposed Comprehensive Plan designations map, and Figure 9 shows the proposed zoning map for Alternative 2.

In West Vancouver, the same Heavy Industrial and Industrial/Employment lands would remain as in Alternative 1. Downtown commercial areas would be designated as Regional Activity Center, and would extend farther north on Main Street than Alternative 1. Existing commercial and residential lands north of Fourth Plain Boulevard along Main Street would be designated as Mixed-Use Neighborhood. Compared to Alternative 1, more existing residential areas just north of downtown Vancouver would be designated as Medium-Scale Neighborhood. Lower-density residential areas of Northwest Vancouver would be similarly designated as Low-Scale Neighborhood.

In Central Vancouver, similar to Alternative 1, the existing lower-density residential neighborhoods south of East Mill Plain Boulevard would be designated as Low-Scale Neighborhood. Alternative 2 would have larger areas of Mixed-Use Neighborhood, Medium-Scale Neighborhood, and Regional Activity Center zoning districts along the East Mill Plain Boulevard and Northeast Fourth Plain Boulevard corridors than Alternative 1. Similar to Alternative 1, the Vancouver Mall and adjacent areas along Northeast Fourth Plain Boulevard would be designated as Regional Activity Center, allowing for greater potential job growth and new denser housing. Larger areas north and west of the Vancouver Mall would be designated as Mixed-Use Neighborhood or Medium-Scale Neighborhood than under Alternative 1, allowing for greater potential housing density.

In East Vancouver, Alternative 2 would have larger areas of Mixed-Use Neighborhood and Regional Activity Center zoning districts along major corridors such as Mill Plain Boulevard, 164th Avenue, and 192nd Avenue compared to Alternative 1. Alternative 2 would also include larger areas of Medium-Scale Neighborhood in the neighborhoods adjacent to these corridors and smaller areas of Low-Scale Neighborhood. More land at and near the Section 30 site would be designated as a Regional Activity Center than in Alternative 1.

Alternative 2 would have the highest capacity for new housing units and jobs. Based on market feasibility and redevelopment potential, Alternative 2 would have capacity for approximately 50,700 new housing units and 49,300 new jobs citywide, which exceeds the minimum City's 2045 targets. Refer to Appendix B for the methods and assumptions for forecasting future housing and jobs capacity.

Figure 8. Alternative 2 Proposed Comprehensive Plan Designations Map

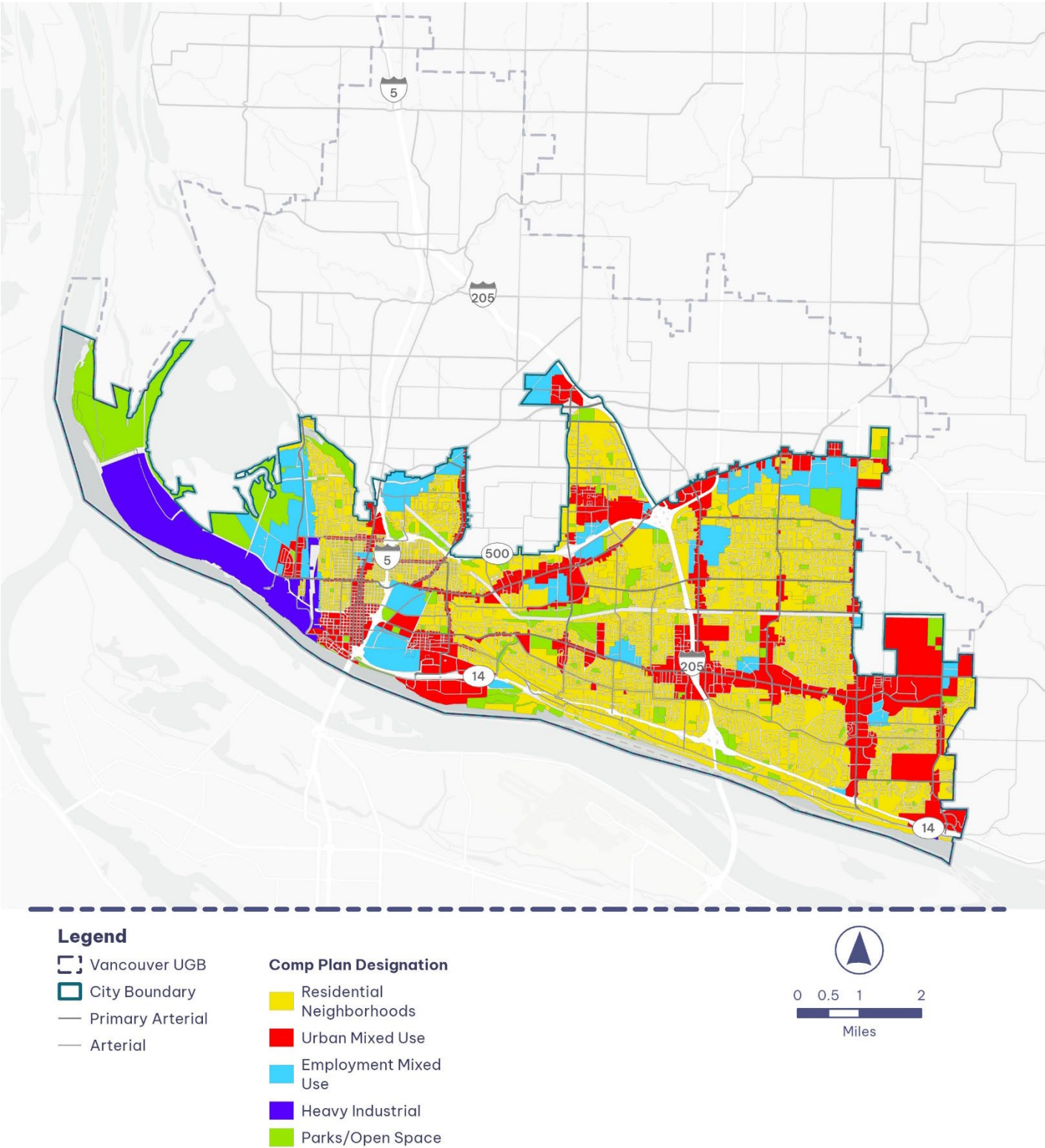
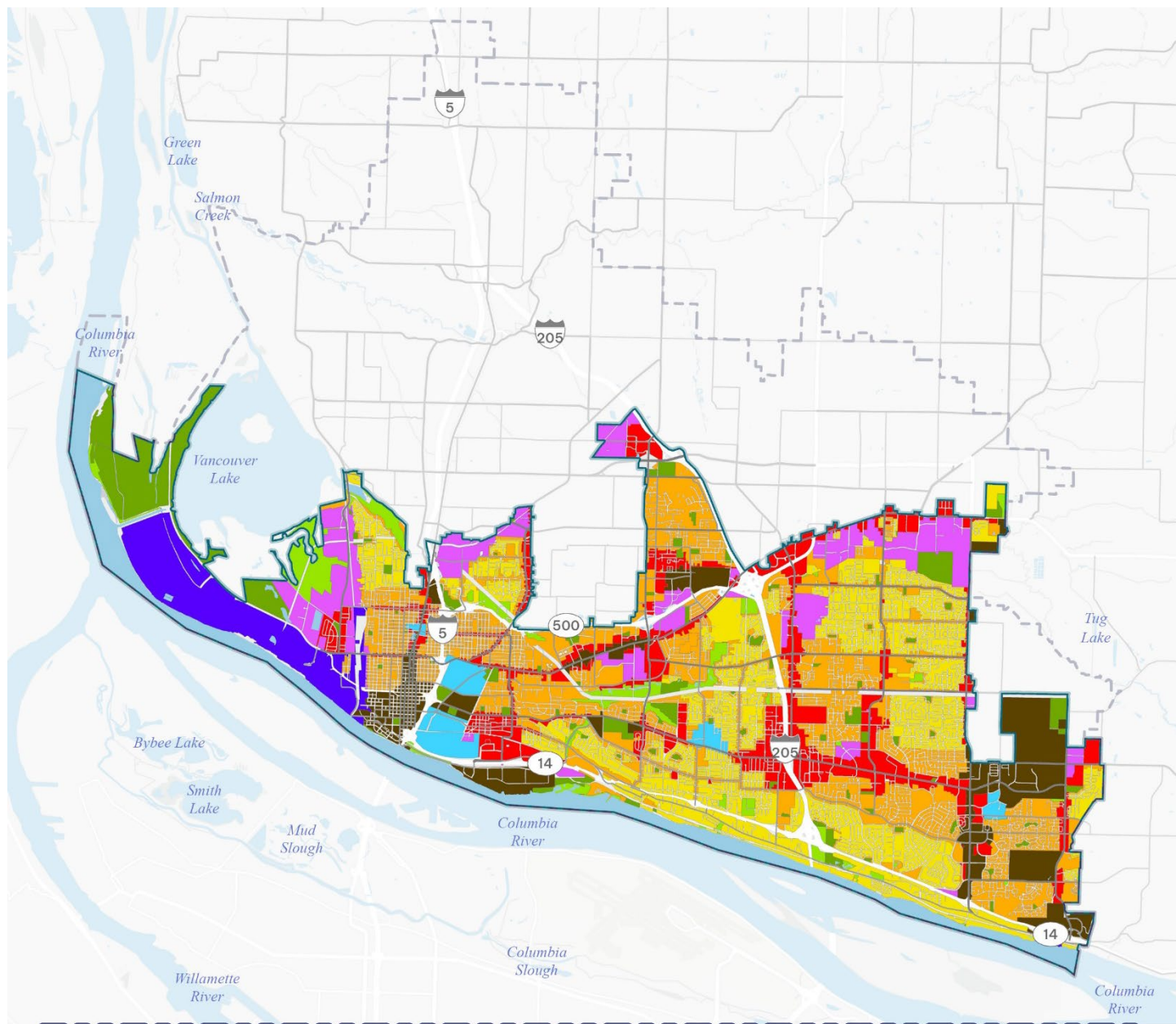


Figure 9. Alternative 2 Proposed Zoning Districts Map



Legend

- Vancouver UGB
- City Boundary
- Primary Arterial
- Arterial
- Waterbodies

Zoning District (Place Type)

- Low Scale Neighborhood
- Medium Scale Neighborhood
- Mixed-Use

- Regional Activity Center
- Institutional/Campus
- Industrial/Employment
- Heavy Industrial
- Natural Areas
- Parks



0 0.5 1 2
Miles

Comparison of Alternatives

Of all the alternatives, Alternative 2 would allow the greatest density, intensity, and mix of land uses in the most areas of the city, and the No Action Alternative would allow the least. Alternative 1 would allow greater density, intensity, and mix of land uses in more areas of the city than the No Action Alternative but generally less than Alternative 2.

Table 3 summarizes the differences in the amount of land acreage devoted to the different zoning districts proposed in the Comprehensive Plan Update.

The overall split of zoning districts by land acreage would be similar among the alternatives. Under all alternatives, predominantly residential Low-Scale and Medium-Scale Neighborhood zoning districts would make up about half of the city's total land area. The total acreage of the Institutional/Campus zoning district (and equivalent land uses under the No Action Alternative; refer to Table 2) would be similar under all alternatives. There would be no meaningful difference among the alternatives in the total land area zoned as Parks and Natural Areas.

There would be slightly less Heavy Industrial and Industrial/Employment land area (and equivalent land uses under the No Action Alternative; refer to Table 2) under Alternative 2 than the No Action Alternative and Alternative 1. Alternative 2 would have the most land designated as Regional Activity Center and would include the greatest capacity for future job growth compared to the other alternatives.

The biggest differences in zoning districts, as measured by land area, would be:

- Almost 50% more land area designated as Low-Scale Neighborhood under Alternative 1 compared to Alternative 2.
- Almost 50% more land area designated as Medium-Scale Neighborhood under Alternative 2 compared to Alternative 1.
- More than double the land area designated as a Regional Activity Center under Alternative 2 compared to Alternative 1.

Table 3. Comparison of Acreage of Zoning Districts by Alternative

Zoning District	No Action Acreage (Percentage of Total Land Area) ^a	Alternative 1 Acreage (Percentage of Total Land Area)	Alternative 2 Acreage (Percentage of Total Land Area)
Heavy Industrial	1,688 (7%)	1,696 (7%)	1,535 (6%)
Industrial/Employment	2,788 (11%)	2,724 (11%)	2,128 (9%)
Institutional/Campus	562 (2%)	591 (2%)	576 (2%)
Low-Scale Neighborhood	9,960 (41%)	8,648 (36%)	5,346 (22%)
Medium-Scale Neighborhood	2,872 (12%)	3,915 (16%)	6,321 (26%)
Mixed Use	1,955 (8%)	2,611 (11%)	2,984 (12%)
Natural Areas ^b	1,368 (6%)	993 (4%)	993 (4%)
Parksc	1,544 (6%)	1,990 (8%)	1,990 (8%)
Regional Activity Center	1,536 (6%)	1,112 (5%)	2,406 (10%)
Total ^c	24,275	24,279	24,279

Notes:

- a Acreage for the No Action Alternative zoning districts is approximate and based on converting land acreages from their existing Comprehensive Plan and zoning designations to their most similar proposed zoning districts. For example, all parcels zoned currently as R-2, R-4, R-6, and R-9, referred to as “Urban Lower Density” areas in the current Comprehensive Plan, were classified as the proposed new Low-Scale Neighborhood zoning district. All parcels currently zoned CN (Neighborhood Commercial), CC (Community Commercial), and GC (General Commercial) were classified as the Mixed-Use zoning district. These reclassifications are only for the purposes of this comparison. No reclassification would occur under the No Action Alternative.
- b Parks and natural areas acreage includes both public and non-public land for the No Action Alternative but only public land for the action alternatives. In the action alternatives, non-publicly owned or non-publicly accessible areas that were zoned as Parks/Open Space uses are assumed to match the underlying zoning based on their relative location to other zoning districts. Effectively, there is assumed to be no difference in parks/open space acreage among the No Action and Action Alternatives. The Comprehensive Plan Update and EIS identify parks/open space needs based on future growth projections, but the proposed Comprehensive Plan designations and zoning maps do not include additional Parks or Natural Areas zoning because future acquisitions are not known at this time. Park acreage will likely increase during the 20-year planning period as additional park land is acquired to serve growth.
- c Total citywide land acreage is assumed to be the same across all alternatives but may not match due to rounding and differences in how parks/natural areas are accounted for (refer to note No. 2). Acreage does not include land designated as roads, easements, or water.

Table 4 summarizes the differences in estimated capacity for future jobs and housing under the alternatives.

Table 4. Comparison of 2045 Estimated Housing and Jobs Capacity by Alternative

Metric	City Target	No Action Alternative^a	Alternative 1	Alternative 2
Capacity for New Housing Units	38,129	29,600	45,100	50,700
Capacity for New Jobs	43,198	16,600	46,000	49,300

- Note:
- a As described in the text below this table, limitations on modeling for the No Action Alternative should be considered when comparing its estimated growth capacity with the estimated growth capacities of the action alternatives. Refer to Appendix B for the full methodology used.

Alternative 1 and Alternative 2 would both exceed the minimum City targets for new housing units and jobs by 2045. Alternative 2 would have the highest capacity for each. The No Action Alternative would not meet GMA requirements or minimum City targets for new housing units and jobs. The differences in the estimated growth capacities between the No Action Alternative and Alternatives 1 and 2 reflect practical limitations in how the capacity estimates are calculated, in addition to the fact that the No Action Alternative allows for less intensive future growth, particularly outside of single-family zones.

The No Action Alternative capacity forecast is based on the Clark County Vacant Buildable Lands Model (VBLM) and existing redevelopment assumptions built into the model. The VBLM does not fully account for the feasibility of redevelopment, particularly as it relates to redevelopment to support job growth. The No Action Alternative uses the VBLM because it would retain existing zoning classifications and their allowed densities and uses, and therefore, the assumptions related to employment density and redevelopment rate used in the action alternatives do not apply to the No Action Alternative. This results in a different capacity analysis methodology for the No Action Alternative compared to the action alternatives.

The capacity forecasts for Alternatives 1 and 2 consider market and redevelopment feasibility and other limiting factors, such as the presence of critical areas, that would influence new development. They are intended to provide the basis for analyzing the impacts of a feasible level of potential build-out under each of the alternatives in the Draft EIS. These capacity forecasts are therefore lower than the maximum build-out that would be allowed outright by the zoning designations for each alternative. Refer to Appendix B for the methods and assumptions used for forecasting future estimated housing and jobs capacity.

Under all alternatives, the actual timing and distribution of future growth would be influenced by future market conditions, decisions made by individual property owners and developers, and other factors.

Chapter 3: Built Environment

This chapter describes the methodologies, existing conditions (affected environment), and potential impacts of the alternatives for the following environmental topic areas related to the built environment: land and shoreline use, housing, aesthetics, historic and cultural preservation, transportation, and public services and utilities.

For each topic, the chapter provides a summary of impacts common to all alternatives, impacts unique to each alternative, and a summary of potential avoidance, minimization, and mitigation measures to address potential impacts and identifies impacts that are considered to be significant and unavoidable under SEPA.

Land and Shoreline Use

Methodology

Analysts reviewed relevant information and policies about existing land and shoreline use and current data on citywide population and employment, including the following sources:

- **Washington State Growth Management Act (GMA)** – Passed in 1990 to require urbanizing jurisdictions to adopt comprehensive plans and to establish statewide thresholds and guides for growth. The intent of the GMA is to direct growth for sustainable development with sufficient public infrastructure and facilities to support such growth while also protecting resourcing lands. Additionally, since the establishment of the GMA, updated state level policies have been focused on promoting healthy, walkable communities; preserving natural resources; providing affordable housing opportunities; and planning for climate change and its impacts.
- **Clark County Countywide Planning Policies** – Used to establish a countywide framework for growth management, coordinate the comprehensive plans of all jurisdictions within Clark County for regional issues or issues affecting common borders, and develop and adopt county and city comprehensive plans.
- **Vancouver Comprehensive Plan 2011-2030** (City of Vancouver 2021a) – This plan envisioned the city for the next 20 years (through 2030) for community and economic development, housing, environment, public facilities and services, and annexation. It also provided strategies for the plan's implementation and established land use designations across the city, which are consistent with complimentary land use zones regulated by VMC Title 20. The 2011 Comprehensive Plan is the basis for the **OUR VANCOUVER** Comprehensive Plan Update.

- **VMC Title 20, Land Use and Development Code** – Contains the City’s zoning and development regulations, which are required to be updated and consistent with its Comprehensive Plan per GMA mandates.
- **City of Vancouver Shoreline Master Program** (City of Vancouver 2021b) – Envisions the development along the Vancouver shoreline, including how to promote public health, safety, and community welfare while ensuring no net loss of shoreline ecological functions. The SMP defines shoreline development and management practices that are in accordance with state practices and codes and provides specific guidelines regarding general requirements, exemptions and uses. The goal of the SMP is to allow for mutually compatible uses between shoreline preservation and land use development.
- **U.S. Census Bureau American Community Survey** (Census 2023a)– Provides a variety of demographic information on a yearly basis at the national, state, regional, and city levels. This EIS uses primarily ACS 2019–2023 five-year and 2023 one-year data as the basis for analysis for consistency with other recent studies completed for the Comprehensive Plan Update.
- **OUR VANCOUVER Community Atlas** (Design Workshop 2024) – Documents existing city conditions for a variety of topics including people; natural environment; cultural resources; built environment; economy; parks, recreation, open spaces, and trails; and a regulatory framework assessment to support the City’s update of the Comprehensive Plan and VMC Title 20 per GMA requirements. The analysis is referenced in this EIS and will also be used to inform the Comprehensive Plan development.
- **OUR VANCOUVER Economic Conditions and Opportunities Analysis** (ECONorthwest 2024a) – Prepared to support the Comprehensive Plan Update and outlines the basis for the City’s 2045 target of 43,198 jobs. The analysis includes findings related to economic conditions and competitiveness, including measures of employment, growth and productivity, business creation and retention, entrepreneurship, investment flows, access to capital, distribution of wealth and income, and racial and geographic inclusion. Key information from the memorandum is referenced in this EIS and will also be included in the Economic Opportunity Element of the Comprehensive Plan to inform the City’s economic development through 2045.
- **OUR VANCOUVER Housing Needs Assessment** (ECONorthwest 2024b) – Establishes the City’s 2045 target of 38,129 housing units through evaluation of current housing stock and supply, existing conditions and housing needs across the income spectrum, and the current and projected future demand for housing. The insights from this analysis are referenced in this EIS and will build a factual basis for updating the Housing Element of the Comprehensive Plan and its supporting policies through 2045.
- **OUR VANCOUVER Equity Analysis** (Seva Workshop 2024) – Includes context and conditions analysis that helps to identify which communities within the city have been

historically marginalized and which communities are most vulnerable to displacement and policy changes. The City is committed to prioritizing these identified communities in the Comprehensive Plan Update process to help address past inequities.

- **OUR VANCOUVER Draft Health Impact Assessment** (BERK 2025) – Considers how the growth alternatives studied as part of the **OUR VANCOUVER** Comprehensive Plan periodic update may benefit and impact health in Vancouver as it relates to the built environment.

Analysts then reviewed the alternatives to determine potential adverse impacts and associated mitigation measures using the following metrics:

- Compatibility with land and shoreline use plans and policies
- Ability to accommodate adopted citywide minimum growth targets
- Compatibility with existing land uses
- Average wage of new jobs based on land use mix
- Level of commercial displacement risk

Affected Environment

Current Land Use

This section discusses the City's existing Comprehensive Plan land use designations and zoning, land cover, land uses, centers and corridors, commercial uses, industrial uses, and essential services. Refer to the Housing section of Chapter 3 for more information about current residential land uses.

Comprehensive Plan Land Use Designations and Zoning

The current Vancouver Comprehensive Plan establishes general patterns for future land use, transportation and other infrastructure needs. Subarea plans provide more detailed geographically based plans for neighborhoods, corridors, Urban Reserve areas, special districts and joint planning areas.

Citywide development is guided and allocated by zoning, codified in VMC Title 20, Land Use and Development Code. The City designates various use types within each zoning category, which include residential, commercial, and industrial zone districts in addition to specialized zone districts for mixed uses and parks and open spaces.

Table 5 provides the existing Comprehensive Plan designations, their respective descriptions, and corresponding zoning districts. Zoning establishment and requirements and development standards are regulated in VMC Chapter 20.410 as summarized in Appendix C, Land Use and Zoning Information. Figure 4 in Chapter 2 shows a map of the No Action Alternative

Comprehensive Plan designations, and Figure 5 in Chapter 2 shows a map of the No Action Alternative zoning designations, which would be the same as current Comprehensive Plan and zoning designations.

Table 5. Current Comprehensive Plan Designations and Corresponding Zoning Districts

Current Comprehensive Plan Designation	Description	Corresponding Zoning Districts/Zones	Allowed Uses
Residential Urban Lower Density	Predominantly lower density residential development with some allowances for middle housing types. ^a	R-2 R-4 R-6 R-9 R-17	Single-family detached residential, duplexes, townhouse, and single-family homes on small lots using infill standards.
Residential Urban Higher Density	Predominantly higher-density residential uses.	R-18 R-22 R-30 R-35 R-50 Mixed Use (MX)	Apartments, condominiums, duplexes, townhouses, small-lot single-family homes, and mixed uses.
Commercial and Mixed Use	Predominantly small to medium-scale mixed-use and/or commercial uses and services scaled to serve a neighborhood to citywide need. This designation includes specific, planned mixed-use areas within the city.	Neighborhood Commercial (CN) Community Commercial (CC) General Commercial (CG) City Center (CX) Waterfront Mixed Use (WX) Vancouver Central Park (CPX) Riverview Gateway (RGX) ^b MX The Heights (HX)	General retail, entertainment oriented, motor vehicle related uses, some office related uses, parks open space related uses, and some low intensity industrial uses.

Current Comprehensive Plan Designation	Description	Corresponding Zoning Districts/Zones	Allowed Uses
Industrial	Predominantly industrial related uses, including airports.	Office Commercial Industrial (OCI) Employment Center Mixed-Use (ECX) Light Industrial (IL) Heavy Industrial (IH) Airport (A)	Basic utilities, some general retail, motor vehicle related uses, office related uses, light and heavy industrial uses, agricultural uses, airport and accessory uses, and parks and open space.
Open Space	Areas intended for parks, greenways, and natural areas.	Greenway (GW) Natural Area (NA) Park (P)	Some agricultural related uses, environmental management and education, and park and recreation facilities.
Public Facility	Areas developed with or planned for public facilities.	All Zones	Schools, police departments, fire departments, and hospitals.

Source: City of Vancouver 2021a

Notes:

a Middle housing refers to duplexes, townhouses, quadplexes, and sixplexes.

b RGX zone is also consistent with Low-Density Residential, High Density Residential, and Industrial Comprehensive Plan designations.

Existing Land Uses

Vancouver has three loosely defined geographies with differing land uses: west (areas west of I-5), central (areas between I-5 and I-205) and east (areas east of I-205). These geographies within the city developed over time, generally west to east, and are reflective of different settlement patterns, regulations, and periods of growth (City of Vancouver 2023a).

West Vancouver, including the downtown area, generally has smaller lots with denser uses such as office, retail, apartments, and vertical mixed-use. Farther west of downtown toward the Columbia River and Vancouver Lake, there are more intensive, industrial land uses such as manufacturing, gasoline storage facilities, and the Port of Vancouver. North of downtown, there are areas of traditional single-family detached housing on the historic City grid.

Central Vancouver has a more suburban character than the western areas, including postwar subdivisions and older big-box retail developments. The central portions of the city include the Fort Vancouver National Historic Site and Pearson Field, the City's municipal airport, as well as PeaceHealth Southwest Medical Center and surrounding medical office buildings, and the Vancouver Mall and surrounding commercial development.

Eastern areas of the City are the most suburban in land use patterns, with newer, largely detached single-family residential uses, big-box retail developments, and more recent office and mixed-use developments, such as the Columbia Tech Center and Vancouver Innovation Center.

Centers and Corridors

The current Comprehensive Plan identifies the need to focus new growth in areas in or near urban centers and corridors rather than spreading growth uniformly throughout the city (City of Vancouver 2021a). These areas are envisioned to contain a mixture of employment, housing, and cultural opportunities, and serve as community focal points, building on the unique characteristics of individual districts. The type and intensity of activities and development will vary depending on local circumstances. These areas can also provide opportunities for growth where services can be provided more efficiently.

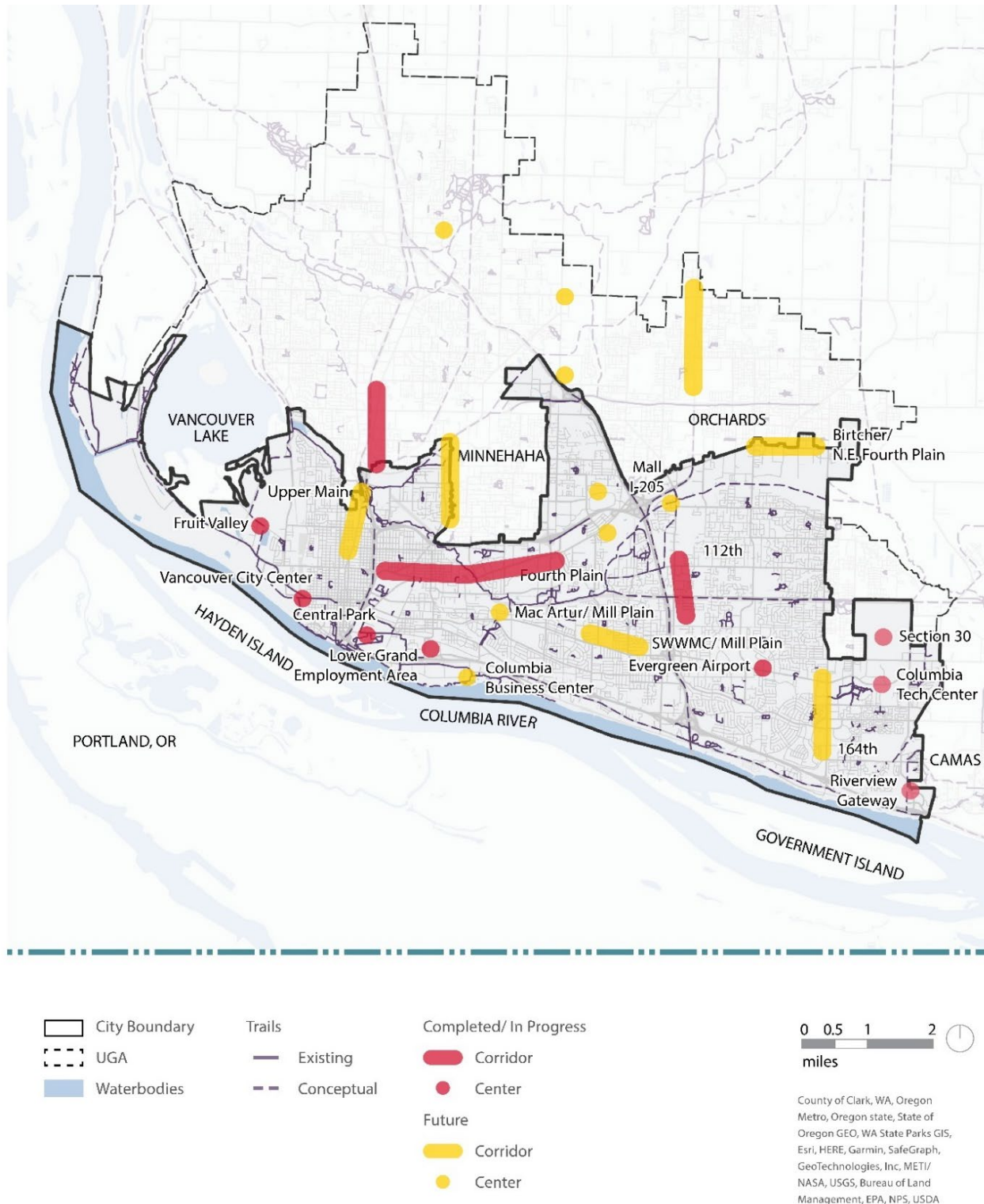
The Community Development element of the current Vancouver Comprehensive Plan includes policies designed to “achieve the full potential of existing and emerging urban activity centers and the corridors that connect them” through strategies such as promoting or reinforcing a unique identity or function for individual areas, planning for a compact urban form with multiple uses, encouraging innovative and efficient private development, providing a range of transportation options, and investing in public facilities and amenities to serve the areas.

Figure 10 shows the location of completed and future corridors and centers envisioned by the current Vancouver Comprehensive Plan where subarea planning has occurred or is planned. Subarea plans add greater detail, guidance and predictability to future development for specific geographic areas. Completed subarea plans include:

- Vancouver Central City Vision Plan (2007)
- Fourth Plain Corridor Subarea Plan (2007)
- Central Park Plan Update (2008)
- Lower Grand Employment Area Subarea Plan (2008)
- Riverview Gateway Subarea Plan (2009)
- Section 30 Urban Employment Center Subarea Plan (2009)
- Fruit Valley Subarea Plan (2010)

- 112th Avenue Subarea Plan (2011)
- Heights District Plan (2020)

Figure 10. Centers and Corridors from Current Vancouver Comprehensive Plan



Source: Design Workshop 2024

Current Shoreline Use

The City of Vancouver Shoreline Master Program (SMP), last updated in 2021, identifies Columbia River and Vancouver Lake as shorelines of statewide significance, which is a special category of shoreline that is considered of value to the entire state and has special rules and policies designed to preserve them for future generations (City of Vancouver 2021b). The SMP also identifies sections of Burnt Bridge Creek, Fifth Plain Creek, Lacamas Creek, Salmon Creek, Mill Creek, Curtin (Glenwood) Creek, and the Lake River as shorelines of the state, a category that includes all of the other water areas of the state and their associated shorelands.

The City assigns shoreline designations that are consistent with the Shoreline Management Act, the SMP guidelines, and the Comprehensive Plan, as described in Table 6. Figure 11 shows the locations of shoreline designations throughout the city.

Table 6. Shoreline Designations, Descriptions, and Allowed Uses

Shoreline Designations	Description	Allowed Uses
Aquatic	Covers lands and waters waterward of the ordinary high-water mark.	Water-dependent uses such as boat launches; aquaculture; marinas; docks, piers, and mooring buoys; floating homes, and water-dependent recreational uses
Natural	Covers shoreline areas that are relatively free of human influence or that include intact or minimally degraded shoreline ecological functions intolerant of human use.	Very low intensity uses, such as water-dependent recreational uses; ecological restoration, enhancement, and/or mitigation activities; and bioengineered or non-structural shoreline stabilization.
Urban Conservancy	Covers areas to be protected and restored shoreline ecological functions of open space, floodplains, and other sensitive lands where they exist in urban and developed settings.	Water-dependent or water-related residential uses, single-family residential, roadways and railroads, and utility uses

Shoreline Designations	Description	Allowed Uses
Medium Intensity	Generally, accommodates primarily residential development and related structures and other uses consistent with the designation criteria.	Agricultural uses, water-dependent and water-related commercial and institutional uses, recreational uses, single-family and multifamily residential, transportation, and utility uses.
High Intensity	Provides for high-intensity water-oriented commercial, transportation, and industrial uses while protecting the existing shoreline ecological functions and restoring ecological functions in shorelines where previously degraded.	Agricultural uses; water-dependent and water-related commercial, institutional, and industrial uses; transportation uses, and utility uses.

Source: City of Vancouver 2021b

Figure 11. Current Shoreline Designations



Source: Clark County n.d.

Current Community Population and Employment

The GMA requires the City to show that it can accommodate population and employment growth as part of the Comprehensive Plan Update. The proposed update to the City's Comprehensive Plan will plan for growth of at least 38,129 new housing units and 43,198 new jobs by 2045. These minimum growth targets are based on population projections from the Washington State OFM, Clark County, recent trends, state law, and City policy to plan for long-term housing and employment needs. The Housing section of this chapter provides more information about the City's housing unit targets.

Population

Vancouver has grown substantially over the past decade, increasing from a population of 161,791 in the 2010 decennial Census to 192,696 in the American Community Survey 2019–2023 five-year estimates (Census 2023a).

Table 7 summarizes demographic data for the City, including race, age, language spoken at home, income, and educational attainment (Census 2023a).

Table 7. Existing Population Characteristics for Vancouver and Washington State (2023)

Characteristic	City of Vancouver	State of Washington
Total Population	192,696	7,740,984
Total Households	79,747	3,020,558
<i>Age (Table S0101)</i>		
19 and younger	45,545 (24%)	1,854,050 (24%)
20 to 34 years old	43,706 (23%)	1,651,221 (21%)
35 to 49 years old	37,403 (18%)	1,557,494 (20%)
50 to 64 years old	35,185 (18%)	1,418,906 (18%)
65 or older	30,857 (16%)	1,259,313 (16%)
<i>Race and Ethnicity (Table B03002)</i>		
American Indian and Alaska Native	794 (0.4%)	63,389 (0.8%)
Asian	10,091 (5%)	720,927 (9%)
Black	5,694 (3%)	295,487 (4%)

Characteristic	City of Vancouver	State of Washington
Hispanic or Latine	33,115 (17%)	1,089,609 (14%)
Native Hawaiian and Other Pacific Islander	3,487 (2%)	52,674 (0.6%)
Other Race	937 (0.5%)	42,271 (0.5%)
Two or more races	12,618 (7%)	500,698 (6%)
White	125,960 (65%)	4,975,929 (64%)
<i>Language Spoken at Home by limited English Speaking Households (Table B16002)</i>		
Russian, Polish, or other Slavic language	679 (0.9%)	10,325 (0.3%)
Spanish	1,347 (1.7%)	42,026 (1.4%)
Other Indo-European	124 (0.2%)	5,984 (0.2%)
Chinese (Mandarin and Cantonese)	294 (0.4%)	18,185 (0.6%)
Vietnamese	187 (0.2%)	9,101 (0.3%)
Tagalong	43 (0.1%)	2,675 (0.1%)
Other Asian and Pacific Island Languages	155 (0.2%)	8,624 (0.3%)
<i>Income and Poverty (Table DP03, B17017)</i>		
Median Household Income	\$80,618	\$94,605
Household income below the poverty level	8,878 (11%)	294,072 (10%)
Household income at or above the poverty level	70,869 (89%)	2,726,486 (90%)
<i>Educational Attainment (Table DP02)</i>		

Characteristic	City of Vancouver	State of Washington
Less than 9th grade	4,154 (3%)	185,425 (3%)
9th to 12th grade, no diploma	7,778 (6%)	236,116 (4%)
High school graduate (includes equivalency)	33,007 (25%)	1,176,403 (22%)
Some college, no degree	33,564 (25%)	1,171,698 (22%)
Associate's degree	13,394 (10%)	542,351 (10%)
Bachelor's degree	26,925 (20%)	1,279,696 (24%)
Graduate or professional degree	15,419 (12%)	817,458 (15%)

Source: Census 2023a

Equity Index and Social Vulnerability Index

While developing the Comprehensive Plan Update, the City is accounting for equity considerations, including areas that may need additional investment based on current disparities. Part of this work includes identifying the locations of potentially underserved populations through an equity index, which focuses on assessing a set of metrics at the census tract level that include (City of Vancouver 2023c):

1. People of color (non-white and/or Hispanic/Latine)
2. People below 200% of the poverty level
3. Renters
4. Adults without a four-year degree
5. Households with limited English proficiency
6. People with disabilities
7. Youth under age 17
8. Older adults 65 and up

Figure 12 identifies areas of higher equity populations (represented by higher equity index scores) to prioritize investments.

The City also uses the Social Vulnerability Index (SVI) developed by the Centers for Disease Control (CDC) and the Agency for Toxic Substance and Disease Registry (ATSDR), to assess populations most at risk during high-stakes situations like natural disasters and disease outbreaks (City of Vancouver 2023a). To determine social vulnerability, the CDC/ATSDR

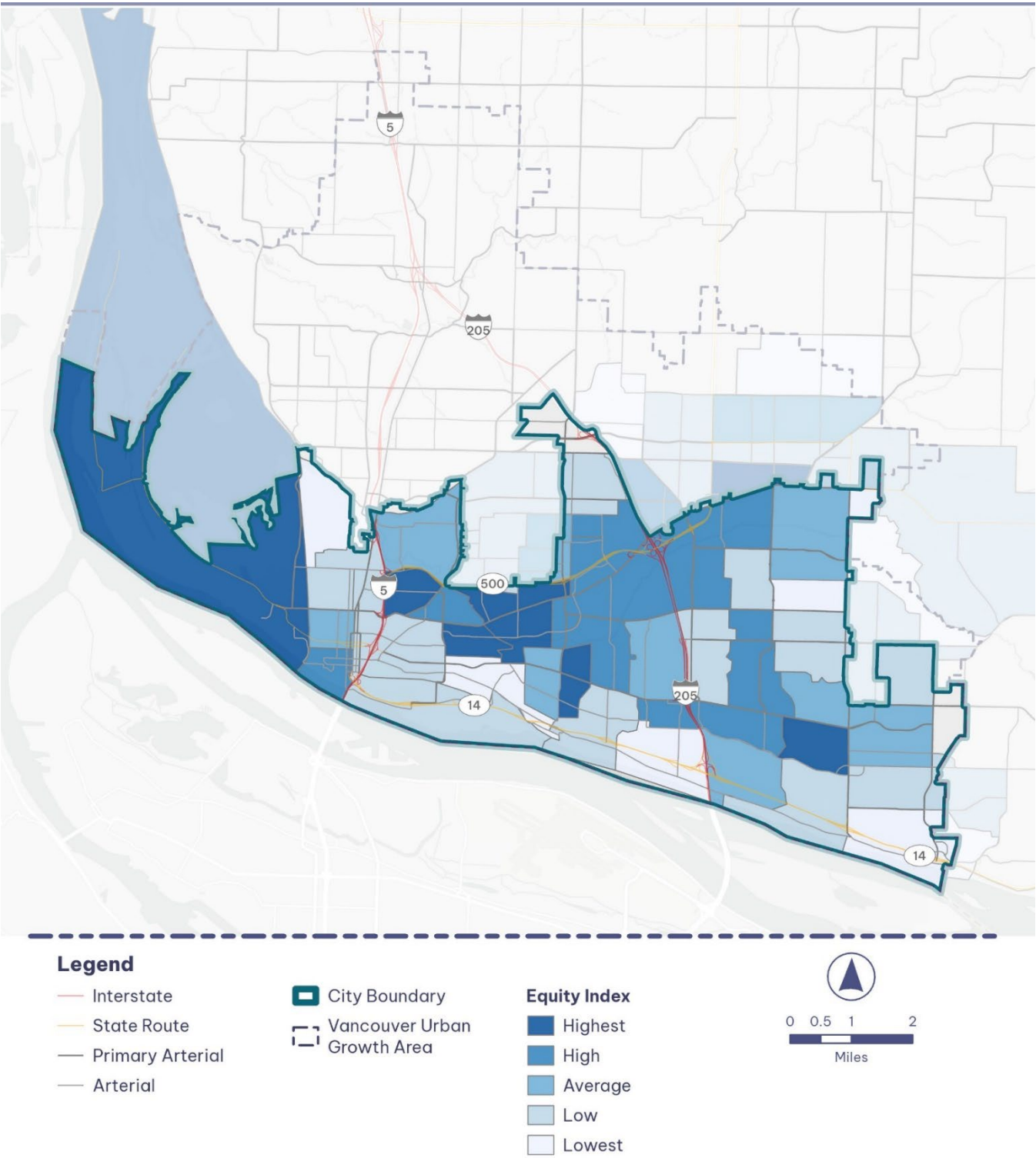
employs 16 factors, such as poverty, lack of vehicle access, and crowded housing, which are categorized into four themes: Socioeconomic Status, Household Characteristics, Racial and Ethnic Minority Status, and Housing Type/Vehicular Transportation Access (CDC/ATSDR 2022).

Understanding SVI is critical for emergency planners, city officials, public health authorities, state and local health departments, and nonprofit organizations. Together, they analyze municipalities at risk and provide support to the most vulnerable populations in the event of a disaster. This involves estimating the required supplies like food, water, medicine, and bedding, as well as the number of emergency personnel and shelters needed to assist people effectively (CDC/ATSDR 2022).

According to the CDC/ATSDR census tracts, the City experiences a high SVI. Areas with medium-high and high social vulnerability are concentrated along major interstates and arterial roads. The greater Vancouver area, on the other hand, displays a lower level of vulnerability, ranging from low to low-medium vulnerability.

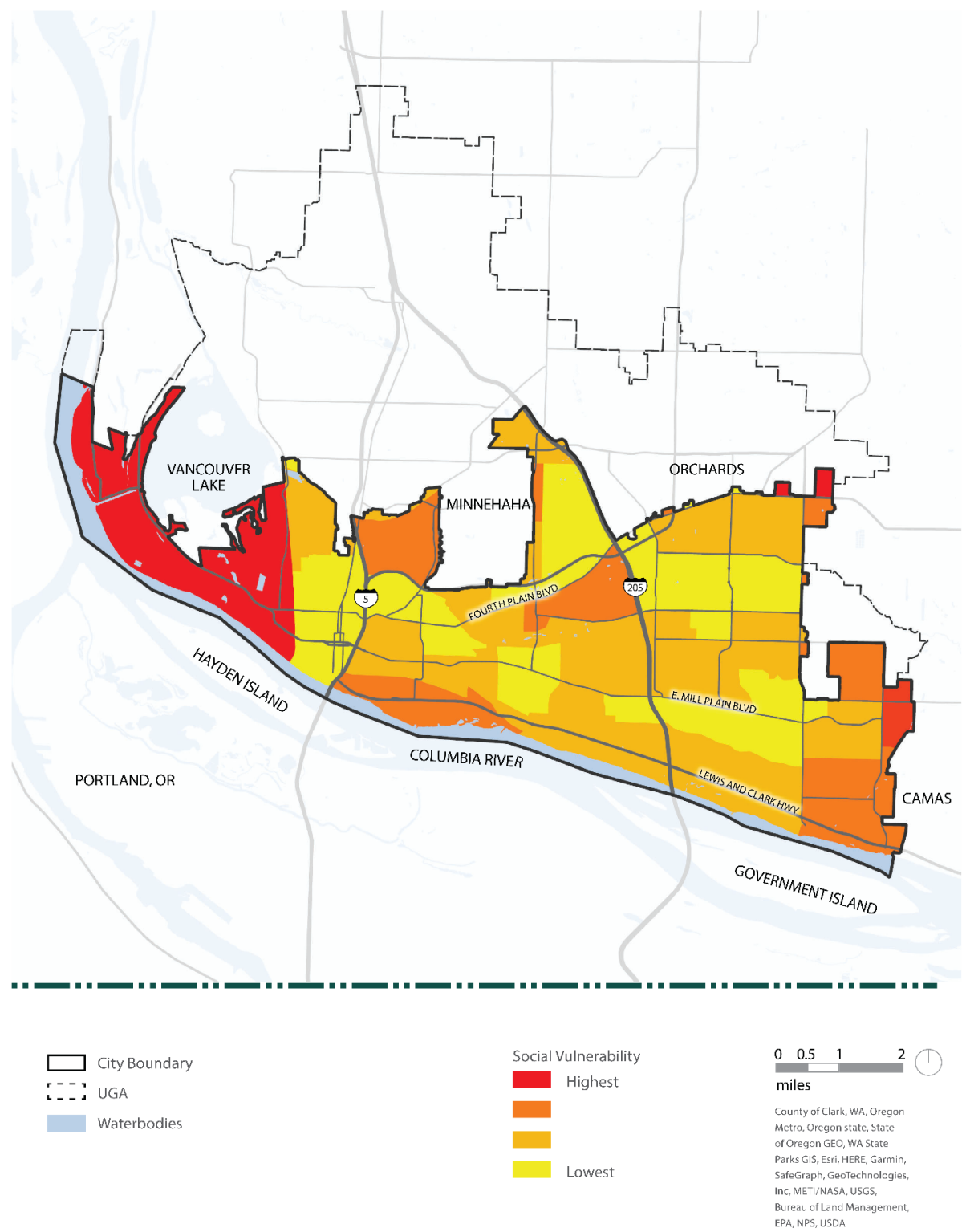
The SVI map (Figure 13) is intended to reflect existing conditions and does not indicate priority areas for investment. However, it can be used as a tool to identify areas that are especially susceptible to the impacts of public investment when considered alongside other factors like residential density and housing costs. Public investment and private development can bring numerous benefits, but if equity considerations are not prioritized, it can lead to impacts on vulnerable communities, including pressures on the housing market and involuntary displacement.

Figure 12. Equity Index Map



Source: City of Vancouver 2023c

Figure 13. Social Vulnerability Index Map



Source: Design Workshop 2024

Employment

In 2023, Vancouver was home to more than 100,000 jobs (Census 2023a). The number of jobs in Vancouver increased rapidly between 2011 and 2023, growing from 77,846 jobs in 2011 to 101,285 jobs in 2023 (ECONorthwest 2024a; Census 2023a).

Service-based industries are concentrated in Vancouver and make up a large and growing share of the city's workforce (ECONorthwest 2024a). In both the city and the region, the health care and social assistance industry provided the largest share of jobs (almost 20%). Other industries that represented some of the largest shares of employment for the City included retail trade, educational services, manufacturing, accommodation and food services, and construction. Many of the largest employers in Clark County are based in Vancouver and represent key industry clusters in healthcare, technology, and education, including PeaceHealth, Vancouver Public Schools, the Vancouver Clinic, Bonneville Power Administration, and Hewlett-Packard.

Jobs are moving toward local employment hubs like Downtown Vancouver, the Vancouver Innovation Center, and large institutions (ECONorthwest 2024a). Employment trends at the census tract level show that employment is growing in these locations, while declining along older, suburban-style commercial areas like Fourth Plain Boulevard. While many cities (including Portland) have struggled to maintain Downtown areas post-pandemic, Vancouver is showing a stronger rebound than the region.

Land use mix can have an impact on wages due to the types of jobs that can be created in different districts. For example, a heavy industrial area would include capacity for manufacturing jobs, while a mixed-use area may include a combination of healthcare, retail, service industry, and professional services jobs. Data from the U.S. Census provides average wages for a range of industries in the Portland metropolitan area, which are assumed to occur in particular zoning districts, as shown in Table 8 (Census 2023b).

Table 8. Average Annual Wages for Job Types and Corresponding Zoning Districts

Proposed Zoning District ^a	Types of Jobs	Average Annual Wages
Heavy Industrial	Manufacturing	\$77,000
Institutional/Campus	Public Administration, Education, Hospital	\$85,000
Industrial Employment	Warehousing, Specialty Trade Contractors	\$69,000
Low-Scale Neighborhood	Retail, Food/Drink Services	\$39,000
Medium-Scale Neighborhood	Retail, Food/Drink Services	\$39,000
Mixed Use	Healthcare, Retail, Food/Drink Services, Professional Services	\$72,000
Regional Activity Center	Healthcare, Retail, Food/Drink Services, Professional Services	\$72,000

Source: Census 2023b

Note:

- a Proposed zoning districts would apply only under the two action alternatives. For the No Action Alternative, existing land use and zoning designations would remain in place. The corresponding zoning districts for the No Action Alternative are shown in Table 2.

Potential Impacts

This section discusses the potential impacts of the alternatives related to the following land and shoreline use-related metrics:

- Consistency with land and shoreline use plans and policies
- Ability to accommodate adopted citywide minimum growth targets
- Compatibility with existing land uses
- Average wage of new jobs based on land use mix
- Level of commercial displacement risk

Impacts Common to All Alternatives

The following sections outline impacts that are expected to occur under all the alternatives. Not all metrics are addressed, as some metrics do not have impacts common to all alternatives. Impacts for each alternative are discussed in the next subsections.

Consistency with Land and Shoreline Use Plans and Policies

Consistency with other land use plans and policies would vary among the alternatives, as discussed in the subsections for each alternative. None of the alternatives would propose changes to the Shoreline Master Program, and none of the proposed changes in the action alternatives would directly affect the SMP.

Ability to Accommodate Adopted Citywide Minimum Growth Targets

New population and job growth is expected to occur under all the alternatives. The City's current population growth trend is expected to continue, reaching an estimated population of 281,000 by 2045 inside current City limits, based on Washington State OFM projections, under all of the alternatives. The City will likely grow further than this through annexation of land currently in the unincorporated Vancouver Urban Growth Area over the next 20 years, but the extent or timing is not known. However, the pace and distribution of growth would vary under each alternative.

Under all alternatives, the actual pace and distribution of future growth would be influenced in part by the implementation of the current (No Action) or proposed (Alternatives 1 or 2) Comprehensive Plan policies, related regulations and actions, and by decisions made by individual property owners and developers. The No Action Alternative would not be able to accommodate the adopted growth targets.

Compatibility with Existing Land Uses

Because growth and development would occur under all alternatives, there would be some potential for compatibility issues between existing land uses where proposals for denser or more intense land uses border existing parcels with less dense, less-intense land uses. However, none of the alternatives would propose changes to land use and zoning designations that would mix uses that are clearly incompatible. For example, the location and size of heavy industrial lands would remain the same under all alternatives and would continue to prohibit incompatible uses such as housing within those zones. Likewise, heavy industrial uses would not be permitted in other zoning districts under any of the alternatives. In addition, no changes in land uses would occur on lands designated as parks and open space under any of the alternatives.

Middle housing would be allowed in single-family zones under all the alternatives, because under the No Action Alternative it would be allowed by the state imposition of a model

ordinance. Land use compatibility impacts could be more visible in the action alternatives, which propose greater density, intensity, and mixes of uses in more areas of the city. These potential impacts are further described in the Alternative 1 and Alternative 2 subsections and in the Aesthetics subsection.

