



City of Bothell™

# CANYON PARK SUBAREA Planned Action Draft EIS

Volume 1 | December 2019



Prepared by:

BERK  
Fehr & Peers  
MAKERS  
Pertee  
The Watershed Company





## City of Bothell™

December 6, 2019

**Subject:** Canyon Park Subarea Planned Action Draft Environmental Impact Statement

Dear Reader:

The City of Bothell invites you to comment on the Canyon Park Subarea Planned Action Draft Environmental Impact Statement (Draft EIS).

The Canyon Park Subarea is located in the Snohomish County portion of the City of Bothell. The study area includes the current Canyon Park Subarea plus an extended portion of the study area in Thrashers Corner north of Maltby Road that lies in the Bothell municipal urban growth area in unincorporated Snohomish County. The study area is traversed by SR 527, I-405, and North Creek. It contains the Canyon Park Business Center and several large light manufacturing, life sciences, bio-medical device, and other high-technology businesses, as well as commercial and residential areas.

The City of Bothell proposes to update its subarea plan for the Canyon Park neighborhood, including its Regional Growth Center (RGC), to comply with new Puget Sound Regional Council (PSRC) Centers framework criteria. The Canyon Park Subarea Plan is part of the City's *Imagine Bothell... Comprehensive Plan*. The subarea plan update would create opportunities for employment, residential, and mixed-use development through revisions to applicable goals, policies, land use designations, zoning districts, development regulations, and capital plans, including transportation, parks, and other infrastructure investments. In addition, the City intends to designate a Planned Action consistent with RCW 43.21C.440 and SEPA rules in WAC 197-11 to facilitate future growth by streamlining the environmental review process for development consistent with the subarea plan and mitigation identified in the EIS.

The Draft EIS analyzes impacts to the natural environment, land use patterns and policies, aesthetics and urban design, socioeconomics, transportation and greenhouse gas emissions, public services (fire and police protection, parks, and schools), and utilities (water, sewer, and stormwater).

The Draft EIS evaluates alternatives for each environmental topic and each alternative's ability to meet the Canyon Park vision for an economic and multi-faceted center that respects the natural environment and provides multiple modes of travel. Alternatives under study include:

- **The No Action Alternative** is a SEPA Required Alternative, and assumes growth according to current trends through 2035.
- **The Business Plus Alternative** would add about the same number of residents as the No Action Alternative and a much higher number of jobs by 2043.
- **The Live/Work Alternative** anticipates the greatest residential population capacity and a substantial addition of jobs by 2043 in an extended mixed use land use pattern.
- **A "Mitigated" Live/Work Alternative** explores similar mixed uses with a smaller RGC boundary, about 25% lower growth, and greater transportation mitigation than the Live/Work Alternative.

The public and interested agencies are invited to review and comment on the Draft EIS. Comments on the Draft EIS are due at **5 p.m. January 13, 2020**.

Email comments are preferred and must be sent to [CanyonPark@Bothellwa.gov](mailto:CanyonPark@Bothellwa.gov) with the proposal name (Canyon Park Subarea Plan Draft EIS) in the subject line. Include your comments in the body of your email message rather than as attachments.

Written comments may be sent to:

Bruce Blackburn, Senior Planner  
City of Bothell, Community Development Department  
18415 101st Avenue NE  
Bothell, WA 98011  
[CanyonPark@Bothellwa.gov](mailto:CanyonPark@Bothellwa.gov)

Public meetings will be publicized on the City's project website. Please see <http://www.ci.bothell.wa.us/1176/Canyon-Park-Visioning>.

The Draft EIS can be reviewed and downloaded at the project website at: <http://www.ci.bothell.wa.us/1176/Canyon-Park-Visioning>. Copies of the Draft EIS are also available for review at the Bothell Community Development Department at 18415 101st Avenue NE, Bothell, WA 98011. Flash drives or a limited number of hard copies for public distribution are also available and may be purchased at the City's Community Development Department for the cost of reproduction.

Following the comment period on this Draft EIS, the City will prepare responses to comments and develop a preferred alternative evaluated in a Final EIS.

Thank you for your interest in this project. If you have any questions, please contact Bruce Blackburn at the email address listed above.

Sincerely,



Jeffrey N. Smith, Development Services Manager, SEPA Responsible Official  
City of Bothell, Community Development Department

# Fact Sheet

## Project Title

Canyon Park Subarea Plan and Planned Action

## Proposed Action and Alternatives

The City of Bothell proposes to update its subarea plan for the Canyon Park neighborhood, including its Regional Growth Center (RGC), to comply with new Puget Sound Regional Council (PSRC) Centers framework criteria. The Canyon Park Subarea Plan is part of the City's *Imagine Bothell... Comprehensive Plan*. The subarea plan update would create opportunities for employment, residential, and mixed-use development