Average Wage of New Jobs Based on Land Use Mix

Although Alternatives 1 and 2 would have capacity for more jobs than the No Action Alternative, as discussed in Chapter 2, the overall average wage of new jobs is expected to be similar among the alternatives. All alternatives would focus most of their new job growth in industrial and mixed-use or commercial land use designations, which would result in similar average wages based on the job types assumed in these land uses (refer to Table 8 for these average wages).

Level of Commercial Displacement Risk

Commercial displacement is likely to occur to some extent under all alternatives as the city will experience some amount of growth and development. Per the Clark County 2023 VBLM, parcels that are considered “underutilized” based on the building value per acre are considered more likely to redevelop than those that are fully “built” (Clark County 2023). Older buildings may also be more likely to redevelop based on their condition. Underutilized parcels with mixed-use, medium-density, or high-density land use designations under all of the alternatives may be more likely to redevelop into higher-density uses, which could potentially result in commercial displacements.

Alternatives 1 and 2 include more areas that would be designated as these zoning districts and therefore may have higher potential for commercial displacement and need for mitigation. Under both action alternatives, there would be more than 1,000 commercial buildings on parcels considered “underutilized” that are in medium/high-density residential or mixed-use/regional activity center designations (BERK 2025). However, Alternatives 1 and 2 would also create more opportunities for new business spaces and anti-displacement measures compared to the No Action Alternative. The subsections for each alternative below provide more information about areas that could be more vulnerable to commercial displacement.

No Action Alternative

Consistency with Land and Shoreline Use Plans and Policies

The No Action Alternative would be inconsistent with the City’s proposed Comprehensive Plan Update and associated policy direction, as it assumes that no changes to the Comprehensive Plan would be implemented. The City is required by GMA to update its Comprehensive Plan every 10 years. By failing to implement updates to the Comprehensive

Plan and provide land to accommodate anticipated future growth, the No Action Alternative would be inconsistent with GMA.

Because the No Action Alternative would not increase residential intensity and density along major corridors across the city, there would be fewer opportunities to locate housing units within close proximity of essential services. This approach would be inconsistent with the City's policy direction to foster connected and accessible neighborhoods, as discussed further in the Housing section.

Ability to Accommodate Adopted Citywide Minimum Growth Targets

The No Action Alternative would not have sufficient capacity to accommodate adopted citywide growth targets of at least 38,129 new housing units and 43,198 new jobs. Based on the assessment of current land use designations citywide, the No Action Alternative would have capacity for only approximately 29,600 new housing units and 16,600 new jobs.

Compatibility with Existing Land Uses

Because the No Action Alternative would retain existing land use and zoning designations, there would be no notable impacts to compatibility with existing land uses beyond those noted in the Impacts Common to All Alternatives section.

Level of Commercial Displacement Risk

Commercial displacement would likely occur to a lesser extent than under Alternatives 1 and 2. Parcels potentially vulnerable to displacement due to building age and land use designation would be dispersed around the city. The No Action Alternative would also create fewer new spaces for businesses and maintain existing city policies, which would provide less opportunity for new anti-displacement measures (BERK 2025).

Alternative 1

Consistency with Land and Shoreline Use Plans and Policies

Alternative 1 would be compatible with the City's proposed Comprehensive Plan Update because it assumes the proposed new land use designations and zoning code would be implemented. Notably, the zoning designation of all properties within the City limits would change from what they are today.

Allowing increased residential density and intensity, and a greater mix of uses, along major corridors across the city would place essential services in greater proximity to more housing units compared to the No Action Alternative. This approach would be consistent with the City's policy direction to foster connected and accessible neighborhoods, as discussed further in the Housing section.

Ability to Accommodate Adopted Citywide Minimum Growth Targets

Under Alternative 1, proposed changes in land use and zoning designations would result in a higher capacity for new housing units and jobs than the No Action Alternative but a lower capacity than Alternative 2. Based on market feasibility and redevelopment potential, Alternative 1 would have capacity for approximately 45,100 new housing units and 46,000 new jobs citywide, which exceeds the City's minimum 2045 planning targets.

Compatibility with Existing Land Uses

Alternative 1 would have a modestly higher potential for incompatibility between existing land uses compared to the No Action Alternative, as it would accommodate denser and more intense building types and growth, and a greater mix of residential and commercial land uses, in more areas of the city.

For example, existing areas of predominantly single-family residential development would be redesignated as Low-Scale Neighborhoods, which would allow small-scale commercial activities like cafés, salons, professional services, and restaurants mostly serving the surrounding neighborhood. This new mix of uses would provide benefits to neighboring residents who would have more potential opportunities for services within walking distance; however, the mix of uses would need to be managed to ensure compatibility.

In addition, Low-Scale Neighborhoods that would be adjacent to areas planned for Medium-Scale Neighborhoods under Alternative 1 could experience greater incompatibility due to the scale of development allowed under the Medium-Scale Neighborhood zoning district, as discussed further in the Aesthetics section. These changes would be most pronounced in West Vancouver just north of downtown, in Central Vancouver along East Mill Plain Boulevard, and in East Vancouver along Mill Plain Boulevard, 164th Avenue, and 192nd Avenue.

Level of Commercial Displacement Risk

Parcels that are potentially vulnerable to commercial displacement based on age or "underutilized" status and land use designation would be similar under both action alternatives. These parcels would include older buildings dispersed across the city, as well as buildings on "underutilized" parcels located around the city, with concentrations west of I-5 in West Vancouver, around the Fourth Plain area and just north of SR 14 in Central Vancouver, and along Mill Plain Boulevard in East Vancouver. However, both action alternatives would also create more opportunities for new business spaces and include anti-displacement measures (BERK 2025).

Alternative 2

Consistency with Land and Shoreline Use Plans and Policies

Like Alternative 1, Alternative 2 would be compatible with the City's proposed Comprehensive Plan Update because it assumes the proposed new land use designations and zoning code would be implemented. Like in Alternative 1, the zoning designation of all properties within the City limits would change from what they are today.

Like Alternative 1, allowing for increased residential density and intensity, and a greater mix of uses, along major corridors across the city would place essential services in greater proximity to more housing units. This approach would be consistent with the City's policy direction to foster connected and accessible neighborhoods, as discussed further in the Housing section.

Ability to Accommodate Adopted Citywide Growth Targets

With the proposed changes in land use and zoning designations, Alternative 2 would have the highest capacity for new housing units and jobs of all the alternatives. Based on market feasibility and redevelopment potential, Alternative 2 would have capacity for approximately 50,700 new housing units and 49,300 new jobs citywide, which exceeds the City's minimum 2045 planning targets and is about 10% higher than Alternative 1.

Compatibility with Existing Land Uses

Alternative 2 would have the most potential for incompatibility between existing land uses compared to the No Action Alternative and Alternative 1, as it would accommodate denser and more intense building types and growth, and a greater mix of residential and commercial land uses, in most areas of the city. Existing single-family residential areas that would be designated as Medium-Scale Neighborhoods would experience the greatest potential changes in the mix of land uses and scale of development. More of these changes would occur throughout the city than under Alternative 1 or the No Action Alternative but would be most pronounced in West Vancouver north of downtown, in Central Vancouver along East Mill Plain Boulevard and Northeast Fourth Plain Boulevard, and in large parts of East Vancouver along and between the Mill Plain Boulevard, 164th Avenue, and 192nd Avenue corridors.

Level of Commercial Displacement Risk

Under Action Alternative 2, potential commercial displacement risk impacts and opportunities would be similar to those under Alternative 1 (BERK 2025).

Avoidance, Minimization, and Mitigation Measures

Land and shoreline use under all alternatives would be subject to the requirements in current applicable state, county, and city land and shoreline use laws and policies, including the GMA, Clark County Countywide Planning Policies, and the City's SMP.

The No Action Alternative would remain subject to the existing Comprehensive Plan goals and policies regarding Land and Shoreline Use the City's Land Use and Development Code (VMC Title 20), including SEPA rules and policies in VMC Chapter 20.790.

The action alternatives would be subject to the City's proposed Comprehensive Plan Update Land Use and Development chapter goals and policies, and proposed revisions to VMC Title 20 with the new development and zoning code for the implementing base land use districts.

The following measures would help to avoid, minimize, and mitigate potential land and shoreline use impacts under the action alternatives:

- Adopt and adhere to the updated Comprehensive Plan Land Use and Development chapter goals and policies. The proposed goals and policies under consideration include:
 - Develop subarea plans for key centers and corridors citywide to facilitate integrated land uses.
 - Develop regulations that provide transitions between zoning districts to ensure compatibility.
 - Promote efficient land use by focusing new development in areas with existing infrastructure and moving toward a more compact urban form.
 - Support efforts to retrofit or repurpose underutilized buildings, structures, and infrastructure to develop new housing and commercial spaces.
 - Facilitate and incentivize development on infill and underutilized lands.
 - Facilitate and expand allowances for shared utilization of parking facilities, and implement strategic pricing mechanisms to regulate on-street parking availability in Mixed Use Neighborhoods and Regional Activity Centers.
 - Tailor regulations, incentives and investments to facilitate development and community resources near current and future transit stations, promoting access by historically excluded and underserved communities and those most reliant on public transit.
 - Incentivize and remove regulatory barriers to locating grocery stores and neighborhood markets near housing and in underserved neighborhoods.
 - Implement anti-displacement strategies and actions that protect residents and businesses in advance of public investment so communities can remain in place and benefit from improvements.

- Conserve and invest in industrial lands and other areas that provide middle- and high-wage jobs.
 - Utilize City-controlled real estate to provide affordable commercial leasing opportunities for small and emerging businesses.
 - Support businesses that create high-quality jobs by reducing barriers to growth, streamlining development processes, and ensuring access to necessary resources and infrastructure.
 - Protect existing Critical Areas within the City, and Shorelines of Statewide Significance, and ensure no net loss of ecological functions through avoidance of impacts, conservation design principles, and compensatory mitigation when loss of ecological function cannot be avoided.
 - Continue to update the Comprehensive Plan and implementing regulations in response to the annual review process, state-mandated 5-year Implementation Progress Report, and 10-Year periodic review requirement that includes updates to long-term growth forecasts and regional land capacity analysis.
- Adopt and adhere to the development standards included in the proposed form-based zoning and development regulations, which would cover topics such as:
 - Base zoning district requirements, including standards for base density, height range, allowed building types, use requirements and additional requirements such as open space, overlay districts and environmental regulations.
 - Building type requirements, including applicability in each base zoning district, lot dimensions and coverage, building placement and build-out, building and story height, parking ratio and location and other additional requirements specific to a building type.
 - Use requirements for the base zoning districts, which identifies the categories of uses allowed, types of use approvals, types of primary uses, and specific standards that are applicable to land use permits for the base zoning districts.

Future site-specific development would be subject to additional SEPA review, including an analysis of potential land and shoreline use impacts.

Significant Unavoidable Adverse Impacts

The No Action Alternative would have significant adverse impacts to land and shoreline use because it would not provide sufficient capacity for development to comply with the GMA and meet the City's minimum 2045 housing and jobs targets. The action alternatives have the potential to create impacts on land and shoreline use as a result of changes in land use and zoning designations. The anticipated changes would occur incrementally, and with the

implementation of avoidance, minimization, and mitigation measures, no significant unavoidable adverse impacts to land and shoreline use are anticipated for Alternative 1 or Alternative 2.

Housing

Methodology

Analysts reviewed relevant information about the existing housing supply and types, affordability, and displacement risk, including the following sources:

- CoStar commercial real estate database (CoStar 2023)
- Our Vancouver Housing Needs Assessment (ECONorthwest 2024b)
- Our Vancouver Health Impact Assessment (BERK 2025)
- Redfin (2023)
- 2020 Reside Vancouver Anti-Displacement Plan (Thread Community Planning 2020)
- US Census Bureau American Community Survey (Census 2023a)

Analysts then reviewed the alternatives to determine potential adverse impacts and associated mitigation measures using the following metrics:

- Level of supply, diversity, and potential cost of housing
- Amount of new housing in areas with high displacement risk
- Amount of new housing in connected and accessible neighborhoods
- Level of housing capacity for all income bands
- Consistency with housing plans and policies

Affected Environment

Current Housing Supply and Mix

In 2023 there were 90,263 total housing units in Vancouver, a more than 25% increase from 71,649 in 2011 (Census 2023a). The dominant type of housing is single-family detached housing (43,209 units), which composes nearly half (48%) of the total number of housing units in Vancouver, compared to 65% of housing units in Clark County. Single-family housing also makes up 73% of the City land area zoned for residential districts. The remaining housing stock in Vancouver includes an estimated 35% multifamily housing (31,702 units), which is housing consisting of five or more units, and 16% “plex housing” (14,092 units), which is single-family attached units, duplexes, triplexes, and fourplexes (Census 2023a).

Vancouver has a higher share of multifamily housing than Clark County, with nearly one-half (around 43%) of Vancouver residential buildings having more than one unit compared to

about 25% of the county's buildings (Census 2023a). Permit data analysis shows a steady increase in multifamily development in recent years.

The predominant housing types vary from west to east depending on geographic areas of the city. West Vancouver, including downtown neighborhoods, generally have older buildings and smaller lots with denser uses, including traditional apartments and vertical mixed-use buildings. Along the Vancouver Waterfront, there are newer mixed-use high-rise buildings accommodating denser residential uses. Heading north of downtown Vancouver toward Burnt Bridge Creek, there are communities with older, low-density, single-family detached residential development.

In Central Vancouver, lower-density, single-family residential development generally dominates the housing supply, except for neighborhoods such as Harney Heights, North Garrison Heights and Columbia Way, where there are several multifamily residential developments.

In East Vancouver, the housing stock is also predominantly suburban-style, single-family detached buildings. There are pockets of medium- to high-density multifamily residential areas in the Fircrest and Fisher's Landing neighborhoods and east of I-205 along the Mill Plain Boulevard corridor.

Housing Needs

From 2023 to 2045, the City will need a total of 38,129 new housing units to support projected growth, according to the Our Vancouver Housing Needs Assessment (ECONorthwest 2024b). Overall, this means an estimated 1,733 housing units need to be built or created on average per year from 2023 to 2045 to meet the City's housing needs. As the existing City housing stock has increased by around 1,466 housing units per year over the last decade from 2012 to 2022 (per OFM data), housing production will need to increase by around 267 housing units per year.

To comply with H.B. 1220, local governments must plan for and accommodate housing affordable to all income levels. The Housing Needs Assessment determined that the 2045 housing target should include the following types of units:

- 2,651 Permanent Supportive Housing units (subsidized, leased housing with no limit on length of stay that prioritizes people who need comprehensive support services)
- 4,371 units for households below 30% area median income (AMI) (extremely low income)
- 5,890 units between 30 to 50% AMI and 5,788 housing units between 50 and 80% AMI (low income)
- 3,351 units between 80 to 100% AMI (moderate income)

- 3,175 housing units between 100 to 120% AMI (moderate to middle income)
- 12,902 housing units over 120% AMI (high income)
- 1,374 emergency shelter beds

This analysis indicates that about one-third of new housing units would need to be affordable to households at or below 50% of AMI.

Current Home Occupancy

The vacancy rate for all housing units in the city was 6%, slightly higher than Clark County (4%) (Census 2023a). The city's overall vacancy rate has remained stable since 2011. Vancouver has seen a recent spike in vacancy rates among two-bedroom units in multifamily housing, jumping from just under 4% in 2022 to almost double that at 7% in 2023, likely related to recent housing construction (ECONorthwest 2024b). Housing market assessments often use a 5% standard vacancy rate that implies a balance between housing supply and demand. Vancouver multifamily vacancy rates closely follow those of Clark County at 7% compared to Clark County's 8%.

Current Home Ownership

Approximately 51% of Vancouver residents rent their homes, while the remaining 49% own their homes (Census 2023a). Vancouver's renter population is larger than Clark County (33%) and Washington State as a whole (36%).

In Vancouver, the largest share of renter households lived in multifamily buildings with five units or more (63%), "plex housing" (21%), and single detached units (15%) (Census 2023a). In greater Clark County, the distribution is similar.

Among owner households in both Vancouver and Clark County, the largest share lived in single detached units (84% and 87%, respectively), followed by "plex housing" (9% and 6%, respectively) and multifamily units (5% and 2% respectively) (Census 2023a).

Racial disparities exist in Vancouver's housing access. Asian, white, and American Indian/Alaska Native households have the highest rates of homeownership (at 64%, 52% and 48% respectively), while Hispanic/Latine, Black, and two or more race households have the lowest rates of homeownership (at 24%, 32% and 34% respectively). (Census 2023a).

Housing Costs

Both rental and ownership costs have far outpaced income growth in the city, with median home prices nearly tripling and average rents increasing 60% from 2012 to 2023. The widening gap between housing costs and incomes indicates declining affordability in Vancouver's ownership and rental market (ECONorthwest 2024b).

As of June 2023, the median home sale price in Vancouver was roughly \$477,000 (Redfin 2023). The city's median home prices were roughly \$50,000 lower than the county overall (\$527,000). However, city and county home prices increased at a similar rate since 2012, nearly tripling (a 174% increase) over the decade from 2012 to 2023. Additionally, while median Vancouver home prices were lower than both Hillsboro (\$514,000) and Portland (\$511,000), Vancouver prices have increased at a faster rate than both cities.

In 2021, the median monthly mortgage payment was \$1,734, and in March 2022, the average market rent for a one-bedroom unit in Vancouver was \$1,411 (CoStar 2023). As of 2023, the average rent in Vancouver was \$1,673, which was similar to the average rent of \$1,671 in Clark County (CoStar 2023). From 2012 to 2023, average Vancouver rents increased by more than \$600, or 56%, surpassing average rents in Portland (CoStar 2023).

Cost burdening tends to disproportionately impact renters in comparison to homeowners, and this tendency holds true for the City and Clark County as a whole. Renters are nearly three times more likely to be cost burdened than homeowners. In 2023, about 53% of renters in Vancouver were cost burdened (spending more than 30% of their income on rent and utilities), including over a quarter of all renters (26%) who were severely cost burdened, spending more than 50% of their income on rent and utilities (Census 2023a).

Vancouver provides 1,243 rent-restricted affordable units sponsored by the City's Affordable Housing Fund that are either existing or currently in development (ECONorthwest 2024b). Of these units, 26% are set aside for seniors, 43% are reserved for households earning less than 60% of AMI, and 9% of the units are set aside specifically for populations with disabilities or mental health issues.

Displacement Risk

Some Vancouver communities face displacement risks, but few areas have reached late-stage gentrification, which means a neighborhood has lost an increasingly higher share of vulnerable populations and is experiencing increasingly higher housing costs (ECONorthwest 2024b). The Image neighborhood is the only area that has reached late-stage gentrification based on the City's methodology. The Fourth Plain Village and North Image neighborhoods fall into the Dynamic typology, which are areas where focusing new anti-displacement actions can still help to prevent loss of vulnerable populations and before they reach late-stage trends.

Neighborhoods facing early-stage gentrification are concentrated in Central Vancouver, including along Fourth Plain Boulevard, I-205, and WA 500. In these areas, preserving low-cost housing and preventing loss of vulnerable populations can help keep neighborhoods from advancing further into mid- or late-stage gentrification.

The most effective anti-displacement strategies vary by what stage a neighborhood is currently experiencing. The City's 2020 Reside Vancouver plan presents recommended strategies for preventing displacement, which include citywide and geographically specific strategies for the Fourth Plain Corridor. Strategies to prevent displacement can include actions that preserve existing low-cost housing, create new affordable housing options, increase economic opportunities for residents, and support homeownership to stabilize households depending on how much low-cost housing is still available and how many vulnerable residents are still located in the area.

Potential Impacts

This section discusses the potential impacts of the alternatives related to the following housing-related metrics:

- Level of supply, diversity, and potential cost of housing
- Amount of new housing in areas with high displacement risk
- Amount of new housing in areas with greater percentages of trips under 5 miles near active transportation networks
- Amount of new housing in connected and accessible neighborhoods
- Level of housing capacity for all income bands
- Consistency with housing plans and policies

Impacts Common to All Alternatives

The following sections outline impacts that are expected to occur under all the alternatives. Impacts specific to each alternative are discussed in the next subsections.

Level of Supply, Diversity, and Potential Cost of Housing

An increase in citywide housing supply would be possible under all the alternatives to varying extents. All of the alternatives would result in a greater diversity of allowed housing types to some extent because they assume that H.B. 1110 would be implemented through the imposition of the state model ordinance allowing middle housing, if local standards are not adopted. H.B. 1110 requires cities like Vancouver to allow for at least four dwelling units per lot on all lots, up to six dwelling units per lot if within 0.25 mile of a major transit stop or if two of the units are affordable. All land currently designated as Urban Lower Density under the No Action Alternative or as Low-Scale Neighborhood under Alternatives 1 and 2 would have the potential for a greater diversity of housing types, such as duplexes, quadplexes, sixplexes, and townhomes, because of H.B. 1110's requirements.

Under all alternatives, the pace and location of development of future new housing units would be influenced in part by the implementation of the current (No Action) or proposed

(Alternatives 1 or 2) Comprehensive Plan policies, related regulations and actions, and by decisions made by individual property owners and developers.

The cost of housing under all alternatives would be influenced by a variety of factors, including construction costs, market conditions, and government incentive programs.

New Housing with High Displacement Risk

All alternatives are likely to have some level of residential displacement due to growth and redevelopment. Table 9 summarizes the estimated number of new housing units that would be built in areas defined as high risk in the Washington State Displacement Risk Map (Commerce n.d.). Under all alternatives, at least 14% of housing unit capacity or growth would be located in these high displacement risk areas.

Table 9. Estimated Capacity for New Housing Units in High Displacement Risk Areas

Metric	No Action Alternative	Alternative 1	Alternative 2
Projected Capacity for New Housing Units in High Displacement Risk Areas	9,400 ^a	6,500	8,500
Percent of Total Projected Capacity for New Housing Units	32% ^a	14%	17%

Source: BERK 2025

Note:
a The No Action is based on capacity only and does not account for feasibility of redevelopment, whereas Alternatives 1 and 2 include assumptions related to market feasibility and redevelopment.

Amount of New Housing in Connected and Accessible Neighborhoods

Although the three alternatives would distribute new housing capacity and growth in different ways, they would all result in the potential for a substantial amount of new housing in connected and accessible neighborhoods. Connected and accessible neighborhoods are intended to support a mix of uses within a 15-minute walk to provide opportunities for shopping, entertainment, cultural amenities, and employment within proximity to housing.

As summarized in Table 10, more than 40% of the new housing capacity in each alternative is in areas with five or more services or amenities within walking distance. These services or amenities include full-service grocery stores, transit stops, parks and open spaces, trails, libraries, ambulatory healthcare services, schools, and other essential places such as higher education institutions (Design Workshop 2024). This proximity to services would benefit

resident wellbeing in terms of access to healthcare, food, and daily needs, as well as opportunities to interact with others, under all alternatives.

Table 10. Estimated Capacity for New Housing Units in Connected and Accessible Neighborhoods

Metric	No Action Alternative	Alternative 1	Alternative 2
Projected Capacity for New Housing Units in Connected and Accessible Neighborhoods	16,100 ^a	18,700	21,700
Percent of Total Projected Capacity for New Housing Units	54% ^a	42%	43%

Source: BERK 2025

- Note:
- a The No Action is based on capacity only and does not account for the feasibility of redevelopment, whereas Alternatives 1 and 2 include assumptions related to market feasibility and redevelopment.

Level of Housing Capacity for All Income Bands

All of the alternatives would provide new housing units throughout the city; however, there would be varying capacity for housing that serves all income bands. In general, it is assumed that alternatives with a higher capacity for new housing units would allow for the greatest opportunity to construct different housing typologies, which in turn have the potential to be more affordable for a broader range of income levels, as discussed in the subsections for each alternative. However, as discussed in the Housing Needs Assessment, certain lower-income bands are likely unable to be served without additional subsidies for housing. Development of regulated affordable housing can face a number of challenges and typically requires sizable gap financing to make projects feasible (ECONorthwest 2024b).

Compatibility with Housing Plans and Policies

All of the alternatives would allow for new housing units throughout the city, which is broadly compatible with the City’s Housing Action Plan goal of building substantially more housing units over the next 20 years. However, the action alternatives would be more compatible with these goals, as discussed in the subsections for each alternative.

No Action Alternative

Level of Supply, Diversity, and Potential Cost of Housing

The No Action Alternative would not meet the City's minimum 2045 housing unit targets because it would not implement H.B. 1220 or H.B. 1337, and it would not allow denser housing typologies in as many areas of the city as Alternative 1 or Alternative 2. The No Action Alternative would have the least potential for providing adequate, affordable housing to meet identified needs. As discussed in the Housing Needs subsection, approximately 13,000 new housing units are needed for people with incomes of less than 80% AMI. To meet this need, more than 40% of new housing units under the No Action Alternative would need to be constructed for this income level. Without implementation of H.B. 1220 or H.B. 1337, the No Action Alternative would not include additional policy or zoning provisions to address the need for more diversity in housing supply throughout the city to accommodate more affordable housing.

Under the No Action Alternative, residents, developers, and homebuilders would not receive the benefits of the proposed zoning code update, which is designed to make requirements easier and simpler to understand, and in turn to reduce costs and barriers to housing production.

New Housing with High Displacement Risk

The No Action Alternative would have the highest number of new housing units in areas with high displacement risk compared to Alternatives 1 and 2, as shown in Table 9. This is likely because the No Action Alternative would have a larger estimated capacity for new housing units in Central Vancouver, which has large areas of high displacement risk according to the Washington State Department of Commerce mapping tool, as compared to Alternatives 1 and 2 (Commerce n.d.).

Amount of New Housing in Connected and Accessible Neighborhoods

There would be a lower number of new housing units in connected and accessible neighborhoods under the No Action Alternative compared to Alternative 1 and Alternative 2, as shown in Table 10. Areas with capacity for new housing outside of connected and accessible neighborhoods would be distributed across the city, with larger amounts predicted in Central and East Vancouver than West Vancouver.

Level of Housing Capacity for All Income Bands

The No Action Alternative would have the lowest level of housing capacity for all income bands because it would have the lowest capacity for new housing units in general. In addition, zoning designations would remain the same, which are currently more restrictive in housing types than the zoning districts proposed under the action alternatives.

Compatibility with Housing Plans and Policies

The No Action Alternative would not be fully compatible with the City's housing plans and policies because it would not fully align with the Housing Action Plan, which includes strategies such as updating the city code to increase housing density and types.

Alternative 1

Level of Supply, Diversity, and Potential Cost of Housing

Alternative 1 would result in a greater potential diversity of housing types than the No Action Alternative because, based on market feasibility and redevelopment potential (see Appendix B for more information), it would have a greater capacity for new housing units citywide and would designate more land area as Medium-Scale Neighborhoods, Mixed-Use Neighborhoods, and Regional Activity Centers. These denser zoning districts allow for a broader range of housing typologies with more units. East Vancouver (between I-205 and the eastern City limits) would have the greatest capacity for new housing units.

Alternative 1 would also have a greater potential for meeting affordable housing needs compared to the No Action Alternative because of the greater capacity for new housing units. Residents, developers, and homebuilders would receive the benefits of the proposed zoning code update, which is designed to make requirements easier and simpler to understand, and in turn to reduce costs and barriers to housing production.

New Housing with High Displacement Risk

Alternative 1 would have the lowest capacity for new housing units in areas with high displacement risk compared to the No Action Alternative and Alternative 2, as shown in Table 9.

Amount of New Housing in Connected and Accessible Neighborhoods

Alternative 1 would have greater capacity for new housing units in connected and accessible neighborhoods than the No Action Alternative, as shown in Table 10. Areas with capacity for new housing outside of existing connected and accessible neighborhoods would be located primarily in East Vancouver. Some parts of Central Vancouver, particularly near the Columbia River, would also have capacity for new housing units where there is low existing access to services. However, under the new zoning districts, some commercial and retail services would be allowed in traditionally residential-only areas, which could increase the potential for more services in those areas.

Level of Housing Capacity for All Income Bands

Alternative 1 would have higher levels of housing capacity for all income bands than the No Action Alternative because it would have a much higher capacity for new housing units in general. The new zoning designations and associated development regulations under

Alternative 1 would allow for a greater diversity of housing types than the No Action Alternative. The level of housing capacity for all income bands would be similar to Alternative 2 but would be slightly lower because of the relatively lower capacity for new housing units.

Compatibility with Housing Plans and Policies

Alternative 1 would be compatible with the City's housing plans and policies because its proposed land use and zoning designations would provide sufficient capacity to exceed the City's 2045 housing target and would align with the Housing Action Plan, which includes strategies such as updating the city code to increase housing density and types.

Alternative 2

Level of Supply, Diversity, and Potential Cost of Housing

Alternative 2 would result in the greatest potential diversity of housing types of all the alternatives because it would have the highest capacity for new housing units and would designate the most land area as Medium-Scale Neighborhoods, Mixed-Use Neighborhoods, and Regional Activity Centers. As with Alternative 1, East Vancouver (between I-205 and the eastern City limits) would have the greatest capacity for new housing units.

Alternative 2 would have the highest potential for increasing the housing market supply and thus potentially lowering the cost of housing because it would have the largest amount of land zoned for denser housing types. Residents, developers, and homebuilders would receive the benefits of the proposed zoning code update, which is designed to make requirements easier and simpler to understand, and in turn to reduce costs and barriers to housing production.

New Housing with High Displacement Risk

Alternative 2 would have a higher capacity for new housing units in areas identified as high displacement risk than Alternative 1 but a lower capacity than the No Action Alternative, as shown in Table 9.

Amount of New Housing in Connected and Accessible Neighborhoods

Alternative 2 would have more capacity for new housing units in connected and accessible neighborhoods than the No Action Alternative and Alternative 1, as shown in Table 10. Areas with capacity for new housing outside of connected and accessible neighborhoods would be in similar areas of Central and East Vancouver as Alternative 1. Unlike Alternative 1, there would be capacity for new housing units near I-205 and NE Padden Parkway, at the north end of Central Vancouver, where there is lower existing access to services. However, similar to Alternative 1, the new zoning districts included in Alternative 2 would support a variety of uses, which could support more commercial or retail services and amenities in areas traditionally dominated by residential development.

Level of Housing Capacity for All Income Bands

Alternative 2 would have the highest potential for housing capacity for all income bands of the alternatives because it would have the highest capacity for new housing units in general. As with Alternative 1, the new zoning designations and associated development regulations under Alternative 2 would allow for a greater diversity of housing types than the No Action Alternative. There would be more areas of the city that allow for a greater variety of housing types under Alternative 2 than Alternative 1.

Compatibility with Housing Plans and Policies

Like Alternative 1, Alternative 2 would be compatible with the City's housing plans and policies because its proposed land use and zoning designations would provide sufficient capacity to exceed the City's minimum 2045 housing targets and would align with the Housing Action Plan, which includes strategies such as updating the city code to increase housing density and types.

Avoidance, Minimization, and Mitigation Measures

Housing development under the No Action Alternative would be subject to applicable state and county laws and the City's Land Use and Development Code (VMC Title 20).

The action alternatives would be subject to the City's proposed Comprehensive Plan Update Land Use and Development chapter goals and policies and proposed revisions to VMC Title 20 with new development and zoning code for the implementing base land use districts. The City is also working to develop and enact additional policies and actions designed to reduce costs and burdens for new housing development and to support a variety of housing types.

Implementation of the following proposed goals and policy measures currently under consideration for the Comprehensive Plan Update would help to avoid, minimize, and mitigate potential housing impacts identified for the action alternatives:

- Add a minimum of 38,000 new housing units by 2045.
- Provide a wide range of new housing types to fit a variety of household sizes, cultures, incomes, abilities, and stages of life. Increase housing diversity by allowing a range of missing middle housing types (duplexes, triplexes, townhomes, cottage clusters, and courtyard apartments) in low- and medium-intensity residential areas to expand affordability and accessibility. Incentivize development of housing types suitable for multigenerational living.
- Work with partners to facilitate and fund housing that reflects the cultures, identities and needs of Vancouver's unique population groups.
- Provide adequate transitional, permanently supportive, and affordable housing so that all residents have access to safe and stable housing. Expand the availability of permanently

supportive housing and emergency shelter beds with integrated services for people with disabilities, houseless individuals, and at-risk populations.

- Work to prevent displacement of community members due to direct impacts and market forces by providing resources to support stable and secure housing. Implement anti-displacement strategies and actions that protect residents and businesses in advance of public investment so communities can remain in place and benefit from improvements.
- Provide connected and accessible neighborhoods with a diverse mix of community and open spaces, services, retail, fresh food, healthcare, and educational opportunities within 15 minutes (0.25 mile) or less of housing. Site new accessible and attainable housing close to existing and future parks.
- Enable homeownership for people across the income spectrum. Broaden access to homeownership in the community for first-time owners, low-income residents, and other groups frequently priced out of through alternative ownership methods.
- Provide access to affordable housing regardless of income. Preserve the most affordable and accessible housing options in the city and discourage conversion to more expensive housing or commercial uses. Develop incentives to integrate below-market housing as part of new market-rate housing projects.
- Facilitate homeownership opportunities through assistance programs, grants, and other methods that reduce barriers to entry for low- and moderate-income households.
- Explore and develop additional funding methods and resources to support affordable housing and community ownership opportunities.
- Facilitate development of income-based housing in connected and accessible neighborhoods, and generally in areas with good access to resources and services.
- Develop mechanisms to integrate community benefits into private development that requires discretionary land use review and City-led redevelopment projects.
- Pursue strategic acquisition and utilize existing City-owned land for affordable housing.
- Simplify the development review process where feasible and as needed to reduce housing costs.

Promote and remove regulatory barriers to new and innovative construction methods such as modular, panelized, 3d printed, or other methods.

Significant Unavoidable Adverse Impacts

The No Action Alternative would have significant adverse impacts on housing because it would not provide sufficient capacity for development to meet the City's minimum 2045 housing targets, and would not comply with state housing requirements of the GMA.

The anticipated changes under the action alternatives would occur incrementally, and with the implementation of avoidance, minimization, and mitigation measures, no significant unavoidable adverse impacts to housing are anticipated for Alternative 1 or Alternative 2.

Aesthetics

Methodology

Aesthetics refers to the scale and visual quality of the study area, including building heights, views, shading conditions, and overall visual and architectural character. Analysts reviewed relevant information and policies about the city's existing urban form and character, viewsheds, shadows, and light and glare, including the following sources:

- Vancouver Municipal Code:
 - VMC 20.925, Landscaping
 - VMC 20.935, Off-site Impacts
 - VMC 20.770, Tree, Vegetation, and Soil Conservation
 - VMC 20.500, Overlay Districts
 - VMC 20.600, Plan Districts
- Design guidelines and manuals for subareas and districts
- City of Vancouver Shoreline Master Program (City of Vancouver 2021b)

Analysts reviewed the alternatives to determine potential adverse impacts and associated mitigation measures using the following metrics:

- Compatibility with desired urban form and character as expressed in existing and future planning documents
- Level of general visual impacts (e.g., shadows, light, and glare)

Any analysis of aesthetic impacts is inherently subjective and can vary based on individual preferences. This analysis is based on assumptions that increased growth and density can lead to additional larger or taller buildings that cast longer shadows and have the potential to add to light and glare impacts.

Affected Environment

Existing Urban Form and Character

Existing urban form and character vary by location in Vancouver. Western areas of the city generally have older buildings, smaller lots with denser uses, and a more walkable environment with a traditional grid-patterned street network. This area also has a large industrial center, which includes the Port of Vancouver, along the Columbia River west of the Vancouver Waterfront. Key corridors and sites include Mill Plain Boulevard/SR 501, downtown (see Figure 14), the waterfront, and Vancouver Lake.

Figure 14. Downtown Vancouver



Source: City of Vancouver

Central Vancouver has a more suburban character than the western areas, including postwar subdivisions and older big-box retail developments. Key corridors and sites include Fourth Plain (see Figure 15), Evergreen and Grand Boulevards, Fort Vancouver, Clark College, and The Heights Subarea.

Figure 15. East Fourth Plain Boulevard



Source: City of Vancouver

East Vancouver has the most suburban character and urban form, with newer residential and big-box retail developments. Key corridors and sites include Mill Plain Boulevard and SE 164th Avenue, as shown in Figure 16.

Figure 16. Aerial View of SE 164th Avenue and Mill Plain Boulevard Vicinity



Source: City of Vancouver

Vancouver’s landscape reflects efforts to preserve existing trees and other vegetation and to add new vegetation (City of Vancouver 2021). Historic trees in the City help preserve its character and are identified and protected as “heritage trees” in VMC 20.770. VMC 20.925 outlines landscaping requirements for all new or substantially remodeled buildings, accessory uses, and parking lots for multiple reasons, including aesthetic value.

The Our Vancouver Goals Framework identifies harmony between the built and natural environment as a desired community outcome (City of Vancouver 2023b).

In addition to these citywide regulations and policies, many subareas and districts within the city are guided by design guidelines that have been adopted to guide housing type and character specifically in those areas.

Viewsheds

Most of Vancouver today is dominated by views of the built environment, including existing commercial and residential areas. Vancouver is situated in a natural landscape that is characteristic of the Pacific Northwest region of the United States, with rivers, creeks and lakes, and urban forests. Views of Mt. St. Helens, Mt. Adams, and Mt. Hood are also available from certain corridors and locations within the city, with one example shown in Figure 17.

Figure 17. Views of Mt. Hood at Vancouver Lake



Source: City of Vancouver

Views of the Columbia River are available in some areas of the city, including the Vancouver Waterfront and various businesses and homes along the shoreline. The City’s SMP identifies goals and policies around views and aesthetics “to assure that the public’s opportunity to enjoy the physical and aesthetic qualities of shorelines of the state, including views of the water, is protected to the greatest extent feasible” (City of Vancouver 2021). The SMP restricts new or expanded buildings that would obstruct the views of a substantial number of residences on areas adjacent to shorelines unless “overriding considerations of the public interest will be served.”

Shadows

Shadows refer to the blockage of direct sunlight falling on a given area. Some land uses are more sensitive to shading than others, where access to periods of direct sunlight is important for their primary function. Examples include parks and outdoor recreational facilities, community gardens, and buildings that rely on solar power panels.

Shadows in the city are typically influenced by building heights and sizes, which are regulated by the zoning code and vary by zone. Downtown Vancouver, the waterfront, and other mixed-use and commercial zones typically have taller buildings that cast longer shadows. Lower-density neighborhoods with shorter buildings have fewer building-shaded areas.

Light and Glare

Light and glare impacts tend to be concentrated in higher-density areas with more street lights, reflective surfaces, and vehicle traffic, compared to lower-density areas. VMC 20.935.030(D) provides limitations for off-site impacts from light and glare that apply to any development, redevelopment, or use of a property in the City, both during and after construction.

Light pollution refers to the alteration of outdoor light levels from those occurring naturally, and can affect our ability to see the night sky. Light pollution is caused by outdoor lights from various sources that remain on (or are on periodically) between sunset and sunrise. Examples include streetlights, exterior lights on buildings, and headlights from vehicles. Light pollution in Vancouver is greater closer to Portland and gradually reduces over distance (Radiance Light Trends 2024).

Potential Impacts

This section discusses the potential impacts of the alternatives related to the following aesthetics-related metrics:

- Compatibility with desired urban form and character as expressed in existing and future planning documents
- Level of general visual impacts (e.g., shadows, light and glare)

Impacts Common to All Alternatives

The following sections outline impacts that are expected to occur under all the alternatives. Impacts specific to each alternative are discussed in the next subsections.

Compatibility with Urban Form and Character

All of the alternatives would allow development of new housing units and other structures throughout the city, which has the potential to directly affect aesthetics in the surrounding areas. Existing and planned regulations and policies aimed at protecting views and reducing the effects of light and glare would apply to all alternatives and would help facilitate compatibility with area-specific urban form and character in a changing environment.

Level of General Visual Impacts

All alternatives would have the potential for impacts to aesthetics through specific future development projects. Future development, regardless of alternative, may alter the visual character of an area and create new sources of shading, light and glare.

All alternatives would have similar amounts of land designated for heavy industrial, Industrial/Employment, Institutional/Campus, and Parks/Open Space uses. Therefore,

impacts to aesthetics, including building heights, views, shading conditions, and overall visual and architectural character, would likely be neutral in these areas.

No Action Alternative

The No Action Alternative assumes the lowest level of citywide growth and development of all the alternatives and no changes to existing land use and zoning designations. Larger-scale buildings and higher building heights would be allowed in fewer areas of the city than under the action alternatives, as detailed in Appendix C. Therefore, it would have the lowest potential for altering the existing visual setting of the city and for introducing new sources of shadow, light, and glare. Development would continue to occur under the existing land use and zoning regulations, as well as state-imposed allowances for new middle housing in single-family neighborhoods, and impacts to aesthetics would likely be modest. Middle housing would also be allowed in single-family neighborhoods under the No Action Alternative, because state law automatically imposes a model ordinance allowing middle housing if local jurisdictions do not take action to allow these housing types. Some aspects of aesthetics would continue to be regulated in the limited select areas that have design guidelines.

Alternative 1

Alternative 1 would allow denser development patterns and larger-scale, taller buildings in more areas of the city compared to the No Action Alternative and in fewer areas of the city compared to Alternative 2.

Because Alternative 1 would have a smaller amount of land area dedicated to Medium-Scale Neighborhood, Mixed Use, and Regional Activity Center zoning districts than Alternative 2, there would be slightly less potential for development of larger-scale buildings that are taller than three stories (45 feet). However, the proposed zoning code updates would allow for higher maximum building heights in Low-Scale Neighborhoods under both action alternatives than in equivalent low-density residential zoning districts under the No Action Alternative (45 feet maximum under the action alternatives as compared to 30 feet maximum under the No Action Alternative). These changes could result in localized light, glare, shadow, and other visual impacts if some parcels redevelop to taller building types than their neighboring parcels.

There would be a slightly higher likelihood of redevelopment of existing parking lots, vacant lots and structures under Alternative 1 compared to the No Action Alternative because of the implementation of denser land use designations and zoning in more parts of the city. The light, glare and visual impacts from existing parking lots and vacant lots and structures would

be improved by redevelopment of these sites consistent with the new Comprehensive Plan and code.

Alternative 2

Alternative 2 would allow for higher-density zoning districts and larger-scale, taller buildings in the most areas of the city of all the alternatives. Therefore, overall, Alternative 2 would have the highest potential for associated impacts to aesthetic resources, including changes in visual character resulting from taller allowed buildings and new sources of shadows, light and glare.

The amount of land devoted to Regional Activity Center, Campus/Institutional, Medium-Scale Neighborhood, and Mixed-Use development would be higher than under Alternative 1, which could result in a modestly greater number of taller buildings (75 feet or taller). The increased number of taller, larger-scale buildings would have the potential to result in slightly greater light, glare, shadow, and visual impacts under Alternative 2 compared to Alternative 1 and the No Action Alternative. As with Alternative 1, there would also be aesthetic improvements associated with the redevelopment of parking lots and vacant lots and structures.

Avoidance, Minimization, and Mitigation Measures

Regardless of alternative, all future development projects will be required to comply with city and state policies for protecting views of the shoreline and reducing off-site impacts, including light and glare. In addition, compliance with city and state requirements for the protection of natural resources, open space, and historic sites would contribute to the preservation of aesthetic resources in the city.

The City's development review process will ensure compliance with VMC 20.935, which requires any development, redevelopment, or use of a property to have minimal adverse off-site impacts from light and glare, both during and after construction. The development review process will also ensure compliance with citywide standards for landscaping and tree conservation, as well as any applicable design guidelines or standards that may be in effect at that location.

Development standards included in the proposed form-based zoning and development regulations would also help to avoid, minimize and mitigate impacts to aesthetics. Topics under consideration for the code updates include:

- Requirements for minimum open space and maximum impervious areas, building placement and lot build-out (setbacks from property lines), building heights, access

points, landscaping (including incentives for maintaining large trees and adding more trees than required), and connectivity.

- Requirements for certain frontage types (i.e., how a building interacts with the street and shapes the overall character of the streetscape), such as awnings, balconies, bay windows, cafés, common yards, courtyards, porches, stoops, and terraces. The City is considering dimensional requirements for these elements as they relate to the public right-of-way and prohibiting use of exterior materials that could promote glare.
- Regulations that provide transitions between zoning districts to ensure compatibility.

Implementation of the following policy measures currently under consideration for the Comprehensive Plan Update would also help to avoid, minimize, and mitigate potential aesthetics impacts identified for the action alternatives:

- Ensure medium- to high-scale residential, mixed-use, and commercial development is human-scale, street-oriented, and integrated with surroundings to enhance comfort, accessibility, and visual interest for people walking, biking, or rolling.
- Develop standards for public spaces and buildings that incorporate culturally specific design principles and art installations and reflect the diverse history and heritage of Vancouver communities.

Significant Unavoidable Adverse Impacts

All alternatives have the potential to create impacts to aesthetics as a result of new development patterns and building forms. The anticipated changes would occur incrementally, and with the implementation of avoidance, minimization, and mitigation measures, no significant unavoidable adverse impacts to aesthetics are anticipated for any of the alternatives.

Historic and Cultural Preservation

Methodology

Analysts reviewed relevant information and policies about citywide historic and archaeological resources, including the following sources:

- National Register of Historic Places (NRHP)
- RCW Chapter 27.34, State Historical Societies – Historic Preservation
- RCW Chapter 27.44, Indian Graves and Records
- RCW Chapter 27.48, Preservation of Historical Materials
- RCW Chapter 27.53, Archeological sites and resources
- Washington State Heritage Register (WSHR)
- VMC Chapter 17.39, Historic Preservation

- VMC Chapter 20.710, Archaeological Resource Protection
- VMC Chapter 20.770.120, Heritage Trees
- Community Atlas (Design Workshop 2024)

Analysts then reviewed the alternatives to determine potential adverse impacts and associated mitigation measures using the following metrics:

- Level of potential impacts to historic sites
- Level of risk of uncovering archaeological resources at proposed development sites

Affected Environment

Historic Sites

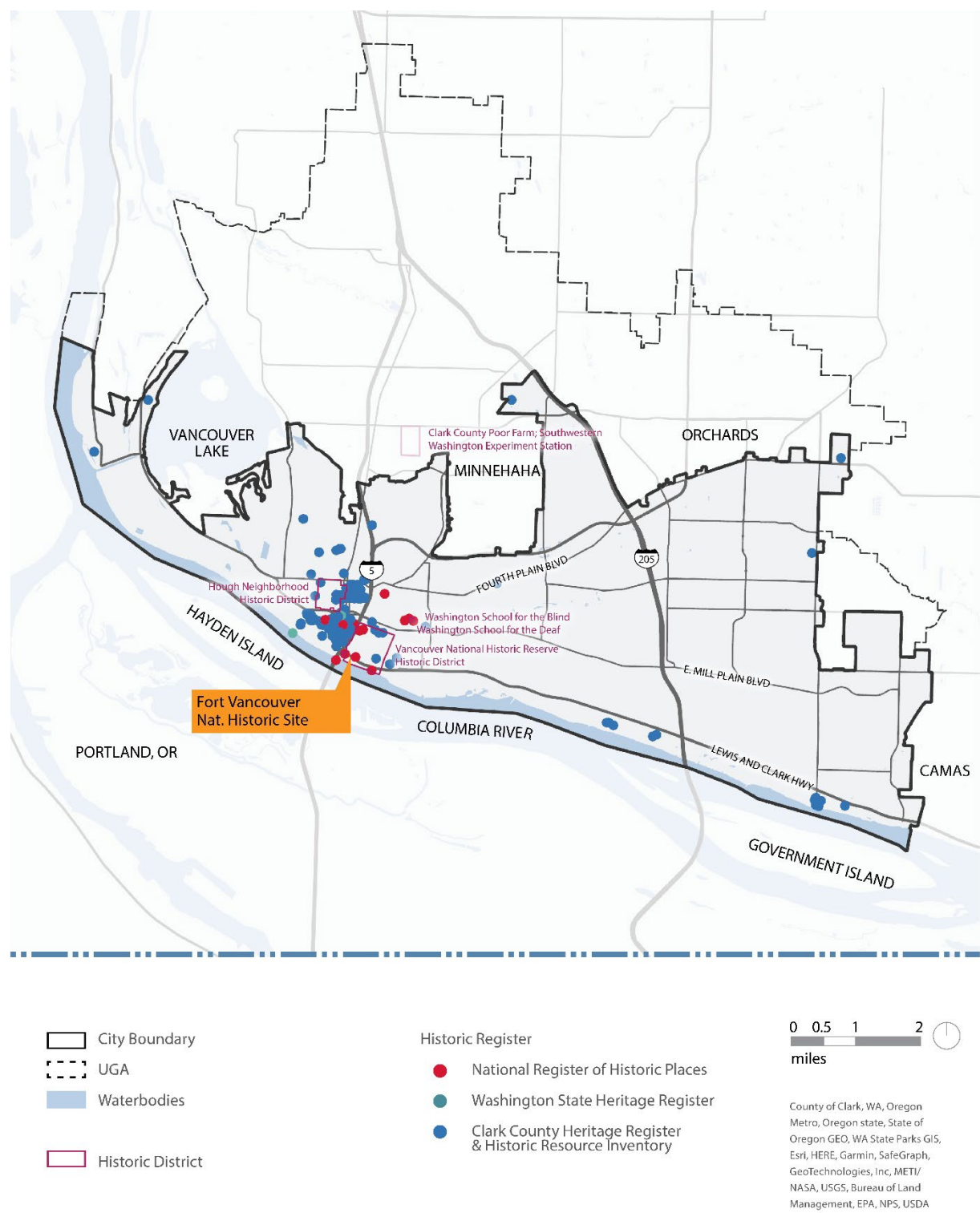
VMC 17.39 applies to properties in Vancouver and includes eligibility criteria for historic and cultural resources in Clark County, in addition to the NRHP and WSHR. Many historic sites and buildings have been revitalized to preserve their unique architectural characteristics and embrace Vancouver's history. The City is commonly recognized for its historic site, Fort Vancouver, which served as a major trading post in the 19th century and an Army post during World War II.

Figure 18 shows a map of sites in Vancouver that are listed on the NRHP, WSHR, or Clark County Heritage Register and Historic Property Inventory, and Table 11 lists NRHP sites in Vancouver. These historic sites are primarily clustered just west and east of I-5 in West and Central Vancouver, near downtown. A few county historic sites are designated along the Columbia River and at the far eastern and western edges of the city limits.

Vancouver has two designated federal and/or state historic districts:

- In West Vancouver, the Hough Neighborhood Historic District, located west of Vancouver's central business district, has been listed on the Washington Heritage Register since 2003 (Clark County 2024a). It hosts a variety of architectural styles and buildings constructed primarily between circa 1890 and 1945 and is the largest collection of existing pre-World War II housing in Vancouver.
- In Central Vancouver, the Vancouver National Historic Reserve Historic District, bounded by Evergreen Boulevard on the north, I-5 on the west, the Columbia River on the south and East Reserve Street on the east, covers about 252 acres of the 366-acre Historic Reserve created by Congress in 1996 (Clark County 2024b). It includes several nationally significant sites that contribute to its status on the NRHP, including Fort Vancouver National Historic Site, the Officer's Row National Historic District, the Vancouver Barracks National Historic District, Pearson Air Museum, the Jack Murdock Aviation Center, Pearson Airfield, Old Apple Tree Park, and Waterfront Park.

Figure 18. Federal, State, and County Historic Sites



Source: Design Workshop 2024

Table 11. National Register of Historic Places Sites in Vancouver

National Register of Historic Places Sites, Vancouver	
Anderson–Beletski Prune Farm	
Chumasero–Smith House	
Clark County Courthouse	
Clark County Poor Farm – Southwestern Washington Experiment Station	
Covington House	
Elks Building	
Evergreen Hotel	
Fort Vancouver National Site	<ul style="list-style-type: none"> • Pearson Air Museum • Fort Vancouver Visitor center • Japanese Castaways’ Memorial
Hidden Houses	
House of Providence	
John P. and Mary Kiggins House	
Kiggins Theater	
Luepke Florist	
Heye H. and Eva Meyer Farmstead	
Officers Row, Fort Vancouver Barracks (21 Houses)	<ul style="list-style-type: none"> • Ulysses S. Grant House • General O.O Howard House • George C. Marshall House • The Marshall House
Vancouver Barracks Post Hospital	
Slocum House	

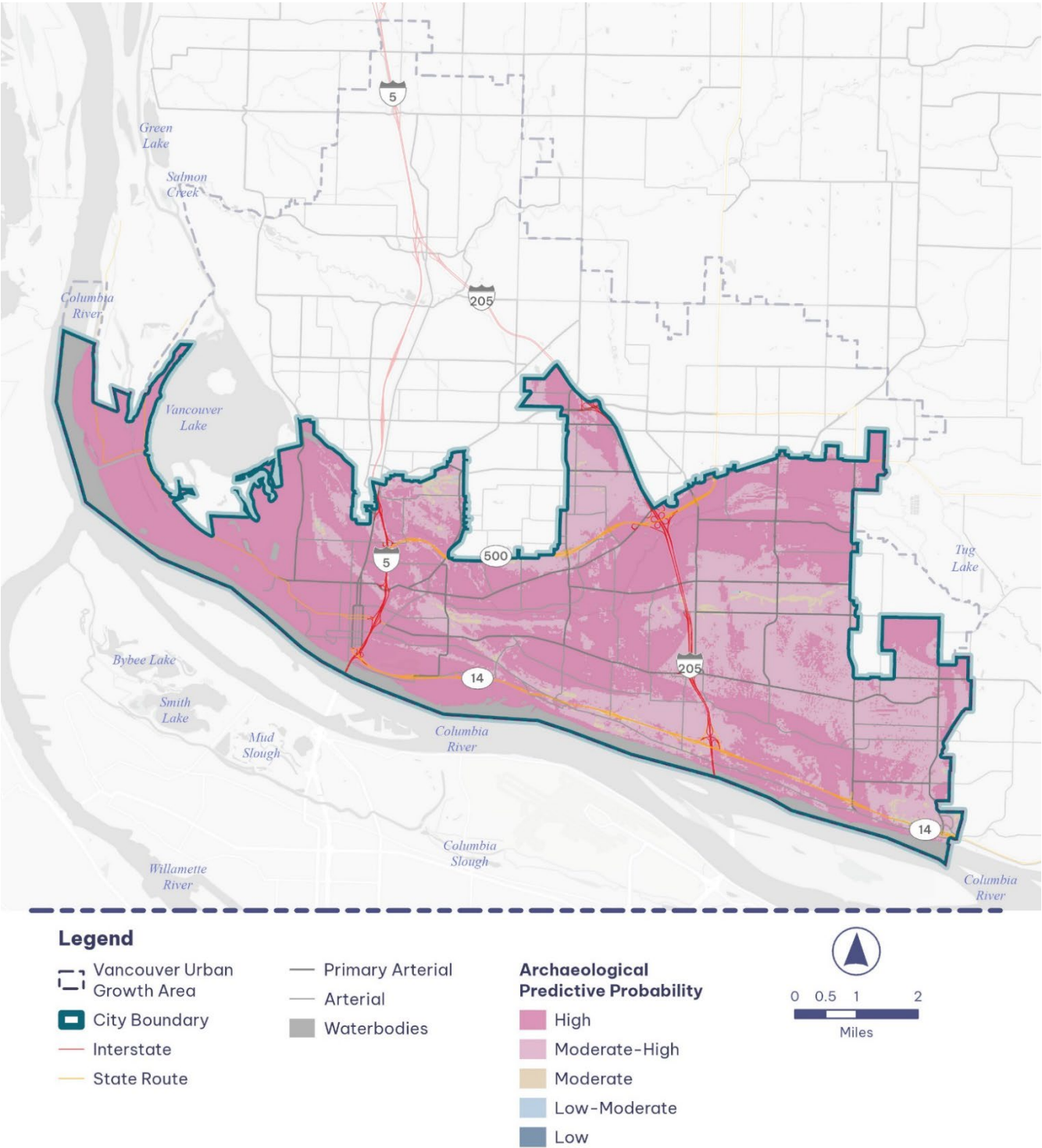
National Register of Historic Places Sites, Vancouver	
John Stanger House	
U.S. National Bank Building	
U.S. Post Office – Vancouver Main	
Vancouver National Historic Reserve Historic District	
Vancouver Public Library	
Vancouver Telephone Building	
Vancouver–Portland Bridge	
Vancouver Washington School for the Blind	
McLoughlin House	
Slocum House	
John Stanger House	

Source: Design Workshop 2024

Archaeological Resources

Figure 19 shows the probability of encountering archaeological resources throughout the city based on data from the state’s predictive model. Most of the city’s perimeter, including sites along Vancouver Lake and the Columbia River, is identified as having a higher probability of having archaeological significance. Central and East Vancouver north and south of Fourth Plain Boulevard and SR 500 are also identified as higher probability areas.

Figure 19. Archaeological Predictive Risk Probability Map



Source: Clark County n.d.

Potential Impacts

This section discusses the potential impacts of the alternatives related to the following historic and cultural preservation-related metrics:

- Level of potential impacts to historic sites
- Level of risk of uncovering archaeological resources at proposed development sites

Impacts Common to All Alternatives

The following sections outline impacts that are expected to occur under all the alternatives. Impacts specific to each alternative are discussed in the next subsections.

Level of Potential Impacts to Historic Sites

All alternatives could potentially lead to redevelopment projects that would demolish, physically alter, or change the setting of existing historic properties. They could also potentially introduce new elements into culturally or historically significant viewsheds of historic properties.

West Vancouver, particularly downtown, would have the highest potential for impacts to historic sites under all of the alternatives because it has the largest concentration of identified historic properties in the city, as well as the state-designated Hough Neighborhood Historic District (see Figure 18).

Central Vancouver would have capacity for more projected new housing units and jobs relative to West Vancouver but fewer than East Vancouver. It has fewer identified historic sites than West Vancouver but more than East Vancouver, so it would have moderate potential for impacts to these properties. Although the associated zoning designations would change under the action alternatives, it is assumed that no new development would occur within the Vancouver National Historic Reserve Historic District under any of the alternatives.

East Vancouver would have capacity for the most projected new housing units and jobs and also has the fewest identified historic sites. It would therefore have the lowest potential for impacts to historic sites under all of the alternatives.

The City's identified need to meet future minimum housing and jobs targets, regardless of alternative, could result in increased pressure to redevelop sites that have historic buildings or potential cultural or archaeological resources; however, this would be less of an issue in East and Central Vancouver under all alternatives based on the locations of identified historic sites.

Level of Risk of Uncovering Archaeological Resources at Proposed Development Sites

All alternatives could potentially lead to redevelopment projects that could uncover archaeological resources during construction. Risks of encountering archaeological resources would be highest along most of the city's perimeter, including sites along the Columbia River and Vancouver Lake, and in Central and East Vancouver north and south of Fourth Plain Boulevard and SR 500.

Because land use and zoning designations would remain similar for sites along the Columbia River and Vancouver Lake under all of the alternatives, potential impacts to archaeological resources are also expected to be similar.

No Action Alternative

In general, there would be minimal additional impacts under the No Action Alternative aside from those described in the Impacts Common to All Alternatives section. The No Action Alternative would allow for the lowest level of citywide growth and redevelopment of all the alternatives. Therefore, it would likely have the lowest potential for individual site disturbance and potential associated impacts to cultural, archaeological, and historic resources. However, the No Action Alternative would encourage continuation of a less dense, more dispersed style of urban development. In the longer term, this type of development pattern could potentially increase pressure to develop more individual sites, which could result in additional cumulative impacts to historic and cultural preservation over time.

Alternative 1

In general, there would be minimal additional impacts under Alternative 1 aside from those described in the Impacts Common to All Alternatives section. Alternative 1 would allow for more intense levels of citywide development compared to the No Action Alternative and lower levels compared to Alternative 2. Higher-density development would be allowed in fewer areas of the city than in Alternative 2, as discussed in the Land and Shoreline Use section. Overall, more sites would have the potential for disturbance and associated impacts to cultural, archaeological, and historic resources under Alternative 1 than the No Action Alternative and fewer sites would experience these impacts under Alternative 2.

In West Vancouver, the Hough neighborhood, a designated historic district, would be designated as Medium-Scale Neighborhood under both action alternatives, which would create potential pressure to redevelop historic properties into denser housing types and allow a greater mix of land uses in the area. Although the Hough neighborhood already contains multifamily housing units, the medium-scale buildings allowed in this new zoning district could have impacts on neighboring historic properties if they resulted in changes to their setting. However, West Vancouver is also identified as having the lowest capacity for

new housing units based on market feasibility and redevelopment studies compared to Central and East Vancouver under Alternative 1, as discussed in the Land and Shoreline Use section.

In Central and East Vancouver, there would be greater potential risk of encountering archaeological resources under Alternative 1 than the No Action Alternative because Alternative 1 would allow for higher-density development in higher probability areas north and south of Fourth Plain Boulevard and SR 500.

Overall, because Alternative 1 would allow for denser development patterns than the No Action Alternative, it would potentially result in less pressure to develop individual historic sites than the No Action Alternative, which could lead to fewer cumulative impacts on historic and cultural preservation over time.

Alternative 2

In general, there would be minimal additional impacts under Alternative 2 aside from those described in the Impacts Common to All Alternatives section. Alternative 2 would allow for the highest intensity of citywide development of all the alternatives, and there would be more areas designated for potential high-density development than under Alternative 1.

Similar to Alternative 1, Alternative 2 has the potential to create pressure to redevelop historic properties in the Hough neighborhood in West Vancouver into denser housing types as allowed in the Medium-Scale Neighborhood zoning district.

In Central and East Vancouver, there would be a greater potential risk of encountering archaeological resources under Alternative 2 than the No Action Alternative and Alternative 1 because of proposed higher-density and intensity development in higher probability areas north and south of Fourth Plain Boulevard and SR 500.

Overall, Alternative 2 would have the highest potential for site disturbance and associated impacts to cultural, archaeological, and historic resources at individual sites because of the higher levels of potential disturbance to existing land and buildings to accommodate new, denser development. However, because Alternative 2 would allow for the densest development patterns, it would potentially result in less pressure to develop historic sites than the No Action Alternative and Alternative 1, which could lead to fewer cumulative impacts on historic and cultural preservation over time.

Avoidance, Minimization, and Mitigation Measures

Regardless of the alternative, all future development projects will be required to comply with city and state requirements for identification and preservation of cultural, archaeological, and historic resources.

The City's development review process will ensure compliance with VMC 20.710, which requires an archaeological study (or predetermination): (1) when any part of the area to be disturbed is in an area with a high probability for archaeological resources, (2) when the development is 5 acres or more in size and wholly within an area with moderate-high and moderate probability for archaeological resources, (3) when any land to be disturbed, regardless of size or predictive model probability level, is within 0.25 mile of a recorded archaeological site. All areas that have not been previously included in an archaeological study are recommended for a predetermination-level study.

In addition, implementation of the following goals and policy measures currently under consideration for the Comprehensive Plan Update would also help to avoid, minimize, and mitigate potential impacts to historic and cultural preservation identified for the action alternatives:

- Support a thriving cultural landscape for residents and visitors by investing in public art, cultural centers and facilities, historic preservation, and supporting community-centered initiatives and opportunities for creative expression that reflect the city's diverse identities and historic roots.
- Develop standards for public spaces and buildings that incorporate culturally specific design principles and art installations and reflect the diverse history and heritage of Vancouver communities.
- Foster meaningful partnerships with tribal communities and land stewards, integrating their knowledge, priorities, and cultural perspectives into local decision-making processes.
- Engage community organizations and individuals representing diverse lived and cultural experiences in the planning, design, and programming of community spaces.
- Protect and preserve significant cultural, historic, archaeological, and ecologic community resources. Promote preservation, restoration, and rehabilitation of historic and architecturally significant structures.
- Improve access to arts, cultural, and heritage programs by reducing barriers to participation, prioritizing underserved and historically marginalized communities, and investing in related programs.
- Strengthen Vancouver's cultural sector by investing in capacity building across arts, culture and heritage organizations as an economic and cultural driver of the community.

- Protect and promote Fort Vancouver and the Historic Reserve as nationally significant cultural and historic assets. Support public investment, inclusive programming, and heritage-based economic development. Oppose efforts to reduce funding or public accessibility.

Significant Unavoidable Adverse Impacts

All alternatives have the potential to create impacts to historic and cultural preservation as a result of expected population and job growth and development. The anticipated changes would occur incrementally, and with the implementation of avoidance, minimization, and mitigation measures, no significant unavoidable adverse impacts to historic and cultural preservation are anticipated for any of the alternatives.

Transportation

Methodology

Analysts reviewed relevant information and policies to qualitatively describe existing citywide conditions for vehicular, active, water, rail, and airborne transportation, as well as parking and safety conditions, including the following sources:

- Clark County Regional Transportation Plan (RTC 2024)
- City of Vancouver Transportation System Plan (TSP) 2024–2044 (City of Vancouver 2024a)
- C-TRAN 2021–2026 Transit Development Plan (C-TRAN 2021)
- Community Atlas: Existing Conditions Report (Design Workshop 2024)
- Southwest Washington Regional Transportation Council (RTC) regional travel demand model outputs (RTC 2025)

In coordination with the City, RTC refined and ran the regional travel demand model for the alternatives described in Chapter 2 to estimate transportation conditions in 2045 (RTC 2025). Using the outputs from the model, analysts reviewed the alternatives and determined potential adverse impacts and associated mitigation measures for the following performance metrics:

- Vehicle miles traveled (VMT)
- Level of mode shift
- Mobility units by transportation analysis districts
- Potential for increases in fatal/severe crashes

Affected Environment

Vehicular Transportation

Vancouver's street network consists of highways, arterials, and collectors, as shown in Figure 20. Few streets connect directly across the city (City of Vancouver 2024a). Interstate 5 (I-5) runs north-south through Western-Central Vancouver and provides connectivity to nearby Portland, Oregon, as well as the whole West Coast. Interstate 205 (I-205) serves as a bypass for I-5, running north-south and terminating in Salmon Creek, WA at the north end and in Tualatin, Oregon at the south end.

State Route (SR) 14 runs east-west, starting at I-5 in Vancouver, running through the Columbia River Gorge, and ending at I-82/US 395 in Plymouth, Washington. SR 14 is a key connector to Camas and Washougal, located east of Vancouver. SR 500 is an auxiliary route of I-5, running east-west and connecting I-5 to I-205.

The city's arterial network, including Mill Plain Boulevard, 112th Avenue, and Andresen Road, has major destinations, transit service, higher speed limits, wider roadways, and the greatest number of crashes.

The City's transportation system is guided by the TSP, which provides policy direction on transportation infrastructure investments in the City and considers regional transportation needs (City of Vancouver 2024a). The 2024-2044 TSP proposes a framework for future transportation investment intended to reduce car dependency and improve mobility and safety for all, regardless of age, ability or travel mode.

While the 2024 TSP largely focuses on working within the existing roadway system to expand safe transportation options for all users, the City also plans to invest in upgrading and building out the primary arterial roadway system. These large-scale capital projects are designed to bring major roadways up to urban standards; add turn lanes, mobility lanes (a renaming of "bike lanes" to account for their use by bikes, e-bikes, and other small mobility devices such as scooters) and sidewalks; improve safety; and reduce congestion by accommodating recent and future developments along arterial streets.

Table 12 shows modeled existing citywide daily VMT, and Table 13 shows modeled existing mode split.

Safety

From 2010 to 2019, the number of crashes in the City increased 29% while the population grew by 13%. During the pandemic, crashes declined 5% from 2019 to 2022 (City of Vancouver 2024a).

The TSP found that long distances between crossings, lack of sidewalks on nine miles of arterial streets, and bicycling and small mobility facilities that end abruptly contribute to feelings of unsafe conditions. Distraction and inattention make up the top two factors contributing to crashes across all crash types. Figure 21 provides a map of collisions by type in 2020.

Freight

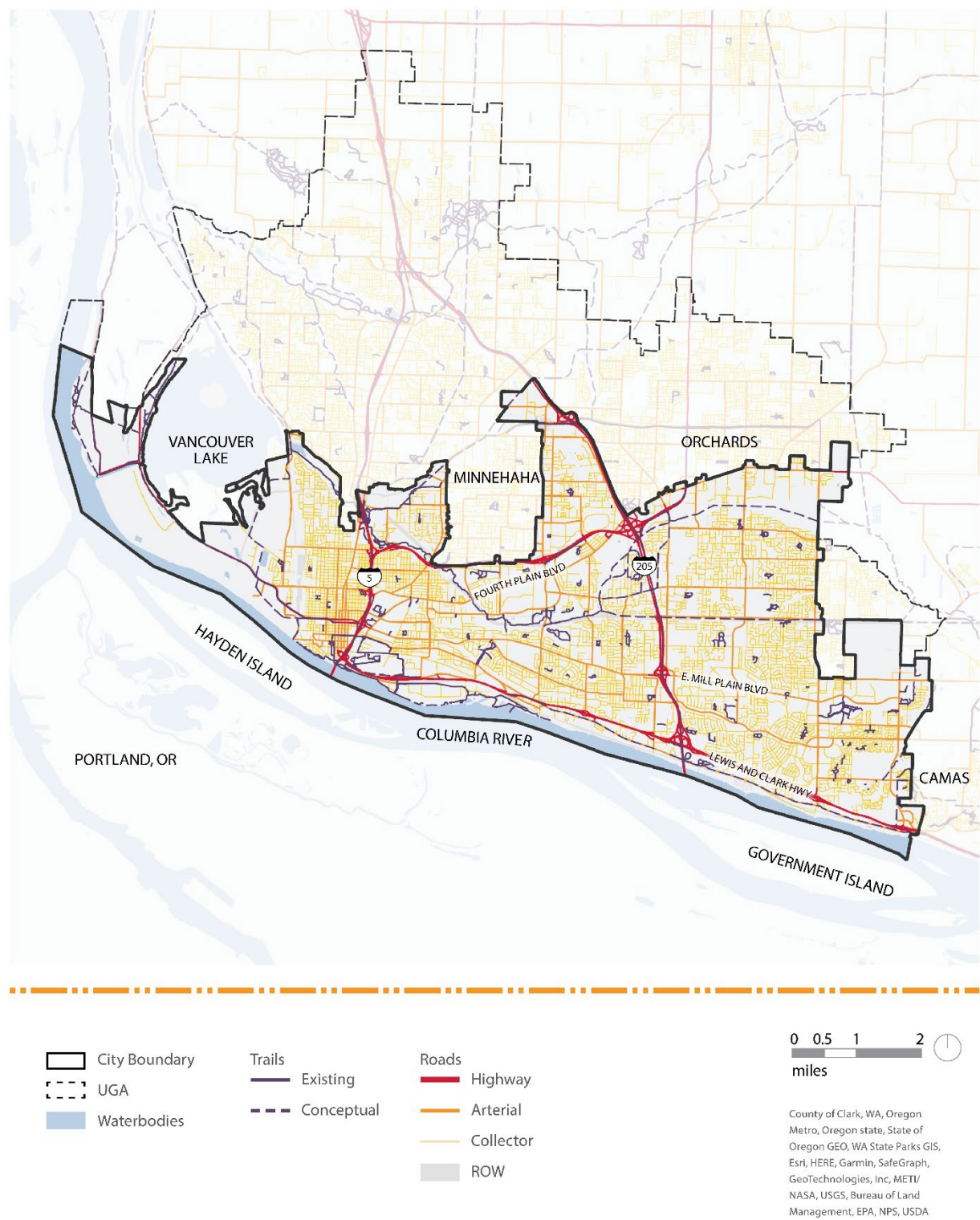
Freight is critical to the City's economy (City of Vancouver 2024a). The City works to integrate design and policy treatments so freight and vulnerable users can navigate the same streets.

The 2024 TSP calls for development of a freight network classification that designates where freight movements are expected and planned to occur. The City uses freight categories that align with state, regional, and national designations, including:

- Critical corridors. These are important for through truck traffic to maintain mobility for regional or national connections. Within this category, the two subcategories are (1) National Highway Freight Network, and (2) Truck Freight Economic Corridors.
- Freight access streets. Trucks must use streets throughout the city for deliveries. The freight network recognizes these local access streets based on actual truck usage.

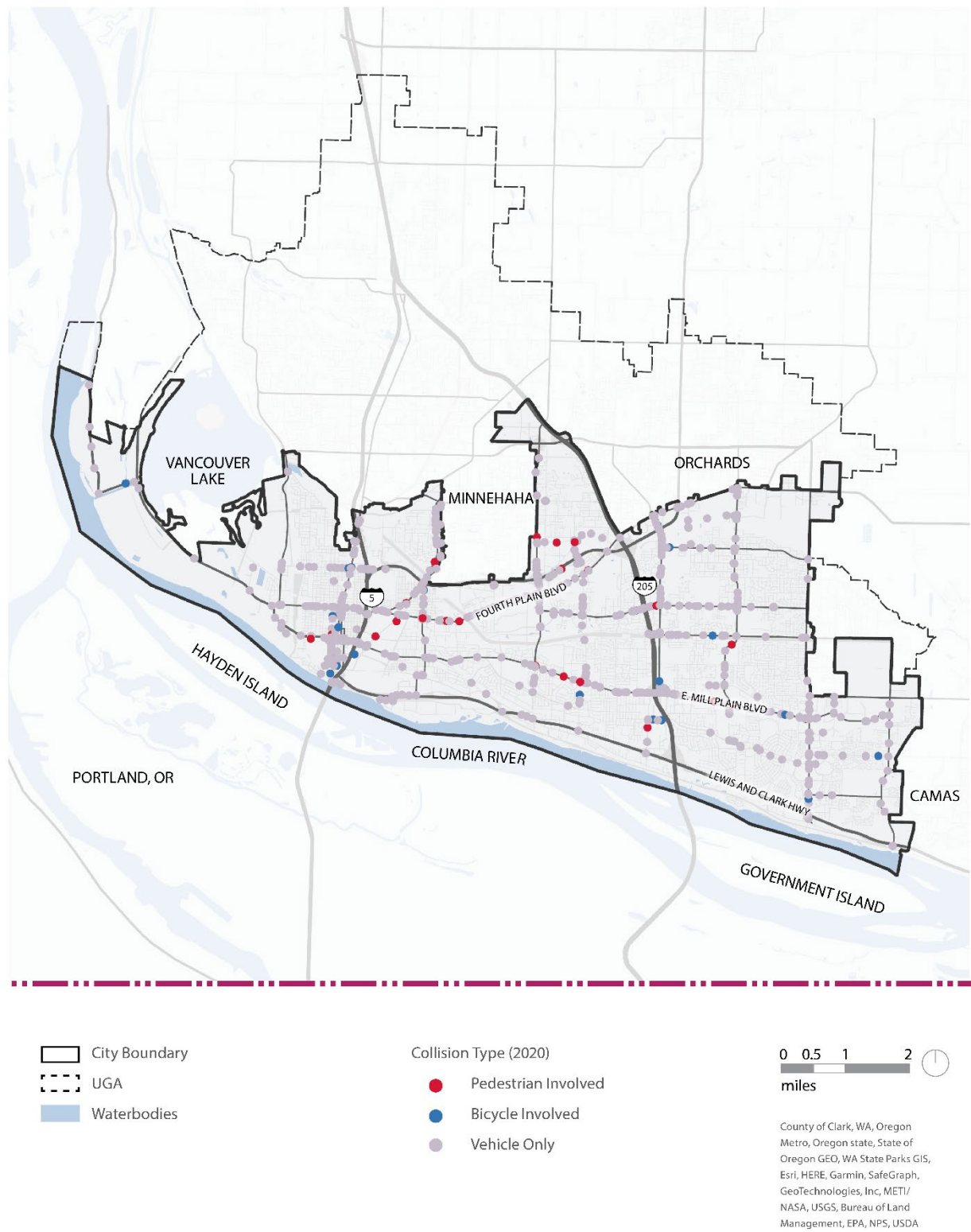
Figure 22 shows the City's future freight network, which includes I-5, I-205, SR 14, SR 500, SR 501, SR 503, Fourth Plain Boulevard, Mill Plain Boulevard, and others.

Figure 20. Road Classification Map



Source: Design Workshop 2024

Figure 21. Citywide Locations of Traffic Collisions in 2020



Source: Design Workshop 2024

Figure 22. Citywide Critical Freight Corridors



Source: City of Vancouver 2024a

Parking

Nearly half of city-managed off-street parking spaces are unoccupied on a typical weekday (City of Vancouver 2024a). Over one-third of on-street parking spaces are unoccupied on the average weekday (City of Vancouver 2024a). Updates to accommodate growth present an opportunity to right-size parking, balancing vehicle accessibility with the need to preserve valuable land for housing, recreation, and other uses.

Transit

C-TRAN operates bus routes of varying frequency that connect residents to destinations within the City and to Portland and neighboring municipalities. Figure 23 shows current bus routes and stop locations in the city.

Vancouver is home to the region's first bus rapid transit (BRT) system. The Vine BRT provides frequent daily service, every 15 minutes or better, along the Fourth Plain and Mill Plain corridors. Since opening in 2017, the Vine BRT has decreased travel times for riders by 12%, with up to 10 minutes saved per trip. Bus ridership has increased by 45% while per-passenger cost decreased by 21% (City of Vancouver 2024a). Approximately 25% of Vancouver residents live within a quarter mile of the Vine BRT lines (City of Vancouver 2024a).

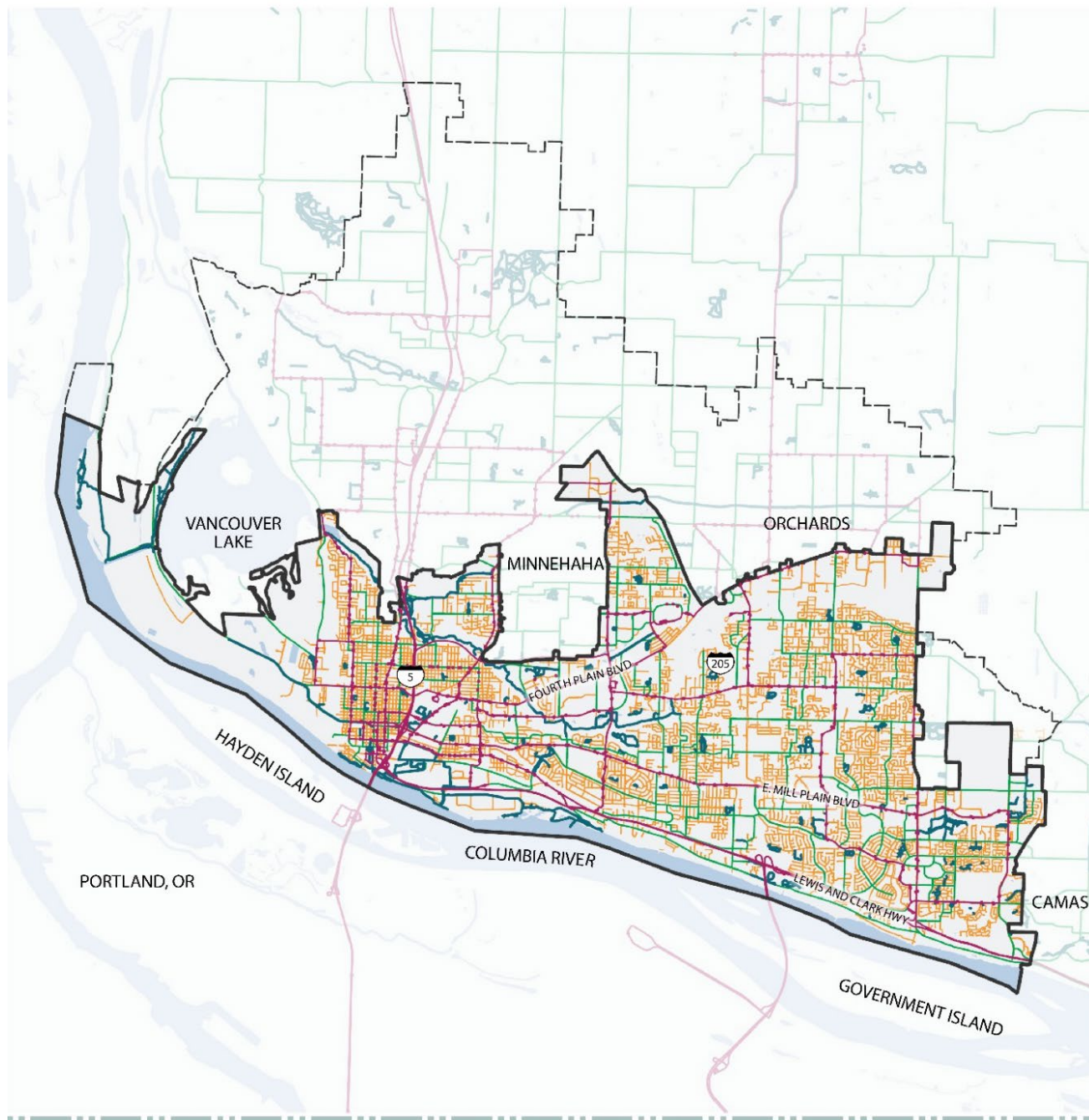
The C-TRAN 2021-2036 Transit Development Plan calls for a 10% increase in transit service and identifies capital needs to prepare for long-term growth.

Active Transportation

The City currently has 628 sidewalks, 10,630 curb ramps, and 129 miles of mobility lanes, including 29 miles of multi-use trails (City of Vancouver 2024a). Nine miles of arterial streets are currently lacking sidewalks (City of Vancouver 2024a). The TSP identifies nearly 230 planned small mobility and pedestrian projects and their priority level to help address these gaps. Figure 23 shows current active transportation facilities in the city.

Looking to the future, there is strong potential for increasing active transportation trips in every part of the city and region (Alta 2024). Over one-third of vehicle trips in Vancouver are less than 4 miles, and are therefore potential candidates for conversion to active trips (Alta 2024). To convert the most motor vehicle trips to active trips and achieve greenhouse gas emission reduction, implementing land use and transportation strategies in the areas surrounding Clark College, the Vancouver Mall, Walnut Grove, the Hazel Dell Towne Center, the Hewlett-Packard campus/Columbia Tech Center, the Salmon Creek Park and Ride, and the eastern end of SE Mill Plain Boulevard would likely yield the most benefits (Alta 2024). Figure 24 shows the concentration of short vehicle trips by location, with areas with more of these trips indicating a higher potential for future conversion to active trips throughout the city.

Figure 23. Existing Citywide Transit and Active Transportation Facilities



- City Boundary
- UGA
- Waterbodies

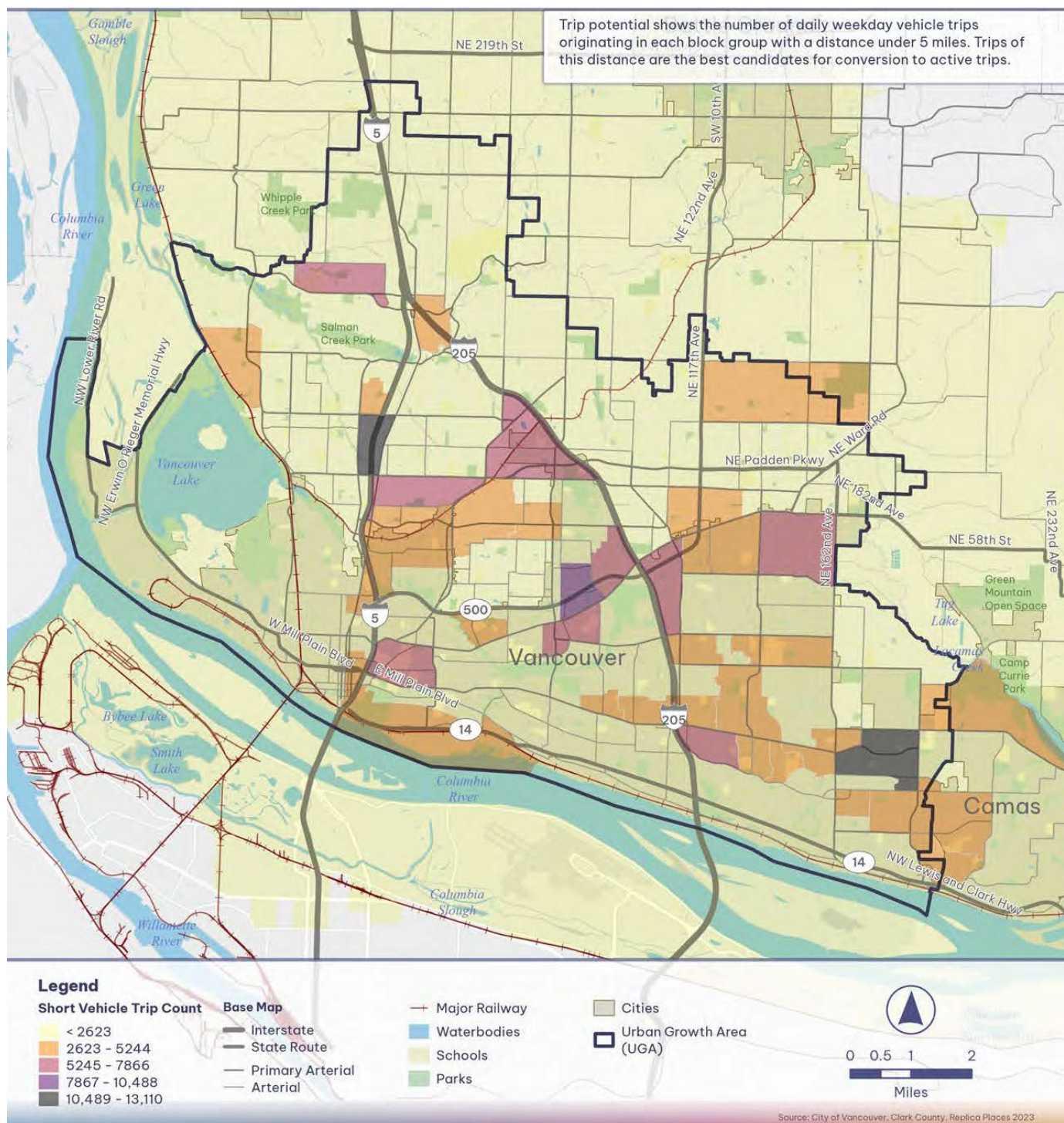
- Bus Route and Stop
- Trail
- Bike Route
- Sidewalk

0 0.5 1 2
miles

County of Clark, WA, Oregon
Metro, Oregon state, State of
Oregon GEO, WA State Parks GIS,
Esri, HERE, Garmin, SafeGraph,
GeoTechnologies, Inc, METI/
NASA, USGS, Bureau of Land
Management, EPA, NPS, USDA

Source: Design Workshop 2024

Figure 24. Active Trip Potential in Clark County by Census Block Group Origin



Source: Alta 2024

Potential Impacts

This section discusses the potential impacts of the alternatives related to the following transportation metrics:

- VMT
- Level of mode shift
- Mobility units
- Potential for increases in fatal/severe crashes

Impacts Common to All Alternatives

The following sections outline impacts that are expected to occur under all the alternatives. The regional transportation model outputs used for this analysis consider assumptions about future population and employment growth, expected changes in land use, and reasonably foreseeable future transportation projects. Therefore, the transportation effects analysis accounts not only for potential direct effects but also potential indirect and cumulative effects resulting from the Comprehensive Plan Update. Because of the comparative nature of the transportation analysis, impacts for all of the alternatives are discussed in this section to allow for an easier comparison across alternatives.

Vehicle Miles Traveled

All of the alternatives would increase VMT to some degree in 2045 as compared to existing conditions because of expected growth and development.

In comparison to the No Action Alternative, overall daily VMT for all vehicles would be about 10% higher under Alternative 1 and about 12% higher under Alternative 2. There would be minimal to no difference in daily VMT for trucks between the three alternatives.

Daily VMT per household would be similar to existing conditions for all of the alternatives. However, VMT per household is projected to be slightly lower under Alternatives 1 and 2, likely because they propose more areas with a mix of residential and commercial land uses, which could reduce the length and frequency of vehicle trips.

Table 12. Modeled Existing and Future Daily Vehicle Miles Traveled in Vancouver

Vehicle Type	Existing (2023)	No Action Alternative ^a (2045)	Alternative 1 (2045)	Alternative 2 (2045)
All Vehicles Except Trucks	3,949,553	4,783,852	5,343,949	5,465,254
Trucks (in Passenger Car Equivalent)	215,391	544,077	541,923	541,302
Total	4,315,718	5,327,928	5,885,872	6,006,556
VMT Per Household (average miles per day)^b	45.6	44.9	42.5	41.9

Source: RTC 2025

Notes:

- a The No Action is based on capacity only and does not account for feasibility of redevelopment, whereas Alternatives 1 and 2 include assumptions related to market feasibility and redevelopment.
- b VMT per household under existing conditions (2023) based on assumption of 94,587 households. For 2045, VMT per household is based on assumptions of 118,607 households in the No Action Alternative, 138,517 households in Alternative 1, and 143,473 households in Alternative 2, calculated by adding estimated new housing unit capacity to 2023 estimated household data from Clark County.

Level of Mode Shift

Mode shift refers to whether people change the way they choose to travel (e.g., from driving alone to walking or bicycling). There would be minimal to no difference in mode split among the alternatives in 2045 compared to existing conditions, indicating no mode shift resulting from the action alternatives, as shown in Table 13.

Vehicular travel would remain the dominant transportation mode citywide, representing nearly 90% of trips, while transit and bike would have the lowest share of trips. Transit trips are projected to increase slightly, and single-occupancy vehicle trips are projected to decrease slightly, as a share of all transportation modes between existing and future conditions.

Table 13. Modeled Existing and Future Mode Split in Vancouver

Transportation Mode	Existing (2023)	No Action Alternative ^a (2045)	Alternative 1 (2045)	Alternative 2 (2045)
Single-occupancy vehicles	49.0%	47.8%	47.9%	47.8%
High-occupancy vehicles	39.7%	40.0%	39.8%	39.9%
Transit	1.7%	2.7%	2.4%	2.4%
Walk	7.4%	7.3%	7.6%	7.7%
Bike	2.2%	2.2%	2.2%	2.2%

Source: RTC 2025

Note:

- a The No Action is based on capacity only and does not account for feasibility of redevelopment, whereas Alternatives 1 and 2 include assumptions related to market feasibility and redevelopment.

The average trip length across all transportation analysis zones within the City was projected to be about 4 miles under all of the alternatives (RTC 2025). This trip length of less than 5 miles indicates a similar potential for conversion of vehicle trips to active transportation trips under all alternatives.

Mobility Units by Transportation Analysis Districts

A mobility unit is a standardized measure used to quantify the transportation demand generated by a development or project. It is a broader way of looking at transportation demand than traditional vehicle trips because it represents the number of trips or movements (as measured in person miles) made by individuals using various modes of transportation, including walking, cycling, driving, and public transit. The concept of a mobility unit enables a more complete comparison and assessment of multimodal transportation impacts across different developments as well as the full range of multimodal system solutions (City of Vancouver 2024a).

Estimated mobility units were calculated for 2045 based on the new person trips originating in each district and the average trip length. Table 14 shows the relative differences in mobility units (as measured in person miles) between Alternative 1, Alternative 2 and the No Action Alternative. Figure 25 shows the locations of the districts analyzed in the regional model.

The higher mobility units in most areas of the city under both alternatives, compared to the No Action Alternative, reflect the greater number of person trips by all modes within these districts. This is because of proposed land use changes that would generate greater concentrations of housing units and jobs, particularly in areas of East Vancouver like Evergreen/Burton and Fisher's Landing. Under Alternative 1, some areas, such as the Vancouver Central East and Vancouver Central West districts of West Vancouver, would experience no meaningful difference in mobility units compared to the No Action Alternative based on the projected lower new capacity for jobs and housing units in those areas.

Alternative 2 would generate higher mobility units in all districts than Alternative 1. The largest differences would be in Central Vancouver (North Van Mall district) and East Vancouver (in the districts of Evergreen/Burton, Cascade Park, Fisher's Landing), where denser or more intense land uses are proposed under Alternative 2 compared to Alternative 1 and the No Action Alternative (refer to the Land and Shoreline Use section of Chapter 3 for more details).

Table 14. Mobility Units Originating from Transportation Analysis Districts as Compared to No Action Alternative in 2045

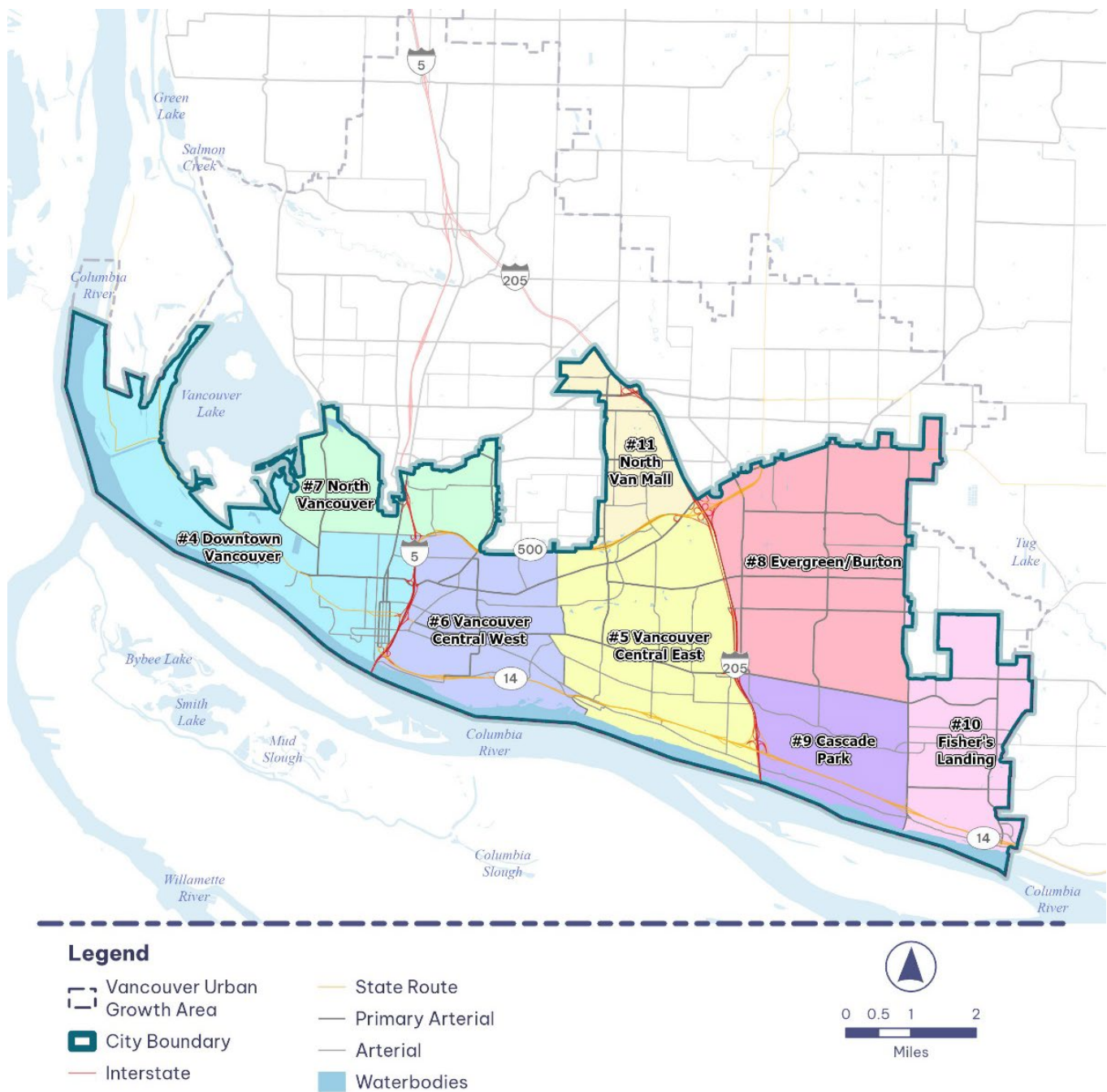
Map Reference	District	Alternative 1 (person miles per day)	Alternative 2 (person miles per day)
4	Downtown Vancouver	11,963	16,654
5	Vancouver Central East	0 ^a	31,188
6	Vancouver Central West	0 ^a	5,348
7	North Vancouver	30,897	39,287
8	Evergreen/Burton	201,130	224,963
9	Cascade Park	35,022	61,481
10	Fisher's Landing	444,765	495,245
11	North Van Mall	33,959	53,712

Source: RTC 2025

Note:

- a. 0 value represents that new person trips generated were lower in comparison to the No Action Alternative. The No Action is based on capacity only and does not account for feasibility of redevelopment, whereas Alternatives 1 and 2 include assumptions related to market feasibility and redevelopment.

Figure 25. Locations of Transportation Analysis Districts



Source: RTC 2025

Potential for Increases in Fatal/Severe Crashes

Safety impacts were assessed based on projected future traffic volume differences between the No Action and Action Alternatives. The city's top 10 roadway segments as ranked by crash weight (based on the cost by injury level) from 2016 to 2020 were analyzed to determine how volume changes could affect safety at safety corridors identified in the City of Vancouver's Local Road Safety Plan, 2022-2026.

Both Alternative 1 and Alternative 2 would have higher daily traffic volumes compared to the No Action Alternative across most safety corridors in 2045, as shown as percentage differences in Table 15. Compared to the No Action Alternative, there would be notably higher differences in traffic volumes on the SE Chkalov Drive, E Mill Plain Boulevard, Grand Boulevard and NE St. James Road segments under Alternative 2 than Alternative 1 because of more intense levels of development proposed near those roadways under Alternative 2. Alternative 2 would have marginally higher traffic volumes than Alternative 1 at most other locations. Under both alternatives, the largest difference in traffic volumes compared to the No Action Alternative would be on the SE 164th Avenue segment in East Vancouver, which is near the Section 30 area that is proposed for redevelopment.

An increase in volume does not necessarily indicate an increase in fatal or severe crashes. However, increases in traffic volumes can increase the number of crashes due to greater volumes of vehicles on the road and increased exposure to vehicles by all roadway users.

Table 15. Modeled Daily Volume Differences between No Action Alternative and Action Alternatives for Safety Corridors in 2045

Safety Corridor	Alternative 1	Alternative 2
SE Chkalov Drive: SE Mill Plain Boulevard – SE 7th Street	9%	20%
E Fourth Plain Boulevard: Falk Road – Stapleton Road	0%	3%
NE Fourth Plain Boulevard: NE 121st Avenue– 127th Avenue	14%	14%
SE 164th Avenue: SE 1st Street to SE Mill Plain Boulevard	45%	46%
SE Mill Plain Boulevard: Chkalov Drive – 123rd Avenue	2%	3%
E Mill Plain Boulevard: Grand Boulevard – Brandt	7%	14%
NE 112th Avenue: 39th Street– 28th Street	6%	8%
Grand Boulevard: Fourth Plain Boulevard – 33rd Street	1%	15%
E Mill Plain Boulevard: Andresen Road – Garrison Road	4%	8%
NE St. James Road: NE 49th Street – Petticoat	-9%	5%

Source: RTC 2025

Note: The No Action is based on capacity only and does not account for the feasibility of redevelopment, whereas Alternatives 1 and 2 include assumptions related to market feasibility and redevelopment.

Avoidance, Minimization, and Mitigation Measures

Under all alternatives, future growth and associated increased demand for transportation facilities will be addressed as part of the City’s regular capital project planning efforts and updates to its six-year Transportation Improvement Program (TIP) (Table 16). The current TIP identifies several large capital improvement projects, identified for completion during the six-year period between 2025 and 2030 (City of Vancouver 2025a).

Table 16. Planned Large Capital Transportation Improvement Projects, 2026–2031

Project	Focus
NE 137th Ave. from NE 49th to NE Fourth Plain Blvd.	Corridor upgrades to enhance safety, manage access and minimize delays now caused by turning vehicles.
NE 18th St. from NE 97th Ave. to NE 107th Ave.	New urban arterial and upgrade of existing segments to current arterial standards, including multimodal facilities.
Jefferson St. from W Evergreen Blvd. to W Mill Plain Blvd.	Urban arterial upgrade of existing roadway to two vehicle lanes with separated multi-use path.
NE 192nd Ave. from SE 1st St. to NE 18th St.	Urban upgrade of existing two-lane street to improve system, safety, mobility, and accessibility.
Fruit Valley Freight Access and Safety Improvements	New north–south freight corridor, including multimodal facilities.
NE 112th Ave. from E Mill Plain Blvd to NE 28th St.	Corridor improvements to bring NE 112 th Ave. up to urban arterial standards, and address safety and accessibility issues for all modes.
NE 28th St. from 142nd Ave. to NE 162nd Ave.	Upgrade of existing two-lane former rural road to urban 3-lane minor arterial with multimodal facilities to address capacity and improve pavement and safety conditions.
NE 49th St. from NE 122nd Ave. to NE 137th Ave.	Upgrade of existing two-lane street to three-lane urban minor arterial with multimodal facilities to improve safety and capacity.
NE 18th St. from NE 164th Ave. to NE 192nd Ave.	Upgrade of two-lane principal arterial to increase safety and improve service levels.
NE 18th St. from NE 142nd Ave. to NE 162nd Ave.	Upgrade of two-lane road to principal arterial standards.

Project	Focus
NE 59th St. from NE 147th Ave. to NE 162nd Ave.	New three-lane minor arterial street with multimodal facilities to address circulation needs, improve safety, mobility, accessibility, and stormwater management.

Source: City of Vancouver 2025a

Specific measures to avoid, minimize, and mitigate impacts could potentially include developing infrastructure for active transportation such as walking and cycling, implementing intelligent transportation systems (ITS) for more efficient traffic management, and enhancing public transportation. These strategies aim to address increased travel demand and improve overall transportation capacity and efficiency.

In addition, implementation of the following policy measures currently under consideration for the Comprehensive Plan Update would also help to avoid, minimize, and mitigate potential transportation impacts identified for the action alternatives:

- Provide a reliable, frequent, and accessible transportation system that seamlessly connects residents to key areas of the city and region.
- Provide community members with access to low-carbon travel options, including walking, cycling, small mobility, and transit, to connect important destinations while reducing reliance on single-occupancy vehicles. Improve active transportation infrastructure particularly in areas with inadequate pedestrian and micromobility infrastructure, to increase the share of trips made by foot, bike, or other small mobility devices.
- Adopt street standards that create comfortable, inviting multimodal streets. Adopt connectivity standards to improve pedestrian and small mobility safety and accessibility.
- Apply standards to development, capital, maintenance, and planning projects including maximum block length, unconnected streets, cul-de-sac connections, linkages between land uses, and multiple access points.
- Implement the citywide low-stress bicycle and small mobility network that prioritizes safety and comfort for people of all ages and abilities.
- Designate and enhance freight corridors to facilitate efficient movement of goods and reduce congestion. Improve infrastructure and connectivity to and from the Port of Vancouver to streamline freight operations.
- Eliminate traffic-related fatalities and serious injuries and create a safe and comfortable travel environment for all users.
- Implement strategic pricing mechanisms to regulate the availability of on-street parking in Mixed-Use and Regional Activity Centers.

- Implement land use patterns that reduce VMT, traffic congestion, and greenhouse gas emissions, and improve safety and air quality.
- Tailor regulations, incentives, and investments to facilitate development near current and future transit stations, ensuring new development is accessible to historically excluded and underserved communities and those most reliant on public transit.
- Prepare for emerging technologies by updating City policies and operational requirements for shared mobility and emerging mobility vendors, including Autonomous Vehicles.
- Develop guidance and encouragement for community use of the right-of-way, including plazas, parklets, “streateries,” open streets events, public art, and demonstration projects.
- Ensure transportation systems meet universal design standards, prioritizing mobility solutions for disabled, senior, youth, and low-income residents across all modes.
- Work with nonprofit and private partners, Clark County and adjacent cities to build out the regional trail network for recreation and active transportation purposes.
- Coordinate closely with Clark County, other cities, and other government entities such as C-TRAN, the RTC, and school districts to sustainably manage urban growth areas, efficiently deliver urban services, expand regional transit and multimodal connectivity, and coordinate on shared goals and responsibilities, in accordance with adopted countywide planning policies.
- Update regulations and design guidance to reflect multimodal level of service (LOS) standards that require private development and capital projects to advance multimodal safety and support shifts to non-drive-alone modes.
- Create safe walking connections through programs that identify and invest in Safe Routes to Schools and Community Safe Routes that link people to transit and other important community destinations.

Significant Unavoidable Adverse Impacts

All alternatives have the potential to create impacts to existing transportation infrastructure as a result of expected population and job growth and development, with greater potential impacts under Alternatives 1 and 2 than the No Action Alternative. The anticipated changes would occur incrementally, and with the implementation of avoidance, minimization, and mitigation measures, no significant unavoidable adverse impacts to transportation are anticipated for any of the alternatives.

Noise

Methodology

Analysts reviewed relevant information sources and policies to qualitatively describe existing citywide noise conditions, including the following sources:

- WAC 173-60, Maximum Environmental Noise Levels: Establishes maximum permissible noise levels for three classes of environmental designations for noise abatement (EDNA): residential (generally known as Class A in the WAC), commercial (Class B), and industrial (Class C) noise, as shown in Table 17, along with construction noise limits.
- VMC 20.935, Off-Site Impacts: Includes mitigation requirements where potential impacts to adjacent uses from a proposed land use or development are identified. Outdoor construction, including construction staging, is limited to 7:00 a.m. to 8:00 p.m. seven days a week.
- VMC 20.520, Noise Impact Overlay District: Recognizes that certain areas of the city experience greater levels of transportation noise through establishment of a Noise Impact Overlay District. This district covers the part of the city determined to be most affected by noise from Portland International Airport, Burlington Northern Railroad, I-5, and Pearson Airport. The code regulates and places limits on new construction, expansion, and reconstruction of residential structures within this district.
- U.S. Department of Transportation National Transportation Noise Map (USDOT 2020).

Analysts then reviewed the alternatives to determine potential adverse impacts and associated mitigation measures using the following metrics:

- Potential for construction noise impacts in residential/noise-sensitive areas
- Potential for increased transportation noise impacts in residential/noise-sensitive areas
- Capacity for new housing in areas with high transportation noise

Analysts estimated potential changes in noise levels from transportation sources based on outputs from the RTC regional transportation demand model, as described in the Transportation section.

Table 17. Maximum Washington State Permissible Noise Levels

EDNA of Noise Source	EDNA of Receiving Property (dBA) Class A ^a	EDNA of Receiving Property (dBA) Class B	EDNA of Receiving Property (dBA) Class C
Class A	55 / 45	57	60
Class B	57 / 47	60	65
Class C	60 / 50	65	70

Source: WAC 173-60-040

Note:

a Limits for noise received in Class A EDNA are reduced by 10 dBA during nighttime hours (10 p.m. to 7 a.m.).

Key: EDNA = environmental designations for noise abatement

Affected Environment

As with most urbanized environments, the most common sources of environmental noise in Vancouver come from transportation and heavy industrial uses.

The primary noise sources in the area include vehicles traveling on I-5, I-205, SR 14, SR 900, and arterial roads. While not as consistent as noise from various roadways located in the comprehensive plan area, aircraft noise from Portland International Airport and Vancouver Pearson Field, and railway noise along the BNSF Railway paralleling I-5 and SR 14 and the Portland Vancouver Junction Railroad contribute to overall noise levels.

Noise from industrial facilities located along the Vancouver Waterfront and near the railways and from a variety of ongoing construction projects in and around downtown Vancouver influence noise levels in these localized areas.

The National Transportation Noise Map identifies areas with existing exposure to aviation, highway, and rail noise (USDOT 2020). Table 18 summarizes current ranges of transportation noise levels throughout Vancouver. Figure 26 shows a map of the distribution of existing transportation noise levels throughout the Vancouver area, which indicates higher noise levels near highways and major arterials.

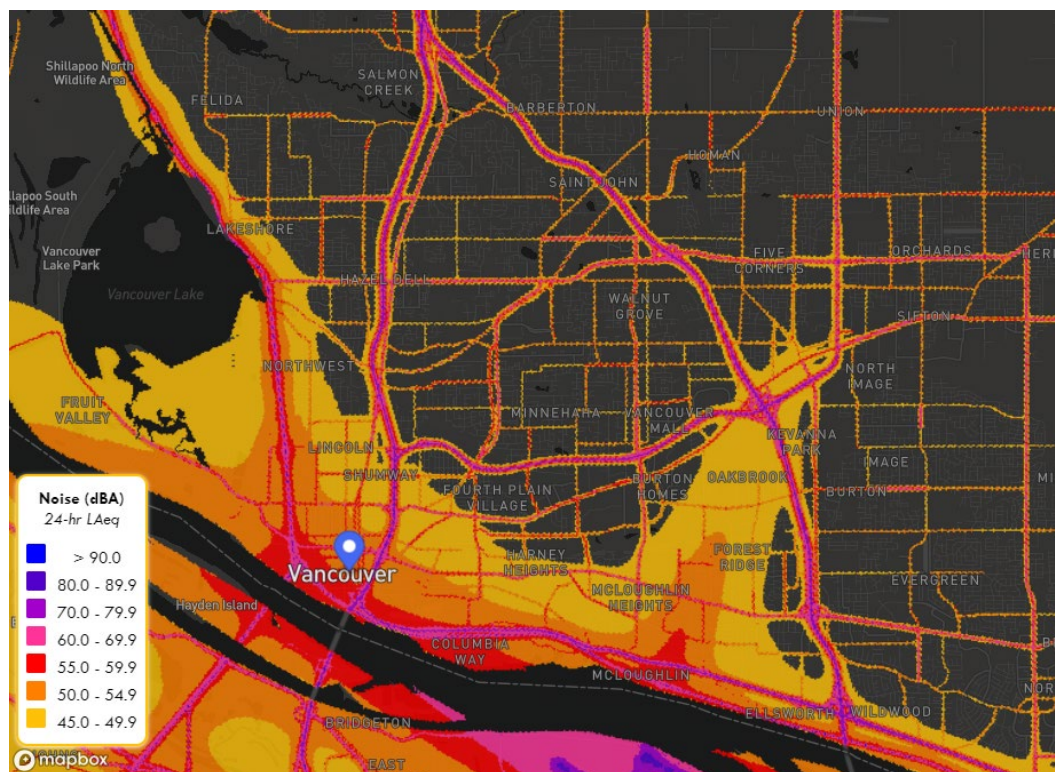
Table 18. Existing Transportation Noise Levels in Vancouver

Mode	Existing Noise Level (dBA)	Location
Aviation	45.0 to 59.9	Increases with proximity and extends farthest directly north of the Portland airport.
Road	50.0–89.9 40.0–59.9	Along I-5, I-205, SR 14, and SR 500 Arterial roads
Rail	45.0 to 89.9	Along the BNSF Railway (paralleling I-5 and SR 14) and the Portland Vancouver Junction Railroad

Source: USDOT 2020

Key: dBA = A-weighted decibels; I = Interstate; SR = State Route

Figure 26. Distribution of Existing Transportation Noise Levels in Vancouver Area



Source: USDOT 2020

Potential Impacts

This section discusses the potential impacts of the alternatives related to the following noise metrics:

- Potential for construction noise impacts in residential/noise-sensitive areas
- Potential for increased transportation noise impacts in residential/noise-sensitive areas
- Capacity for new housing in areas with high transportation noise

The regional transportation model outputs that informed this noise analysis consider assumptions about future population and employment growth, expected changes in land use, and reasonably foreseeable future transportation projects. Therefore, the noise effects analysis accounts not only for potential direct effects but also potential indirect and cumulative effects resulting from the Comprehensive Plan Update.

Impacts Common to All Alternatives

All alternatives would include new development of residential (referred to in the WAC as Class A source and receiving properties), commercial (Class B source and receiving properties), and industrial (Class C source and receiving properties) lands. As shown in Table 17, a Class B noise source affecting Class A receiving properties is restricted to a sound level of 57 A-weighted decibels (dBA) during daytime hours (7 a.m. to 10 p.m.) and 47 dBA during nighttime hours (10 p.m. to 7 a.m.). A Class C noise source affecting Class A receiving properties is restricted to a sound level of 60 dBA during daytime hours and 50 dBA during nighttime hours.

The following sections outline impacts that are expected to occur under all the alternatives. Impacts specific to each alternative are discussed in the next subsections.

Potential for substantial construction noise impacts in residential/noise-sensitive areas

All alternatives would include construction activities associated with future growth and development, which would increase short-term noise levels at noise-sensitive areas, such as residences, schools, and nursing homes. Because of the requirements of H.B. 1110, all of the alternatives would allow for new housing development on city lands currently designated as Urban Lower Density, which could potentially result in construction activities immediately adjacent to existing noise-sensitive residential properties.

The level of these temporary impacts would depend on the proximity to construction activities, and other local context such as topography, the extent of existing ambient noise from roadways and other nearby sources. Construction of taller buildings and/or structures with underground parking would have the greatest potential for temporary noise impacts

because these building types would likely require use of louder construction equipment, such as pile drivers, for foundation work.

Potential for increased transportation noise impacts in residential/noise-sensitive areas

After construction of individual developments, additional operational noise is anticipated under all alternatives because of projected increases in volumes of vehicles traveling on existing and future roadways, increases in rail and aircraft activity associated with future growth and development, and potential increases in industrial noise due to increased demand to carry passengers and goods in and out of the area.

New roadways, buildings, and typical activities associated with an increased population in an area all contribute to higher noise levels and a greater likelihood of disturbance caused by noise. The changes in noise levels between existing and future conditions would not be noticeable in most areas included in the City's proposed changes to the Comprehensive Plan because similar levels of transportation noise and noise associated with nearby development are part of the existing noise environment.

Minor increases in noise levels would be most noticeable at residences and other land uses sensitive to noise, such as schools, nursing homes, churches, parks, and other outdoor use areas located near planned development corridors where construction and increased use of transportation facilities would be most pronounced. Noise level increases under all alternatives compared to existing noise levels would not likely be noticeable year by year but would be noticeable over decades of more expansive local and regional development.

Based on traffic data developed for each alternative from the regional transportation model, as described in the Transportation section, future (2045) vehicle traffic volumes would not vary between the No Action and Action Alternatives to the degree that would result in a noticeable change in future traffic noise levels.

Any minor increase in long-term operational noise levels with the future alternatives compared to existing noise levels would fall below the threshold of human perception, which is 2 to 3 dBA for most individuals. Increases in noise would result from minor increases in transportation vehicle volumes and temporary increases in construction noise from future growth and planned development. A doubling of traffic volume is generally needed to result in a noticeable change (approximately 3 dBA) in traffic noise levels per Federal Highway Administration noise regulations (23 Code of Federal Regulations 772).

Capacity for new housing in areas with high transportation noise

All alternatives would provide limited capacity for building new housing units in areas with existing transportation noise above 55 dBA, based on mapping from the U.S. Department of Transportation (refer to Figure 26). The U.S. Department of Housing and Urban Development has established 55 dBA as the maximum average day-night level for exterior noise at residences (HUD 1977).

Based on the modeled locations of new housing units, as described in the Housing section, about 6% of the new housing unit capacity under each alternative would be located in higher transportation noise areas in East, Central, and West Vancouver, primarily near existing transportation corridors such as I-5, I-205, SR 14, and Mill Plain Boulevard. This percentage translates to about 1,600 to 3,100 housing units depending on the alternative (lowest capacity under No Action, highest capacity under Alternative 2).

No Action Alternative

Potential for substantial construction noise impacts in residential/noise-sensitive areas

No additional construction noise impacts were identified for the No Action Alternative beyond those discussed in the Impacts Common to All Alternatives section. The No Action Alternative would have the lowest potential for substantial construction noise impacts of all the alternatives because it would have the lowest capacity for new housing units, jobs, and associated new development.

Potential for increased transportation noise impacts in residential/noise-sensitive areas

No additional effects were identified for the No Action Alternative beyond those discussed in the Impacts to All Alternatives section. Noise levels under the No Action Alternative would increase at a similar rate as they have in recent years with future growth and development planned in line with the current adopted City Comprehensive Plan and development regulations.

Capacity for new housing in areas with high transportation noise

No additional effects were identified for the No Action Alternative beyond those discussed in the Impacts to All Alternatives section.

Alternative 1

Potential for substantial construction noise impacts in residential/noise-sensitive areas

Construction noise associated with Alternative 1 would potentially be more frequent and extend for longer periods than construction resulting from the No Build Alternative because of the higher capacity for new development anticipated under Alternative 1. However,

localized construction noise levels are anticipated to be similar to No Build Alternative construction noise levels because the activities and equipment required would be similar and would occur in accordance with City noise ordinances.

Potential for increased transportation noise impacts in residential/noise-sensitive areas

The proposed increase in density under Alternative 1 would result in moderately higher noise levels along growth corridors identified in the study area compared to the No Action Alternative because of a marginally higher number of vehicles traveling on existing and future roadways. There would also be moderately higher noise levels from other transportation sources including rail, aircraft, and industrial noise, because of higher expected demand to transport passengers and goods and services in and out of the area compared to the No Action Alternative.

Capacity for new housing in areas with high transportation noise

No additional effects were identified for Alternative 1 beyond those discussed in the Impacts to All Alternatives section.

Alternative 2

Potential for substantial construction noise impacts in residential/noise-sensitive areas

Construction noise associated with Alternative 2 would be more frequent and extend for longer periods than construction resulting from the No Build Alternative because of the higher capacity for new development. Alternative 2 would allocate the most land area for zoning districts such as Regional Activity Center and Mixed Use that allow for taller buildings, which could result in higher construction noise levels because of the heavy equipment (e.g., pile drivers) needed.

Potential for increased transportation noise impacts in residential/noise-sensitive areas

The higher-intensity development under Alternative 2 would result in slightly higher noise levels along growth corridors identified in the study area compared to Alternative 1 because of a marginal projected increase in the number of vehicles traveling on existing and future roadways. There may be slightly higher noise levels from other transportation sources including rail, aircraft, and industrial noise because of potentially greater demand to transport passengers and goods and services in and out of the area compared to the other alternatives.

Capacity for new housing in areas with high transportation noise

No additional effects were identified for Alternative 2 beyond those discussed in the Impacts to All Alternatives section.

Avoidance, Minimization, and Mitigation Measures

Temporary construction noise will be managed through best management practices, which include requiring contractors to follow all state and local restrictions on construction timing and maximum noise levels. Additional measures can be used to reduce temporary construction impacts at noise-sensitive locations. These measures could include requiring contractors to locate their loudest equipment farther from noise-sensitive locations and provide shielding around the loudest equipment.

No substantial increases in noise are expected to occur under the alternatives; therefore, no mitigation measures are proposed. All environmental noise would continue to be regulated by WAC 173-60 and VMC 20.935.

In areas where development is planned near existing or future sources of higher noise levels, the City may consider whether to require implementation of noise reduction methods such as locating noise-sensitive areas further from noise sources, including walls or other barriers to shield noise from noise-sensitive use locations; and designing interior spaces with noise-reducing building materials.

In addition, implementation of the following policy measures currently under consideration for the Comprehensive Plan Update would also help to avoid, minimize, and mitigate potential noise impacts identified for the action alternatives:

- Reduce and mitigate noise pollution from major stationary and mobile sources (air travel, vehicles, freight, and railroads, high-intensity industrial uses), prioritizing vulnerable populations and reducing the impact in residential, commercial, and natural areas.
- Mitigate the impacts of air, water, heat, noise, and light pollution, with a focus on areas with high environmental health disparities.

Significant Unavoidable Adverse Impacts

All alternatives would have the potential to increase short-term and long-term noise levels to some extent because of expected growth and development. The anticipated growth would occur incrementally, and with the implementation of avoidance, minimization, and mitigation measures, no significant unavoidable adverse impacts to noise are anticipated for any of the alternatives.

Public Services and Utilities

Methodology

Analysts reviewed relevant information and policies to describe existing citywide conditions for public services and utilities (fire, police, schools, parks and recreation, water, wastewater, sewer, electricity, other energy utilities, and solid waste), including the following sources:

- Community Atlas (Design Workshop 2024)
- City of Vancouver Comprehensive Water System Plan (City of Vancouver 2015)
- City of Vancouver Parks, Recreation, and Cultural Services Comprehensive Plan 2022–2031, updated for 2023–2032 (City of Vancouver 2022a)
- City of Vancouver 2025–2030 Capital Improvement Program for Water, Wastewater, Sewer Connection Incentive Program, Surface Water (City of Vancouver 2024c)
- Clark Public Utilities Integrated Resource Plan (CPU 2024)
- Evergreen School District Capital Facilities Plan (EPS 2019)
- Vancouver Fire Department 2024 Annual Report (VFD 2024)
- Vancouver Public Schools Capital Facilities Plan (VPS 2022)

Analysts then reviewed the alternatives to determine potential adverse impacts and associated mitigation measures using the following metrics:

- Increased demand for services or utilities that exceeds levels of service or capabilities beyond mitigatable levels
- Consistency with capital improvement plans (CIP)

Affected Environment

Fire

The Vancouver Fire Department (VFD) provides fire protection and emergency medical services (EMS) to the City and Clark County (Fire District 5), covering 89.2 square miles, including 22 miles of shoreline along the Columbia River. In addition to fire and EMS, they provide marine response, fire prevention, and fire investigation. Regionally, they provide hazardous materials and technical rescue responses (VFD 2024).

VFD has 11 stations, operated by 245 VFD and 190 American Medical Response (AMR) personnel, which serve the city limits and urban growth area. VFD uses a metric of firefighters per 1,000 people as one way of projecting future needs to maintain or improve levels of service to the community. The current ratio is 0.83 firefighters per person.

VFD is planning to relocate and construct new facilities for Station 3 in The Heights in Central Vancouver and Station 6 in Burton Ridge in East Vancouver over the next five years to address growing needs in these areas. The City is also considering construction of new fire stations downtown and/or in the St. Johns area to accommodate future city growth and ensure adequate emergency response times and serviceability.

VFD provided 1,536 fire suppression responses, 40 technical rescues, 24 maritime responses, and 234 responses to hazmat situations in 2023 (VFD 2024). Since 2015, the City has contracted with AMR to provide ambulance services within the city. Both AMR and VFD use the same standard operating procedures. (City of Vancouver and AMR 2023). Table 19 and Table 20 provide the VFD and EMS response times by alarm type and what percent met established standards. These tables also indicate the number of calls received in 2023 by alarm type.

Table 19. Vancouver Fire Department Response Times

Alarm Type	Standard Response Time (minutes)	2023 Average Response Time (minutes)	2023 % met Standard	Number of Calls Received in 2023	% Change over 2022
Priority 1 and 2 Except Marine	7:59	8:38	86.2%	15,806	5.8%
Priority 3 and 4 Except Marine	10:59	9:10	95%	8,642	-23.3%
Priority 5 Non-Medical	15:59	11:05	97.58%	5,051	1%
Priority 5 Emergency Medical – Ambulance Only	17:59	19:41	88.3%	7,858	-16.7%
Marine – All Calls	19:59	34:02	45.8%	24	60%
Fire Suppression Full Alarm	15:59	15:40	91.7%	84	-12.5%
Aircraft Rescue and Firefighting	15:59	N/A	N/A	0	N/A
Technical Rescue	60:00	N/A	N/A	0	N/A
Hazardous Materials	60:00	N/A	N/A	234	-3.7%

Source: VFD 2024

Key: N/A = not applicable

Table 20. EMS Response Times

Alarm Type	Standard Response Time (minutes)	2023 Actual Compliance %	Number of Calls Received in 2023
Priority 1 and 2 – High Density	9:59	87.24%	21,898
Priority 1 and 2 – Low Density	19:59	91.13%	1,984
Priority 3 and 4 – High Density	12:59	91.58%	16,414
Priority 3 and 4 – Low Density	19:59	89.73%	1,597
Priority 5 and 6 – High Density	17:59	91.44%	12,283
Priority 5 and 6 – Low Density	29:59	94.86%	836
Routine – EMSD2 Area Only – Inter-facility Scheduled (12-hour pre-scheduled)	15	59.76%	743
Routine – EMSD2 Area Only – Inter-facility Non-scheduled (less than 12-hour pre-scheduled)	60	74.46%	3,782

Source: VFD 2024

Police

The Vancouver Police Department (VPD) provides police services in the city and is authorized to employ 241 officers, with 226 sworn members as of February 2025 (VPD 2025). Similar to VFD, VPD uses a metric of officers per 1,000 people to help project future needs to maintain or enhance its services to the community. VPD currently has a ratio of 1.2 officers per 1,000 people but has identified a need to increase that number to 1.4 officers per 1,000 people to be more consistent with the national average of 1.6 officers per 1,000 people. A ballot initiative, Proposition 5, planned for fall 2025, if approved by voters, would help to fund hiring of new officers to meet that goal.

VPD serves approximately 50 square miles, divided into two precincts, east and west, which are further divided into two districts per precinct. Each district is then divided into beats, and individual patrol officers are responsible for handling calls for service within each beat. The City has identified a replacement of VPD Headquarters on its list of capital improvements

through 2036. VPD reports that its east and west precinct buildings are currently at capacity for current staff levels and have limited potential for expansion because of land constraints.

Table 21 summarizes the number of events initiated by community members and by officers in 2024, as well as the average response time for community-initiated events (VPD 2024). The event priority number refers to the level of emergency, with Priority 1, 2, and 3 indicating calls that require an immediate response and lower numbers referring to those with less immediacy.

Table 21. Vancouver Police Department Response Times

Event Priority	2024 Community-Initiated Events (% Change from 2023)	Average Response Time – Community-Initiated Events (Minutes)	2024 Officer-Initiated Events (% Change from 2023)	Total Events (% Change from 2023)
1	460 (-16.2%)	5.56	11 (-50.0%)	471 (-17.5%)
2	5,968 (-4.7%)	8.34	192 (6.1%)	6,160 (-4.4%)
3	43,034 (-7.1%)	10.74	19,922 (64.4%)	62,956 (7.7%)
4	21,972 (-10.3%)	13.82	12,413 (-6.2%)	34,385 (-8.9%)
5	2,307 (-21.7%)	13.18	1,564 (-10.0%)	3,871 (-17.4%)
9	5,349 (-15.4%)	7.46	19 (11.8%)	5,368 (-15.3%)
Total	79,090 (-9.0%)	10.82	34,121 (25.0%)	113,211 (-0.9%)

Source: VPD 2024

Schools

The Vancouver school system is a mix of public, charter, private, and special schools. Two regional public school districts have facilities in in Vancouver: the Vancouver Public School District (VPS) and the Evergreen School District (Evergreen SD). The City also is home to the Washington School for the Deaf, the Washington School for the Blind, and Clark College, a community college offering bachelor's and associate degrees and certificates. Figure 27 shows the location of schools and school districts in Vancouver.

VPS is the primary provider of public education in West and Central Vancouver. The school district consists of 21 elementary, 6 middle, and 7 high schools covering a district of 58

square miles, as well as 5 specialty schools (VPS n.d.). The average student–teacher ratio is 17:1, which is less than the state average of 19.7:1.

In 2022, VPS adopted a six–year Capital Facilities Plan (CFP) that established average classroom sizes for elementary, middle, and high school grade levels (VPS 2022). The CFP guidelines suggest that average class sizes should be 21.5 students per classroom in elementary schools, 26 students per classroom in middle schools, 27 students per classroom in high schools and 10 students per classroom for special education students. The CFP projected insufficient capacity at two schools, Ogden Elementary in Central Vancouver and Sacajawea Elementary in West Vancouver, and called for adding classrooms and co–op space at both schools. All other VPS schools had reported enrollment levels below their building capacity. VPS uses standard assumptions about new student generation rates to forecast their capacity needs, as shown in Table 22.

Table 22. Average Student Generation Rates for Vancouver Public Schools (2022)

School Level	Single-Family Housing Student Generation Rate	Multifamily Housing Student Generation Rate
Elementary School (K–5)	.183	.103
Middle School (6–8)	.076	.046
High School (9–12)	.089	.058

Source: VPS 2022

The Evergreen SD serves Clark County and the eastern part of Vancouver and consists of 22 elementary, 6 middle, and 6 high schools serving about 22,000 students (EPS n.d.). It also includes 4 specialty schools.

Evergreen SD is currently in the process of updating the six–year CFP however, according to information provided by the district in 2025, it will establish the following average classroom sizes for specific school grades (EPS 2025):

- Grades Kindergarten–3 – not to exceed 23.67 students per class
- Grades 4 –5 – not to exceed 25 students per class
- Special Education – 1 to 15 students per classroom for elementary schools
- Grades 6–8 – not to exceed 27.33 students per class
- Grades 9–12 – not to exceed 30 students per class
- Special Programs (e.g., music, art, and physical education) –20 to 70 students per class

The updated Evergreen SD CFP projects a decrease in enrollment that will level off and remain steady through 2032 (EPS 2025). One factor hindering enrollment growth has been the slow growth in the child population within Evergreen SD boundaries. The annual kindergarten-to-birth (K-to-birth) ratio is a key metric representing a combination of net migration between birth and age five and the share of five-year-old residents enrolled in district kindergarten classes, often referred to as a “capture rate.”

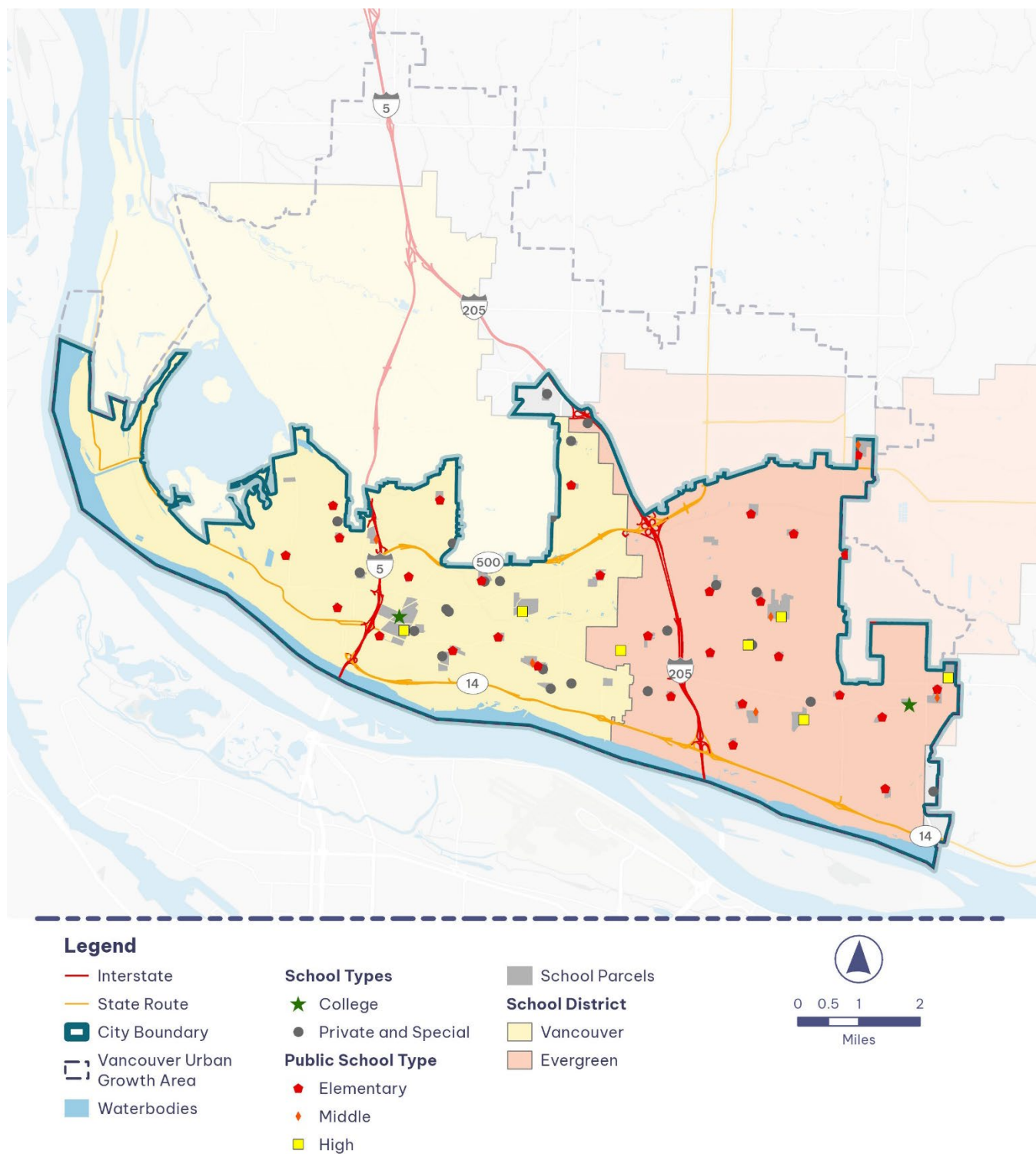
Evergreen SD also uses standard assumptions about new student generation rates to forecast their capacity needs, as shown in Table 23. The ratios for Evergreen SD have fluctuated, recovering from the 2020-21 low of 0.75, but have not returned to pre-pandemic levels. The middle scenario assumes that K-to-birth ratios will increase slightly in the next years before stabilizing at 0.89 from 2028 through 2032.

Table 23. Average Student Generation Rates for Evergreen School District (2023-2024)

School Level	Single-Family Housing Student Generation Rate	Multifamily Housing Student Generation Rate
Elementary School (K-5)	.164	.066
Middle School (6-8)	.072	.03
High School (9-12)	.109	.037

Source: EPS 2025

Figure 27. Schools by Type and District Boundaries



Source: Clark County n.d.

Parks and Recreation

The Vancouver Department of Parks, Recreation and Cultural Services (VPRCS) oversees and manages a total of 1,775 acres of parkland across 106 sites and 20 miles of trails, as shown in Figure 28. Since 2014, the City of Vancouver has acquired nearly 50 acres of public land and developed more than 12 acres of parkland, with several additional park upgrades completed or in progress (City of Vancouver 2022a).

Vancouver is divided into three Park Impact Fee (PIF) Districts, each of which establishes LOS standards and assesses impact fees on new residential development to offset the cost of meeting the recreational needs of a growing population. The City of Vancouver adopted population-based standards for park land acquisition and development based on park classification in 1994 (City of Vancouver 2022a).

In 2022, VPRCS published a Park System Comprehensive Plan to analyze existing conditions and identify 10-year goals and metrics. As of 2022, the greatest number of people resided in PIF District C, which is located east of I-205 in the city boundaries. PIF District B, located between Grand Boulevard/Evergreen Boulevard and I-205, and PIF District A, which includes the remaining portion of the city west of District B, had lower levels of population and projected growth than District C.

The City currently provides 4.19 acres of parkland (including urban neighborhood and community parks and urban natural areas) per 1,000 residents citywide, which is less than the City's standard of 6 acres of acquired neighborhood/community parks per 1,000 residents and half of the national median of 10.6 acres per 1,000 residents for comparable sized cities. The City also has a standard of 4.25 acres of developed neighborhood/community parks per 1,000 residents. Citywide, about 372 more acres of park land needs to be acquired and about 383 acres needs to be developed to meet existing LOS standards, as shown in Table 24.

Table 24. Existing (2025) City Parks and Natural Areas Demand, Inventory, and Need by District (in acres)

Park Impact Fee District	Acquisition Demand	Acquisition Inventory	Acquisition Need	Development Demand	Development Inventory	Development Need
A	246.43	217.12	29.31	174.56	124.50	50.05
B	388.10	327.73	60.37	274.91	207.82	67.08
C	600.13	317.33	282.80	425.09	159.52	265.57
Total	1,234.66	862.19	372.47	874.55	491.84	382.71

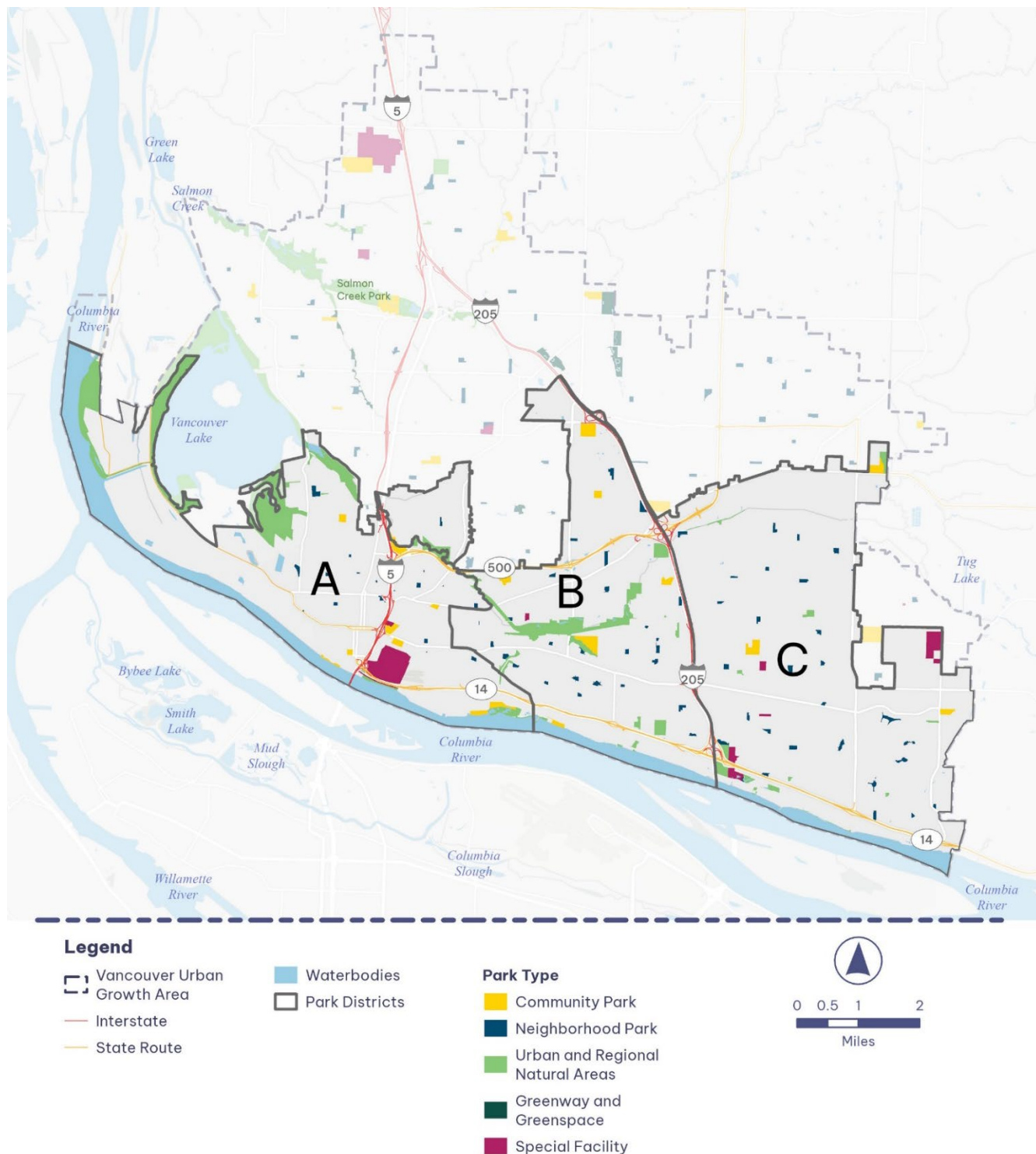
Source: City of Vancouver 2025b

Note: Park Impact Fee District boundaries are shown in Figure 28. Demand calculated based on estimated 2025 population of 41,072 in PIF A, 64,684 in PIF B, and 100,021 in PIF C. Assumes LOS standard of 6 acres per 1,000 residents of acquisition need and 4.25 acres per 1,000 records for park development need. Need is calculated by subtracting the inventory (as of 2025) from the future projected demand.

Most of the park need identified in the Park System Comprehensive Plan is in East Vancouver (District C), as shown in Table 24. Based on the City's Geographic Information System modeling, 75% of all city residents currently live within a 10-minute walking distance (0.5 mile) of park properties; however, 15 parks remain undeveloped.

Residents living east of I-205 have expressed a desire for more parks, while residents living west of I-205 have expressed a need for updated park amenities including benches and trails (City of Vancouver 2022a).

Figure 28. City Parks by Type and Impact Fee District



Source: City of Vancouver 2024b; Clark County n.d.

Water, Wastewater, and Sewer Services

Potable Water

The potable water system is managed by the City and serves the City as well as the northern portion of the Vancouver Urban Growth Area. As of 2023, the City delivered 10.1 billion gallons of water to more than 270,000 people covering a 72-square-mile-service area (City of Vancouver n.d.[a]). The City operates and maintains an extensive water distribution system, which includes 9 water production stations, 44 wells, 52 booster pumps, more than 1,100 miles of pipes, and more than 80,000 service connections (City of Vancouver n.d.[a]).

Water pressure requirements for the system are determined by the Washington Department of Health, which establishes pressure standards of 30 pounds per square inch (Design Workshop 2024). These standards ensure that adequate water flow is maintained during peak hours when there is high demand. Compliance with these pressure standards is crucial for providing a reliable water supply to the residents.

The National Fire Protection Association (NFPA) also plays a role in ensuring the effectiveness of the water system, particularly in the event of a fire. The NFPA sets guidelines and regulations for the supply, storage, and distribution of water to meet the firefighting needs of the community. Fire flow requirements often determine the minimum size of water lines to ensure an adequate water supply is available for firefighting purposes.

One geographical challenge faced by the water system in Vancouver is the disconnect between the location of the water reservoirs in the southwest and the areas experiencing population growth in the northeast. To maintain the flow of water and meet the increasing demands, the City needs to continuously improve its transmission infrastructure and pumping systems.

Considering the future, the City may need to explore alternative water sources. The Salmon-Washougal and Lewis Watershed Management Plan, published in 2006, recommended sourcing water from the Columbia River instead of relying on flow-limited streams and sensitive aquatic habitats. This suggests that water bodies such as the Vancouver Lake lowlands and the Steigerwald Wildlife Refuge should be protected to ensure their viability as potential water sources (Design Workshop 2024).

Sewer and Wastewater

Sanitary sewer service is provided by the City within the City limits as well as the northern unincorporated area. Clark Regional Wastewater District also serves a small portion of Central Vancouver north of the Vancouver Mall. As of 2023, the City served 244,000 residents covering 58.5 square miles (City of Vancouver n.d.[b]). The sewer system is an extensive network spanning 796 miles of pipe with 43 pump stations (City of Vancouver

n.d.[b]). These pipes transport residential, commercial, and industrial wastewater to two treatment plants: Westside Water Reclamation Facility and Marine Park Water Reclamation Facility. Both of these plants have been recognized for environmental excellence employing advanced processes to treat wastewater and remove pollutants before releasing treated effluent into the Columbia River. Sterilized residual ash from incinerated wastewater solids at the Westside Water Reclamation Facility is transferred to a landfill in Boardman, Oregon.

There are various federal and state standards to ensure the system meets former and future demands. These standards encompass factors such as water quality, air quality, environmental protection, and public health. The City of Vancouver adheres to these standards to ensure the proper functioning and compliance of the entire wastewater system.

Stormwater

Please see the Water section of Chapter 4 for a discussion of the City's existing stormwater system.

Energy Utilities

Efforts to transition to renewable energy sources are underway in the city and region, with roughly 54% of energy used in Vancouver and greater Clark County coming from renewable energy sources (CPU 2024). Clark Public Utilities (CPU) manages and operates electric, generating, and water systems. The Clean Energy Transformation Act commits the state to transition to 100% clean electricity by 2045, which CPU will be assisting and leading this effort. Currently, CPU energy sources include hydropower, natural gas, nuclear electricity, and wind power (CPU 2024).

In 2022, CPU electrical serviced 229,732 customers with 5,554,441 megawatt hours and a peak demand of 1,083 megawatts. Its generating system produced 1,695,596 megawatt hours of electricity (CPU 2022). In their 2024 Integrated Resource Plan, CPU forecast that sufficient energy resources are available to meet customer demand through 2035; however, there is already a deficit in energy capacity, which is expected to grow through 2044 (CPU 2022). CPU determined that it will need to procure new energy resources to continue meeting customer demand for the next 20 years.

NW Natural is the natural gas provider for the city and provides heating and other energy needs to approximately 2.5 million people across Oregon and Southwest Washington. The company serves more than 140 communities through 800,000 meters. In Washington, the typical residential customer uses an average of 57 therms per month (NW Natural 2024). NW Natural is aiming to reach carbon neutrality by 2050 by providing renewable natural gas, introducing clean hydrogen energy, and carbon capture, use and storage. (NW Natural 2024).

Solid Waste

The City's Public Works Department oversees garbage, recycling and organics collection through a contractor, Waste Connections. The City offers a variety of waste and recycling resources to residents including information on hazardous waste removal, recyclables, and composting. The City also offers organics pickup for residents and businesses to help reduce the amount of organic materials going to landfills. This practice is in alignment with the State of Washington's Organics Management Law which is intended to divert 75% of previously disposed organic materials from the landfill by 2030, and rescue 20% of previously disposed edible food for human consumption by 2025.

The City has historically adopted Clark County's Comprehensive Solid Waste Management Plan, which has been updated for the years 2025-2030 and is pending adoption by the Washington State Department of Ecology (Ecology) (Clark County 2025). The plan describes existing conditions and outlines strategies for waste reduction, recycling, organics, moderate risk waste, miscellaneous waste, solid waste collection, transfer and disposal. The plan also discusses funding and financing of capital needs and an implementation schedule with recommendations for each of these areas of the County, including the City of Vancouver.

Columbia Resource Company, a subsidiary of Waste Connections, operates three transfer stations in Clark County (in Central Vancouver, West Vancouver, and Washougal) and is the designated processor of recyclables. These transfer stations charge fees to accept miscellaneous solid waste, organics, and recyclables. Master plans for each facility identify the investments needed to build them out to meet future growth.

Potential Impacts

This section discusses the potential impacts of the alternatives related to the following public services and utilities metrics:

- Increased demand for services/utilities that exceeds levels of service/capabilities beyond mitigatable levels
- Consistency with CIPs
- Proximity of new housing to parks

Impacts Common to All Alternatives

The following sections outline impacts that are expected to occur under all the alternatives. Impacts specific to each alternative are discussed in the next subsections as applicable.

Increased Demand for Services/Utilities Exceeding Levels of Service/Capabilities beyond Mitigatable Levels

New growth is expected to occur under all alternatives; however, the projected capacity for new housing units and jobs and the location of new development would vary under each alternative. Under all alternatives, this future growth would increase the demand for fire and police services; schools; parks and recreation; water, wastewater, and sewer services; energy utilities, and solid waste services.

This increased demand could result in the need for new staff, equipment, and/or infrastructure under all alternatives. The pace and location of future development and corresponding demands on public services and utilities would be influenced in part by the implementation of the current (No Action) or proposed (Alternatives 1 or 2) Comprehensive Plan policies, related regulations and actions, and by decisions made by individual property owners and developers.

Fire

Under all alternatives, growth and development would lead to increased demand for VFD fire and EMS services, which could make it more challenging for VFD to meet its response time standards. Ability to meet response time standards is influenced by the proximity of the alarm to VFD's stations, staff availability, mobility and traffic, population density, and quantity of fire apparatus at each station. Additional staff, equipment, and potentially new fire stations may be needed to meet response time standards.

This growth would occur incrementally under all alternatives as population increases. The extent of these needs would vary by alternative, as discussed in the following subsections.

Under the action alternatives, the City may need to re-evaluate staffing levels and equipment at specific fire stations located closest to areas that would allow for greater density of housing units and associated population growth, including Station 1 in West Vancouver north of downtown, Stations 2 and 3 in Central Vancouver and Stations 6, 8, 9 and 10 in East Vancouver.

Table 25 shows the estimated number of firefighters that would be needed for each alternative to maintain existing levels of service (currently 0.83 firefighters per 1,000 people), based on the number of estimated new residents associated with the new housing unit capacity in 2045. East Vancouver would have the highest needs for new firefighters under all alternatives. Demand for new firefighters in West Vancouver would be similar across all alternatives, and demand for new firefighters in Central Vancouver would be similar between the No Action Alternative and Alternative 2.

Table 25. Estimated Number of New Firefighters Needed by Alternative and Area of City

Geographic Area of City	No Action Alternative ^a	Alternative 1	Alternative 2
West Vancouver	5	5	4
Central Vancouver	24	15	23
East Vancouver	27	66	70
Total	56	86	97

Notes:

The estimated firefighter need under the alternatives was estimated as follows: 1) multiplying the total projected number of new housing units in each area of the city by 2.3, which is the assumed average number of persons per household from the Our Vancouver Housing Needs Assessment (ECONorthwest 2024b), to derive the estimated new population in each area. 2) Dividing the total population for each area by 1,000 and multiplying by .83, which is the number of firefighters per 1,000 people that VFD has identified to maintain current service levels into the future. Totals may be affected by rounding.

- a The No Action is based on capacity only and does not account for feasibility of redevelopment, whereas Alternatives 1 and 2 include assumptions related to market feasibility and redevelopment.

Police

Under all alternatives, projected residential and employment growth would increase demand for VPD services. This growth would occur incrementally under all alternatives as population increases. The extent of these needs would vary by alternative, as discussed in the following subsections. VPD would need to re-evaluate staffing levels and equipment within both the east and west precincts to accommodate future demand, as it has already identified that these facilities are at capacity under existing conditions.

Table 26 shows the estimated number of new police officers that would be needed for each alternative by 2045, based on the number of estimated new residents associated with the new housing unit capacity, to meet VPD's goal of 1.4 officers per 1,000 people. East Vancouver would have the highest needs for new police officers under all alternatives, followed by Central Vancouver and West Vancouver.

Table 26. Estimated Number of New Police Officers Needed by Alternative and Area of City

Geographic Area of City	No Action Alternative ^a	Alternative 1	Alternative 2
West Vancouver	9	8	6
Central Vancouver	40	26	39
East Vancouver	46	111	118
Total	95	145	163

Notes:

The projected police officer need under the alternatives was estimated as follows: 1) multiplying the total projected number of new housing units in each area of the city by 2.3, which is the assumed average number of persons per household from the Our Vancouver Housing Needs Assessment (ECONorthwest 2024b), to derive the estimated new population in each area. 2) Dividing the total population for each area by 1,000 and multiplying by 1.4, which is the number of police officers per 1,000 people that VPD has identified as their service goal for the future. Totals may be affected by rounding.

- a The No Action is based on capacity only and does not account for feasibility of redevelopment, whereas Alternatives 1 and 2 include assumptions related to market feasibility and redevelopment.

Schools

All alternatives would have the potential to increase the number of new students in both VPS and Evergreen SD schools, as continued population growth under all alternatives is assumed to include school-aged children. This growth would occur incrementally under all alternatives.

Table 27 summarizes the projected number of future new students for each school district under each alternative in 2045 based on the estimated capacity for housing units and associated new school-age population. There would be more projected new students in areas served by Evergreen SD than VPS under both action alternatives because more growth is forecast to occur within the Evergreen SD service area (primarily East Vancouver). Both school districts would need to account for this projected growth as part of their CFP planning processes and identify potential capacity issues.

Table 27. Future Projected New Students based on New Housing Unit Capacity by Alternative

School Level	VPS No Action ^a Alternative	ESD No Action ^a Alternative	VPS Alternative 1	ESD Alternative 1	VPS Alternative 2	ESD Alternative 2
Elementary School (K-5)	1,343	1,311	744	2,843	955	3,062
Middle School (6-8)	593	592	328	1,283	421	1,382
High School (9-12)	739	765	409	1,658	525	1,786
Total	2,675	2,668	1,481	5,783	1,901	6,230

Notes:

The number of projected new students under the alternatives was estimated by multiplying the projected capacity for new housing units in each school district by the average student generation rate numbers for each school level within each district. All alternatives assume 10% of new housing capacity would be single-family, and 90% of new housing capacity would be multifamily units.

a The No Action is based on capacity only and does not account for feasibility of redevelopment, whereas Alternatives 1 and 2 include assumptions related to market feasibility and redevelopment.

Key: VPS = Vancouver Public School District; ESD = Evergreen School District

Parks and Recreation

None of the alternatives would have direct impacts on existing parks or change the amount of land designated as Parks/Open Space land use. Residential growth under all of the alternatives would increase the demand on the city's existing parks and recreational areas. This growth would occur incrementally under all alternatives as population increases.

As noted in the Affected Environment section for Parks and Recreation, the City does not currently meet its LOS standard of 6 acres of acquired neighborhood/community parks and 4.25 acres of developed neighborhood/community parks per 1,000 residents. That LOS is projected to decline to about 3.1 acres per 1,000 residents citywide under all alternatives based on 2045 OFM population growth projections.

Table 28 shows the projected park acquisition and development acreage demand, inventory, and needs in each district and citywide in 2045 based on the OFM estimates of total future population. With no change to the amount of parks inventory by 2045, the park land deficit would increase to about 824 acres of new park land that would need to be acquired and

about 702 acres of park land that would need to be developed citywide. The largest need would be in PIF C, where the highest population growth is projected.

Table 28. Future (2045) City Parks and Natural Areas Demand, Inventory, and Need by District (in acres)

Park Impact Fee District ^a	Acquisition Demand ^b	Acquisition Inventory	Acquisition Need	Development Demand ^b	Development Inventory	Development Need
A	333.54	217.12	119.42	238.38	124.50	113.88
B	529.97	327.73	202.23	375.39	207.82	167.57
C	819.49	317.33	502.16	580.47	159.52	420.96
Total	1,686.00	862.19	823.81	1,194.25	491.84	702.41

Source: City of Vancouver 2025b

Notes:

- a Park Impact Fee District boundaries are shown in Figure 28.
- b Demand calculated based on estimated 2045 population of 56,090 in PIF A, 88,328 in PIF B, and 136,582 in PIF C, for a total population of 281,000 citywide. Assumes LOS standard of 6 acres per 1,000 residents of acquisition need and 4.25 acres per 1,000 residents for park development need. Need is calculated by subtracting the inventory (as of 2025) from the future projected demand. Note: These citywide projections assume that the 2045 population distribution would be similar to the 2025 population distribution. The projections do not account for differences between the alternatives in housing capacity distribution by PIF district. The next paragraphs and table discuss potential park needs based on new housing capacity for each future alternative, including an analysis of new housing capacity by PIF district.

As noted in the Land and Shoreline Use section of Chapter 3, although the same 2045 population is projected under all of the alternatives, the pace and distribution of new housing capacity and associated growth would vary among the alternatives. Table 29 shows the estimated amount of new park acreage that would need to be acquired and developed under each alternative to meet the current urban parks and natural areas LOS standards based on the estimated 2045 capacity for new housing units and associated new residents.

Under all alternatives, PIF District C would have the largest need for park land acquisition and development because it is projected to have the highest capacity for new growth. The No Action Alternative would have the lowest overall parks need because it would have the lowest projected level of population growth based on capacity for new housing units. Alternative 1 and Alternative 2 would have higher needs than the No Action Alternative because of their higher levels of projected new housing units and associated residents.

Table 29. Projected Park Land Demand by Park Impact Fee District and Alternative (in acres)

Park Impact Fee District ^a	New Park Acquisition Demand ^b for No Action Alternative ^c	New Park Development Demand ^b for No Action Alternative ^c	New Park Acquisition Demand ^b for Alternative 1	New Park Development Demand ^b for Alternative 1	New Park Acquisition Demand ^b for Alternative 2	New Park Development Demand ^b for Alternative 2
A	76	54	75	53	65	46
B	134	95	70	50	126	89
C	199	141	477	338	509	361
Total	408	289	622	441	700	496

Notes:

- a Park Impact Fee District boundaries are shown in Figure 28.
- b The acreage of park acquisition demand under the alternatives was estimated as follows: 1) multiplying the total projected number of new housing units in each Park Impact Fee district by 2.3, which is the assumed average number of persons per household from the Our Vancouver Housing Needs Assessment (ECONorthwest 2024b), to derive the estimated new population in each PIF district. 2) Dividing the estimated new population by 1,000 and multiplying the resulting number by 6, based on the City's goal of 6 acres per 1,000 residents, to calculate the estimated acreage demand for this new population. Totals may be affected by rounding.
- c The No Action Alternative is based on capacity only and does not account for feasibility of redevelopment, whereas Alternatives 1 and 2 include assumptions related to market feasibility and redevelopment.
- d The acreage of park development demand under the alternatives was estimated as follows: 1) multiplying the total projected number of new housing units in each Park Impact Fee district by 2.3, which is the assumed average number of persons per household from the Our Vancouver Housing Needs Assessment (ECONorthwest 2024b), to derive the estimated new population in each PIF district. 2) Dividing the estimated new population by 1,000 and multiplying the resulting number by 4.25, based on the City's goal of 4.25 acres of developed neighborhood/community parks per 1,000 residents, to calculate the estimated acreage demand for this new population. Totals may be affected by rounding.

Water, Wastewater and Sewer Services

All alternatives would create an increase in water and sewer demand to varying extents because of expected new population and employment growth. Increased water demand may increase stress on the city's potable water system, including maintaining applicable water pressure standards. Under all alternatives, the projected City growth may require water system improvements to increase the fire flow to meet current standards.

Development of any of the alternatives to accommodate projected residential and job growth would result in greater demands on the City's sewer and wastewater collection system and on downstream conveyance and treatment facilities. This new growth and development may require additional wastewater and sewer infrastructure investments and implementation, as well as associated staff and equipment, to meet new demand.

Energy Utilities

New residential, commercial and industrial development across all alternatives would result in additional energy utility demand and use. Under all alternatives, energy providers would need to coordinate with the City to ensure their respective future infrastructure planning is consistent with the city's projected growth through 2045. Specific proposed projects under all alternatives would need to demonstrate that there are adequate energy sources to support their development. As noted in the Affected Environment section, CPU has already identified a potential future energy deficit and is identifying sources for additional energy needs.

Solid Waste

All alternatives would result in increases to population density and new residential and commercial development, which would increase demand for garbage, recycling, and organics collection in areas where this growth occurs. These changes would be more pronounced under the action alternatives, where existing solid waste collection systems and practices would need to be evaluated and modified to account for new, denser development patterns in more areas of the city.

Consistency with Capital Improvement Plans

None of the alternatives in themselves would be inconsistent with capital improvement planning efforts. However, all of the alternatives would accommodate varying levels of population and employment growth, which could lead to inconsistencies with CIPs if coordination with relevant City departments, school districts, and private utilities does not occur. All of the alternatives would require ongoing coordination with these entities as they undergo their regular capital improvement planning efforts, as described in the Avoidance, Minimization, and Mitigation Measures section.

No Action Alternative

Increased Demand for Services/Utilities Exceeding Levels of Service/Capabilities beyond Mitigatable Levels

Overall, the No Action Alternative would result in the lowest increase in future demand for most public services and utilities because it would continue existing lower-density development throughout the city and would have capacity for the lowest levels of new growth in housing units and jobs. This difference would be most pronounced in East Vancouver, which would have the lowest estimated capacity for new housing units and therefore the least demand for new police officers, firefighters, and parks, and in the Evergreen SD, which would have the lowest projected new student generation rate compared to the two action alternatives.

However, the No Action Alternative could encourage continuation of a less dense, more dispersed style of urban development. In the longer term, cumulative impacts associated with this type of development pattern could include inefficient and more costly delivery of some public services, such as police, fire, and schools, compared to Alternatives 1 and 2. No additional impacts were identified for the No Action Alternative related to increased demand for individual public services and utilities or consistency with CIPs, beyond those discussed in the Impacts Common to All Alternatives section.

Consistency with Capital Improvement Plans

No additional impacts were identified for the No Action Alternative related to consistency with CIPs, beyond those discussed in the Impacts Common to All Alternatives section.

Alternative 1

Increased Demand for Services/Utilities Exceeding Levels of Service/Capabilities beyond Mitigatable Levels

Based on projected new housing units and jobs, as described in Chapter 2, Alternative 1 would create more demand for public services and utilities than the No Action Alternative but modestly less demand than Alternative 2. Because the Comprehensive Plan Update land use designations would promote denser, more compact development patterns in more areas of the city over time under Alternative 1, cumulative benefits could potentially include greater efficiencies in the delivery of some public services, such as police, fire, and schools, compared to the No Action Alternative. Similar to the No Action Alternative, specific impacts to public services and utilities would be dependent upon the location of future development.

Areas with larger proposed higher-density zoning districts and higher capacity for new housing units would have increased demand for utilities, including waste, wastewater, sewer, energy, and solid waste, which may require greater investments in new infrastructure and associated staff and equipment compared to the No Action Alternative. Areas with potentially higher demand under Alternative 1 would include parts of West Vancouver just north of downtown, in Central Vancouver along East Mill Plain Boulevard and near the Vancouver Mall, and in East Vancouver along Mill Plain Boulevard, 164th Avenue, and 192nd Avenue and in the Section 30 area. Required infrastructure changes could include installing larger water and sewer collection pipes and identifying new methods and approaches for solid waste collection to accommodate denser housing types.

Consistency with Capital Improvement Plans

No additional impacts were identified for Alternative 1 related to consistency with CIPs, beyond those discussed in the Impacts Common to All Alternatives section.

Alternative 2

Increased Demand for Services/Utilities Exceeding Levels of Service/Capabilities beyond Mitigatable Levels

Alternative 2 would result in the highest increase in future demand for public services and utilities compared to the other alternatives. Because the Comprehensive Plan Update land use designations would promote denser, more compact development patterns in the most areas of the city under Alternative 2, cumulative benefits could include greater efficiencies in the delivery of some public services, such as police, fire, and schools, compared to the other alternatives. Similar to Alternative 1, areas with larger proposed higher-density zoning districts and higher capacity for new housing units would have increased demand for public services and utilities that may require additional infrastructure, staff, and equipment to serve.

These locations and associated needs would be similar to Alternative 1 but would cover more extensive amounts of land, including in West Vancouver adjacent to and north of downtown, in Central Vancouver along East Mill Plain Boulevard and near the Vancouver Mall, and in East Vancouver along Mill Plain Boulevard, 164th Avenue, and 192nd Avenue and in the Section 30 area.

Consistency with Capital Improvement Plans

No additional impacts were identified for Alternative 2 related to consistency with CIPs, beyond those discussed in the Impacts Common to All Alternatives section.

Avoidance, Minimization, and Mitigation Measures

Under all alternatives, future growth and associated increased demand for public services and utilities would be addressed as part of the City's regular capital project planning efforts. Long-term planning for these facilities consistent with the Capital Facilities Element, other city functional plans, and service provider plans will help ensure that public services and utilities are provided adequately under each alternative and meet applicable LOS standards. The school districts would continue to address changes in student enrollment through their individual planning processes.

Specific avoidance, minimization, and mitigation measures could include the following:

- The Comprehensive Plan Update promotes a more compact growth and development pattern within the existing urban framework of the City, which could reduce growth in outlying areas and result in a more efficient delivery of some public services and utilities.
- Increases in population and employment resulting from the implementation of the Comprehensive Plan Update will be reviewed annually as part of department performance evaluations and capital planning for all public services and facilities.

- Future development resulting from implementation of the Comprehensive Plan Update will be required to comply with the most current versions of the International Fire Code, the International Building Code, and Washington Department of Health and City municipal codes that require maintaining health and safety and utility service performance.
- Future development resulting from implementation of the Comprehensive Plan Update will result in additional tax revenues from construction and retail sales tax, property tax, utility tax, licenses and permits, utility ratepayer fees and system development charges, and school and PIFs. A portion of these taxes and fees will accrue to the City to offset costs associated with the increase in demand for public services and facilities.
- VPRCS will continue to explore opportunities to develop new parks, open space, and recreation facilities, especially in portions of the City with access gaps to meet LOS standards. VPRCS will also continue to work closely with the City's Transportation Department to plan and create opportunities for parks. The City's periodic updates to its Park System Comprehensive Plan would need to account for increased population and associated need for parks and recreation spaces under all the alternatives. The City collects PIFs per unit pursuant to VMC 20.915.050 by year at an increasing sliding scale value and unit type (single-family or multifamily). To fund additional parks acquisitions and development, the City could consider changes to its impact fee structure and explore new funding sources. Other potential mitigation measures related to parks include:
 - Subarea planning to provide a comprehensive evaluation of infrastructure needs, efficient planning to serve potential growth. Related to parks in particular, this includes the identification of a centralize park focus location based on the unique resources and setting, and interconnection to serve multiple property owners and future developments/redevelopments.
 - Development code requirements for buffers between parks and adjoining land uses to minimize impacts to park resources, as well as publicly accessible open space within new developments.
 - Maximize multi-use of resources properties where compatible, such as park natural areas and stormwater properties; utility easements adopted to accommodate public access to public spaces and cross circulation.
 - Require pedestrian-level grid to facilitate interconnection at reasonable spacing standard between developments within institutional campus areas and high-density developments and existing or new parks and trails.
 - Density transfers or cluster-type development such as increased building height to preserve a signature tree, grove or grassland to protect nature resources and provide access to natural spaces.
 - Continue to use late-comer agreements for infrastructure locations.

- Improve project development review and construction review to ensure pedestrian interconnection and resource protection, as well as identification of opportunities to locate needed public assets. Additional staffing is needed, or at minimum cross training for staffing efficiencies.
- The City uses a hydraulic network model to evaluate capacity and make determinations of water availability. Capital projects to address potential increased demand resulting from the action alternatives will be included in periodic updates to the Water, Wastewater, Surface Water CIP. Any additional gaps in the water system that result from future development will be addressed through development review. Developers are required to upgrade the existing system to meet demand of individual projects. Additionally, new development and redevelopment is required by the plumbing code to include efficient plumbing fixtures, which would reduce the overall impact to water demand resulting from the action alternatives. New development and redevelopment would also need to comply with current stormwater regulations to be approved.
- The City uses a General Sewer Plan and its CIP to track if there is adequate wastewater collections and treatment infrastructure and show capacity needs. The City would need to ensure that safe wastewater services is provided to all households in order to protect the community's health and wellbeing. Additionally, the City would utilize the General Sewer Plan to ensure the system meets federal and state standards such as water quality, environment protection and public health.
- The City's Water, Wastewater, Surface Water CIP identifies a number of drinking water, wastewater, and surface water projects and efforts that would help prepare the city for future planned growth and development under all alternatives, including:
 - Capital programs focused on rehabilitation and/or replacement of worn and obsolete water treatment facilities.
 - Capital programs focused on rehabilitation and/or replacement of worn and obsolete equipment at wastewater infrastructure.
 - Ongoing upgrade and replacement of water and wastewater collections infrastructure throughout their respective systems that have been identified as high risk and/or high maintenance
 - Production well replacement projects at multiple water stations to improve reliability.
 - Ongoing installation of transmission mains to move water from high production sources to areas of development.
 - Electrical equipment replacement at water production stations and wastewater pump stations and treatment facilities.

- Multiple projects to improve treatment performance and capacity at Marine Park and Westside wastewater treatment facilities.
- Ongoing individual projects within the Sewer Connection Incentive Program designed to bring more reliable wastewater collections infrastructure to properties.
- CPU will continue to evaluate efficiency measures and the need for new energy resources to continue meeting customer demand for the next 20 years.
- Clark County will continue to evaluate solid waste capital improvement needs as part of periodic updates to its Comprehensive Solid Waste Management Plan.

In addition, implementation of the following goals and policy measures currently under consideration for the Comprehensive Plan Update would also help to avoid, minimize, and mitigate potential impacts to public services and utilities identified for the action alternatives:

- Provide high-quality public facilities, services, and utilities that are affordable, efficient, well maintained, advance climate goals, and meet the needs of a growing population.
 - Coordinate with the VFD and VPD to plan for expected growth, provide adequate facilities to equitably serve the community, and maintain the established levels of service. Communicate with service providers when planning transportation projects that may affect emergency vehicle access.
 - Support public safety through investment in emergency services, facilities, infrastructure and coordinated preparedness efforts that strengthen community resilience and response.
 - Work with local school districts to facilitate an adequate supply of schools and associated facilities. Facilitate timely and efficient siting processes which allow for assessment and mitigation of impacts.
 - Establish multipurpose community centers offering social, recreational, educational, and cultural programming, especially in underserved areas.
 - Prioritize programs and infrastructure that support youth and aging populations, including safe play areas, accessible housing, robust childcare, public facilities and community programs that foster multigenerational interaction.
 - Encourage the use of short-term pilot projects for park, transportation, and infrastructure improvements before making long-term investments to foster innovation, test feasibility, and increase community buy-in.
 - Create a network of linear parks that encourage active transportation, improve community health and wellbeing, enhance tree canopy and stormwater management, and link parks and open space with housing.

- Expand access to community gardens and incentivize urban agriculture to improve food security and increase healthy food options.
 - Work with nonprofit and private partners, Clark County, and adjacent cities to build out the regional trail network for recreation and active transportation purposes.
 - Provide safe, clean, quality drinking water to every Vancouver home, business, and industry. Discourage development and use of private drinking water wells. Provide water pressures and volumes necessary to support fire suppression hydrants and sprinkler systems. Ensure that the infrastructure to support water service is in place prior to or at the time of development. Support water conservation recycle systems where practicable.
 - Encourage water-efficient technologies and practices, reuse systems, and conservation programs to reduce consumption and ensure sustainable water availability amid climate change and growing demand.
 - Provide sewers and sewer service to every Vancouver home, business, and industry at an affordable and equitable cost. Discourage development and use of on-site sewage treatment systems. Encourage existing development using septic systems to connect to public sewer as soon as available. Ensure that the infrastructure to support sewer service is in place prior to or at the time of development. Eliminate health hazards from domestic and industrial wastewater and return clean water to the environment.
 - Encourage new renewable energy infrastructure and promote development of storage systems to ensure a stable, resilient, and sustainable energy grid.
 - Increase waste diversion rates through a system that minimizes landfill reliance, reduces greenhouse gas emissions, prioritizes composting and encourages resource recovery. Properly ensure waste that cannot be recycled is diverted to landfills.
 - Use green materials and practices when procuring materials and services, and while carrying out maintenance functions. Employ materials transformation and reuse programs from city activities (i.e., turning woody debris into mulch or soil amendments).
- Consider water, sewer, stormwater management, solid waste, police, fire and schools as necessary public facilities and services. Ensure that facilities are sufficient to support planned development. Establish service standards or planning assumptions for estimating needed public facilities, based on service capabilities, local land use designations and nationally recognized standards.
 - Plan, site, and design essential public facilities through coordinated, equitable, and transparent processes that support regional planning goals, minimize community impacts, and ensure long-term benefit to all Vancouver residents.

- Assure consistency of overall land use and CFPs by reevaluating Vancouver's land use plan if funding is inadequate to provide necessary public facilities and services to implement the plan.
- Maintain a prioritization process that aligns CIP projects to the goals and policies of the Comprehensive Plan. Use the CIP, as amended annually, to prioritize the financing of capital facilities within projected funding capacities and ensure that capital budget decisions conform with the Comprehensive Plan.
- Provide safe infrastructure that remains functional during disruptive natural and manmade events, maintain access for emergency vehicles and services, and support responsive, equipped and community led fire and police departments.
- Ensure impact fees and system development charges are proportional to development scale, ensuring affordability for smaller projects while allowing the city to recover costs from overall development impacts on resources and services.
- Expand access to municipal and community-based services and amenities by prioritizing investment in underserved areas. Utilize the City's Equity Index and Displacement Risk Assessment tool to guide public investments and infrastructure improvements. Prioritize infrastructure improvements using risk and resiliency criteria as well as economic value.
- Design and maintain infrastructure to reduce long-term maintenance costs per capita and per trip traveled. Consider life cycle costs, emerging technologies, and the impacts of facility design and material choices in both capital and operating budgets.

Significant Unavoidable Adverse Impacts

All alternatives have the potential to increase demand on public services and utilities as a result of expected population and job growth and development. The anticipated growth would occur incrementally, and with the implementation of avoidance, minimization, and mitigation measures, no significant unavoidable adverse impacts to public services and utilities are anticipated for any of the alternatives.

Chapter 4: Natural Environment

This chapter describes the methodologies, existing conditions (affected environment), and potential impacts of the alternatives for the following environmental topic areas related to the natural environment: earth, air quality, water, and plants and animals.

For each topic, the chapter also provides a summary of potential avoidance, minimization, and mitigation measures to address potential impacts and identifies impacts that are considered to be significant and unavoidable under SEPA.

Earth

Methodology

Analysts reviewed relevant information and policies to describe existing conditions related to topography, soils, and geologic hazard areas including the following sources:

- Community Atlas (Design Workshop 2024)
- Clark County geologic maps (Clark County n.d.)
- U.S. Department of Agriculture Web Soil Survey (USDA NRCS 2001)
- U.S. Geological Survey geologic maps (USGS 2024)
- VMC Critical Areas Ordinance, Chapters 14.26 and 20.740, including 20.740.130, Geologic Hazard Areas
- Washington Department of Natural Resources geologic maps (WDNR 2014, 2023)

Analysts then reviewed the alternatives to determine potential adverse impacts and associated mitigation measures using the following metrics:

- Consistency with City regulations for geologic hazard areas (VMC 20.740.130)
- Potential for increased exposure to geologic hazard risks at existing and future development sites
- Potential for increased risk of erosion at future development sites

Affected Environment

Topography and Geologic Features

The Columbia River and ancient glacial flooding have sculpted much of Vancouver's landscape by depositing clay, silt, sand and gravel onto its banks over tens of thousands of years (City of Vancouver 2021a). The City is generally flat or terraced, but there are steep slopes along portions of the Columbia River, Burnt Bridge Creek and Vancouver Lake.

Sites with steep slopes may be more difficult to develop due to possible instability, erosion or drainage challenges. Approximately 20% of the City has a slope above 5%. Slopes of around 5% to 25% are highly prevalent on the southeast side of Vancouver adjacent to the Columbia River. Slopes of 25% or more, which are defined in the City code as landslide and erosion areas, are prevalent closer to the center of the City, as shown in Figure 29.

Gravel pits are located sporadically throughout the City but are highly prevalent on the east side of Vancouver alongside steep slopes (above 25%) and mines, as shown in Figure 29.

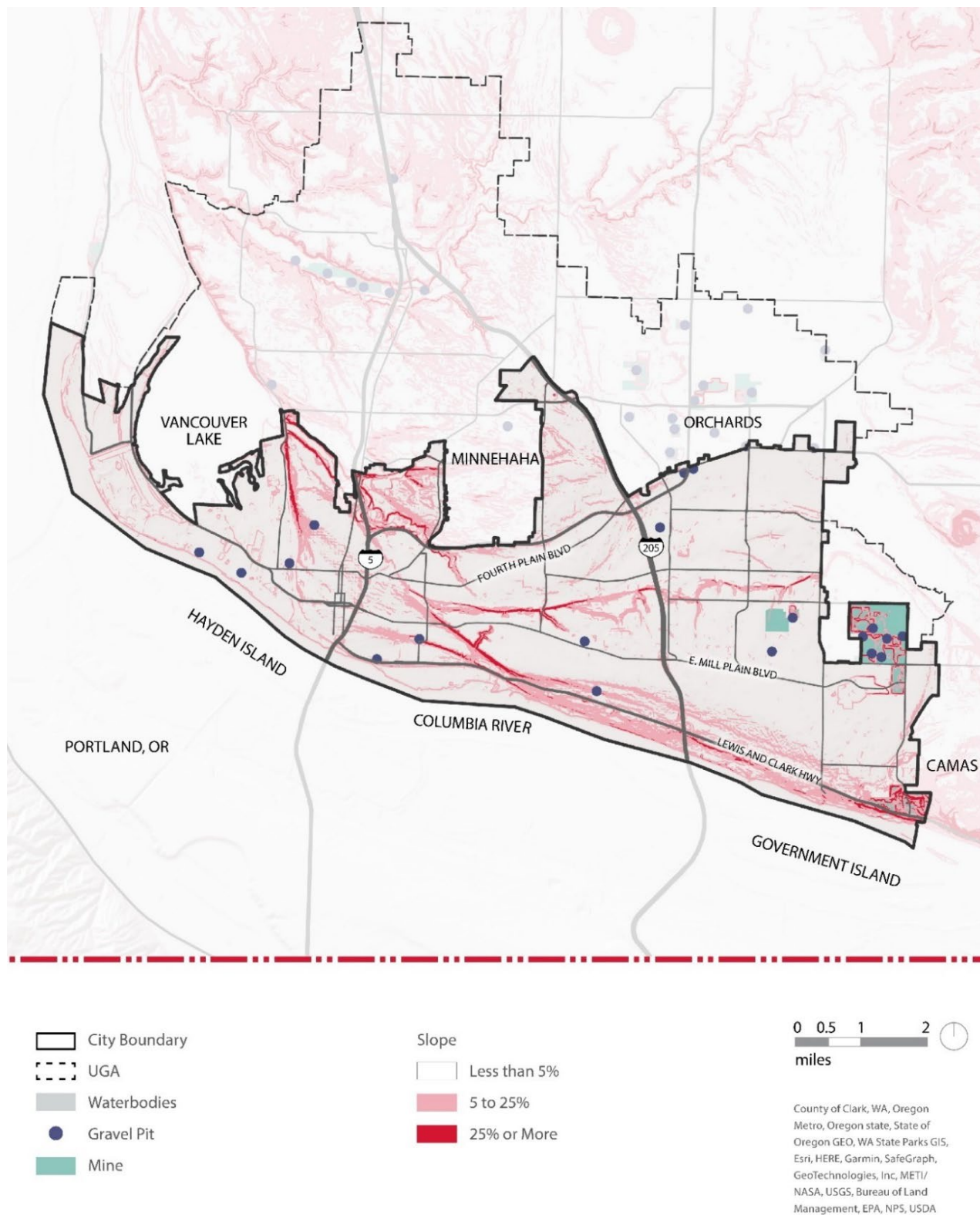
Geologic Hazard Areas

Vancouver is vulnerable to geologic hazards such as erosion, landslides, seismic hazards (earthquakes and ground shaking), and volcanic activity (City of Vancouver 2022a; WDNR 2024).

Erosion hazard areas in Vancouver are lands underlain by soils identified by the U.S. Department of Agriculture Natural Resource Conservation Service as having “severe” or “very severe” erosional hazards including, the following groups of soils when they occur on slopes of 15% or greater: Hillsboro series, Larchmount series, Lauren series, Olympic series, and Wind River series (USDA NRCS 2001). The most severe erosion hazards within the city primarily occur along the north bank of Lake River leading into Vancouver Lake, the northeast shore of Vancouver Lake, and along both sides of Burnt Bridge Creek Park (Clark County n.d.). Figure 30 shows the locations of identified severe erosion hazard areas.

Landslide hazard areas are defined as those with slopes greater than 25%, excluding engineered slopes, and areas of historic or active landslides, potential instability, or older landslide debris (VMC 20.740.130). Areas of severe landslide hazard generally follow the north side of Lake River and occur in isolated areas throughout North and Central Vancouver (USGS 2024). Figure 31 shows the location of landslide hazards, including active and potential unstable slopes.

Figure 29. Steep Slopes, Gravel Pits, and Mines



Source: Design Workshop 2024

Figure 30. Severe Erosion Hazard Areas



Source: Clark County n.d.

Figure 31. Landslide Hazard Areas



Source: Clark County n.d.

Vancouver contains a range of seismic hazards. Hazards from earthquakes include liquefaction, ground shaking, slope failure, and fault rupture (VMC 20.740.130). The Lacamas Lake Fault occurs in East Vancouver, running northwest to southeast from SR 500 to the Columbia River (WDNR 2014). Areas with the greatest relative seismic hazard are located along the Columbia River in southwest Vancouver north toward Vancouver Lake. Areas with

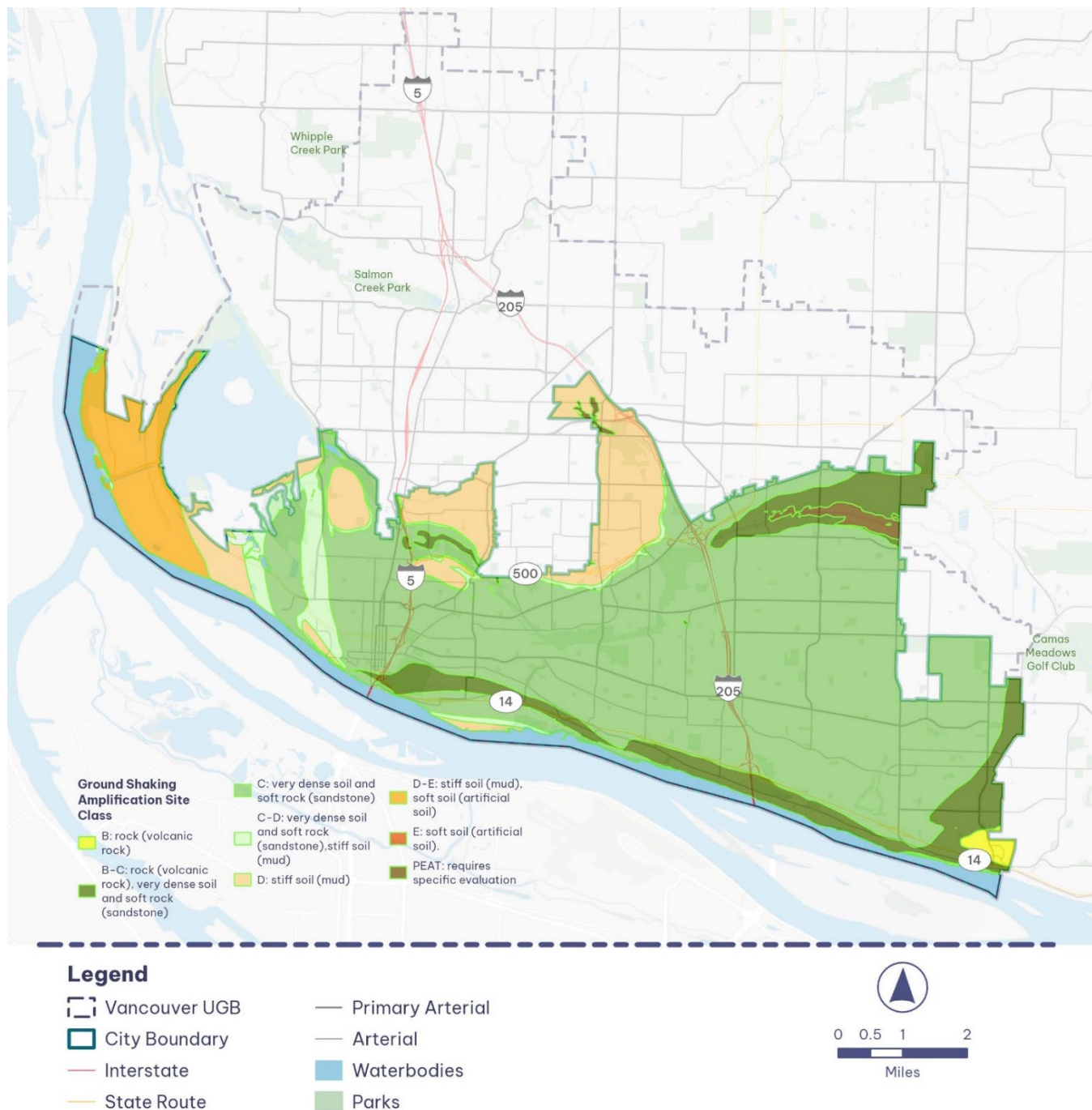
moderate to least relative seismic hazard are located throughout Central and East Vancouver. There is an additional band of greater relative risk at and north of SR 500. Liquefaction susceptibility hazards are “low to moderate” in the majority of the city, with a small band of “very low” along the Columbia River. Liquefaction hazards are mapped as “moderate to high” surrounding Vancouver Lake (WDNR 2024).

Seismic hazard areas in Vancouver include ground shaking amplification hazard areas. Ground shaking amplification is a phenomenon where surface-level shaking during an earthquake can be more intense based on local soil conditions. For example, when seismic waves travel through softer soils that vibrate more intensely than harder bedrock, there can be greater shaking at the surface.

Ground shaking amplification site class is determined by the National Earthquake Reduction Program of the Federal Emergency Management Agency. Ground Shaking amplification and earthquake damage risk is lowest with Site Class A soils and highest with Class F soils. VMC 20.740.130 designates ground shaking amplification hazard areas as Site Classes C to D, D, D to E, E and F as indicated on the Site Class Map of Clark County, Washington. The city is mostly classified as Site Class D (moderate), with some areas in north Vancouver classified as Site Class C to D (low to moderate), and areas in West Vancouver classified as Site Class D and D to E (moderate), as shown in Figure 32 (Clark County n.d.).

Vancouver is within a volcanic hazard zone due to the proximity of Mount Saint Helens to the north, Mount Adams to the northeast, and Mount Hood to the southeast. The Washington State Department of Natural Resources has identified that Vancouver exists within areas of regional lava flows from Mount Saint Helens and Mount Adams (WDNR 2023).

Figure 32. Earthquake Hazards, Liquefaction Areas, and Volcanic Hazard Zones



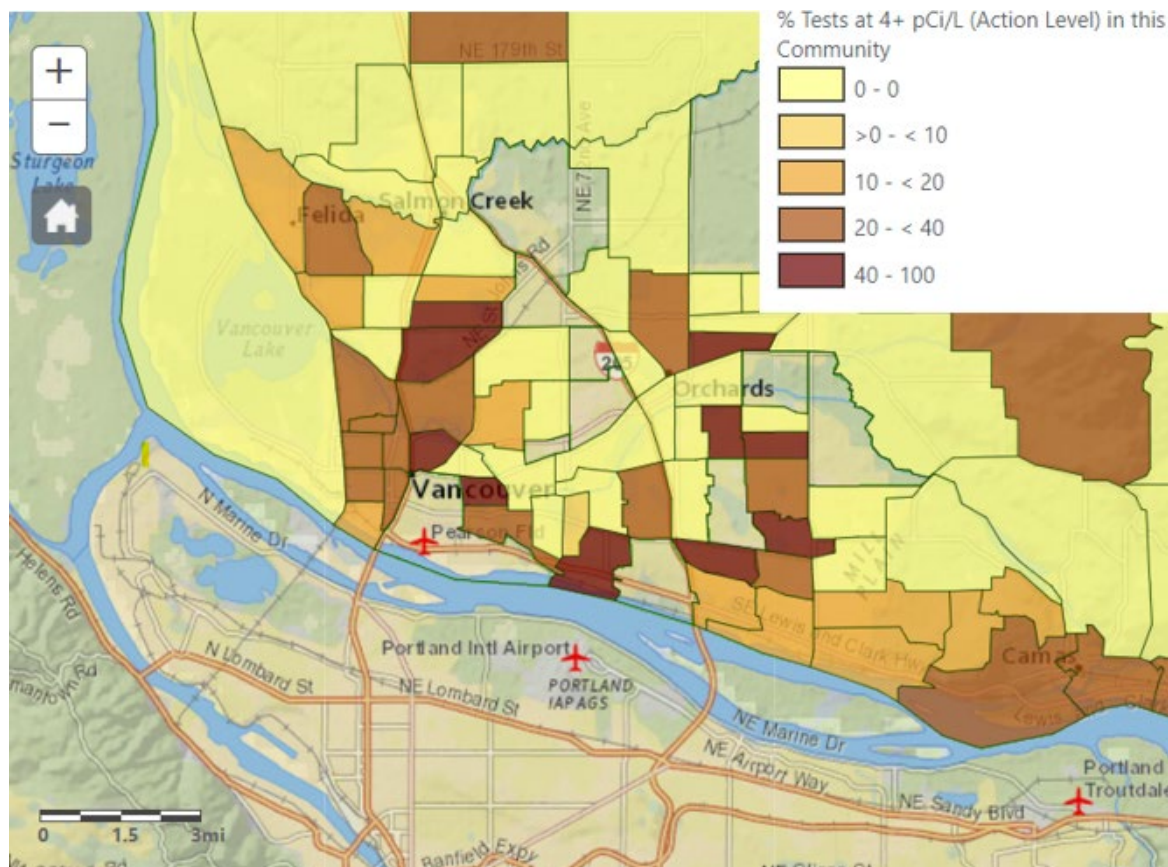
Source: Clark County n.d.

Clark County is classified by the U.S. Environmental Protection Agency (EPA) as a Zone 1 area, which has the highest potential risk for radon exposure (Clark County Public Health n.d.). Radon is a colorless, tasteless, and odorless radioactive gas that is released naturally from soil containing granite rock. Clark County and Vancouver have higher levels than some other parts of the state because of granite rock deposited naturally in this region 18,000

years ago. Radon testing in Vancouver has reported varying results in different parts of the city, with clusters of higher risk areas (defined as levels greater than 4 picocuries per liter of air) bordering the Columbia River and near the west, south, and east edges of the city, as shown in Figure 33.

Radon is the leading cause of lung cancer among nonsmokers and contributes to higher rates of lung cancer for smokers (DOH n.d.). Radon can seep into homes from the ground through cracks in floors or walls, construction joints, gaps around pipes, and other means, and become trapped and concentrated. All types of homes can be affected, regardless of age or whether they contain a basement, and every home should be tested. However, there is a lower risk in homes above the third floor, and therefore the EPA recommends testing all residences below the third floor (National Center for Healthy Housing 2025).

Figure 33. Radon Exposure Test Levels in Vancouver Area Census Tracts



Source: Washington Tracking Network 2020

Potential Impacts

This section discusses the potential impacts of the alternatives related to the following earth-related metrics:

- Consistency with City regulations for geologic hazard areas (VMC 20.740.130)
- Potential for increased exposure to geologic hazard risks at existing and future development sites
- Potential for increased risk of erosion at future development sites

Impacts Common to All Alternatives

The following sections outline impacts that are expected to occur under all the alternatives. Impacts specific to each alternative are discussed in the next subsections.

Consistency with City Regulations for Geologic Hazard Areas

None of the alternatives would conflict with City regulations for geologic hazard areas, as all of the alternatives would remain subject to the City's Critical Areas Ordinance (CAO), which regulates geologically hazardous areas under VMC 20.740.130. Please see the Avoidance, Minimization, and Mitigation Measures section for more information about the CAO requirements.

Potential for Increased Exposure to Geologic Hazard Risks at Existing and Future Development Sites

Existing and future development sites would experience some degree of risk for long-term geologic hazards under all alternatives. Some risks, such as landslide and erosion hazards, would be localized to sites in certain areas of the city, as described in the Affected Environment section and shown in Figure 30 and Figure 31. However, with the updated CAO, more areas of the city would likely be considered to be geologic hazard areas, which would potentially lead to limitations on development in these areas under all alternatives and thus reduce exposure to geologic hazard risks. Most of the city would be at low to moderate risk for ground shaking amplification hazards, as shown in Figure 32. All citywide development would be at risk of volcanic hazards.

When modeling the potential future capacity for new housing units and jobs under all alternatives, analysts assumed that development would be constrained on parcels of land designated as critical areas, which include geologic hazard areas. These constraints could potentially limit exposure to geologic hazard risks. However, because all alternatives would have capacity for some level of housing and job growth, more people would potentially be exposed to these risks regardless of the alternative.

Under all alternatives, with the adoption of the updated CAO, there are additional requirements for development in geologic hazard areas, which would benefit health and safety, as discussed in the Avoidance, Minimization, and Mitigation Measures section. In addition, all alternatives would result in development of new buildings of three or more

stories. Units at or above the third story may better protect from radon exposure (BERK 2025).

Potential for Increased Risk of Erosion at Future Development Sites

All alternatives would lead to new construction or redevelopment, which could create increased risks of erosion at specific sites because of removal of vegetation on a temporary or permanent basis. The amount of new impervious surfaces, which include rooftops, driveways, sidewalks, parking lots, and compacted soils, would increase under all alternatives to some extent because of this new growth and development. Impervious surfaces in urban areas reduce infiltration of water into soils and increase surface water runoff, which can change the way that water and pollutants travel to urban streams and lead to increased erosion (EPA 2024a).

All alternatives would maintain the same amount of existing land designated as Parks/Open Space. Retaining these vegetated Parks/Open Space areas would help limit erosion risk at those sites. Under all alternatives, the land use designations would remain the same in areas with the greatest erosion hazards, which include the north bank of Lake River leading into Vancouver Lake, the northeast shore of Vancouver Lake, and along both sides of Burnt Bridge Creek Park.

Under all alternatives, with the adoption of the updated CAO, there would be additional planting requirements in geologic hazard areas to help support the stability and natural resilience of these areas.

No Action Alternative

In general, there would be minimal additional impacts under the No Action Alternative aside from those described in the Impacts Common to All Alternatives section. The No Action Alternative would be consistent with City regulations and would apply the updated CAO provisions for geologic hazard areas.

There would potentially be fewer construction impacts to earth resources under the No Action Alternative than Alternative 1 and Alternative 2 because the No Action Alternative would retain the existing land use and zoning designations, which generally allow for less density citywide. Because the No Action Alternative would have less capacity for new housing and jobs, it may result in lower levels of new construction and/or redevelopment and the associated ground disturbances, potential erosion, and increases in impervious surfaces, compared to Alternatives 1 and 2. The differences in impacts between the No Action Alternative and Alternatives 1 and 2 would generally be greatest outside of single-family neighborhoods. Within single-family neighborhoods, new GMA requirements to allow middle

housing will be imposed by the state if local jurisdictions do not take action to change their regulations to allow them.

Alternative 1

In general, there would be minimal additional impacts under Alternative 1 aside from those described in the Impacts Common to All Alternatives section. Alternative 1 would be consistent with City regulations and would apply the updated CAO provisions for geologic hazard areas. Compared to the No Action Alternative, Alternative 1 would have a substantially greater capacity for new buildings in zoning districts that allow three or more stories, which may better protect from radon exposure (BERK 2025).

Alternative 1 would allow for more dense development and would have greater capacity for new housing units and jobs, which would likely result in higher levels of new construction and/or redevelopment and the associated ground disturbances, potential erosion, and increases in impervious surfaces, compared to the No Action Alternative, particularly outside of single-family zones. However, Alternative 1 would have modestly fewer earth-related impacts than Alternative 2, which has the highest capacity for new housing units and jobs.

Alternative 2

In general, there would be minimal additional impacts under Alternative 2 aside from those described in the Impacts Common to All Alternatives section. Alternative 2 would be consistent with City regulations and would apply the updated CAO provisions for geologic hazard areas. Alternative 2 would have the highest capacity for new buildings in zoning districts that allow three or more stories, which may better protect from radon exposure (BERK 2025).

Alternative 2 would have similar impacts to Alternative 1 related to geologic hazard and erosion risks. However, because Alternative 2 would have options for more density and larger-scale buildings in more areas of the city, it would have greater potential than Alternative 1 and the No Action Alternative to increase impervious surface areas and decrease vegetation, which could increase the potential for erosion. However, because Alternative 2 would allow for the densest development patterns, it would potentially result in less pressure to develop existing undeveloped sites, including those in or near erosion or landslide hazard areas than the No Action Alternative and Alternative 1, which would lead to reduced risk exposure for people and property.

Avoidance, Minimization, and Mitigation Measures

Regardless of alternative, all future development projects will be required to comply with city and state requirements for geologically hazardous areas. The City's development review

process will ensure compliance with the geologically hazardous areas requirements under VMC 20.740.130.

The City updated the CAO in December 2024 with the objective to better protect natural areas and, in the case of geologic hazard areas, reduce risks to public health and safety, while providing clearer and more flexible guidelines for property owners and developers (City of Vancouver 2024e).

All alternatives would be required to comply with these CAO changes, which include:

- **Designation of Hazard Areas:** Uses updated data sources for identifying liquefaction, ground shaking amplification, and fault rupture hazard areas to ensure designated areas are based on the most current and reliable geological information.
- **Detailed Requirements for Critical Areas Reports:** Specifies additional requirements for Critical Areas Reports for development proposals in potential geologic hazard areas to help ensure a comprehensive assessment of the site's geologic risks.
- **Performance Standards and Buffers:** Defines specific performance standards for development in geologic hazard areas, including buffer widths from hazard areas, to mitigate risks and ensure safety.
- **Prohibition of Critical Facilities:** Allows critical facilities in landslide, bank erosion, and fault rupture hazard areas only there is no other feasible location, a mitigation proposal must be included, and a Critical Areas Report demonstrates that the area is safe for the type of facility proposed.
- **Prohibitions and Conditions During Wet Season:** Adds stricter prohibitions on clearing, grading, and other activities that could destabilize soil during the wet season (November 1 to May 1), except under certain permits.
- **New Planting Requirements:** Requires new plantings in geologic hazard areas to consist of native vegetation and prohibits alterations to buffers that involve clearing vegetation without an approved erosion control plan.

During construction of future development projects under all alternatives, adherence to best management practices approved by Ecology and the appropriate provisions of the VMC would minimize erosion risks. Site-specific projects under all of the alternatives would be required to comply with applicable temporary erosion and sedimentation control measures as required by the City and the National Pollutant Discharge Elimination System Construction Stormwater General Permit's Storm Water Pollution Prevention Plan.

Significant Unavoidable Adverse Impacts

All of the alternatives have the potential to create impacts to earth resources as a result of expected population growth and development. The anticipated changes would occur

incrementally, and with the implementation of avoidance, minimization, and mitigation measures, no significant unavoidable adverse impacts to earth resources are anticipated for any of the alternatives.

Air Quality, Greenhouse Gases and Climate

Methodology

Analysts reviewed relevant information sources and policies to describe existing conditions related to emissions of criteria air pollutants, mobile source air toxics, and greenhouse gases (GHG) including the following sources:

- EPA's AirData outdoor monitor values reports (EPA 2024b)
- Washington State Greenhouse Gas Emissions Inventory: 1990–2019 (Ecology 2022)
- City of Vancouver Climate Action Framework (City of Vancouver 2022b)
- City of Vancouver 2023 Inventory of Community and Government Operations Greenhouse Gas Emissions (City of Vancouver 2024d)
- Our Vancouver Health Impact Assessment (BERK 2025)

Analysts then reviewed the alternatives to determine potential adverse impacts and associated mitigation measures using the following metrics:

- Long-term air pollutant and GHG emissions
- Capacity for new housing in areas with air pollutant exposure risks
- Capacity for new housing and jobs in areas with high temperatures
- Air quality and GHG considerations during construction

For the air pollutant and GHG emissions analysis, estimated daily VMT from the regional transportation model, as discussed in the Transportation section, were multiplied by pollutant emission factors developed with EPA's Motor Vehicle Simulator (MOVES5) that represent an average vehicle within Clark County in 2045. The MOVES5 tool models emissions for carbon monoxide (CO), oxides of nitrogen (NO_x), particulate matter 10 microns or less in diameter (PM₁₀), particulate matter 2.5 microns or less in diameter (PM_{2.5}), and GHG carbon dioxide equivalent (CO_{2e}).

Affected Environment

Air Quality

Vancouver is located in a regional airshed bounded on the south by Eugene, Oregon, on the north by Chehalis, Washington, on the west by the Coast Range, and on the east by the Cascade Mountains (City of Vancouver 2021a).

Air quality is monitored in Clark County by the Southwest Clean Air Agency, which was created in response to the Washington Clean Air Act of 1967. Clark County is currently classified by EPA as in attainment for all pollutants and averaging periods, based on its history of monitored concentrations in the region (EPA 2024b). Despite the area's EPA designation, air quality is an ongoing challenge for Vancouver and Clark County. Primary sources of air pollution in Vancouver include wildfire smoke, wood burning, cars, trucks, trains, and port activity.

Multiple governmental agencies operate air quality monitors throughout the states of Washington and Oregon that monitor concentrations of air pollutants according to EPA protocols. Within Vancouver, Washington, Ecology operates monitors for ozone and fine $PM_{2.5}$, a type of air pollution that consists of very small particles that are 2.5 micrometers or less in diameter. Oregon Department of Environmental Quality (DEQ) monitors CO, PM_{10} , $PM_{2.5}$, and ozone concentrations in Portland, Oregon, about 9 miles south of Vancouver, and there is an additional $PM_{2.5}$ monitor location in Portland, about 4 miles south of Vancouver. Concentrations measured by these DEQ monitors are reported to the EPA as part of the Portland-Vancouver-Hillsboro core-based statistical area.

Table 30, Table 31, Table 32, and Table 33 summarize the criteria pollutant monitor data for the three most recent years of validated measurements for CO, PM_{10} , $PM_{2.5}$, and ozone respectively. Concentrations of CO, PM_{10} , and $PM_{2.5}$ did not exceed the National Ambient Air Quality Standards (NAAQS) during the period of 2021 through 2023. Although there were individual days when monitored ozone concentrations exceeded the NAAQS daily threshold, these instances did not constitute a violation of the standard. Under the NAAQS, a violation occurs when the annual fourth-highest daily maximum 8-hour ozone concentration, averaged over three years, is greater than 0.070 parts per million.

Table 30. Carbon Monoxide Measured Concentrations in Parts per Billion

Monitor Location: CO	Value	2021	2022	2023
5824 SE Lafayette Street, Portland, OR	1-hour Maximum	2.6	2.1	4.1
5824 SE Lafayette Street, Portland, OR	1-hour 2nd Maximum	2.1	1.9	1.8
5824 SE Lafayette Street, Portland, OR	No. of 1-hour Exceedances	0	0	0
5824 SE Lafayette Street, Portland, OR	8-hour Maximum	1.7	1.7	1.2
5824 SE Lafayette Street, Portland, OR	8-hour 2nd Maximum	1.4	1.5	1.2
5824 SE Lafayette Street, Portland, OR	No. of 8-hour Exceedances	0	0	0

Source: EPA 2024b

Note: One hour CO standard of 35 parts per million is not to be exceeded more than once per year. Eight-hour carbon monoxide standard of 9 parts per million is not to be exceeded more than once per year.

Key: CO = carbon monoxide.

Table 31. PM_{10} Measured Concentrations in Micrograms per Cubic Meter

Monitor Location: PM_{10}	Value	2021	2022	2023
5824 SE Lafayette Street, Portland, OR	24-hour Maximum	31	83	32
5824 SE Lafayette Street, Portland, OR	24-hour 2nd Maximum	29	39	27
5824 SE Lafayette Street, Portland, OR	No. of Exceedances	0	0	0
4915 N Gantenbein Avenue, Portland, OR	24-hour Maximum	27	89	21
4915 N Gantenbein Avenue, Portland, OR	24-hour 2nd Maximum	24	39	19
4915 N Gantenbein Avenue, Portland, OR	No. of Exceedances	0	0	0

Source: EPA 2024b

Note: 24-hour PM_{10} standard of 150 micrograms per cubic meter is not to be exceeded more than once per year on average over three years.
Key: PM_{10} = particulate matter less than or equal to 10 microns in diameter.

Table 32. $PM_{2.5}$ Measured Concentrations in Micrograms per Cubic Meter

Monitor Location: $PM_{2.5}$	Value	2021	2022	2023
5824 SE Lafayette Street, Portland, OR	24-Hour 98th percentile	16	27	17
5824 SE Lafayette Street, Portland, OR	Mean Annual	6.4	8	6.5
2722 NE 84th Avenue, Vancouver, WA	24-Hour 98th percentile	16	29	25
2722 NE 84th Avenue, Vancouver, WA	Mean Annual	5.7	7.7	6.4

Source: EPA [2024b](#)

Note: 24-hour $PM_{2.5}$ standard is exceeded when the 98th percentile, averaged over three years, is greater than $35 \mu\text{g}/\text{m}^3$. Annual $PM_{2.5}$ standard is exceeded when the annual mean, averaged over three years, is greater than $9 \mu\text{g}/\text{m}^3$.
Key: $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter

Table 33. Ozone Measured Concentrations in Parts per Million

Monitor Location: Ozone	Value	2021	2022	2023
5824 SE Lafayette Street, Portland, OR	1st Highest	.072 ^a	.08 ^a	.067
5824 SE Lafayette Street, Portland, OR	2nd Highest	.066	.07	.064
5824 SE Lafayette Street, Portland, OR	3rd Highest	.066	.057	.062
5824 SE Lafayette Street, Portland, OR	4th Highest	.06	.056	.056
5824 SE Lafayette Street, Portland, OR	No. of days above standard	1	1	0
1500 SE Blairmont Drive (Mountain View High School), Vancouver, WA	1st Highest	.068	.062	.086 ^a
1500 SE Blairmont Drive (Mountain View High School), Vancouver, WA	2nd Highest	.064	.06	.067
1500 SE Blairmont Drive (Mountain View High School), Vancouver, WA	3rd Highest	.057	.057	.065
1500 SE Blairmont Drive (Mountain View High School), Vancouver, WA	4th Highest	.057	.056	.062
1500 SE Blairmont Drive (Mountain View High School), Vancouver, WA	No. of days above standard	0	0	1

Source: EPA 2024b

Notes:

- a **Bold numbers** in the table indicate daily concentration above the ozone standard. Note that a daily concentration above the ozone standard does not necessarily indicate an exceedance of the NAAQS. Ozone standard is exceeded when the annual fourth-highest daily maximum 8-hour concentration, averaged over three years, is greater than 0.070 parts per million.

Section 107 of the 1977 Clean Air Act Amendments requires that the EPA publish a list of all geographic areas in compliance with the NAAQS, plus those not attaining the NAAQS. Areas

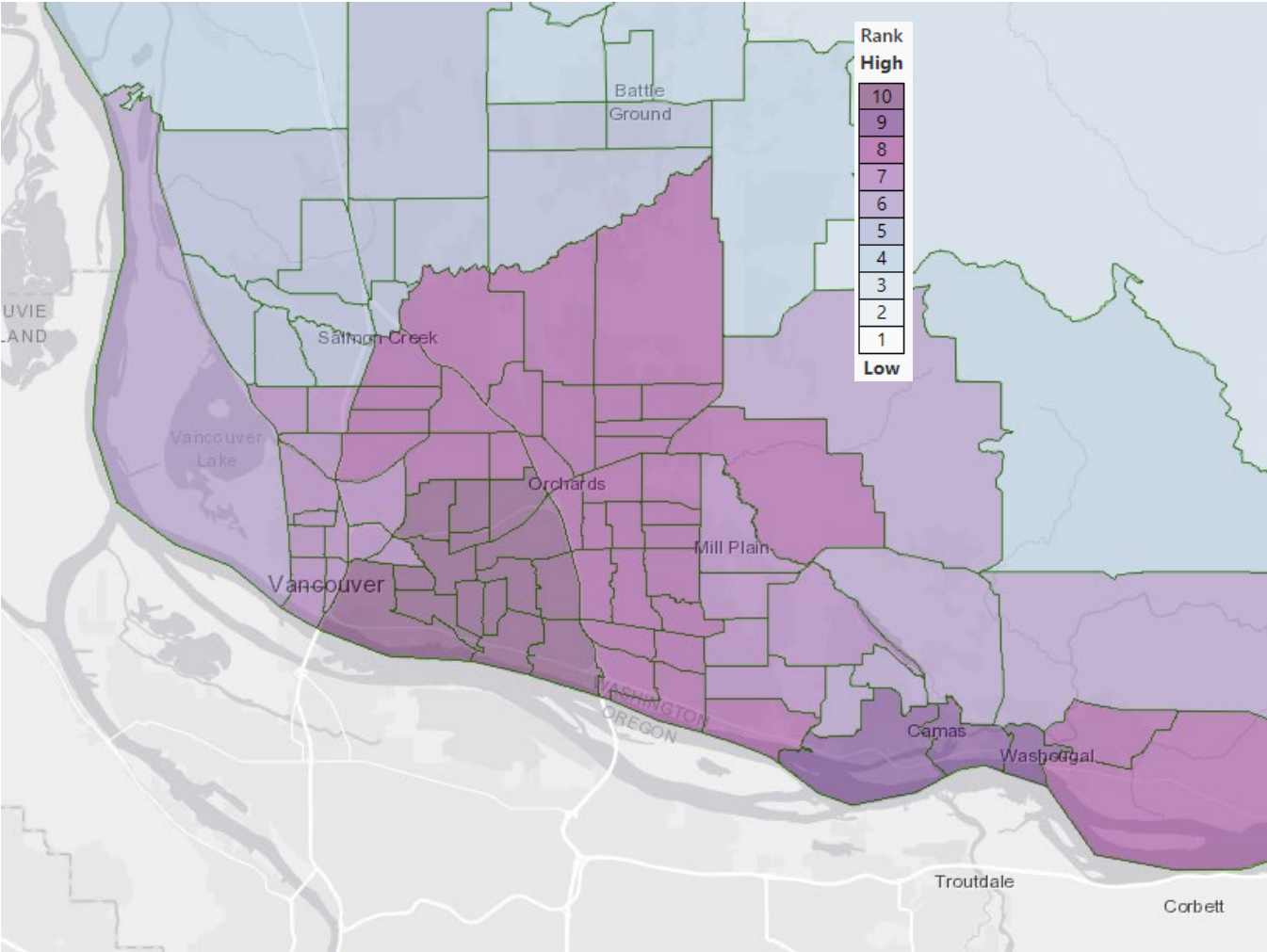
not in NAAQS compliance are deemed nonattainment areas. Maintenance areas are areas that were previously designated as nonattainment for a particular pollutant but have since demonstrated compliance with the NAAQS for that pollutant. An area's designation is based on the data collected by the state monitoring network on a pollutant-by-pollutant basis.

As summarized in Table 32 and Table 33, concentrations of PM_{2.5} and ozone are approaching the NAAQs. In 2024, Clark County received an “F” grade from the American Lung Association's State of the Air Report, based on elevated PM_{2.5} concentrations from the period 2020–2022 (Design Workshop 2024). However, Clark County received a “C” grade in 2025, based on improved PM_{2.5} concentrations in the period 2021–2024 (American Lung Association 2025).

Vancouver was identified as a community that is overburdened and highly impacted by air pollution by Ecology because of the elevated levels of PM_{2.5} compared to the rest of the state, and the vulnerability of the community to air pollution impacts due to poverty, linguistic isolation, and unaffordable housing (Ecology 2025). This designation was determined based on monitored concentrations of air pollutants, results of state mapping tools that compare communities across the state for environmental health disparities, and federal mapping tools that evaluates the combination of environmental health risks and demographic data.

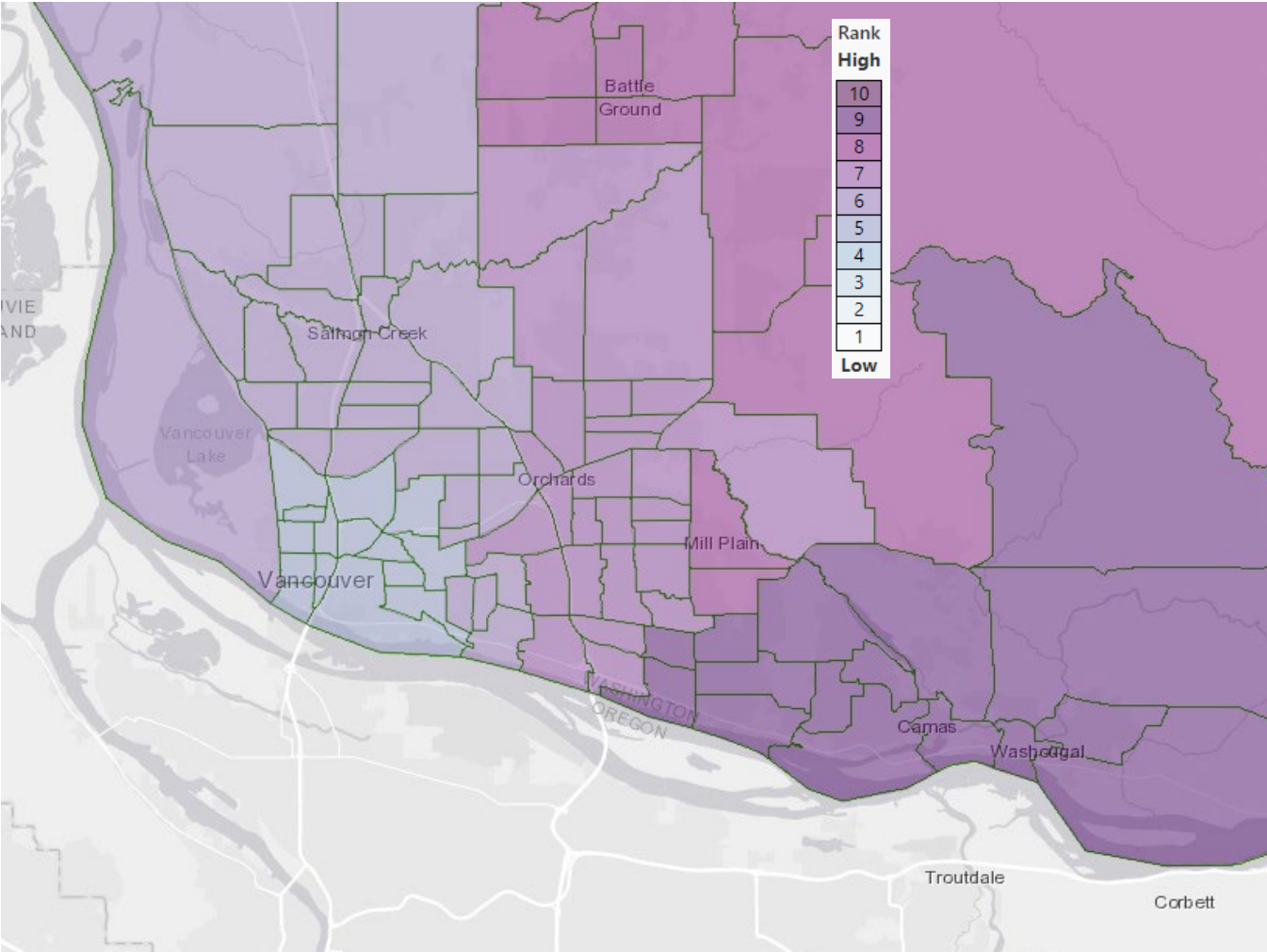
The Washington Department of Health (DOH) assigns rankings from 1 to 10, where 10 is the highest risk, for various categories of potential health risk, including exposure to PM_{2.5} and ozone. The risk rankings for PM_{2.5} exposure range from 7 to 10 throughout the city and are highest in Central and East Vancouver. The risk rankings for ozone are generally lower citywide, with higher risk levels in East Vancouver. The results of the DOH mapping tool for Vancouver and the surrounding area are shown in Figure 34 and Figure 35 (DOH 2022).

Figure 34. *PM_{2.5} Exposure Ranking Compared to Other Census Tracts in Washington*



Source: DOH 2022

Figure 35. Ozone Exposure Ranking Compared to Other Census Tracts in Washington

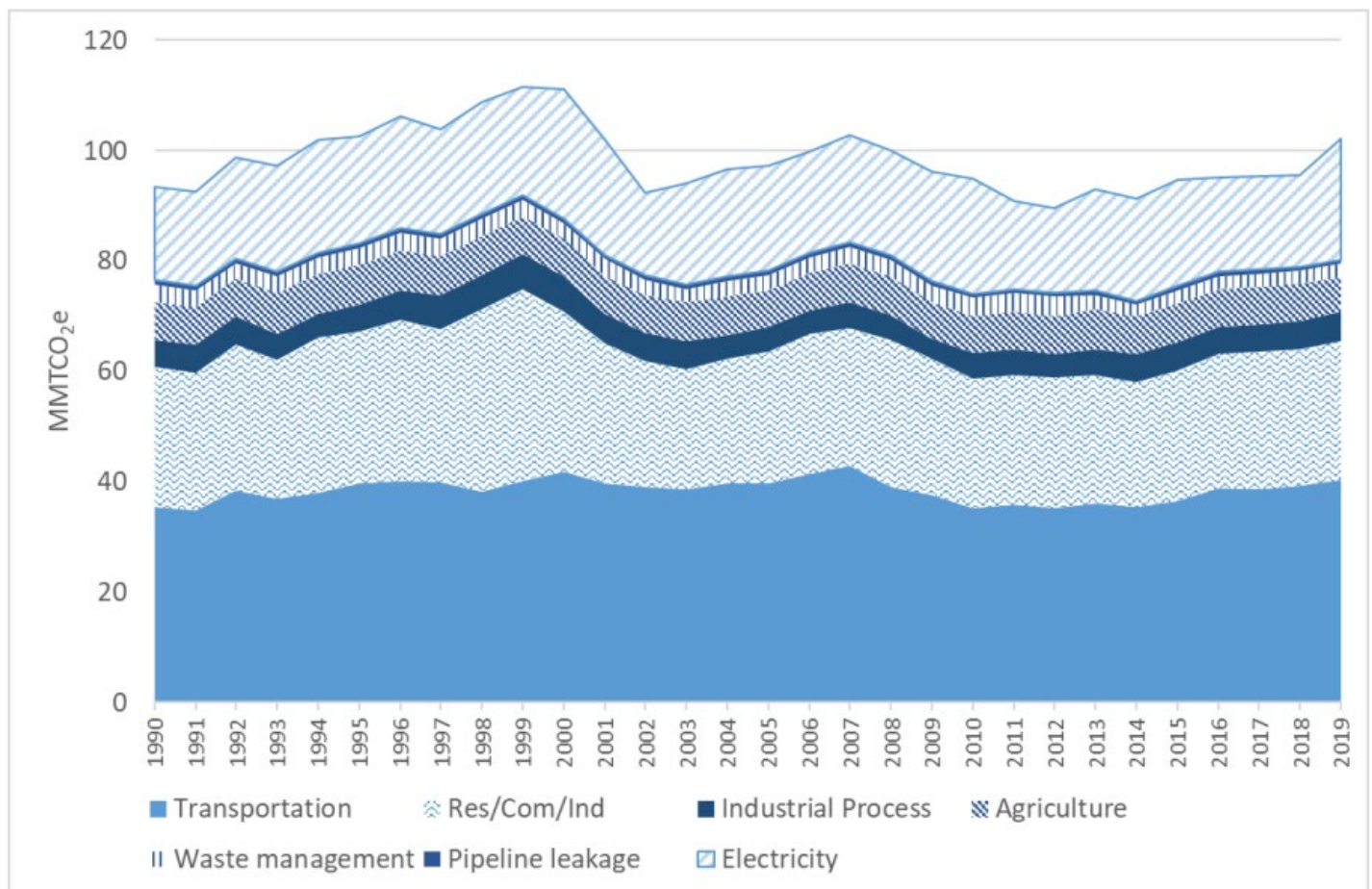


Source: DOH 2022

Greenhouse Gas Emissions

Greenhouse gases are evaluated by estimating the emissions from multiple sectors in units of CO₂e. The most recent Washington State Greenhouse Gas Emissions Inventory evaluates the trends in GHG emissions by sector from 1990 to 2019 (Ecology 2022). As shown in Figure 36, the state has seen a rise in total GHG emissions since 2016, with a majority of the emissions from the transportation and energy sectors.

Figure 36. Washington's Total Greenhouse Gas Emissions 1990–2019

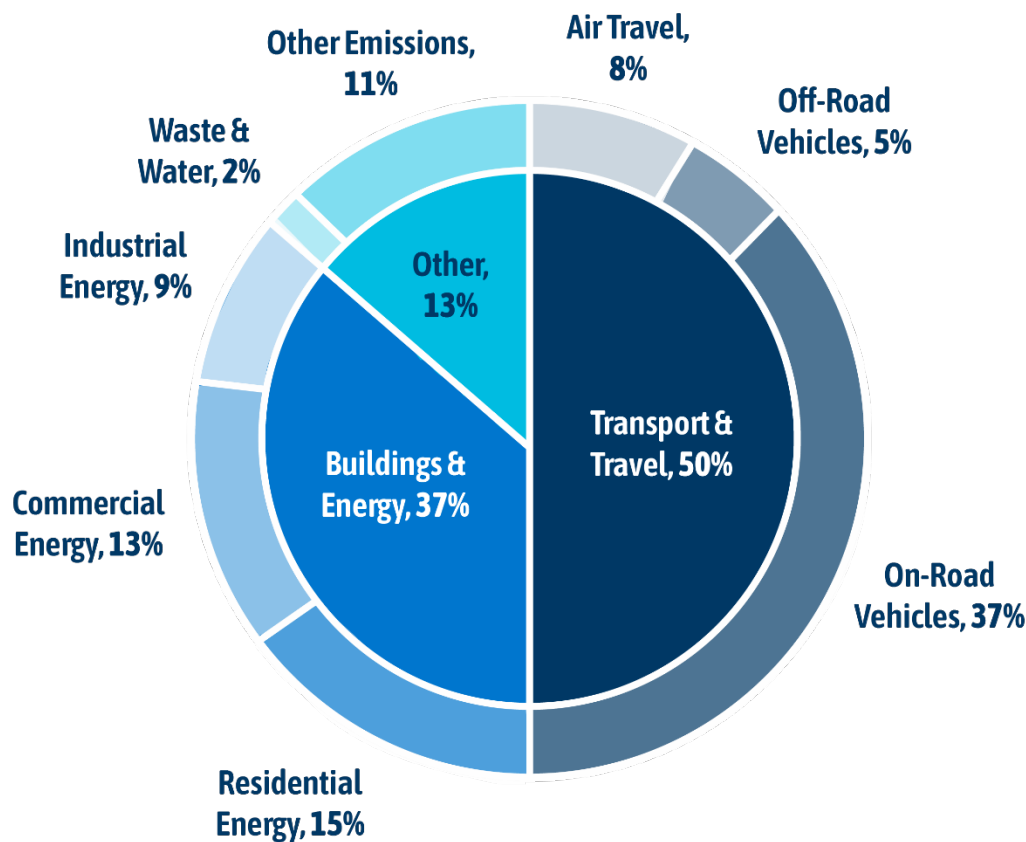


Source: Ecology 2022

Note: In the chart above, Electricity refers to all electricity consumption, and Res/Com/Ind refers to energy consumption other than electricity by residential, commercial, and industrial sources. MMTCO₂e is million metric tons of carbon dioxide equivalent.

In 2023, about 87% of Vancouver's emissions came from transport and travel and building energy (City of Vancouver 2024d). As summarized in Figure 37, major emissions sources included on-road vehicles (37%), followed by residential (15%) and commercial (13%) buildings, with other emissions sources ranging from 2% to 11% of the total.

Figure 37. City of Vancouver 2023 Greenhouse Gas Inventory by Sector



Source: City of Vancouver 2024d

Vancouver’s Climate Action Framework sets a goal of achieving carbon neutrality by 2040 by reducing and nearly eliminating carbon pollution from homes, business, vehicles, and City services while enriching parks, green spaces, and other natural systems (City of Vancouver 2022b). Vancouver’s GHG emissions declined 27% between 2007 and 2023, despite a growing population and economy (City of Vancouver 2024d). The decreased emissions were a result of the decarbonization of the local electrical grid as well as strengthened fuel efficiency standards for vehicles and increased energy efficiency of buildings and appliances.

Looking toward the future, the Climate Action Framework identifies key focus areas and associated visions, as well as strategies and actions:

- **Equity and Green Economy:** Vancouver will be a city that embeds equity in climate action, with regular assessments of community vulnerability, a comprehensive anti-displacement policy, and climate strategies and actions that prioritize an equitable distribution of costs

and benefits. Through a just transition, Vancouver will be a city that educates and trains its workers for careers in clean technology, renewable energy, and zero-emission vehicles.

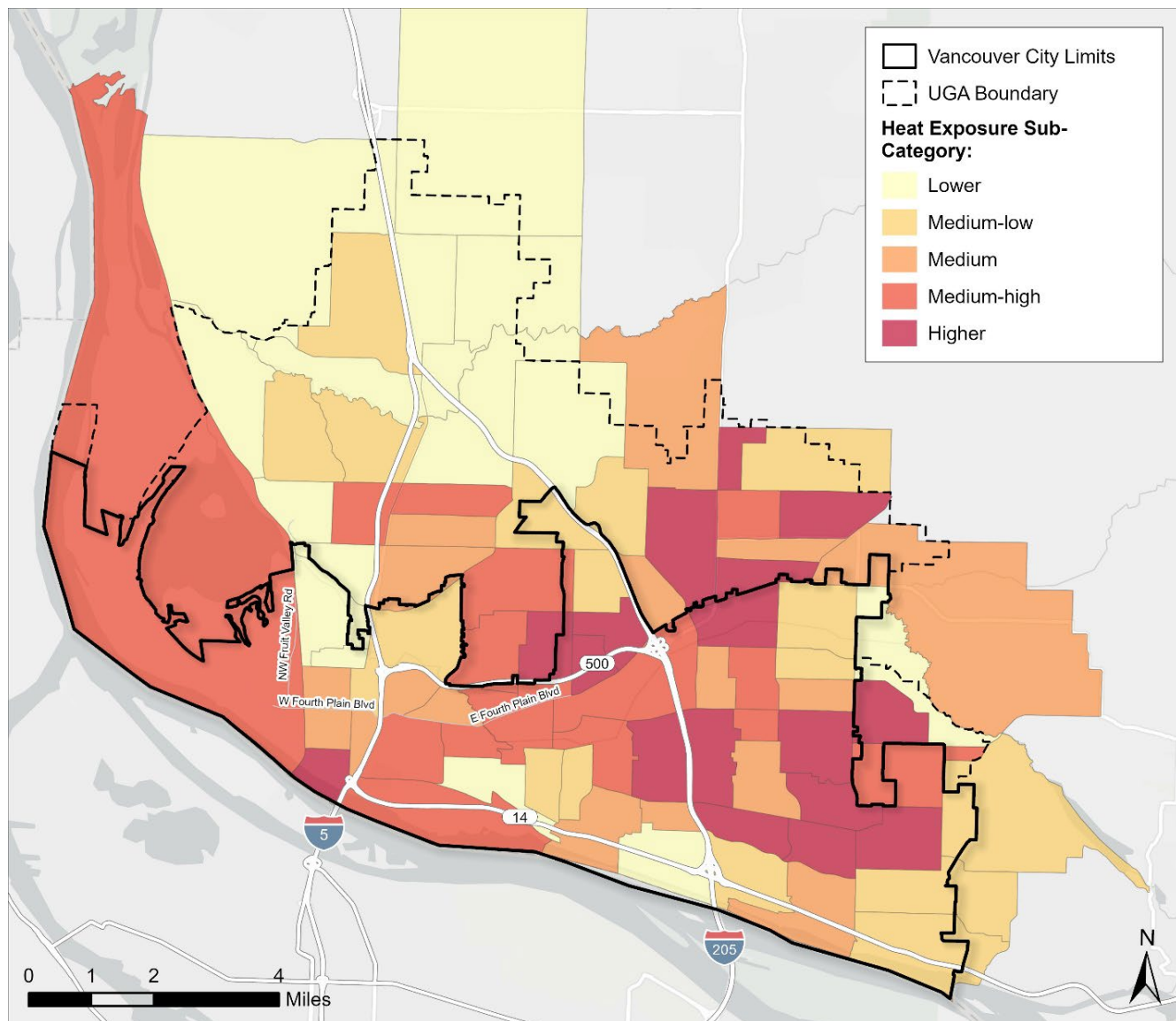
- **Buildings and Energy:** Vancouver will transition to 100% clean energy and significantly reduce per capita energy use.
- **Transportation and Land Use:** Vancouver's residents will be able to reach their destinations safely, reliably, and efficiently, however they choose to travel. Zero-emission vehicles will be affordable, common, and easy to charge or fuel. Our neighborhoods will be walkable, mixed-use, and higher-density, with secure affordable housing for current residents.
- **Natural Systems and Water Resources:** Vancouver's parks, trails, and green spaces will store carbon, connect our neighborhoods, and preserve sensitive land and wildlife. The community will manage water consumption wisely.
- **Solid Waste and Wastewater:** We will reduce per capita waste by diverting food to those who need it, and by reusing, repairing, recycling, and composting more. We will reduce per capita water usage and operate our wastewater treatment more efficiently.
- **City Governance:** Vancouver will be a city that embeds climate change in everything we do. We will ensure that staff are knowledgeable and empowered to make sustainable decisions and there is adequate permanent funding to make our low-emissions, resilient vision a reality.

Climate

Vancouver has wet, mild winters and warm, dry summers. Government researchers project that Washington temperatures could increase an average of 4.7 to 10 degrees Fahrenheit by the 2080s due to global climate change, along with a 10% increase in winter precipitation levels, increased frequency and intensity of extreme precipitation events, and more frequent unusually hot summer days (City of Vancouver 2021a; U.S. Global Change Research Program 2023).

As part of climate change resilience work in 2024, a heat exposure index was created to understand summer heat differences across Vancouver and presented in Figure 38 (BERK 2025). Block groups with greater heat exposure occur across the city, generally in areas with more impervious (paved) surfaces, such as industrial parks, office parks, shopping centers, and hospitals. The Our Vancouver Health Impact Assessment provides additional information about potential climate risks to health throughout the city (BERK 2025).

Figure 38. Heat Exposure Index



Source: BERK 2025

Potential Impacts

This section discusses the potential impacts of the alternatives related to the following air quality, greenhouse gases, and climate metrics:

- Air pollutant and GHG emissions
- Capacity for new housing in areas with air pollutant exposure risks
- Capacity for new housing and jobs in areas with high temperatures
- Air quality considerations during construction

Impacts Common to All Alternatives

The following sections outline impacts that are expected to occur under all the alternatives. Impacts specific to each alternative are discussed in the next subsections.

Long-term air pollutant and GHG Emissions

Existing sources of air pollutant and GHG emissions within Vancouver include on-road vehicle exhaust, non-road equipment exhaust (including construction equipment, marine vessels, and rail), residential wood burning, and industrial facilities. On-road vehicle and non-road equipment activity are the highest source of GHG and a major contributor to emissions of CO and NO_x. These emissions typically increase with population and commercial growth, which could occur under all alternatives. However, they are expected to be offset to a degree in the future as stricter vehicle and fuel economy standards are phased in, as well as through the continuing transition to electricity and alternative fuels.

Table 34 summarizes the results of modeled 2023 and 2045 daily air pollutant and GHG emissions. The regional transportation model outputs used for the air quality and GHG analysis consider assumptions about future population and employment growth, expected changes in land use, and reasonably foreseeable future transportation projects. Therefore, the air quality and GHG effects analysis accounts not only for potential long-term direct effects but also potential long-term indirect and cumulative effects resulting from the Comprehensive Plan Update.

Although VMT would be higher under all alternatives in 2045 than in 2023, air pollutant and GHG emissions for all alternatives would be substantially lower because of regulations for vehicles and engines that are expected to continue to phase in over time. Daily air pollutant and GHG emissions are expected to be 46% lower under the No Action Alternative, 41% lower under Alternative 1, and 39% lower under Alternative 2. VMT would be slightly higher under Alternative 1 and Alternative 2 than the No Action Alternative, resulting in 10.5% to 11.5% higher emissions of air pollutants and GHG under the action alternatives compared to the No Action Alternative. Differences in GHG emissions could be offset by the climate benefits associated with higher-density development and other actions the City is taking under its Climate Action Framework.

The transportation modeling results, as discussed in the Transportation section of Chapter 3, indicated minimal differences in transportation mode choices between alternatives, with active transportation modes continuing to compose a small share (approximately 10%) of trips in the future. However, Alternatives 1 and 2 would encourage a walkable, compact, and mixed-use style of development in more areas of the city than the No Action Alternative. Therefore, over time, Alternatives 1 and 2 would be more likely to shift vehicle trips to zero-

emission modes, facilitate shorter vehicle trips, and support further reductions of air pollutants and GHG emissions.

Table 34. Modeled 2045 Daily Air Pollutant and GHG Emissions from Vehicle Exhaust

Metric	Existing Conditions (2023)	No Action ^b (2045)	Alternative 1 (2045)	Alternative 2 (2045)	Difference between Alternative 1 and No Action	Difference between Alternative 2 and No Action
VMT (miles/day) ^a	4,315,718	5,327,928	5,885,872	6,006,556	10.5%	11.5%
CO Emissions (pounds/day)	16.86	4.86	5.37	5.48	10.5%	11.5%
NO _x Emissions (pounds/day)	3.34	0.44	0.49	0.50	10.5%	11.5%
PM ₁₀ Emissions (pounds/day)	0.23	0.13	0.14	0.14	10.5%	11.5%
PM _{2.5} Emissions (pounds/day)	0.11	0.04	0.04	0.04	10.5%	11.5%
GHG Emissions (metric tons CO _{2e} /day)	2,467	1,326	1,465	1,495	10.5%	11.5%

Notes:

a VMT provided by RTC regional travel demand model outputs (RTC 2025)

b The No Action Alternative is based on capacity only and does not account for feasibility of redevelopment, whereas Alternatives 1 and 2 include assumptions related to market feasibility and redevelopment.

Key: CO = carbon monoxide, CO_{2e} = carbon dioxide equivalent, GHG = greenhouse gases, NO_x = oxides of nitrogen, PM_{2.5} = particulate matter 2.5 microns or less in diameter, PM₁₀ = particulate matter 10 microns or less in diameter

Anticipated new growth and development would require increased energy use of natural gas and electricity under all alternatives. There are no direct emissions of GHG from electricity use; however, there are emissions associated with the generation of that electricity. Although overall electricity use is expected to increase with future growth, overall GHG emissions from electricity generation are expected to decline in the future as Washington transitions to a carbon-free electricity supply by 2045. Quantifying the potential increase in GHG emissions associated with new buildings would require specific details about proposed residency types

and commercial square footage for each alternative, which are not available at the planning level of this analysis. Future analyses would be conducted as applicable through project-specific SEPA analysis.

Capacity for new housing in areas with air pollutant exposure risks

Based on the projected distribution of growth and development across the city, all alternatives would include capacity for new housing units in areas with a higher risk for exposure to air pollutants, as shown in Table 35 and Table 36. However, as noted in the previous section, emissions of PM_{2.5} for all alternatives would be substantially lower because of regulations for vehicles and engines that are expected to continue to phase in over time. Therefore, the future risk exposure may not be as high.

Table 35. Estimated Capacity for New Housing Units in Areas with High PM_{2.5} Exposure Risk

Metric	No Action Alternative	Alternative 1	Alternative 2
Projected Capacity for New Housing Units in Areas with High PM _{2.5} exposure risk	10,100 ^a	8,000	9,700
Percent of Total Projected Capacity for New Housing Units	34% ^a	18%	19%

Source: BERK 2025

Note:

- a The No Action is based on capacity only and does not account for feasibility of redevelopment, whereas Alternatives 1 and 2 include assumptions related to market feasibility and redevelopment.

Table 36. Estimated Capacity for New Housing Units in Areas with Ozone Concentration Risk

Metric	No Action Alternative	Alternative 1	Alternative 2
Projected Capacity for New Housing Units in Areas with Ozone Concentration Risk	4,800 ^a	15,100	16,700
Percent of Total Projected Capacity for New Housing Units	16% ^a	33%	33%

Source: BERK 2025

Note:

- a The No Action is based on capacity only and does not account for feasibility of redevelopment, whereas Alternatives 1 and 2 include assumptions related to market feasibility and redevelopment.

Capacity for new housing and jobs in areas with heat islands

All alternatives would also include capacity for new housing units and jobs in heat islands, defined as areas with Medium-High or Higher heat exposure scores in the City's Climate Index (refer to Figure 38). Table 37 summarizes the capacity across alternatives (BERK 2025).

Table 37. Estimated Capacity for New Housing Units and Jobs in Heat Islands

Metric	No Action Alternative	Alternative 1	Alternative 2
Projected Capacity for Housing Units in Heat Islands	14,400 ^a	22,400	20,800
Percent of Total Projected Capacity for New Housing Units	49% ^a	50%	41%
Projected Capacity for New Jobs in Heat Islands	11,500 ^a	27,600	30,700
Percent of Total Projected Capacity for New Jobs	39% ^a	61%	61%

Source: BERK 2025

Note:

^a The No Action is based on capacity only and does not account for feasibility of redevelopment, whereas Alternatives 1 and 2 include assumptions related to market feasibility and redevelopment.

Air quality and GHG considerations during construction

Under all alternatives, some construction work activities (particularly those involving paving operations using asphalt) could result in short-term odors, which could be detectable to some people near construction sites and would be diluted as distance from the site increases.

All alternatives would lead to new construction or redevelopment, which would result in short-term emissions of GHG and air pollutants from worker commutes and construction vehicle exhaust. Particulate matter could also be generated where soil would be disturbed by ground clearing and preparation, stockpiling of materials, and by construction vehicles tracking soil from sites onto area streets where other vehicles could stir up and release fugitive dust. Construction of any stationary sources of air emissions, including industrial facilities or services that require industrial-scale combustion equipment will be regulated by Southwest Clean Air Agency and complete their own SEPA process.

Construction activities are also likely to require temporary diesel-fired generators to provide power for electric equipment, which produce emissions of air pollutants and GHG. Southwest

Clean Air Agency should be consulted when construction projects that require the use of temporary generators to determine whether any air permits are required. Disruption of traffic during construction (such as a temporary reduction of roadway capacity and increased queue lengths) could result in short-term, elevated concentrations of pollutants from slowed or idling vehicles. Although emissions from construction projects would be temporary, it is anticipated that varying levels of construction would occur under all of the alternatives that could cumulatively contribute to construction-related air pollutant and GHG emissions citywide.

No Action Alternative

Long-term air pollutant and GHG Emissions

No additional effects were identified for the No Action Alternative beyond those discussed in the Impacts to All Alternatives section. The No Action Alternative is modeled to have slightly lower emissions than Alternative 1 and 2 because of lower projected VMT (associated with lower growth capacity) and about 46% lower emissions than existing conditions. However, the No Action Alternative would retain lower-density zoning districts and a less compact, walkable urban form. Therefore, the No Action Alternative would be less likely than Alternatives 1 and 2 to shift trips to zero-emission modes over time and facilitate shorter vehicle trips, and would not help to support further reductions of air pollutant and GHG emissions.

Capacity for new housing in areas with air pollutant exposure risks

No additional effects were identified for the No Action Alternative beyond those discussed in the Impacts to All Alternatives section. There would be a slightly higher capacity for new housing units in areas with high PM_{2.5} than the action alternatives and a lower capacity for new housing units in areas with ozone exposure risk than under Alternatives 1 and 2.

Capacity for new housing and jobs in areas with heat islands

No additional effects were identified for the No Action Alternative beyond those discussed in the Impacts to All Alternatives section. Consistent with the lower overall capacity for housing units and jobs under the No Action Alternative, there would be lower capacity for new housing units and jobs in areas with heat islands than under Alternatives 1 and 2.

Air quality and GHG considerations during construction

No additional effects were identified for the No Action Alternative beyond those discussed in the Impacts to All Alternatives section. The No Action Alternative would have the lowest potential for construction-related air quality impacts of all the alternatives because it would have the lowest capacity for new housing units, jobs, and associated new development.

Alternative 1

Long-term air pollutant and GHG Emissions

No additional effects were identified for Alternative 1 beyond those discussed in the Impacts to All Alternatives section. Emissions for Alternative 1 are modeled to be slightly higher than the No Action Alternative and similar to Alternative 2 because of higher projected VMT but about 41% lower than existing conditions. However, Alternatives 1 would encourage a more walkable, compact style of development than the No Action Alternative but proposes fewer high-density areas than Alternative 2. Therefore, Alternative 1 would be more likely to shift vehicle trips to zero-emission modes, facilitate shorter vehicle trips, and support further reductions of air pollutant and GHG emissions over time but less likely to do so than Alternative 2.

Capacity for new housing in areas with air pollutant exposure risks

No additional effects were identified for Alternative 1 beyond those discussed in the Impacts to All Alternatives section. There would be a similar capacity for new housing units in areas with high PM_{2.5} across all alternatives. Alternative 1 would have a higher capacity for new housing units in areas with high ozone exposure risk than the No Action Alternative and a lower capacity than Alternative 2.

Capacity for new housing and jobs in areas with heat islands

No additional effects were identified for Alternative 1 beyond those discussed in the Impacts to All Alternatives section. Alternative 1 would have a higher capacity for new housing units in urban heat islands than the No Action Alternative and Alternative 2, but a lower capacity for new jobs in these areas.

Air quality and GHG considerations during construction

No additional effects were identified for Alternative 1 beyond those discussed in the Impacts to All Alternatives section. Alternative 1 would have a higher potential for construction-related air quality and GHG emissions impacts than the No Action Alternative because it would have a higher capacity for new housing units, jobs, and associated new development. These impacts would be similar to Alternative 2.

Alternative 2

Long-term air pollutant and GHG Emissions

No additional effects were identified for Alternative 2 beyond those discussed in the Impacts to All Alternatives section. Emissions for Alternative 2 are modeled to be 11.5% higher than the No Action Alternative and similar to Alternative 1 because of higher projected VMT. However, Alternative 2 would encourage a walkable, compact, and mixed-use style of development in the most parts of the city compared to the No Action Alternative and Alternative 1.

Therefore, Alternative 2 would be the most likely to shift vehicle trips to zero-emission modes, facilitate shorter vehicle trips, and support further reductions of air pollutant and GHG emissions.

Capacity for new housing in areas with air pollutant exposure risks

No additional effects were identified for Alternative 2 beyond those discussed in the Impacts to All Alternatives section. There would be a similar capacity for new housing units in areas with high PM_{2.5} across all alternatives. Alternative 2 would have the highest capacity for new housing units in areas with high ozone exposure risk.

Capacity for new housing and jobs in areas with heat islands

No additional effects were identified for Alternative 1 beyond those discussed in the Impacts to All Alternatives section. Alternative 2 would have a lower capacity for new housing units in urban heat islands than the No Action Alternative and Alternative 2, but a higher capacity for new jobs in these areas.

Air quality and GHG considerations during construction

No additional effects were identified for Alternative 2 beyond those discussed in the Impacts to All Alternatives section. Alternative 2 would have the highest potential for construction-related air quality and GHG emissions impacts because it would have the highest capacity for new housing units, jobs, and associated new development. However, these impacts are likely to be similar to Alternative 1.

Avoidance, Minimization, and Mitigation Measures

Future air pollutant emissions under all alternatives are expected to be lower than existing emissions due to improvements in vehicle technology and stricter fuel and engine regulations. Although Alternatives 1 and 2 would produce more air pollutant and GHG emissions than the No Action Alternative, the EPA has not established thresholds for determining significant air quality impacts in attainment areas. Therefore, no specific mitigation measures are required. Strategies to minimize vehicle emissions include actions that continue Vancouver's efforts to encourage mode shift away from driving alone (e.g., transit improvements, active transportation infrastructure, carpooling incentives) and actions that encourage the transition to alternative fuels (e.g., electric vehicle charging stations).

Similarly, future GHG emissions under all alternatives would be lower than existing conditions due to the ongoing decarbonization of the electricity supply. Although Alternatives 1 and 2 would result in slightly higher GHG emissions from energy use as compared to the No Action Alternative, there are no established thresholds to define a significant impact to GHG emissions. Therefore, no specific mitigation measures are required. Strategies to minimize

energy-related emissions include actions that encourage energy efficiency and the transition away from natural gas.

Vancouver's Climate Action Plan outlines specific actions to minimize emissions from transportation sources, buildings and energy use, as described in the Affected Environment subsection.

In addition, implementation of the following policy measures currently under consideration for the Comprehensive Plan Framework would also help to avoid, minimize, and mitigate potential air quality, greenhouse gases, and climate impacts identified for the action alternatives:

- Improve indoor air quality for residents most susceptible to negative impacts from exposure to particulates, CO, nitrogen dioxide, and lead.
- Reduce emissions from buildings, structures, and infrastructure in the community.
- Avoid siting new housing near known stationary sources of air, water, heat and light pollution, and facilitate site and building design that mitigates impacts from stationary pollution sources for both new and existing housing.
- Minimize impacts of the urban heat island effect, reduce temperature disparities for equity priority neighborhoods, and safeguard vulnerable populations from the adverse effects of extreme heat through proactive measures.
- Prioritize integrating green infrastructure into new development, redevelopment, replacement of existing infrastructure, and development of public spaces within the City to reduce urban heat island effect.
- Ensure that buildings contribute to the City's greenhouse gas reduction goals, protect occupants from climate hazards and extreme weather, and minimize harm to wildlife and natural ecosystems.
- Expand community solar access for low-income homeowners and renters.
- Retrofit existing infrastructure, parks and natural spaces, and construct new facilities to adapt to the localized impacts that will occur in the community due to climate change.
- Improve active transportation infrastructure particularly in areas with inadequate pedestrian and micromobility infrastructure, to increase the share of trips made by foot, bike, or other small mobility devices.
- Adopt new technologies and invest in supportive infrastructure to increase the adoption of electric, hybrid, and alternative fuel vehicles to reduce community emissions.
- Implement land use patterns that reduce VMT, traffic congestion, and greenhouse gas emissions, and improve safety and air quality.
- Incorporate elements of climate resiliency into new privately and publicly developed public spaces.

- Establish development regulations that incorporate best practices for reducing the risk of wildfire, extreme heat, flooding, and other climate-exacerbated hazards.
- Develop plans and resources to ensure effective emergency response and equal access to emergency services and recovery resources, mitigating risks from extreme weather, climate-related hazards, and social hazards.

Significant Unavoidable Adverse Impacts

All of the alternatives have the potential to create impacts to air quality and GHG emissions as a result of expected population growth and development. The anticipated changes would occur incrementally, and with the implementation of avoidance, minimization, and mitigation measures, no significant unavoidable adverse impacts to air quality or GHG emissions are anticipated for any of the alternatives.

Water

Methodology

Analysts reviewed relevant information and policies to describe existing citywide surface water, flood plains, and groundwater conditions, including the following sources:

- City of Vancouver Shoreline Master Program (City of Vancouver 2021b)
- United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (USFWS 2024)
- EPA Clean Water Act, Clean Water Rule
- Washington State Department of Ecology Water Quality Atlas (Ecology 2024)
- VMC 14.24, Erosion Control
- VMC 14.25, Stormwater Control
- VMC 14.26, Water Resources Protection
- VMC 20.740.120, Frequently Flooded Areas
- VMC 20.740.140, Wetlands

Analysts then reviewed the alternatives to determine potential adverse impacts and associated mitigation measures using the following metrics:

- Potential for increased runoff to surface water bodies and wetland areas
- Potential for increased impacts to groundwater hydrology
- Potential for flooding in areas identified for new growth and development

Affected Environment

Vancouver has an abundance of water resources typical of western Washington, including rivers, streams, lakes, and wetlands. The city contains approximately 2,500 acres of wetlands and 2,500 acres of water, as shown in Figure 39 (Design Workshop 2024).

Surface Water

Major surface waters include the Columbia River, Vancouver Lake, and the adjacent lowlands, and Burnt Bridge Creek (City of Vancouver 2021a). These three main waterbodies (Columbia River, Burnt Bridge Creek, and Vancouver Lake) are all considered impaired by pollutants by Ecology (Ecology 2024). The total area subject to the City's SMP is approximately 32,000 acres (50 square miles) (City of Vancouver 2021b). The two primary watersheds within the Vancouver city limits are Burnt Bridge Creek and Columbia Slope; with Vancouver Lake basin at the western boundary, Lacamas Creek watershed to the east, and Salmon Creek watershed to the north. All Vancouver watersheds ultimately drain into the Columbia River (City of Vancouver n.d.[a]).

Frequently Flooded Areas

Frequently flooded areas are areas of special flood hazard identified by the Federal Insurance Administrator and the Federal Emergency Management Agency (FEMA) (VMC 20.740.120). FEMA maintains flood maps that help to inform where locations of flood hazard occur. In Vancouver, flood hazards predominately exist along the banks of the Columbia River and its associated floodplain, surrounding Vancouver Lake and its associated floodplain, and within the floodplain of Burnt Bridge Creek, as shown in Figure 39 (Design Workshop 2024). Vancouver's floodplain is concentrated at the western edge of the city. The alluvial floodplain contains mostly marshes and hardwoods, while the upland floodplain includes various substantial woodlands of 20 to 30 acres or more (City of Vancouver 2022a).

Groundwater

All Vancouver drinking water comes from local groundwater (City of Vancouver n.d.[b]). Vancouver gets its drinking water, or potable water, from wells tapping three distinct regional underground aquifers – the Orchards, Troutdale and Sand-and-Gravel aquifers. These aquifers make up the Troutdale Aquifer System, which covers most of Clark County. The groundwater system was designated a sole source aquifer in 2006 (City of Vancouver n.d.[b]). EPA defines a sole source aquifer as one where (a) the aquifer supplies at least 50% of the drinking water for its service area and (b) there are no reasonable alternative drinking water sources if the aquifer becomes contaminated (EPA n.d.[a]).

Critical Aquifer Recharge Areas

Per VMC 14.26, the entire area within the boundary of Vancouver is designated as a Critical Aquifer Recharge Area. This designation recognizes the importance and vulnerability of Vancouver's drinking water aquifers and serves to protect and preserve the municipal water supply.

Stormwater

Vancouver's overall goal is to promote stormwater drainage designs that help maintain or improve surface and groundwater quality. In general, stormwater runoff drains to catch basins, storm drains, and roadside ditches. Figure 39 shows the location of stormwater lines, outfalls, and features throughout the city. The preferred approach to stormwater management is to require property owners to retain stormwater on site and treat it, often utilizing vegetated areas to filter and absorb pollutants (City of Vancouver 2021a). Runoff is collected and conveyed into larger storm drains within the major streets, and discharges into local creeks and drainage tributaries or infiltrates into the soils on site. Stormwater facilities are distributed throughout the city (City of Vancouver 2023d). The geology for most of the city allows stormwater to infiltrate on site, allowing sites to develop and provide water quality treatment and discharge to stand-alone infiltration systems.

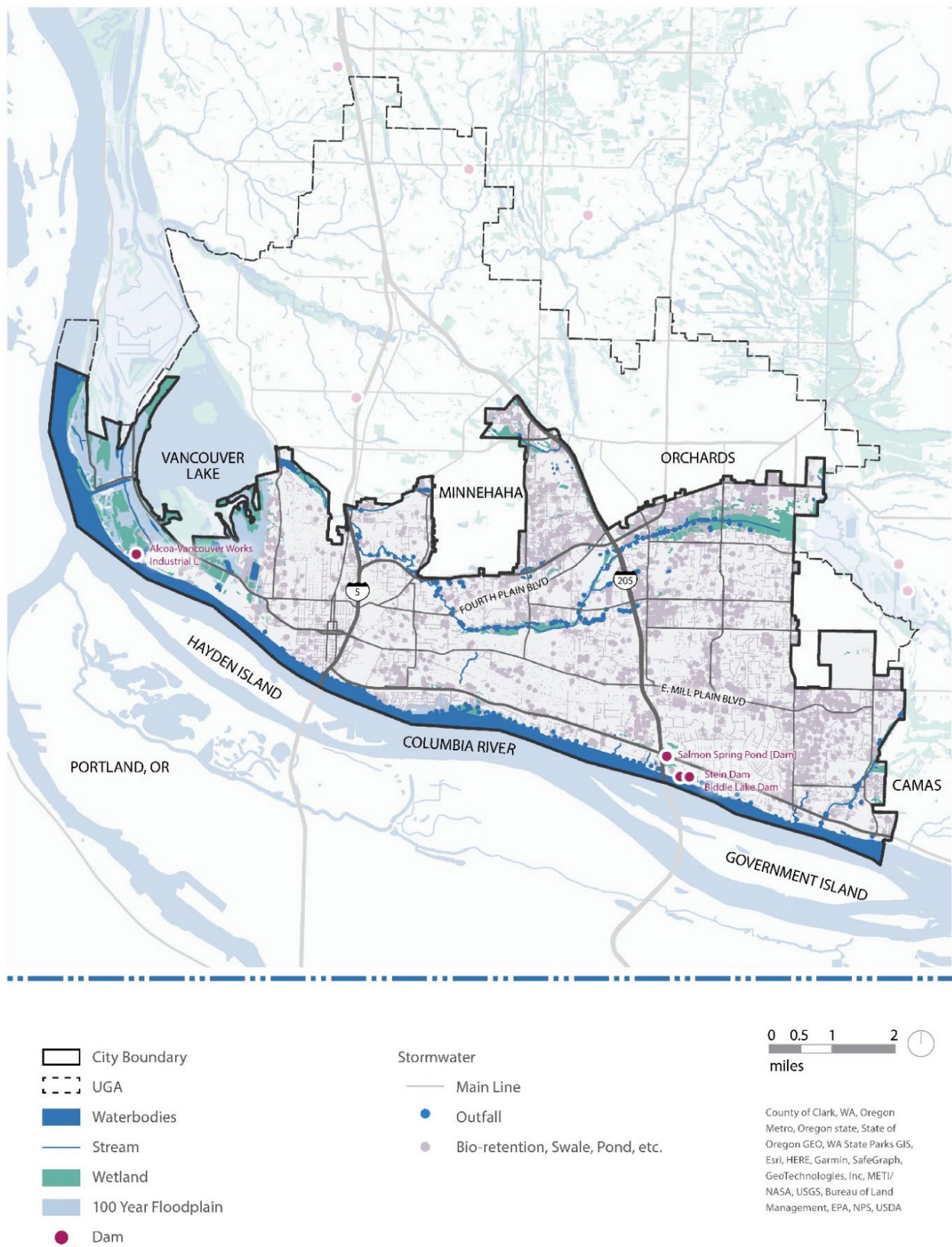
Wetlands

Wetlands are among the most productive ecosystems in the world, comparable to rain forests and coral reefs, and include areas where water covers soil for all or part of the year such as marshes, swamps, bogs, and fens (EPA n.d.[b]). Wetland functions are influenced by physical, chemical, and biological processes that occur within a wetland and the surrounding landscape. They provide essential ecological services including water filtration, shoreline stabilization, groundwater recharge, and climate resiliency. Wetland processes can alleviate flooding, improve stormwater control, provide erosion protection, and improve water quality valuable to the conservation and preservation of aquatic resources.

Wetland habitats are protected by several laws overseen by federal, state, and local agencies, and tribes. VMC, SEPA, and federal National Environmental Policy Act establish environmental regulations and procedures to regulate the development and use of land.

Vancouver contains over 2,467 acres of area mapped as wetlands according to the USFWS National Wetlands Inventory (USFWS 2024). Notable wetlands include the Water Resources Education Center Wetlands along the Columbia River, the restored wetlands in the Burnt Bridge Creek Greenway, and those surrounding Vancouver Lake, as shown in Figure 39.

Figure 39. Water Resources



Potential Impacts

This section discusses the potential impacts of the alternatives related to the following water-related metrics:

- Potential for increased runoff to surface water bodies and wetland areas
- Potential for increased impacts to groundwater hydrology
- Potential for flooding in areas identified for new growth and development

Impacts Common to All Alternatives

The following sections outline impacts that are expected to occur under all the alternatives. Impacts specific to each alternative are discussed in the next subsections.

Potential for Increased Runoff to Surface Water Bodies and Wetland Areas

All alternatives would lead to new construction or redevelopment, which would increase the amount of new impervious surfaces, including rooftops, driveways, sidewalks, parking lots, and compacted soils. Impervious surfaces in urban areas reduce natural infiltration of water into soils and increase surface water runoff, which can change the way that water and pollutants travel to urban streams and lead to increased erosion (EPA 2024a). Incremental development over time could also result in direct, indirect, and cumulative impacts to wetland hydrology, degradation during construction, and temporary or permanent loss of wetland habitat.

New development under all alternatives would be subject to current and future proposed regulations that may require improvements to stormwater management or critical area restoration as new development occurs. These requirements could have cumulative benefits for water resources, especially in areas of the City where stormwater management and other water resources protections do not meet current standards.

Potential for Increased Impacts to Groundwater Hydrology

Under all alternatives, increased impervious surface area and soil compaction could decrease opportunities for infiltration and groundwater recharge, affect natural drainage patterns, and prevent precipitation from recharging groundwater aquifers.

Groundwater could be impacted during standard construction activities, such as excavation, grading, and placement of foundations. Contaminated soil and/or groundwater could be encountered during excavation when properties are redeveloped under any of the alternatives. Some land uses are known to have a higher risk of groundwater contamination than other land uses, such as automotive facilities, dry cleaning facilities, municipal landfills, and some industrial or agricultural uses.

Potential for Flooding in Areas Identified for New Growth and Development

None of the alternatives would directly encourage new development in areas identified as frequently flooded areas. However, increases in the amount of impervious surfaces, as discussed in the previous sections, and more extreme weather events related to climate change could lead to increased flooding in the future under all alternatives.

No Action Alternative

In general, there would be minimal additional impacts under the No Action Alternative aside from those described in the Impacts Common to All Alternatives section. The No Action Alternative would be consistent with City regulations and would apply the updated CAO provisions for water resources.

Because the No Action Alternative would have less capacity for new housing and jobs, it may result in lower levels of new construction and/or redevelopment and associated increases in impervious surfaces, compared to Alternatives 1 and 2. However, the No Action Alternative would encourage continuation of a less dense, more dispersed style of urban development. In the longer term, this type of development pattern could potentially increase pressure to develop more individual sites, which could result in increased impervious surfaces.

Alternative 1

In general, there would be minimal additional impacts under Alternative 1 aside from those described in the Impacts Common to All Alternatives section. Alternative 1 would be consistent with City regulations and would be subject to the updated CAO provisions for water resources.

Alternative 1 would allow for more dense development and would have greater capacity for new housing units and jobs, which would likely result in higher levels of new construction and/or redevelopment and the associated increases in impervious surfaces that affect runoff and water resources, compared to the No Action Alternative. However, this development would be more concentrated in higher-density zoning districts, which could result in lower levels of impervious surfaces throughout the city than the No Action Alternative.

Alternative 2

In general, there would be minimal additional impacts under Alternative 2 aside from those described in the Impacts Common to All Alternatives section. Alternative 2 would be consistent with City regulations and would be subject to the updated CAO provisions for water resources.

Alternative 2 would have similar impacts to Alternative 1 related to water resources. However, because Alternative 2 would have options for more density and larger-scale buildings in more areas of the city, it would have greater potential than Alternative 1 and the No Action Alternative to increase impervious surface areas, which could affect runoff to water resources. However, like Alternative 1, this development would be more concentrated in higher-density zoning districts, which could result in lower overall impervious surface areas throughout the city than the No Action Alternative.

Avoidance, Minimization, and Mitigation Measures

Regardless of alternative, all future development projects will be required to adhere to local, state, and federal policies and regulations that protect surface water and groundwater resources, as well as protect public health and safety from flood hazards.

Development in frequently flooded areas and floodplains, such as those located along the Columbia River and in West Vancouver, will remain subject to VMC 20.40.120.

New development will also be required to comply with the City's Water Resources Protection Ordinance (VMC 14.26). This ordinance is currently being updated to address provisions of the Critical Aquifer Recharge Area regulations.

All development projects will be required to provide stormwater capture and conveyance on site in accordance with VMC 14.25 and 14.26.

New development will also be subject to the wetland regulations under VMC 20.740.140, including revised wetland buffer width requirements. With the December 2024 updates to VMC 20.740.140, about 4% more of the City's land area would be regulated as wetlands and subject to additional protections under all alternatives, which would benefit these water resources.

In addition, implementation of the following policy measures currently under consideration for the Comprehensive Plan Update would also help to avoid, minimize, and mitigate potential impacts to water resources identified for the action alternatives:

- Improve local water quality and reduce flood risk by reducing stormwater runoff, promoting natural infiltration to groundwater, and restoring riparian areas.
- Provide safe, clean, quality drinking water to every Vancouver home, business, and industry. Discourage development and use of private drinking water wells. Provide water pressures and volumes necessary to support fire suppression hydrants and sprinkler systems. Ensure that the infrastructure to support water service is in place prior to or at the time of development. Support water conservation recycle systems where practicable.

- Prioritize integrating green infrastructure into new development, redevelopment, replacement of existing infrastructure, and development of public spaces within the City to improve stormwater quality.
- Protect existing Critical Areas within the City, and Shorelines of Statewide Significance, and ensure no net loss of ecological functions through avoidance of impacts, conservation design principles, and compensatory mitigation when loss of ecological function cannot be avoided.
- Support restoration and enhancement of Critical Areas by private landowners, or through City/nonprofit acquisition and other initiatives.

The proposed updates to zoning and development regulations would also help to avoid, minimize and mitigate impacts to water through elements such as minimum open space requirements and maximum impervious area requirements based on building types.

Significant Unavoidable Adverse Impacts

All of the alternatives have the potential to create impacts to water resources as a result of expected population growth and development. The anticipated changes would occur incrementally, and with the implementation of avoidance, minimization, and mitigation measures, no significant unavoidable adverse impacts to water resources are anticipated for any of the alternatives.

Plants and Animals

Methodology

Analysts reviewed relevant information and policies to describe existing citywide conditions for plants, fish, and other wildlife, including the following sources:

- City of Vancouver Urban Forestry Management Plan (City of Vancouver 2023e)
- Clark County Maps Online Geographic information system Mapping Tool
- Endangered Species Act
- Our Vancouver Health Impact Assessment (BERK 2025)
- USFWS Information for Planning and Consultation mapping tool (USFWS 2024)
- VMC 12.04, Street Trees
- VMC 20.740.100, Habitats of Local Importance
- VMC 20.740.110, Fish and Wildlife Habitat Conservation Areas
- VMC 20.740.140, Wetlands
- VMC 20.770, Tree, Vegetation, and Soil Conservation
- Washington Department of Fish and Wildlife (WDFW) Priority Habitat and Species List (WDFW 2024)

- WDFW Anadromous and Resident Salmonid Distribution Maps in the Salmon and Steelhead Habitat Inventory Assessment Program

Analysts then reviewed the alternatives to determine potential adverse impacts and associated mitigation measures using the following metrics:

- Potential impacts to fish, wildlife, or plant populations and habitat
- Potential impacts to tree canopy and vegetation

Affected Environment

Wildlife Habitat and Priority Species

The City identifies Fish and Wildlife Habitat Conservation Areas (VMC 20.740.110) as:

- Habitat used by any life stage of state or federally designated endangered, threatened, and sensitive fish or wildlife species
- Priority habitats and areas associated with priority species
- Water bodies including lakes, streams, rivers, and naturally occurring ponds
- Habitats of Local Importance, which are not designated as Priority Habitats and Species by the state but are designated as locally significant by the City
- Riparian Management Areas and Riparian Buffers, which are regulated areas that include the land from the ordinary high-water mark to a specified distance as measured horizontally in each direction. The Riparian Management Area is adjacent to a lake, stream or river, and the Riparian Buffer is adjacent to the Riparian Management Area.

WDFW identifies priority habitats and species to ensure protection and management. Priority habitats in Vancouver include biodiversity areas and corridors, riparian areas, freshwater wetlands, caves or cave-rich areas, and Oregon white oak woodlands (WDFW 2024).

According to the WDFW's priority habitat and species mapping tool, priority species that may occur within the City include (WDFW 2024):

- Coho salmon (*Oncorhynchus kisutch*)
- Winter steelhead (*Oncorhynchus mykiss*)
- Bull trout (*Salvelinus confluentus*)
- Green sturgeon (*Acipenser medirostris*)
- Spring Chinook (*Oncorhynchus tshawytscha*)
- Fall chum (*Oncorhynchus keta*)
- Great blue heron (*Ardea herodias*)
- Bald eagle (*Haliaeetus leucocephalus*)
- Vaux's swift (*Chaetura vauxi*)
- Waterfowl concentrations

The USFWS Information for Planning and Consultation system identifies the following Endangered Species Act-listed species that may occur within the City (USFWS 2024):

- Columbian white-tailed deer (*Odocoileus virginianus leucurus*)
- Northern spotted owl (*Strix occidentalis caurina*)
- Yellow-billed cuckoo (*Coccyzus americanus*)
- Northwestern pond turtle (*Actinemys marmorata*)
- Bull trout (*Salvelinus confluentus*)
- Monarch butterfly (*Danaus Plexippus*)

Approximately 14% of the city is considered riparian habitat, priority habitat area, or priority species area based upon existing county, state and federal data (Design Workshop 2024). Priority habitat areas are located primarily in the center of the city along Burnt Bridge Creek as well as on the far east side of the city adjacent to Camas. Most of the priority species areas are located along the west side of the city.

Riparian habitat areas are situated adjacent to aquatic habitat and are transitional areas that contain elements of both aquatic and upland ecosystems, which mutually influence each other. Riparian habitat areas are located along Burnt Bridge Creek and the Columbia River. Freshwater wetland areas are mapped throughout the city. Biodiversity areas and corridors are areas of habitat that are relatively important to various species of native fish and wildlife. A biodiversity area and corridor is mapped within the city associated with Burnt Bridge Creek, as shown in Figure 40.

The City also has provisions in its code for identifying habitats of local importance (VMC 20.740.100), which are critical areas for fish and wildlife habitat that are not designated as priority habitats and species by the state but are designated as locally significant. These are determined by a need for protection due to existing high diversity of fish or wildlife species, declining populations, habitat scarcity, areas sensitive to disturbance from human activity or development, or other unique local habitat functions. Designated areas also need to be sufficient in size to support the species or habitat functions, and this designation will not compromise the ability of the City to achieve Comprehensive Plan goals. A habitat of local importance must also have a proposed management strategy that describes how the functions of the habitat will be protected after designation. The City has not designated any habitats of local importance.

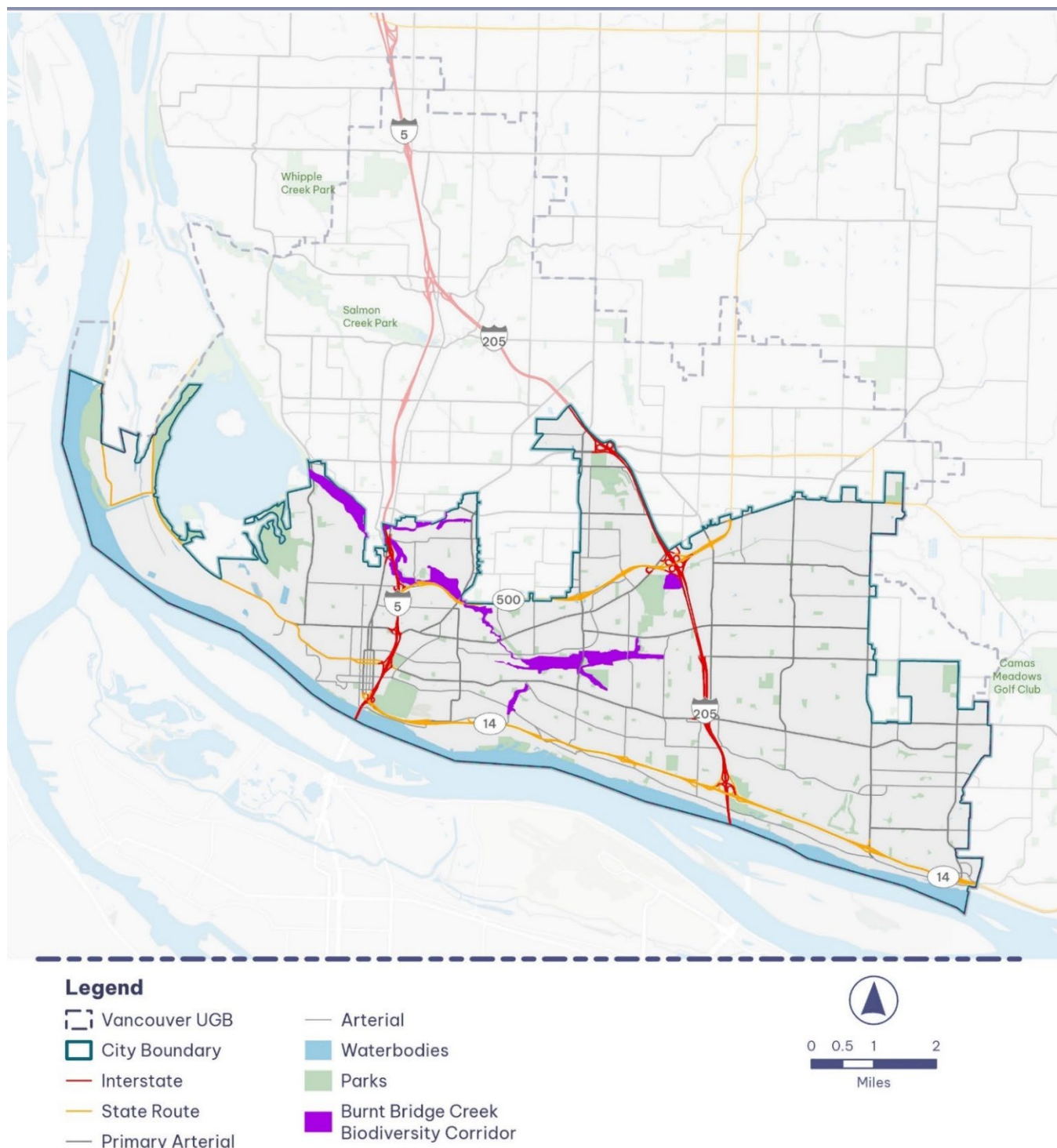
Aquatic Resources

As discussed further in the Water section and shown on Figure 39, major aquatic resources in and near Vancouver include Burnt Bridge Creek, the Columbia River, and Vancouver Lake, as well as smaller rivers, streams, and wetlands. There are approximately 2,467 acres of

wetland areas and 2,524 acres of water, which includes rivers, streams, and lakes, within the city (Design Workshop 2024).

Portions of the city that have prevalent wetland areas are along the banks of the Columbia River, Vancouver Lake, Burnt Bridge Creek, Fisher Creek, and Love Creek; areas between Vancouver Lake and the Columbia River; Curtin Springs Wildlife Habitat; Vancouver Lake Park; Centerpointe Park; areas west of Northeast Padden Parkway and Northeast Andresen Road; areas in the Port of Vancouver; and other mapped areas (Clark County n.d.).

Figure 40. Biodiversity Areas and Corridors



Source: Clark County n.d.

Fish or Wildlife Migration Routes

The city is an important stop for birds traveling along the Pacific Flyway and fish traveling along the larger Lower Columbia region fish migration route (WDFW 2024).

The Pacific Flyway is the major north–south route for migratory birds that extends from Patagonia to Alaska, and migratory birds may use a variety of habitats within the City for resting, feeding, and breeding.

In general, due to the number of species that rely on the Columbia River as a migratory corridor, and the variety of life history strategies among these species, both adult and juvenile salmonids are likely to be present in portions of the Columbia River and other rivers and streams within or near the city year–round.

Tree Canopy

Trees offer structural diversity that provides habitat for a wide range of species; areas in the city with extensive tree canopy cover are likely to support comparatively diverse plant and animal communities. Vancouver’s 6,000 acres of tree canopy is composed primarily of Douglas fir (*Pseudotsuga menziesii*), western red cedar (*Thuja plicata*), western hemlock (*Tsuga heterophylla*), bigleaf maple (*Acer macrophyllum*), and red alder (*Alnus rubra*) (City of Vancouver 2021a).

With continuously updated data on tree canopy cover and impervious surfaces, the City can make informed decisions about tree planting and preservation, stormwater management, land use and the benefits trees provide. The city has continuously been recognized as a Tree City USA by the National Arbor Day Foundation, in partnership with the U.S. Forest Service and Washington State Department of Natural Resources Urban and Community Forestry Program. This recognition reflects Vancouver’s commitment to effective management and care for its urban tree canopy (Vancouver’s Downtown Association n.d.).

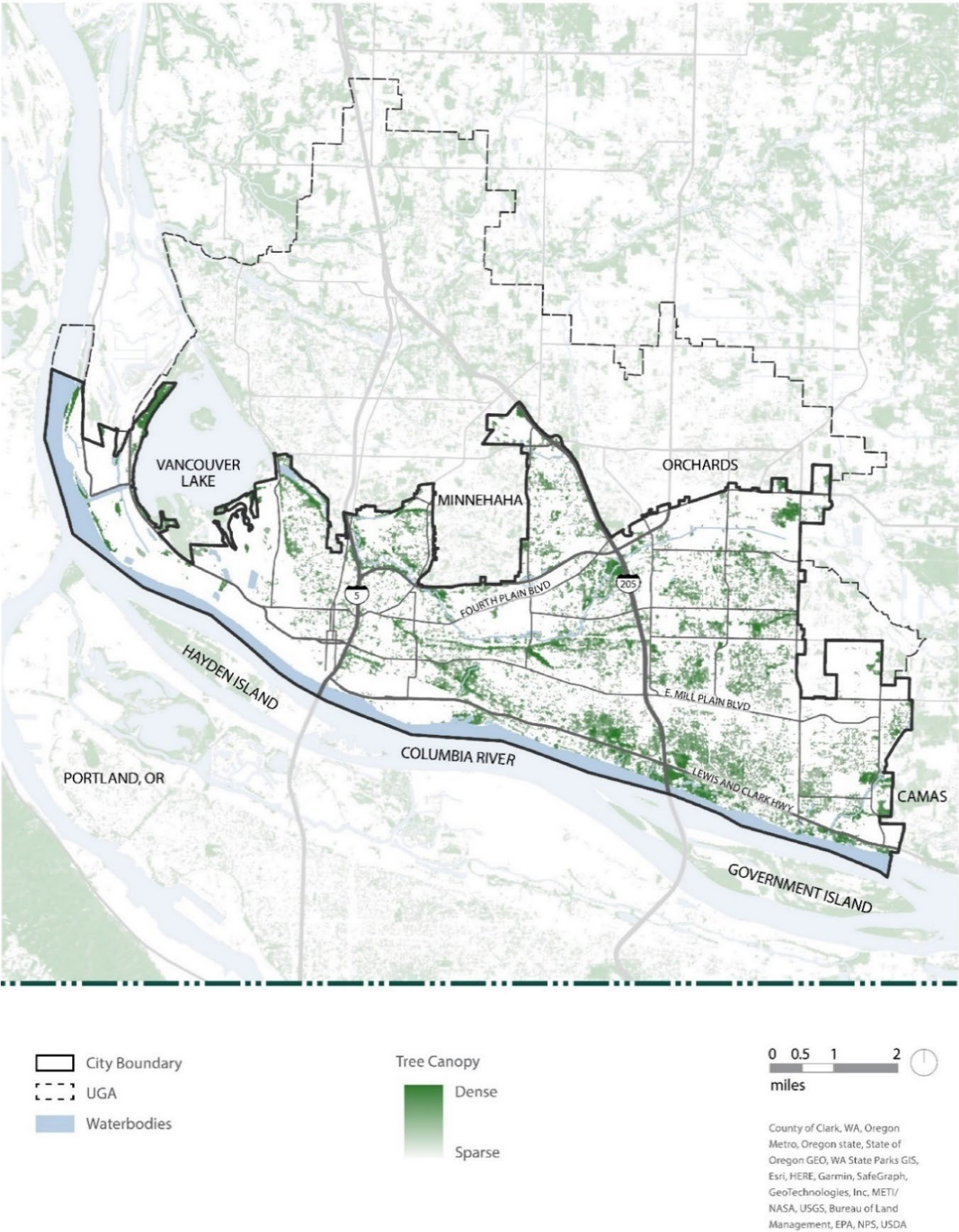
The 2011 Comprehensive Plan established a goal of 28% tree canopy cover by the year 2030 (City of Vancouver 2021a). As of October 2023, the City reported 20% tree canopy cover, representing a small increase from 2010 (City of Vancouver 2023e).

Tree canopy ranges from 40% in the Dubois Park neighborhood to 9% in the Esther Short neighborhood (City of Vancouver 2023e). As shown in Figure 41, the densest tree canopy is concentrated in the southeast near the banks of the Columbia River. There are substantial gaps in tree canopy moving west along the river. Tree canopy is more prevalent between the center and the east of the city. Dense tree canopy is concentrated along SR 14 and Burnt Bridge Creek. Tree canopy is sparser in residential and industrialized neighborhoods.

The Urban Forestry Management Plan, published in October 2023, outlines a long–term framework to preserve Vancouver’s urban forest, achieve tree canopy coverage goals and address environmental injustice (City of Vancouver 2023e). In addition, the City’s December

2024 CAO update outlines new requirements for protection of priority Oregon white oak habitat and associated mitigation measures for development.

Figure 41. Tree Canopy Concentration



Source: Design Workshop 2024

Potential Impacts

This section discusses the potential impacts of the alternatives related to the following plants and animals metrics:

- Potential impacts to fish, wildlife, or plant populations and habitat
- Potential impacts to tree canopy and vegetation

Impacts Common to All Alternatives

The following sections outline impacts that are expected to occur under all the alternatives. Impacts specific to each alternative are discussed in the next subsections.

Potential Impacts to Fish, Wildlife, or Plant Populations and Habitat

All alternatives would permit development that could impact plants and animals directly, indirectly, or cumulatively. Over time, loss of wildlife habitat and/or fragmentation could occur under all alternatives because of cumulative increases in impervious surface areas and removal of native vegetation, although many areas that would experience redevelopment are already fully or partially developed today. The extent of impacts to plants and animals would depend on the location and intensity of development, and the existing size of habitat and connectivity across the landscape.

Future site-specific development projects under all alternatives could result in adverse impacts on vegetation and wildlife habitat, threatened and endangered species, and aquatic resources and wetlands. However, those projects will be subject to existing federal, state, and local regulations that protect plant and animal habitat, threatened and endangered species, and aquatic resources and wetlands, as discussed in the Avoidance, Minimization, and Mitigation Measures section.

Potential Impacts to Tree Canopy and Vegetation

Under all alternatives, future development activities would require removal of vegetation to varying extents. Loss of vegetation would result in direct, indirect and cumulative impacts to plant and animal species through changes in habitat. These changes would be incremental over time as development occurs.

Overall tree canopy coverage within the city has the potential to decrease to some extent under all alternatives because of tree removal associated with new development. All alternatives would maintain the same amount of existing land designated as Parks/Open Space, which would preserve the tree canopy and prevent vegetation loss in those areas.

All of the alternatives would provide the majority of their capacity for new housing units in areas with low existing tree canopy cover, defined as census tracts with less tree canopy than the current city average, as shown in Table 38.

Table 38. Estimated Capacity for New Housing Units in Areas with Low Existing Tree Canopy Cover

Metric	No Action	Alternative 1	Alternative 2
Projected Capacity for New Housing Units in Areas with Low Existing Tree Canopy	16,800 ^a	27,800	31,000
Percent of Total Projected Capacity for New Housing Units	57% ^a	62%	61%

Source: BERK 2025

Note:
a The No Action is based on capacity only and does not account for feasibility of redevelopment, whereas Alternatives 1 and 2 include assumptions related to market feasibility and redevelopment.

No Action Alternative

In general, there would be minimal additional impacts under the No Action Alternative aside from those described in the Impacts Common to All Alternatives section. The No Action Alternative would be consistent with City regulations and would apply the updated CAO provisions related to plants and animals.

Because the No Action Alternative would have less capacity for new housing and jobs, it may result in lower levels of new construction and/or redevelopment and associated direct, indirect, and cumulative impacts to habitat areas compared to Alternatives 1 and 2.

Alternative 1

In general, there would be minimal additional impacts under Alternative 1 aside from those described in the Impacts Common to All Alternatives section. Alternative 1 would be consistent with City regulations and would apply the updated CAO provisions related to plants and animals.

Alternative 1 would allow for more dense development and would have greater capacity for new housing units and jobs, which would likely result in higher levels of new construction and/or redevelopment and associated vegetation removal, compared to the No Action Alternative. However, this development would be more concentrated in higher-density zoning districts, which could help to reduce the need for vegetation removal throughout the

city compared to the No Action Alternative and have potentially greater direct, indirect, and cumulative benefits for plants and animals. Because Alternative 1 would accommodate more new development and/or redevelopment than the No Action Alternative, more projects would be subject to the new additional regulations for wetland buffers, riparian areas, and preservation of priority habitats in the December 2024 CAO update, which could result in greater benefits for plants and animals.

Alternative 2

In general, there would be minimal additional impacts under Alternative 2 aside from those described in the Impacts Common to All Alternatives section. Alternative 2 would be consistent with City regulations and would apply the updated CAO provisions for water resources.

Alternative 2 would have similar impacts to Alternative 1 related to plants and animals. However, because Alternative 2 would have options for more density and larger-scale buildings in more areas of the city, it would have greater potential than Alternative 1 and the No Action Alternative to increase impervious surface areas and remove vegetation, affecting habitat. This increased growth in more areas, particularly in Central and East Vancouver, could place more development near Fish and Wildlife Habitat Conservation Areas, including state priority species and habitats. Denser development patterns, including Medium-Scale and Mixed-Use Neighborhoods, would be allowed near Burnt Bridge Creek and its Biodiversity Area in West and Central Vancouver under Alternative 2 compared to Alternative 1 and the No Action Alternative.

However, those projects will be subject to existing regulations that protect plant and animal habitat, threatened and endangered species, and aquatic resources and wetlands. Because Alternative 2 would accommodate the greatest amount of new development and/or redevelopment, more projects would be subject to the additional regulations for wetland buffers, riparian areas, and preservation of priority habitats in the December 2024 CAO update, which could result in the greatest direct, indirect, and cumulative benefits for plants and animals.

Avoidance, Minimization, and Mitigation Measures

Regardless of alternative, all future development projects will be required to comply with city, state, and federal requirements for protecting plants, animals, and their resources and resulting in no net loss of functions and values in critical areas. These existing regulations include the Endangered Species Act, Clean Water Act and Stormwater Regulations, state regulations protecting Waters of the State, the Shoreline Management Act, the Shoreline

Master Program, the City's CAO (VMC 20.740), the City's tree ordinance (VMC 12.04), and stormwater regulations (VMC 14.25 and 14.26).

The City's development review process will ensure compliance with the City's CAO, VMC 20.740, which requires any development, redevelopment, or use of a property to protect ecologically sensitive areas and their functions and values, while also allowing for reasonable use of property. VMC 20.740.110 focuses on protecting Fish and Wildlife Habitat Conservation Areas by designating key habitats such as riparian areas, priority Oregon white oak habitats, and aquatic environments. VMC 20.740.140 includes buffer requirements from wetlands, which often provide critical wildlife habitats and water quality benefits that impact the ecosystem as a whole.

The City's December 2024 CAO update provides additional protections for plant and animal habitat. In addition to the additional wetland protections discussed in the Water section, there would be increased widths for riparian areas, resulting in about 1% more land (303 acres) regulated as riparian areas as compared to the previous CAO. Overall, the December 2024 CAO update decreases the amount of land available for development through these expanded buffers.

In addition, implementation of the City's Urban Forestry Management Plan will help to enhance the level of tree canopy cover citywide, which can help to reduce stormwater and flooding damage, improve air quality, provide habitat, and improve health outcomes (City of Vancouver 2023e). Continued updates to this plan under all of the alternatives will help to identify areas of the city that have fewer trees than others and develop strategies to help increase the tree canopy in these areas.

Implementation of the following policy measures currently under consideration for the Comprehensive Plan Update would also help to avoid, minimize, and mitigate potential impacts to plants and animals identified for the action alternatives:

- Meet tree canopy coverage goal of 28%, using the City's Equity Index to target investment in underserved neighborhoods lacking coverage.
- Take inventory of and protect fish and wildlife habitat needs for species under stress from climate change.
- Prioritize integrating green infrastructure into new development, redevelopment, replacement of existing infrastructure, and development of public spaces within the City to improve stormwater quality and reduce urban heat island effect.
- Support a healthy urban ecosystem by embedding pollinator habitat into public and private development, prioritizing pesticide-free landscaping, enhancing biodiversity, and connecting natural spaces across the city through pollinator-friendly plantings.

- Incorporate native plantings, food forests, and agroforestry into parks and public spaces to support food security, ecological health, and cultural knowledge sharing.
- Create an expansive network of linear parks that encourage active transportation, improve community health and wellbeing, enhance tree canopy and stormwater management, and link parks and open space with housing.

The proposed updates to zoning and development regulations would also help to avoid, minimize and mitigate impacts to plants and animals through elements such as minimum open space requirements and maximum impervious area requirements based on building types. The City is also developing code incentives to support maintaining larger trees and planting more trees than required as part of new developments.

Significant Unavoidable Adverse Impacts

All of the alternatives have the potential to create impacts to earth resources as a result of expected population growth and development. The anticipated changes would occur incrementally, and with the implementation of avoidance, minimization, and mitigation measures, no significant unavoidable adverse impacts to plants and animals are anticipated for any of the alternatives.

Chapter 5: Potential Cumulative Effects

SEPA requires a non-project EIS to include analysis of cumulative effects, which are the impacts of a proposed action – in this case, the Comprehensive Plan Update and associated zoning code amendments – in combination with other past, present, and reasonably foreseeable future actions within a given geographic area.

The proposed Comprehensive Plan Update would lead to future site-specific residential, commercial, industrial, and mixed-use development projects throughout the City with the potential for cumulative environmental impacts over time. Because the exact nature and timing of these future projects is currently unknown, specific cumulative impacts cannot be fully anticipated.

Cumulative effects are discussed where feasible in the Potential Impacts subsections of the built and natural environmental topics in Chapters 3 and 4. The regional transportation model outputs used for the transportation, noise, and air quality analyses discussed in Chapters 3 and 4 consider assumptions about future population and employment growth, expected changes in land use, and reasonably foreseeable future transportation projects. Therefore, these effects analysis inherently account for cumulative effects resulting from the Comprehensive Plan Update.

In general, it is anticipated that projects resulting from the Comprehensive Plan Update and revised zoning and development regulations would result in cumulative impacts over time, including higher levels of traffic volumes, noise, light, glare, impervious surfaces, and demand for various public services and utilities. Alternatives 1 and 2 would have the greatest potential for these types of cumulative impacts compared to the No Action Alternative because they would accommodate the highest capacities for new housing and jobs and would likely generate more construction and development projects in more areas of the City.

However, Alternatives 1 and 2 would also have greater potential for cumulative benefits over time compared to the No Action Alternative. Both alternatives would promote a trend of denser, more compact, mixed-use development in more areas of the city, which may lead to less pressure to develop historic and archaeologically sensitive areas and/or environmentally sensitive areas, such as geologic hazard areas and wetland and stream buffers. In addition, by accommodating the greatest amount of new development and/or redevelopment, more individual projects under Alternatives 1 and 2 would be subject to the City's updated critical areas regulations, which are designed to enhance environmental quality, prevent natural hazards, and ensure no net loss of critical area functions. Therefore, Alternatives 1 and 2 could result in fewer cumulative impacts on historic and cultural preservation, earth, water, and plants and animals than the No Action Alternative. Existing regulations, including the

recent CAO updates, would help to avoid, minimize and mitigate cumulative impacts under all alternatives but may not eliminate these impacts entirely. Future projects and developments would be required to conduct separate, project-specific environmental analyses and review, as appropriate (unless otherwise exempt or covered through planned action SEPA ordinances). Mitigation measures would be identified for these future projects as applicable to decrease the potential for cumulative impacts.

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Appendix A: Scoping Information

OUR VANCOUVER Comprehensive Plan Update

Washington State Environmental Policy Act Determination of Significance and Request for Comments on Scope of Environmental Impact Statement

The City of Vancouver invites you to comment on the environmental topics that will be analyzed as part of its Comprehensive Plan update.

Date of Issuance: July 12, 2024

Deadline for Comments: August 12, 2024 (no later than 11:59 p.m. Pacific time)

Lead Agency: City of Vancouver

Description of Proposal: City of Vancouver Comprehensive Plan Update

The City of Vancouver is updating its Comprehensive Plan, which will establish a vision that guides the City's growth and development for the next 20 years, from 2025 to 2045. Since the plan was last updated in 2011, Vancouver has experienced substantial growth, as well as demographic, economic and social changes.

To meet the requirements of the Washington State Growth Management Act, the City is currently conducting a full rewrite of the existing Comprehensive Plan. As part of this process, the City is developing a detailed strategy for implementing the goals, policies, and strategies outlined with the revised plan, and modifying the existing zoning code (Title 20 of the Vancouver Municipal Code [VMC]), which regulates the scale, size and location of buildings and uses, to reflect the goals and policies identified in the revised plan.

The City is engaging in extensive community outreach and engagement to help planners address key questions about housing; land use, development and infrastructure; economic development; equity and opportunity; and climate and environment. The proposed update to the City's Comprehensive Plan will plan for growth of approximately 38,000 new housing units and 43,000 new jobs by the year 2045. These growth targets are based on population projections from the Washington State Office of Financial Management, recent trends, state law, and City policy to plan for long term housing and employment needs.

The Comprehensive Plan Update must be adopted by December 31, 2025.

Proponent: City of Vancouver

Location of Proposal: Vancouver, Washington (citywide)

Environmental Impact Statement (EIS) Required:

The City of Vancouver has determined that this proposal is likely to have a significant adverse impact on the environment. This means the proposal has a reasonable likelihood of negative effects on environmental quality that could be considered more than moderate. An EIS is required under state law [Revised Code of Washington RCW 43.21C.030 (2)(c)] and will be prepared, including proposed mitigation measures. Mitigation measures are changes or conditions to a proposal that are intended to avoid, minimize, or compensate for potential adverse impacts.

OUR VANCOUVER Comprehensive Plan Update

The EIS is a document that will provide information for the public, agencies, and tribal governments to consider during the decision-making process for the Comprehensive Plan Update. The EIS will describe potential alternatives, existing environmental conditions, potential significant environmental impacts, and potential measures to mitigate impacts.

The City currently plans to review a scenario of future conditions if no changes to the current Comprehensive Plan and associated plans and regulations are made, called a No Action Alternative, and up to three Action Alternatives that outline different land use and growth scenarios in specific areas of the city.

The City has identified the following elements of the built and natural environment for discussion in the EIS in accordance with Washington Administrative Code (WAC) 197-11-444:

- Land and shoreline use
- Housing
- Aesthetics (including light and glare)
- Historic and cultural resources
- Transportation
- Noise
- Public services and utilities (including emergency services, water, sewer, schools, parks and recreation)
- Earth (geologic hazard areas, soils, topography)
- Air quality, greenhouse gases, and climate
- Water resources
- Plants and animals

Request for Comments:

Agencies, affected tribes, and members of the public are invited to comment on the scope of the EIS. You may comment on alternatives, mitigation measures, probable significant adverse impacts, and licenses or other approvals that may be required. Licenses and approvals may include potential required permits from state, local, and federal agencies.

Scoping comments may be provided via email or postal mail to the following addresses:

Email: OurVancouver2045@cityofvancouver.us

Postal Mail:

Attn: Julie Nischik
City Hall
PO Box 1995
Vancouver, WA 98668

OUR VANCOUVER Comprehensive Plan Update

You may also learn more about the project, scoping process and provide written comments by visiting an Our Vancouver table at an upcoming outreach event. Events will be posted on the project webpage as they are scheduled.

The deadline for scoping comments is August 12, 2024, at 11:59 p.m.

For More Information:

Please visit the city's Comprehensive Plan website for more information about the ongoing process of plan development and the schedule for upcoming outreach events:

<https://www.beheardvancouver.org/plan2045>

Agency Contact Information:

Julie Nischik

Senior Support Specialist, Community Development, City of Vancouver

OurVancouver2045@cityofvancouver.us

(360) 487-7813

SEPA Responsible Official:

Chad Eiken, AICP

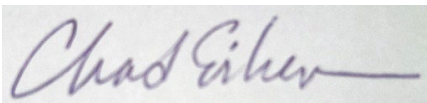
Director, Community Development, City of Vancouver

chad.eiken@cityofvancouver.us

(360) 487-7882

Date: July 12, 2024

Signature:

A handwritten signature in blue ink that reads "Chad Eiken" followed by a horizontal line.

OUR VANCOUVER Comprehensive Plan Update

Washington State Environmental Policy Act Determination of Significance and Request for Comments on Scope of Environmental Impact Statement (Comment Period Extension)

The City of Vancouver invites you to comment on the environmental topics that will be analyzed as part of its Comprehensive Plan update. **The deadline for comments has been extended to August 23, 2024.**

Date of Issuance: July 12, 2024 (*revised on August 9, 2024, to extend comment period*)

Deadline for Comments: August 23, 2024 (no later than 11:59 p.m. Pacific time)

Lead Agency: City of Vancouver

Description of Proposal: City of Vancouver Comprehensive Plan Update

The City of Vancouver is updating its Comprehensive Plan, which will establish a vision that guides the City's growth and development for the next 20 years, from 2025 to 2045. Since the plan was last updated in 2011, Vancouver has experienced substantial growth, as well as demographic, economic and social changes.

To meet the requirements of the Washington State Growth Management Act, the City is currently conducting a full rewrite of the existing Comprehensive Plan. As part of this process, the City is developing a detailed strategy for implementing the goals, policies, and strategies outlined with the revised plan, and modifying the existing zoning code (Title 20 of the Vancouver Municipal Code [VMC]), which regulates the scale, size and location of buildings and uses, to reflect the goals and policies identified in the revised plan.

The City is engaging in extensive community outreach and engagement to help planners address key questions about housing; land use, development and infrastructure; economic development; equity and opportunity; and climate and environment. The proposed update to the City's Comprehensive Plan will plan for growth of approximately 38,000 new housing units and 43,100 new jobs by the year 2045. These growth targets are based on population projections from the Washington State Office of Financial Management, recent trends, state law, and City policy to plan for long term housing and employment needs.

The Comprehensive Plan Update must be adopted by December 31, 2025.

Proponent: City of Vancouver

Location of Proposal: Vancouver, Washington (citywide)

Environmental Impact Statement (EIS) Required:

The City of Vancouver has determined that this proposal is likely to have a significant

OUR VANCOUVER Comprehensive Plan Update

adverse impact on the environment. This means the proposal has a reasonable likelihood of negative effects on environmental quality that could be considered more than moderate. An EIS is required under state law [Revised Code of Washington RCW 43.21C.030 (2)(c)] and will be prepared, including proposed mitigation measures. Mitigation measures are changes or conditions to a proposal that are intended to avoid, minimize, or compensate for potential adverse impacts.

The EIS is a document that will provide information for the public, agencies, and tribal governments to consider during the decision-making process for the Comprehensive Plan Update. The EIS will describe potential alternatives, existing environmental conditions, potential significant environmental impacts, and potential measures to mitigate impacts.

The City currently plans to review a scenario of future conditions if no changes to the current Comprehensive Plan and associated plans and regulations are made, called a No Action Alternative, and up to three Action Alternatives that outline different land use and growth scenarios in specific areas of the city.

The City has identified the following elements of the built and natural environment for discussion in the EIS in accordance with Washington Administrative Code (WAC) 197-11-444:

- Land and shoreline use
- Housing
- Aesthetics (including light and glare)
- Historic and cultural resources
- Transportation
- Noise
- Public services and utilities (including emergency services, water, sewer, schools, parks and recreation)
- Earth (geologic hazard areas, soils, topography)
- Air quality, greenhouse gases, and climate
- Water resources
- Plants and animals

Request for Comments:

Agencies, affected tribes, and members of the public are invited to comment on the scope of the EIS. You may comment on alternatives, mitigation measures, probable significant adverse impacts, and licenses or other approvals that may be required. Licenses and approvals may include potential required permits from state, local, and federal agencies.

Scoping comments may be provided via email or postal mail to the following addresses:

Email: OurVancouver2045@cityofvancouver.us

OUR VANCOUVER Comprehensive Plan Update

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PO Box 1995
Vancouver, WA 98668

You may also learn more about the project, scoping process and provide written comments by visiting an Our Vancouver table at an upcoming outreach event. Events will be posted on the project webpage as they are scheduled.

The deadline for scoping comments is August 23, 2024, at 11:59 p.m. *(Note: The comment deadline was previously August 12, 2024, but has been extended to allow more opportunities for agencies, tribes, and community members to submit their comments.)*

For More Information:

Please visit the city's Comprehensive Plan website for more information about the ongoing process of plan development and the schedule for upcoming outreach events:

<https://www.beheardvancouver.org/plan2045>

Agency Contact Information:

Julie Nischik
Senior Support Specialist, Community Development, City of Vancouver
OurVancouver2045@cityofvancouver.us
(360) 487-7813

SEPA Responsible Official:

Chad Eiken, AICP
Director, Community Development, City of Vancouver
chad.eiken@cityofvancouver.us
(360) 487-7882

Date: July 12, 2024 *(revised on August 9, 2024)*

Signature:



OUR VANCOUVER **Comprehensive Plan Update**

Revised Washington State Environmental Policy Act Determination of Significance and Request for Comments on Scope of Environmental Impact Statement

The City of Vancouver invites you to comment on the environmental topics that will be analyzed as part of its Comprehensive Plan update. The City is issuing this revised notice to clarify proposed future growth levels, the number of alternatives that will be analyzed in the Draft EIS, and the role of desired community outcomes and goals in the Comprehensive Plan update and SEPA process. *All comments received during the previous scoping period (July–September 2024) remain valid and will be considered as part of the SEPA review process.*

Date of Issuance: October 22, 2024

Deadline for Comments: November 21, 2024 (no later than 11:59 p.m. Pacific time)

Lead Agency: City of Vancouver

Description of Proposal: City of Vancouver Comprehensive Plan Update

The City of Vancouver is updating its Comprehensive Plan, which will establish a vision that guides the City's growth and development for the next 20 years, from 2025 to 2045. Since the plan was last updated in 2011, Vancouver has experienced substantial growth, as well as demographic, economic and social changes.

To meet the requirements of the Washington State Growth Management Act, the City is currently conducting a full rewrite of the existing Comprehensive Plan. As part of this process, the City is developing a detailed strategy for implementing the goals, policies, and strategies outlined with the revised plan, and modifying the existing zoning code (Title 20 of the Vancouver Municipal Code [VMC]), which regulates the scale, size and location of buildings and uses, to reflect the goals and policies identified in the revised plan.

The City is engaging in extensive community outreach and engagement to help planners address key questions about housing; land use, development and infrastructure; economic development; equity and opportunity; and climate and environment. The proposed update to the City's Comprehensive Plan will plan for growth of at least 38,000 new housing units and 43,100 new jobs by the year 2045. These growth targets are the minimum necessary to plan for long-term housing and employment needs based on population projections from the Washington State Office of Financial Management, recent trends, state law, and City policy. The Comprehensive Plan Update must be adopted by December 31, 2025.

Proponent: City of Vancouver

Location of Proposal: Vancouver, Washington (citywide)

OUR VANCOUVER **Comprehensive Plan Update**

Environmental Impact Statement (EIS) Required:

The City of Vancouver has determined that this proposal is likely to have a significant adverse impact on the environment. This means the proposal has a reasonable likelihood of negative effects on environmental quality that could be considered more than moderate. An EIS is required under state law [Revised Code of Washington RCW 43.21C.030 (2)(c)] and will be prepared, including proposed mitigation measures. Mitigation measures are changes or conditions to a proposal that are intended to avoid, minimize, or compensate for potential adverse impacts.

The EIS is a document that will provide information for the public, agencies, and tribal governments to consider during the decision-making process for the Comprehensive Plan Update. The EIS will describe potential alternatives, existing environmental conditions, potential significant environmental impacts, and potential measures to mitigate impacts.

The City currently plans to review a scenario of future conditions if no changes to the current Comprehensive Plan and associated plans and regulations are made, called a No Action Alternative, and up to two Action Alternatives that outline different land use and growth scenarios in specific areas of the city. The City intends for the land use and growth scenarios analyzed in the Action Alternatives to align with the Goals Framework developed with community partners for the Comprehensive Plan Update. The Goals Framework identifies numerous desired community outcomes, including connected and accessible neighborhoods; affordable, accessible housing choices; equity and inclusion; economic opportunity; and climate adaptability, sustainability, and resiliency.

The City has identified the following elements of the built and natural environment for discussion in the EIS in accordance with Washington Administrative Code (WAC) 197-11-444:

- Land and shoreline use
- Housing
- Aesthetics (including light and glare)
- Historic and cultural resources
- Transportation
- Noise
- Public services and utilities (including emergency services, water, sewer, schools, parks and recreation)
- Earth (geologic hazard areas, soils, topography)
- Air quality, greenhouse gases, and climate
- Water resources
- Plants and animals

OUR VANCOUVER **Comprehensive Plan Update**

Request for Comments:

Agencies, affected tribes, and members of the public are invited to comment on the scope of the EIS. You may comment on alternatives, mitigation measures, probable significant adverse impacts, and licenses or other approvals that may be required. Licenses and approvals may include potential required permits from state, local, and federal agencies.

Scoping comments may be provided via email or postal mail to the following addresses:

Email: OurVancouver2045@cityofvancouver.us

Postal Mail:

Attn: Meredith Herbst
City Hall
PO Box 1995
Vancouver, WA 98668

The deadline for scoping comments is November 21, 2024, at 11:59 p.m. *Note: If you submitted a comment during the previous scoping period (July–September 2024) your comment remains valid and will be considered as part of the SEPA review process.*

For More Information:

Please visit the city's Comprehensive Plan website for more information about the ongoing process of plan development and the schedule for upcoming outreach events:

<https://www.beheardvancouver.org/plan2045>

Agency Contact Information:

Meredith Herbst
Associate Planner, Community Development, City of Vancouver
OurVancouver2045@cityofvancouver.us
(360) 487-7937

SEPA Responsible Official:

Chad Eiken, AICP
Director, Community Development, City of Vancouver
chad.eiken@cityofvancouver.us
(360) 487-7882

Date: October 22, 2024

Signature:



Memorandum

To: City of Vancouver

From: WSP USA

Subject: State Environmental Policy Act Environmental Impact Statement Scoping Comment Summary and Final Scoping Determination

Date: December 5, 2024

The purpose of this memorandum is to summarize comments received during the State Environmental Policy Act (SEPA) scoping period for the **OUR VANCOUVER** Comprehensive Plan Update Draft Environmental Impact Statement (EIS), and to recommend next steps for the Draft EIS analysis.

Based on the comments received, the range of environmental elements identified in the scoping notice remains appropriate, and the Draft EIS analysis should proceed without modifications to its scope.

Scoping Comment Period Overview

The City of Vancouver (City) issued a SEPA Determination of Significance and request for comments on the scope of the EIS on July 12, 2024. The City published this notice in the SEPA Register, *The Columbian*, and the Be Heard Vancouver website for the Comprehensive Plan Update. The City also provided the notice via an email distribution list consisting of federal, state, and local agencies; tribes; local business organizations; local builders and real estate development professionals; neighborhood associations; environmental organizations; media outlets; and other interested parties. The scoping notice was also distributed to the **OUR VANCOUVER** project listserv that includes more than 200 individual contacts.

The scoping notice initially requested comments during an expanded 30-day period, which is greater than the 21-day minimum required by SEPA. The comment period was originally scheduled to end on August 12, 2024. In order to provide additional opportunities for review and comment by local agencies and communities, the City extended the scoping comment period to August 23, 2024, and again to September 6, 2024. The scoping notice requested comments via postal mail or email.

The City issued a revised scoping notice on October 22, 2024, to clarify proposed future growth levels, the number of alternatives that will be analyzed in the Draft EIS, and the role of desired community outcomes and goals in the Comprehensive Plan update and SEPA process. This scoping notice, which was distributed via the same methods as the previous notices, invited additional comments via postal mail or email during a 30-day period ending November 21, 2024. The notice stated that comments submitted during the previous comment period remain valid and will be considered as part of the SEPA review process.

EIS Scope Elements

The original scoping notice identified the City's intent to evaluate a No Action Alternative, as required by SEPA, and up to three other alternatives that outline different land use and growth scenarios in specific areas of the City. The revised scoping notice reduced the number of anticipated action alternatives from three to two.

The scoping notice also identified the following elements of the built and natural environment for discussion in the EIS in accordance with Washington Administrative Code (WAC) 197-11-444:

- Land and shoreline use
- Housing
- Aesthetics (including light and glare)
- Historic and cultural resources
- Transportation
- Noise
- Public services and utilities (including emergency services, water, sewer, schools, parks and recreation)
- Earth (geologic hazard areas, soils, topography)
- Air quality, greenhouse gases, and climate
- Water resources
- Plants and animals

Summary of Comments Received

The City received eight total comment submissions via email and no comments via postal mail during the two comment periods. Seven of the comment submissions came from private individuals, and one of the comment submissions came from the Washington Department of Fish and Wildlife.

None of the comments included objections to the environmental elements identified in the scoping notice. Most of the comments provided detailed input or questions about specific

topics of interest, including EIS elements to be studied, analysis methods, and potential mitigation measures. The following list summarizes the main themes of the comments received by topic area.

EIS Methodology

- Interest in how EIS elements will be prioritized and assessed given potential for conflicts between elements.

Land and Shoreline Use

- Maintain low zoning densities around high-value habitat areas to minimize habitat fragmentation and wildlife displacement.
- Limit development within the Vancouver Lake area to preserve habitats.
- Integrate green spaces into urban areas to benefit residents and provide habitat for wildlife.
- Evaluate how expected development will affect the percentage of forest cover and the effective impervious area within Vancouver's watersheds.
- Incorporate open space into high density areas, such as exploring green roofs or shared open space opportunities, particularly for access by low-income households.
- Assess the efficacy of transit-oriented development.

Housing

- Prioritize urban density and housing affordability.
- Consider “single-room occupancy” as an affordable housing strategy.
- Include utility costs over a 15-year horizon when evaluating housing affordability.

Aesthetics, Noise

- Examine strategies to reduce light and noise pollution in developed areas, particularly at night.

Transportation

- Increase interconnectedness of walkways and trails for alternative transportation.

Public Services and Utilities

- Unbundle elements within public services and utilities to discretely discuss individual topics and emphasize their importance (e.g., emergency services, including fire and police services; utilities, including water and sewer services; schools; parks and recreation; and other public services).

- Ensure that emergency services analysis includes discussion of fire and law enforcement services.
- Amend pipeline company franchise agreements to require an end-of-life plan for the pipes, require monitoring and reporting of leaks, and increase charges for easements.
- Require gasoline fueling stations to prevent and be responsible for addressing tank leaks and to carry higher insurance policy values.
- Evaluate rapid build-out of solar energy installations as an alternative to Clark Public Utilities.

Air Quality, Greenhouse Gases, and Climate

- Investigate how Vancouver can meet its future energy needs while minimizing reliance on fossil fuels.
- Require new buildings to be constructed as solar ready and electric ready.
- Require solar and electric power in development agreements.
- Publicize emissions from Clark Public Utilities' operations and look for ways to reduce their emissions.
- Evaluate carbon offsets purchased by the City and the Port of Vancouver.
- Prioritize cooling and disaster centers.

Water

- Evaluate the impact of stormwater facilities in or near critical areas and potential risk of impact to aquatic environments.
- Implement green stormwater infrastructure to reduce runoff and filter pollutants.
- Avoid new impervious surfaces for roads and trails.
- Assess the potential effects on watershed health, including impacts on hydrology, water quality, and fish habitat conditions.

Plants and Animals

- Work toward 28% tree canopy identified in 2011 Comprehensive Plan, particularly in lower income areas of the city.
- Explore opportunities to incorporate native plants and establish pollinator habitats within urban landscaping.
- Require new developments to limit tree removal and work around existing trees.
- Consider wildlife overpasses or underpasses to enhance connectivity between habitats.
- Use Priority Habitats and Species list definitions as the basis for evaluating impacts to fish and wildlife.
- Assess the impact of new roads on habitat connectivity.

- Conserve national resource lands through a transfer of development rights (TDR) program, or other strategy that provides financial incentives for protecting land from development.
- Group relatively undeveloped parcels and farm and forestland to increase habitat value.
- Identify open space areas where large, connected patches of native vegetation can be preserved to maintain biodiversity and provide corridors for wildlife movement.
- Support educational programs and resources for landowners to implement wildlife-friendly practices.
- Prioritize the mitigation sequence of impact avoidance, minimization, and mitigation.
- Identify and prioritize degraded or fragmented critical areas for implementing restoration projects.
- Implement climate-resilient land use strategies, such as preserving wetlands and riparian zones, to help mitigate the effects of extreme weather events and support species adaptation.

Final Scoping Determination

Based on the comments received during the scoping periods, the elements identified in the scoping notice remain valid for analysis in the Draft EIS, and no modifications are needed before proceeding with the analysis.

All of the high-level themes discussed by commenters will be addressed as part of the EIS analysis, including the evaluation of impacts and benefits to housing density and affordability, light and noise pollution, emissions, climate resiliency, tree canopy coverage, green spaces, stormwater runoff, and fish and wildlife habitat areas.

Some comments requested a level of specificity that is outside the scope of the EIS analysis. The City will consider these comments as appropriate in the broader context of developing the draft Comprehensive Plan and associated code amendments.

Appendix B: Market and Land Capacity Analysis Process Memorandum

Memorandum

To: Rebecca Kennedy, City of Vancouver (COV)

From: Nicole McDermott (WSP), Sam Rubin (WSP), and Tyler Bump (ECONorthwest)

CC: Bryan Snodgrass and Chim Chune Ko (COV)

Subject: Market and Land Capacity Analysis Methodology and Process

Date: June 24, 2025

Introduction

This memorandum outlines the methodology for modeling the estimated housing and employment capacities for the three alternatives studied in the [OUR VANCOUVER](#) Comprehensive Plan Update State Environmental Policy Act (SEPA) Draft Environmental Impact Statement (EIS). The methodology differs for the two action alternatives (referred to as Alternatives 1 and 2 in the Draft EIS) and the No Action Alternative, as described in this memorandum. The same methodology for Alternatives 1 and 2 will be used to model the housing and jobs capacities for a Preferred Alternative for analysis in the Final EIS. The Preferred Alternative will represent the proposed future land use and zoning map for the Comprehensive Plan Update and will inform future infrastructure and capital facilities planning required as part of the Comprehensive Plan.

This memorandum is divided into the following six sections that outline the process for modeling estimated housing and job capacity:

1. **Prototype Development and Map Creation:** details the creation of the three land use map alternatives (the Action Alternatives, known in the Draft EIS as Alternatives 1 and 2, and the No Action Alternative).
2. **Land Capacity Analysis Deductions (Action Alternatives):** covers the assumptions made for the initial land use capacity analysis and acreage deductions for Alternatives 1 and 2.
3. **Housing Feasibility Analysis:** describes the process for modeling the number of new housing units that Alternatives 1 and 2 would have the capacity to support.

4. **Parcel-Level Modeling of Housing and Job Capacity:** describes the process of modeling the number of housing units and jobs that Alternatives 1 and 2 would have the capacity to support.
5. **No Action Alternative Methodology:** describes the methodology for modeling housing and job capacities for the No Action Alternative.
6. **Model Outputs for Housing and Jobs Capacity:** summarizes the housing and jobs capacity numbers used in the Draft EIS.

1. Prototype Development and Map Creation

The Comprehensive Plan Update proposes to rename and simplify the current land use designations and associated zoning codes to focus on nine zoning districts.: Low Scale Neighborhood (LSN), Medium Scale Neighborhood (MSN), Mixed Use Neighborhood (MU), Regional Activity Center (RAC), Institutional/Campus (IC), Industrial/Employment (IE), Heavy Industrial (HI), Parks, and Natural Areas. Five of the eight zoning districts (LSN, MSN, MU, RAC, and IC) developed for the Comprehensive Plan Update would allow for a mix of employment and a variety of housing types, at varying scales and densities. For example, the MSN zoning district would allow housing prototypes with a higher density than single-family housing, but a lower density than podium or tower developments allowed in the MU and RAC zoning districts. A Mobile Home Park zone may also be applied to existing mobile home parks in Vancouver. The HI, IE, Parks, and Natural Areas place types would not allow housing development.

Analysts used the following steps to develop Alternatives 1 and 2 for analysis in the Draft EIS.

Alternative Development Steps:

1. **Develop Prototypes:** Eighteen housing prototypes were created that are likely to develop in Vancouver (see Attachment 1). Prototypes reflect current development trends within the city and the potential for different housing types based on recent changes in state legislation. The prototypes cover a variety of housing types from single-family homes to four-story walk-ups, to towers or podiums. Each prototype has an estimated dwelling units per acre (DUA) value.
2. **Assign Prototypes to Zoning Districts:** Housing prototypes were identified that are most likely to occur in the different zoning districts that will allow housing (LSN, MSN, MU, RAC, and IC). See Attachment 1.

Note: No housing prototypes were identified in Industrial/Employment, Heavy Industrial, Parks, or Natural Areas place types because no housing will be allowed.

3. **Prepare Final Land Use Alternatives:** Finalized alternative maps (referred to in the Draft EIS as Alternative 1 and Alternative 2) that show zoning districts throughout the city. This step was developed over many iterations and was prepared with multiple rounds of review with community partners, city staff, the planning commission, and city council.

Refinement of the alternatives was informed by extensive public input, best planning practices, existing city council policy guidance, existing and planned enhanced transit corridors, locations of parks/open space and schools, and locations of growth nodes/corridors/centers.

2. Land Capacity Analysis Deductions (Action Alternatives)

Table 1 identifies the deductions used in the land capacity analysis model for the action alternatives. As noted in the table, some deductions are different in the housing capacity analysis, which estimates the capacity for new housing units, compared to the employment capacity analysis, which estimates the capacity for new jobs. Table 1 also identifies different deductions for the land categories (Vacant, Underutilized, and Built) included in the Clark County Vacant Buildable Lands Model (VBLM).¹

Table 1. Deductions

Deduction	LSN	MSN	MU	RAC	IC	IE	HI
Land Use Split per Zoning Districts ²							
Residential	95%	90%	65%	60%	25%	0%	0%
Employment ³	5%	10%	35%	40%	75%	100%	100%
Critical Areas/Constrained Land Deductions ⁴							
Residential Capacity Analysis	50% of constrained lands are assumed to not develop					N/A	
Employment Capacity Analysis	20% of Vacant and Underutilized constrained lands will not develop 50% of Built constrained lands will not redevelop						
Infrastructure Deduction							
Residential Capacity Analysis	31.5%					N/A	

¹ The parcel dataset used in the model is the 2022 Clark County Vacant Buildable Lands Model (VBLM) data output.

² The residential/non-residential splits are model assumptions based on likely development trends for new zoning districts. These are not intended to reflect future codified requirements.

³ Employment represents any non-residential use that is assumed to produce jobs instead of housing units.

⁴ Critical areas/constrained lands were identified per the 2022 Clark County VBLM dataset.

Deduction	LSN	MSN	MU	RAC	IC	IE	HI
Employment Capacity Analysis	31.5%					12.5% ⁵	25%
Market Factor and Redevelopment Rate							
Residential Capacity Analysis	N/A (embedded in market feasibility analysis, see Section 3)						
Employment Capacity Analysis Market Factor	10% of Vacant and Underutilized lands will not develop given market conditions						
Employment Capacity Analysis Redevelopment Rate (only applies to Built land) ⁶	0%		12.8%	27.4%	0%		
Job loss deduction ⁷			13 jobs/net acre				
Small parcels, easements, and tax value							
Exclude small parcels less than 1,000 SF	Applies to all zoning districts						
Exclude roads and easements	Applies to all zoning districts						
Exclude parcels given a zero value in Clark County’s VBLM output ⁸	Applies to all zoning districts						
Key: HI = Heavy Industrial; IC = Institutional/Campus; IE = Industrial/Employment; LSN = Low Scale Neighborhood; MSN = Medium Scale Neighborhood; MU = Mixed Use Neighborhood; N/A = not applicable; RAC = Regional Activity Center; SF = square feet; VBLM = Vacant Buildable Lands Model							

3. Housing Feasibility Analysis

The housing capacity analysis for each action alternative relies on a parcel-level feasibility analysis. The feasibility analysis examined the zoning district for each parcel, which prototypes are assumed to be allowed by future zoning, and which prototype is the most feasible option based on market conditions and available assessors' data.

Generally, the feasibility analysis examined the following factors:

⁵ Infrastructure deductions for IE are lower than the 25% used in the 2022 Clark County VBLM for Industrial to account for the more urban context in Vancouver.

⁶ Redevelopment from employment uses to different employment uses in Low Scale Neighborhood (LSN), Medium Scale Neighborhood (MSN), Institutional/Campus (IC), and Industrial/Employment (IE) zones is unlikely and, therefore, no redevelopment rate is assumed for these zoning districts. However, an "intensification or refill" factor is applied to IE and Heavy Industrial (HI) zoning districts to establish the employment need (see Section 4 for details on the intensification factor). Redevelopment rates for Mixed Use Neighborhood (MU) and Regional Activity Center (RAC) were calculated by determining the feasibility of the four-story mixed-use prototype across all MU/RAC zones and its rate of feasibility.

⁷ The job loss deduction applies to Built land in the MU and RAC zoning districts that is assumed to be redeveloped. This assumption accounts for a loss of existing jobs on the redeveloped parcels.

⁸ The county assessor will flag a property as zero-value if appraisers determine the legally created tax lot does not have market value or is deemed exempt from taxes.

- Total value per square foot of each parcel, which is equal to the total market value (land and buildings) divided by assessed acres.
- Price per square foot required to develop each building prototype.

If the total value per square foot is less than the prototype price to develop, then the prototype is considered feasible.

The feasibility analysis identified which prototypes would be considered feasible from a market perspective, which can result in multiple prototypes considered as options. The model for Alternatives 1 and 2 assigns the prototype that is considered the most feasible, or the prototype that is the most likely to develop because it is the most affordable to develop. Ultimately, this process looks at every parcel across the city and models the potential for a property to develop/redevelop. Only parcels identified as feasible with a corresponding prototype are included in the capacity analysis in Step 4 below. An overview of the feasibility analysis is included as Attachment 2.

4. Parcel-Level Modeling of Housing and Job Capacity (Action Alternatives)

Once the feasibility analysis (Section 3) was complete, analysts modeled housing and job capacity for each action alternative, applying the assumptions identified in Table 1. The following subsections identify the modeling process for the housing capacity analysis and job capacity analysis. A detailed process of this section is included as Attachment 3.

Housing Capacity Analysis

The first step in the housing capacity analysis model applied the deductions for critical areas, infrastructure, and residential versus employment allocation at the parcel level (see Table 1). The model then removed parcel fragments (1,000 square feet or smaller), roads/easements, and zero-value parcels.

Once all land reductions were applied, the model used the remaining net acreage to apply housing densities based on the most feasible prototype per the feasibility analysis (see Section 3). If a parcel was not determined to have a feasible prototype, then housing density was not applied to the parcel.

Housing Unit Yield Equation

Gross Acreage of a parcel – land reductions = net acreage
 Net acreage X DUA (prototype DUA) = housing unit output per parcel

Model Output: Total number of housing units assumed in each alternative based on market feasibility and land capacity. These housing unit numbers were used for each alternative in the Draft EIS analysis.

Employment Capacity Analysis

The employment capacity analysis was similar to the housing analysis, but as identified in Table 1, some of the model assumptions were different. Additionally, the employment capacity analysis did not use the feasibility analysis to determine redevelopment potential, but instead applied a redevelopment rate, as noted in Table 1.

Employment Target

An additional step in the employment capacity analysis was the establishment of an employment target that accounts for “work-from-home” jobs and “intensification” or “refill,” which relates to a percentage of new jobs occurring within existing employment space through an intensification of the number of jobs per square foot. These two factors reduce the amount of land needed to support anticipated job growth and are an important consideration when determining whether the employment capacity of an alternative will meet the anticipated employment growth. At a summary level, the process for determining the employment target was as follows:

- Start with the anticipated employment growth of 43,198 jobs, as detailed in the Economic Opportunity Analysis.
- Separate potential job growth by industry sector based on two-digit North American Industry Classification System (NAICS) codes and assign jobs/NAICS codes to zoning districts.
- Apply a 13% deduction for “work from home” to all job sectors except transportation, food/services, manufacturing, and construction.⁹
- Apply a 23% deduction for jobs in Heavy Industrial and Industrial/Employment zoning districts because these districts may see an intensification of jobs within existing heavy industrial or employment developments. This means more jobs per acre may be produced in the future on heavy industrial or employment lands than currently exists and a reduction is applied to the employment target because additional land would not be needed to support these jobs.¹⁰

⁹ Work from home deduction is based on 2023 ACS estimates, table B038601, work from home percentage for Vancouver. Clark County is at 21.8% per the same data.

¹⁰ The intensification factor is based on data from Portland vetted with industrial stakeholders as part of Portland’s EOA Industrial Land Committee process. Longitudinal point level Quarterly Census of Employment Wage data for Vancouver is not available. Intensification is essentially “refill,” indicating an amount of land that will intensify in job density.

This process resulted in a net employment need of 38,792, which reflects the number of new jobs that will need to be supported within the land capacity of each alternative. The deductions above account for new jobs that could be accommodate within existing developments or from work from home and therefore, additional land capacity is not needed for those jobs.

Employment Land Capacity Analysis

Similar to the housing capacity analysis, the employment capacity analysis was conducted at the parcel level. The first step in the employment capacity analysis model applied the deductions for critical areas, infrastructure, and residential versus employment allocation, as identified in Table 1. The model then applied the market factor for Vacant and Underutilized land and redevelopment rate for Built land, as detailed in Table 1. *Note, the redevelopment rate does not apply consistently across the zoning districts.*

Once all the land reductions were applied, the model applied the employment densities (jobs per acre) listed below for each zoning district.¹¹

- Low Scale Neighborhood: 6
- Medium Scale Neighborhood: 6
- Mixed Use: 48
- Institutional Campus: 46
- Regional Activity: 54
- Industrial/Employment: 30
- Heavy Industrial: 9

The final step in the employment capacity analysis is intended to avoid double counting existing jobs when a property is assumed to redevelop. . Washington Employment Security Department Quarterly Census of Employment Wage data was used to determine the average jobs per acre within future MU and RAC zoning districts. Only the MU and RAC zoning districts were used because those are the only zones where a redevelopment rate is applied (see Table 1 footnotes for additional details). The average jobs per acre was estimated at 13 jobs per acre, which was applied as a deduction to the output of jobs on Built parcels in MU and RAC zoning districts.

¹¹ The employment densities are based on recent development trends in similar contexts and professional judgement.

Employment Yield Equation:

Gross Acreage of a parcel – land reductions X market factor/redevelopment rates = net acreage

Net acreage X jobs/acre – 13 jobs/acre on Built Mixed Use Neighborhood and Regional Activity Center parcels = jobs output per parcel

Model Output: Total number of jobs assumed in each alternative based on vacancy status and redevelopment potential.

5. No Action Alternative Methodology

The No Action Alternative assumes the current adopted Comprehensive Plan, development regulations, and zoning (as of fall 2024) will remain in place. However, the No Action Alternative also assumes that although the City itself will not take action, that the requirements of HB 1110 that the state then own impose its middle housing model code allowing for 4–6 unit developments on parcels in local single family zones will occur. . The No Action Alternative uses Clark County’s VBLM process and increased DUA assumptions for specific residential zones to account for the implementation of HB 1110. Table 2 lists the existing zones that were given an increased DUA based on HB 1110.

Table 2. Existing Zone Dwelling Units Per Acre

Zone	Current DUA per Clark County VBLM	Updated DUA for HB 1110
R2	4.4	14.5 ¹²
R4	13.20	14.5
R6	18	No change
R9	27.90	No change

Key: DUA = dwelling units per acre; HB = House Bill; VBLM = Vacant Buildable Lands Model

The No Action Alternative uses the same redevelopment assumptions currently included in the Clark County VBLM:

- Built Residential Low Density: 5% will redevelop.
- Built Residential High Density: 10% will redevelop.
- Vacant Residential: 90% will develop.

¹² Based on development trends in other markets where similar legislation has been enacted, the minimum dwelling units per acre under HB 1110 is assumed to be 14.5 DUA.

- Underutilized Residential: 70% will redevelop.

Housing Unit and Job Allocation (No Action)

Unlike the model described for the action alternatives, the No Action Alternative relies on the Clark County VBLM, which does not assign jobs or housing units by parcel. The No Action Alternative process for allocating jobs and housing units to parcels relied on assigning the numbers produced by the Clark County VBLM to each parcel based on its relative percent of city acreage.

To generate jobs and housing unit numbers by parcel, the following methodology was implemented.

Steps:

1. Determine Acreages: Determine acreage for zones that primarily consist of housing and for zones that primarily consist of employment. These two categories both include mixed-use zones, which would allow for both employment and housing. The total acreages do not include roads or easements, parcels less than 1,000 square feet, or parcels given a “Zero Value” under the Clark County VBLM.

Zones that primarily include housing (and mixed-use zones):

- CPX
- CX
- ECX
- HX
- R-18
- R-22
- R-30
- R-35
- R-2
- R-4
- R-6
- R-9
- RGX
- WGX

Zones that primarily include employment (and mixed-use zones):

- CPX
- CX
- CC
- ECX
- CG
- IH
- HX
- IL
- MX
- CN
- OCI
- RGX
- WX

2. Constrained Land Deduction: If a parcel is constrained, 50% of the acreage within critical areas is deducted for the housing calculation, and 20% is deducted for the employment calculation.

3. Housing Allocation: Parcel acreage is divided by total acreage in the city used for housing (Step 1 above). That percentage is then multiplied by the Clark County VBLM housing unit output of 29,556 units. This results in an approximate number of housing units per parcel.

4. Employment Allocation: Parcel acreage is divided by total acreage in the city used for employment (Step 1 above). That percentage is then multiplied by the Clark County VBLM employment output of 16,616 jobs. This results in an approximate number of jobs per parcel.

Limitations: The No Action allocation process only determines whether a property is primarily used for housing or primarily used for employment and does not consider housing density or employment density by zoning designation.

6. Model Outputs for Housing and Jobs Capacity

Table 3 below shows the model output for both the action alternatives and the no action alternative.

Table 3. Model Outputs for Housing Yields and Employment Yields

Alternative (City Only)	Methodology	Housing Yields	Employment Yields
No Action	Clark County VBLM (refer to Section 5)	29,600 units	16,600 jobs
Alternative 1	Feasibility/Redevelopment potential (refer to Sections 2 through 4)	45,100 units	46,000 jobs
Alternative 2	Feasibility/Redevelopment potential (refer to Sections 2 through 4)	50,696 units	49,300 jobs

Key: VBLM = Vacant Buildable Lands Model

Attachment 1

Housing Prototypes by Zoning

Attachment 1: Housing Prototypes by Zoning

Housing Prototypes	Single Family	Duplex (side by side)	Duplex (stacked)	3 Townhouses	Quadplex	4 Townhouses	Sixplex	6 Townhouses	Cottage Cluster	Courtyard (attached)	Small Multiunit	Small Multiunit (taller)	Medium Multiunit	Medium Multiunit (taller)	3-story wood frame	4-story wood frame	Podium	Tower
Dwelling Units Per Acre	7.3	14.5	14.5	21.8	28.5	29.0	43.0	43.6	29.0	28.5	43.6	58.1	34.8	52.3	65.3	84.4	152.5	217.8
Low Scale Neighborhood																		
Medium Scale Neighborhood																		
Mixed Use																		
Regional Activity Center																		
Institutional Campus																		
Industrial/Employment*																		
Heavy Industrial*																		
Parks/Open Space/Natural Areas*																		

*No Housing Prototypes are allowed

Attachment 2

Feasibility Analysis Overview

DATE: May 27th, 2025
TO: Nicole McDermott and Sam Rubin, WSP
FROM: Tyler Bump and Michelle Anderson, ECONorthwest
SUBJECT: Vancouver Comp Plan Update – Market Feasible Capacity Analysis

Overview

WSP partnered with ECONorthwest to assess the potential housing capacity for two different EIS alternatives for the comprehensive plan update for the City of Vancouver. ECONorthwest worked with WSP to complete this analysis, referred to as the *market-feasible housing capacity*, given the potential land use intensities of the different place types of the alternatives. The difference between the alternatives was the place type designated to each parcel, which could result in different citywide totals for market-feasible housing capacity.

For the capacity analysis, ECONorthwest completed a financial analysis that models a developer's decision-making process and cash flow equation. We created pro forma models to test the financial feasibility of various housing densities that might be allowed in different place types. We estimated the market feasible capacity of multiple prototypical developments, or *housing prototypes*. These prototypes reflect theoretical development profiles that could potentially comply with proposed zoning standards to understand what the market was most likely to deliver if zoning was a constraint.

Why is development feasibility and pro forma analysis important?

Development can be costly and risky. Getting funding to construct new development requires lenders and investors to be reasonably confident they will earn enough financial return to justify the risks and attract equity to a project.

Economic or market feasibility is generally assessed by comparing the expected revenues (home sales, net income from rents, room rates) against the costs of development. If a development is not feasible, it will not be built, contrary to a city's housing goals.

Approach

Prototypes and Assumptions

ECONorthwest analyzed nearly 20 housing prototypes that were of various configurations and resulting densities, including general forms such as single-family, townhome, lowrise, garden-style, and midrise apartment developments. We based the prototypes on recent existing developments throughout the City of Vancouver as well as potential scales of housing that might be allowed in the future given legislative changes at the state level. Though the scale of development ranges substantially throughout the city, we developed approximate prototypes that could be possible in Vancouver.

We drew our initial market and construction cost insights from third-party sources such as the American Community Survey (ACS), Costar, Redfin, and Craftsman, and then vetted

those assumptions with local developers and brokers through various interviews. Though cost assumptions typically stay consistent throughout a city, we created a model to help differentiate the revenue assumptions (i.e., rent and sales prices) by census tract. This model used rent and sales data from ACS, to interpolate what revenue assumptions might be for each census tract in the city.¹

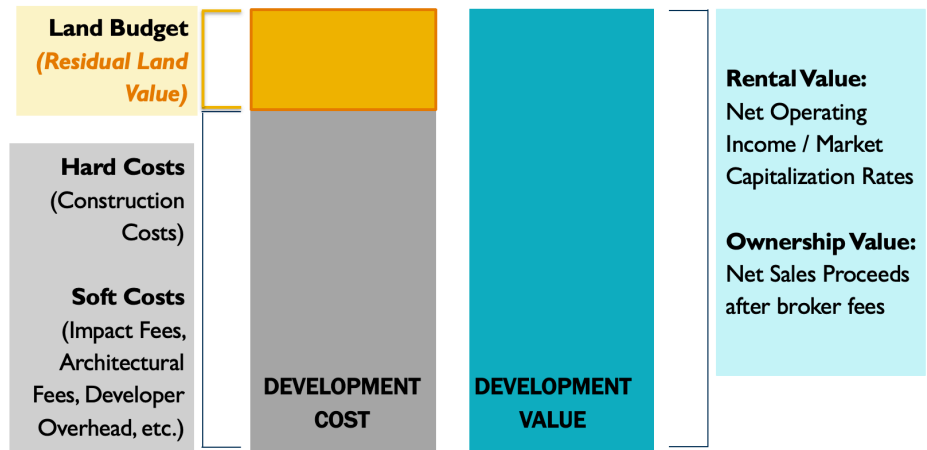
We then aligned similar block groups, based on rent and sales prices, into newly-defined market areas. We took those results and compared them to the city-wide average to understand how each market area related to the city-wide average (expressed as a ratio). We then applied that ratio as an input to each rent or sales price on a prototype level with the most up-to-date market data from CoStar and Redfin. This revenue model allowed us to refine our pro forma results spatially. The model therefore considered that different areas across Vancouver would have varying demand for different types of housing, which impacts the resulting feasibility of housing development.

Pro Forma Financial Analysis Methods

The pro forma model used a residual land value (RLV) metric to evaluate feasibility. RLV measures the land budget a developer would have to purchase land after accounting for potential development costs and revenues.

Exhibit 1: Example of Feasible Development using Residual Land Value (RLV) Model

Source: ECONorthwest



¹ ACS has two notable limitations we try and correct for: 1) there are many instances of tracts with missing (or "NA") estimates for rents, due to low rates of survey response or simply because there are no observations of a given type of apartment in that tract and 2) we often see unusually low rents because the ACS conflates market rate apartments with other structures like informal rental arrangements. We interpolated missing rent values by using an inverse-distance weighted average smoothing function, so that tracts with missing values take the average of their neighbors, ordered by proximity. We then cluster census tracts together into market areas (approximately 10 total areas) based on adjacency and similarity of rents and tenure splits.



Generally, if the RLV is equal to or above land prices in the potential development area, the development is considered feasible at market rate. If the RLV is zero dollars, the development could be feasible if land were donated for free. However, if the RLV is less than zero, the development is likely infeasible unless a developer receives additional subsidies or incentives, including free land. Results from this method describe a general analysis of prototypes and does not consider the many potential unique conditions that could be factors in development feasibility (e.g., increased predevelopment costs, low land basis from longtime land ownership). For these reasons, residual land value analyses should be thought of as a strong indicator of the relative likelihood of development, rather than an absolute measure of return to the investor or developer for any specific site.

In our feasibility analysis, we used key financial data like rent, operating costs, and development expenses for each prototype. To evaluate rental prototypes, we determined the leasable square footage, calculated revenue, deducted vacancy and operating costs (such as taxes, insurance, maintenance, management, select utilities) and arrived at the annual net operating income (NOI). For the ownership prototypes, we calculated gross sales price and subtracted commissions.

We calculated development costs by applying the cost per square foot values to different product types (e.g., residential, retail) and adding parking costs. We then summed those values to a total hard cost and calculated the soft cost, contingency, and developer fees to arrive at the total development cost.

To evaluate rental prototypes, we derived the value for each prototype by either dividing the NOI by a market-driven return on cost threshold (for higher-density prototypes) or by determining the loan capacity given debt service assumptions and NOI (for lower density prototypes). Return on cost is an important metric because it establishes the threshold where the potential returns offset project risks. Developers compete for capital in a market against other real estate and non-real estate investments. If return on cost is too low, a developer will not be about to attract capital, and the project will not move forward – this is most relevant for higher density prototypes that tend to attract institutional capital that is mobile across markets and investment products. We then summed those values to arrive at a total value for each prototype. We then calculated the land budget (the RLV) by subtracting the total development cost from the total value.

For lower-density rental prototypes, relating NOI to debt service requirements is more appropriate given that these projects are smaller and therefore tend not to attract institutional capital, but they are similar to larger projects in that debt is typically the largest source of funding for a project and if return requirements for debt can't be met, the development will not be able to attract the capital and the project won't move forward. For these prototypes, we solved for the land budget (the RLV) that was possible given the NOI on the project and potential terms, interest rates, and debt service coverage ratio



requirements. For the ownership prototype, we determined the land budget by subtracting total development costs from gross sales less commission and a spread on cost to account for profit.

For both rental and ownership prototypes we divided the total land budget by site square footage, arriving at a residual land value per square foot of land for each market area – this was the key variable for inclusion in the site specific analysis we conducted with the help of WSP.

Site-Specific Capacity Analysis

We delivered two key outputs for comparison to site-specific data and to finalize the market-feasible capacity analysis. For each prototype, we delivered both the calculated dwelling units per acre as well as the residual land value (RLV) per square foot of land for each market area. The units of these outputs (normalized by land area) allowed us to take the data and apply it to each site.

For each parcel, WSP and EConorthwest:

1. Exported a GIS csv with each parcel's market area, placetype, and key assessor data such as parcel area and total value (based on land and improvement value).
2. Calculated the total value per square foot of land (land + improvement value, divided by site area). This approach does not attempt to make adjustments to assessor's land value to values that are more reflective of real market value. We typically find that assessor data can lag behind market value. Therefore, this approach will result in an optimistic estimate of capacity
3. Subtracted total value per square foot of land from the RLV per square foot of each prototype for the corresponding market area to arrive at the remaining value.
4. Identified the feasible prototypes that were allowed by the placetype applied to the parcel – the prototype with remaining value greater than \$0.
5. For parcels where the RLV was zero or negative (where the total value based on assessor data exceeded the RLVs of the allowed prototypes), the market-feasible capacity analysis resulted in no feasible housing prototype.



Attachment 3

Land Capacity Analysis Process

Land Use Model – Step-by-Step Process

The land use model for the Our Vancouver Comprehensive Plan was developed using Python in ArcGIS Pro. Instead of estimating land capacity based on broad citywide acreage, the analysis is conducted at the parcel level scenario, making it easier to show where housing and jobs are likely to be located across Vancouver. Housing and employment analyses are done separately, relying on the same data but with different assumptions about redevelopment, infrastructure, and critical areas.

1. Starting Datasets

- 2022 Vacant Buildable Lands Model (VBLM) dataset. Only parcels within the City of Vancouver are used in the land capacity analysis.
- Parcel-level feasibility analysis based on zoning. This analysis determines if a parcel is considered feasible for development and what prototype is most feasible by parcel.

2. Land Capacity Analysis

- Start with the 2022 VBLM dataset that has been updated to reflect the zoning or comprehensive plan designation assigned to the various alternatives.
- Apply filters to exclude land types **not eligible for development**:
 - **Infrastructure rights-of-way and easements**: roads, rail, utility corridors, etc.
 - **Public ownership exclusions**: parks and other tax-exempt lands unless redevelopment is anticipated. Coordination with the parks department is needed to update the inventory.
 - **Parcels below minimum size thresholds** or lacking infrastructure access may be excluded.
 - Parcels less than 1,000 square feet are excluded.
- **Split the remaining land by intended use**:
 - Allocate percentage of parcel acreage to either **residential or employment uses** (jobs/housing split) based on zoning.

- From this point in the analysis, only the assigned acreage is used for either residential or employment analysis.
- Apply further deductions:
 - **Critical areas:** Critical areas identified by the County's VBLM process and are considered 'constrained' in the dataset.
 - Development in critical or constrained areas is limited. For housing analysis, lands in critical areas are counted at half their total area. For employment analysis, vacant or underutilized constrained lands are reduced by 20%, while built constrained lands are reduced by 50% in the calculation.
 - **Market factor for Employment:** proportion of land that will realistically be developed within the planning timeframe.
 - 10% of Vacant or Underutilized lands will not develop given market conditions. 10% reduction in total acreage by parcel is deducted.
 - **Redevelopment Rate for Employment:** 12.8% of lands zoned Mixed Use are anticipated to be redeveloped. 27.4% of lands zoned Regional Activity Center are anticipated to be redeveloped.
 - **Infrastructure:** proportion of land within a parcel that would be allocated for infrastructure placement.
 - 31.5% deduction in total acreage of a parcel for residential analysis
 - 31.5% deduction in total acreage of a parcel for employment analysis for all zones except Industrial/Employment (IE) and Heavy Industrial (HI). IE has a reduction of 12.5% and HI has a reduction of 25%.

3. Apply Density/Intensity Ratios

- Assign densities to each parcel based on their zoning. Density ratios are applied to the acreage remaining after deductions.
 - Residential: units per acre based on typology identified during feasibility analysis.
 - Employment: jobs per acre based on zoning.

4. Apply loss of existing jobs on redeveloped parcels

- The job loss deduction applies to Built (as determined by the Vacant Buildable Lands Model) land in the MU and RAC place types that are assumed to be redeveloped. This assumption accounts for a loss of existing jobs on the redeveloped parcels.
 - Reduce the number of jobs by parcel by 13 jobs/net acre.
- This analysis was done post-processing and is not included in the python notebook.

Housing Capacity Analysis (Python Notebook)

```
import arcpy
alt = "DatasetName"

new_field_name = "HousingYields"
new_field_type = "DOUBLE"

fields = [f.name for f in arcpy.ListFields(alt)]
if new_field_name not in fields:
    arcpy.AddField_management(alt, new_field_name, new_field_type)
    print(f"Field '{new_field_name}' added to {alt}.")
else:
    print(f"Field '{new_field_name}' already exists in {alt}.")

with arcpy.da.UpdateCursor(alt, ["HousingAcres", "DUAforPrototype", "GrossAcres",
    "Constrained", "AlternativeZoning", new_field_name, "ExcludedParcels", "VBLMStatus"]) as cursor:
    for row in cursor:
        # First Deduction: Constrained vs nonConstrained land
        if row[3] == 0 or row[3] is None:
            row[0] = row[2]
        else:
            row[0] = row[2] * .5

        #filters
        if row[6] == "Road or Easement":
            row[0] = 0
        if row[2] < .022:
            row[0] = 0
        if row[7] == "Zero Value":
            row[0] = 0

        housing_yield = row[0]
        # 2nd Deduction: Development Assumption
        if row[4] == "LSN":
            housing_yield = housing_yield * .95
        elif row[4] == "MSN":
            housing_yield = housing_yield * .90
        elif row[4] == "MU":
            housing_yield = housing_yield * .65
        elif row[4] == "IC":
            housing_yield = housing_yield * .25
```

```

elif row[4] == "RAC":
    housing_yield = housing_yield * .60
elif row[4] == "IE":
    housing_yield = housing_yield * 0
else:
    housing_yield = housing_yield * 0

# 3rd Deduction: Infrastructure
if row[4] == "LSN" or row[4] == "MSN":
    housing_yield = housing_yield - (housing_yield * .315)
elif row[4] == "MU":
    housing_yield = housing_yield - (housing_yield * .315)
elif row[4] == "IC":
    housing_yield = housing_yield - (housing_yield * .315)
elif row[4] == "RAC":
    housing_yield = housing_yield - (housing_yield * .315)
elif row[4] == "IE":
    housing_yield = housing_yield - (housing_yield * .315)
else:
    housing_yield = 0

# Housing Yields Estimate
row[0] = housing_yield
try:
    row[5] = housing_yield * row[1]
except:
    row[5] = housing_yield * 0

# Update the row
cursor.updateRow(row)

print("Field values calculated and updated.")

```

Employment Capacity Analysis (Python Notebook)

```
import arcpy

alt = "LandUseAlt1_Scenario2"

new_field_name = "EmploymentAcres"
new_field_type = "DOUBLE"

new_field_name2 = "EmploymentYields"
new_field_type2 = "DOUBLE"

fields = [f.name for f in arcpy.ListFields(alt)]
if new_field_name2 not in fields:
    arcpy.AddField_management(alt, new_field_name2, new_field_type)
    print(f"Field '{new_field_name2}' added to {alt}.")
else:
    print(f"Field '{new_field_name2}' already exists in {alt}.")

fields = [f.name for f in arcpy.ListFields(alt)]
if new_field_name not in fields:
    arcpy.AddField_management(alt, new_field_name, new_field_type)
    print(f"Field '{new_field_name}' added to {alt}.")
else:
    print(f"Field '{new_field_name}' already exists in {alt}.")

with arcpy.da.UpdateCursor(alt, ["HousingAcres", "MaxDUA", "GrossAcres", "Constrained",
    "AlternativeZoning", new_field_name, "Excluded",
    "LandUseAlt2_VUGA_VBLM_Details_utilizatio", new_field_name2]) as cursor:
    for row in cursor:
        #VACANT
        if row[7] == "Vacant" or row[7] == "Underutilized":
            # First Deduction: Constrained vs nonConstrained land
            if row[3] == 0 or row[3] is None:
                row[5] = row[2]
            else:
                row[5] = row[2] * .8

        #filters
        if row[6] == "Road or Easement":
            row[5] = 0
        if row[2] < .022:
            row[5] = 0
        if row[7] == "Zero Value":
```

```

row[0]= 0

employment_acres = row[5]
# 2nd Deduction: Employment land Splits
if row[4] == "LSN":
    employment_acres = employment_acres * .05
elif row[4] == "MSN":
    employment_acres = employment_acres * .1
elif row[4] == "MU":
    employment_acres = employment_acres * .35
elif row[4] == "IC":
    employment_acres = employment_acres * .75
elif row[4] == "RAC":
    employment_acres = employment_acres * .4
elif row[4] == "IE":
    employment_acres = employment_acres * 1
elif row[4] == "HI":
    employment_acres = employment_acres * 1
else:
    employment_acres = employment_acres * 0

# 3rd Deduction: market supply factor deduction
employment_acres = employment_acres - (employment_acres * .1)

# 4th Deduction: Infrastructure
if row[4] == "LSN" or row[4] == "MSN":
    employment_acres = employment_acres - (employment_acres * .315)
elif row[4] == "MU":
    employment_acres = employment_acres - (employment_acres * .315)
elif row[4] == "IC":
    employment_acres = employment_acres - (employment_acres * .315)
elif row[4] == "RAC":
    employment_acres = employment_acres - (employment_acres * .315)
elif row[4] == "IE":
    employment_acres = employment_acres - (employment_acres * .125)
elif row[4] == "HI":
    employment_acres = employment_acres - (employment_acres * .25)

# Employment Acres estimate
row[5] = employment_acres

# 5th Deduction: Apply Job Density by placetype
if row[4] == "LSN" or row[4] == "MSN":
    employment_acres = employment_acres * 6

```

```

elif row[4] == "MU":
    employment_acres = employment_acres * 48
elif row[4] == "IC":
    employment_acres = employment_acres * 46
elif row[4] == "RAC":
    employment_acres = employment_acres * 54
elif row[4] == "IE":
    employment_acres = employment_acres * 30
elif row[4] == "HI":
    employment_acres = employment_acres * 9
else:
    employment_acres = employment_acres * 0

# Employment Yield estimate
row[8] = employment_acres

else:
    # First Deduction: Constrained vs nonConstrained land
    if row[3] == 0 or row[3] is None:
        row[5] = row[2]
    else:
        row[5] = row[2] * .5

#filters
if row[6] == "Road or Easement":
    row[5] = 0
if row[2] < .022:
    row[5] = 0
if row[7] == "Zero Value":
    row[0] = 0

employment_acres = row[5]
# 2nd Deduction: Employment land Splits
if row[4] == "LSN":
    employment_acres = employment_acres * .05
elif row[4] == "MSN":
    employment_acres = employment_acres * .1
elif row[4] == "MU":
    employment_acres = employment_acres * .35
elif row[4] == "IC":
    employment_acres = employment_acres * .75
elif row[4] == "RAC":
    employment_acres = employment_acres * .4
elif row[4] == "IE":

```



```

    employment_acres = employment_acres * 1
elif row[4] == "HI":
    employment_acres = employment_acres * 1
else:
    employment_acres = employment_acres * 0

```

3rd Deduction: redevelopment

```

if row[4] == "MU":
    employment_acres = employment_acres * .128
elif row[4] == "RAC":
    employment_acres = employment_acres * .274
elif row[4] == "IE":
    employment_acres = employment_acres * 0.0
elif row[4] == "LSN" or row[4] == "MSN":
    employment_acres = employment_acres * 0.0
else:
    employment_acres = employment_acres * 0

```

4th Deduction: Infrastructure

```

if row[4] == "LSN" or row[4] == "MSN":
    employment_acres = employment_acres - (employment_acres * .315)
elif row[4] == "MU":
    employment_acres = employment_acres - (employment_acres * .315)
elif row[4] == "IC":
    employment_acres = employment_acres - (employment_acres * .315)
elif row[4] == "RAC":
    employment_acres = employment_acres - (employment_acres * .315)
elif row[4] == "IE":
    employment_acres = employment_acres - (employment_acres * .125)
elif row[4] == "HI":
    employment_acres = employment_acres - (employment_acres * .25)

```

Employment Acres estimate

```

row[5] = employment_acres

```

5th Deduction: Apply Job Density by placetype

```

if row[4] == "LSN" or row[4] == "MSN":
    employment_acres = employment_acres * 6
elif row[4] == "MU":
    employment_acres = employment_acres * 48
elif row[4] == "IC":
    employment_acres = employment_acres * 46
elif row[4] == "RAC":
    employment_acres = employment_acres * 54

```

```
elif row[4] == "IE":
    employment_acres = employment_acres * 30
elif row[4] == "HI":
    employment_acres = employment_acres * 9
else:
    employment_acres = employment_acres * 0

# Employment Yield estimate
row[8] = employment_acres

# Update the row
cursor.updateRow(row)

print("Field values calculated and updated.")
```

Appendix C: Land Use and Zoning Information

Table C-1. Current Vancouver Municipal Code Title 20 Zones and Development Standards

Zoning District	Lot Size	Net Density	Minimum Setback Requirements	Maximum Building Height	Minimum Landscaping Requirements
Residential (R)-2	Minimum: 20,000 s.f. Maximum: 30,000 s.f. Maximum Lot Coverage: 50% Minimum Lot Width: 100 feet Minimum Lot Depth: 100 feet	Minimum: 1.8 units/acre Maximum: 2.2 units/acre	<ul style="list-style-type: none"> • Front Yard: 10 feet • Rear and Through Yard: 5 feet • Side Yard: 10 feet • Street Side Yard: 10 feet • Garage/Carport from Public/Private Street: 20 feet • Garage/Carport from Alley: 15 feet 	35 feet	10%
R-4	Minimum: 10,000 s.f. Maximum: 19,000 s.f. Maximum Lot Coverage: 50% Minimum Lot Width: 80 feet Minimum Lot Depth: 90 feet	Minimum: 2.3 units/acre Maximum: 4.4 units/acre	<ul style="list-style-type: none"> • Front Yard: 10 feet • Rear and Through Yard: 5 feet • Side Yard: 7 feet • Street Side Yard: 10 feet • Garage/Carport from Public/Private Street: 20 feet • Garage/Carport from Alley: 10 feet 	35 feet	10%

Zoning District	Lot Size	Net Density	Minimum Setback Requirements	Maximum Building Height	Minimum Landscaping Requirements
R-6	Minimum Lot Size: 7,500 s.f. Maximum Lot Size: 10,500 s.f. Maximum Lot Coverage: 50% Minimum Lot Width: 50 feet Minimum Lot Depth: 90 feet	Minimum: 4.5 units/acre Maximum: 5.8 units/acre	<ul style="list-style-type: none"> • Front Yard: 10 feet • Rear and Through Yard: 5 feet • Side Yard: 0/5 feet • Street Side Yard: 8 feet • Minimum Garage/Carport from Public/Private Street: 18 feet • Garage/Carport from Alley: 5 feet 	35 feet	10%
R-9	Minimum Lot Size: 5,000 s.f. Maximum Lot Size: 7,400 s.f. Maximum Lot Coverage: 50% Minimum Lot Width: 45 feet Minimum Lot Depth: 65 feet	Minimum: 5.9 units/acre Maximum: 8.7 units/acre	<ul style="list-style-type: none"> • Front Yard: 10 feet • Rear and Through Yard: 5 feet • Side Yard: 0/5 feet • Street Side Yard: 8 feet • Garage/Carport from Public/Private Street: 18 feet • Garage/Carport from Alley: 5 feet 	35 feet	10%

Zoning District	Lot Size	Net Density	Minimum Setback Requirements	Maximum Building Height	Minimum Landscaping Requirements
R-17	Minimum Lot Size: 2,000 s.f. Maximum Lot Size: 4,900 s.f. Maximum Lot Coverage: 65% Minimum Lot Width: 25 feet Minimum Lot Depth: 65 feet	Minimum: 8.8 units/acre Maximum Net Density: 21.8 units/acre	<ul style="list-style-type: none"> • Front Yard: 10 feet • Rear and Through Yard: 5 feet • Side Yard: 0/5 feet • Street Side Yard: 8 feet • Minimum Garage/Carport from Public/Private Street: 18 feet • Garage/Carport from Alley: 5 feet 	35 feet	10%
R-18	Minimum Lot Size: 1,800 s.f. Maximum Lot Size: N/A Maximum Lot Coverage: 50% Minimum Lot Width: 20 feet Minimum Lot Depth: 50 feet	Minimum: 12 units/acre Maximum: 18 units/acre	<ul style="list-style-type: none"> • Front Yard: 10 feet • Rear and Through Yard: 0/5 feet • Side Yard: 0/5 feet • Street Side Yard: 10 feet • Garage/Carport from Public/Private Street: 18 feet • Garage/Carport from Alley: 5 feet 	50 feet	10%
R-22	Minimum Lot Size: 1,500 s.f. Maximum Lot Size: N/A Maximum Lot Coverage: 50%	Minimum: 18.1 units/acre Maximum: 22 units/acre	<ul style="list-style-type: none"> • Front Yard: 10 feet • Rear and Through Yard: 0/5 feet • Side Yard: 0/5 feet • Street Side Yard: 10 feet 	50 feet	10%

Zoning District	Lot Size	Net Density	Minimum Setback Requirements	Maximum Building Height	Minimum Landscaping Requirements
	Minimum Lot Width: 20 feet Minimum Lot Depth: 50 feet		<ul style="list-style-type: none"> Garage/Carport from Public/Private Street: 18 feet Garage/Carport from Alley: 5 feet 		
R-30	Minimum Lot Size: 1,500 s.f. Maximum Lot Size: N/A Maximum Lot Coverage: 55% Minimum Lot Width: 20 feet Minimum Lot Depth: 60 feet	Minimum: 22.1 units/acre Maximum: 30 units/acre	<ul style="list-style-type: none"> Front Yard: 10 feet Rear and Through Yard: 0/5 feet Side Yard: 0/5 feet Street Side Yard: 10 feet Garage/Carport from Public/Private Street: 18 feet Garage/Carport from Alley: 5 feet 	50 feet	10%
R-35	Minimum Lot Size: 1,200 s.f. Maximum Lot Size: N/A Maximum Lot Coverage: 60% Minimum Lot Width: 20 feet Minimum Lot Depth: 60 feet	Minimum: 30.1 units/acre Maximum: 35 units/acre	<ul style="list-style-type: none"> Front Yard: 10 feet Rear and Through Yard: 0/5 feet Side Yard: 0/5 feet Street Side Yard: 10 feet Minimum Garage/Carport from Public/Private Street: 18 feet Garage/Carport from Alley: 5 feet 	60 feet	10%

Zoning District	Lot Size	Net Density	Minimum Setback Requirements	Maximum Building Height	Minimum Landscaping Requirements
R-50	<p>Minimum Lot Size: 800 s.f.</p> <p>Maximum Lot Size: N/A</p> <p>Maximum Lot Coverage: 70%</p> <p>Minimum Lot Width: 20 feet</p> <p>Minimum Lot Depth: 60 feet</p>	<p>Minimum: 35.1 units/acre</p> <p>Maximum: 50 units/acre</p>	<ul style="list-style-type: none"> • Front Yard: 10 feet • Rear and Through Yard: 0/5 feet • Side Yard Setback: 0/5 feet • Street Side Yard: 5 feet • Garage/Carport from Public/Private Street: 18 feet • Garage/Carport from Alley: 5 feet 	70 feet	10%
Neighborhood Commercial (CN)	<p>Minimum Lot Size, Width, Depth: None</p> <p>Maximum Lot Coverage: Determined by screening and buffering standards, stormwater standards, erosion control regulations, and all other applicable development standards.</p>	N/A	<ul style="list-style-type: none"> • Front Yard, Rear Yard, Rear through-Street, Side Yard, Street Side Yard Setbacks: See 'Minimum Setbacks Adjacent to Residential District' • Minimum Setback between buildings on Site: None • Minimum Setbacks Adjacent to Residential District: Pursuant screening and buffering standards and additional ½ foot for each foot the building exceeds 20 feet to a 	35 feet	15%

Zoning District	Lot Size	Net Density	Minimum Setback Requirements	Maximum Building Height	Minimum Landscaping Requirements
			maximum setback requirement of 40 feet. <ul style="list-style-type: none"> Minimum Setbacks Adjacent to Nonresidential Districts: Pursuant to screening and buffering standards. 		
Community Commercial (CC)	Same as CN	N/A	Same as CN	50 feet	15%
General Commercial (GC)	Same as CN, CC	N/A	<ul style="list-style-type: none"> Minimum Setbacks Adjacent to Residential District: Pursuant screening and buffering standards. 	None	15%
City Center (CX)	Minimum Lot Size, Width, Depth: None Maximum Lot Coverage: 100%	N/A	<ul style="list-style-type: none"> Front Yard, Rear Yard, Rear through-Street, Street Side Yard: None Side Yard: None except when abutting residentially zoned property when setback is 5 feet Minimum Setback between buildings on Site: None Minimum Setbacks Adjacent to 	Varies from 40 feet to 300 feet	None

Zoning District	Lot Size	Net Density	Minimum Setback Requirements	Maximum Building Height	Minimum Landscaping Requirements
			Residential/Nonresidential Districts: N/A		
Waterfront Mixed-Use (WX)	Minimum Lot Size, Width, Depth: None Maximum Lot Coverage: 70%	N/A	<ul style="list-style-type: none"> • Front Yard, Rear Yard: 25 feet, except parking lots and driveways at 10 feet • Rear through-Street: N/A • Side Yard: 5 feet • Street Side Yard: None • Minimum Setback between buildings on Site: None • Minimum Setbacks Adjacent to Residential District: N/A 	60 feet	20%
Central Park Mixed Use (CPX)	No established development standards	N/A	N/A	N/A	N/A
Mixed-Use District (MX)	<ul style="list-style-type: none"> • Minimum Lot Size, Width, Depth: None • Maximum Lot Coverage: 100% 	N/A	<ul style="list-style-type: none"> • Front Yard, Rear Yard: 10 feet when abutting a Residential zone; otherwise same as abutting zone • Rear through-Street, Side Yard Street Side Yard: N/A • Minimum Setback between buildings on Site: None • Minimum Setbacks Adjacent to 	35 to 75 feet	15%

Zoning District	Lot Size	Net Density	Minimum Setback Requirements	Maximum Building Height	Minimum Landscaping Requirements
			Residential/Nonresidential Districts: N/A		
Heights District (HX)	<ul style="list-style-type: none"> Minimum Lot Size, Width, Depth: None Maximum Lot Coverage: 100% 	No maximum, 30-75 dwelling units per acre minimum depending on subdistrict	<ul style="list-style-type: none"> Front Yard, Rear Yard, Rear through-street, Side Yard, Street Side Yard: None Minimum Setback between buildings on Site: None Minimum Setbacks Adjacent to Residential/Nonresidential Districts: N/A 	35 to 85 feet (subject to additional development standards of VMC Chapter 20.600, Plan Districts)	None
Office Commercial Industrial (OCI)	<ul style="list-style-type: none"> Minimum Lot Size, Width, Depth: None Maximum Lot Coverage: 100% 	N/A	<ul style="list-style-type: none"> Minimum Setbacks Adjacent to Residential District: Subject to screening and buffering standards plus an additional ½ foot for each foot the building exceeds 20 feet in height to a maximum setback requirement of 40 feet. Buildings in excess of 20 feet may be stepped. 	35 to 75 feet	15%

Zoning District	Lot Size	Net Density	Minimum Setback Requirements	Maximum Building Height	Minimum Landscaping Requirements
			<ul style="list-style-type: none"> Minimum Setbacks Adjacent to Nonresidential Districts: Subject to buffering and screening standards. 		
Light Industrial (IL)	<ul style="list-style-type: none"> Minimum Lot Size, Width, Depth: None Maximum Lot Coverage: 75% 	N/A	<ul style="list-style-type: none"> Minimum Setbacks Adjacent to Residential District: Subject to screening and buffering standards plus an additional ½ foot for each foot the building exceeds 20 feet in height to a maximum setback requirement of 40 feet. Buildings in excess of 20 feet may be stepped. Minimum Setbacks Adjacent to Nonresidential Districts: Subject to buffering and screening standards. 	45 feet	10%
Heavy Industrial (IH)	<ul style="list-style-type: none"> Minimum Lot Size, Width, Depth: None Maximum Lot Coverage: 75%/100% – see Footnote 1 of 	N/A	<ul style="list-style-type: none"> Same as IL 	45 feet (or greater – see Footnote 2 of VMC	None

Zoning District	Lot Size	Net Density	Minimum Setback Requirements	Maximum Building Height	Minimum Landscaping Requirements
	VMC Table 20.440.040-1			Table 20.440.040-1)	
Employment Center Mixed-Use (ECX)	No established development standards	N/A	Any development adjacent to the Principal Arterial streets bordering the Section 30 Plan District shall provide a 20-foot maximum setback. All other street setbacks shall be a landscaped 10-foot maximum from the back of sidewalk.	N/A	Per Section 30 Design Guidelines
Natural Areas (NA)	<ul style="list-style-type: none"> Minimum Lot Size, Width, Depth, Coverage: None 	N/A	<ul style="list-style-type: none"> Front Yard, Rear and Through Yard, Side Yard, Street Side Yard: 20 feet 	12 feet	None
Greenway (GW)-Vancouver Lake	<ul style="list-style-type: none"> Maximum Lot Coverage: 5% 	N/A	<ul style="list-style-type: none"> Minimum Front Yard, Rear and Through Yard, Side Yard, Street Side Yard Setback: 20 feet 	35 feet (Barns, silos, and similar features may exceed 35 feet)	None
GW – Lettuce Fields	<ul style="list-style-type: none"> Minimum/Maximum Lot Size, Width, Depth: None Maximum Lot Coverage: 5% 	N/A	<ul style="list-style-type: none"> Minimum Front Yard, Rear and Through Yard, Side Yard, Street Side Yard Setback: 20 feet 	12 feet (except existing single-family	None

Zoning District	Lot Size	Net Density	Minimum Setback Requirements	Maximum Building Height	Minimum Landscaping Requirements
				residential, which is 35 feet)	
GW – General	<ul style="list-style-type: none"> Minimum/Maximum Lot Size, Width, Depth: None Maximum Lot Coverage: 5% 	N/A	<ul style="list-style-type: none"> Minimum Front Yard, Rear and Through Yard, Side Yard, Street Side Yard Setback: 20 feet 	35 feet	None
Park	<ul style="list-style-type: none"> Development standards are subject to the most restrictive zoning district standards located adjacent to the subject property. 	N/A	N/A	N/A	N/A

Source: Vancouver Municipal Code Chapter 20.410

Key: s.f. = square feet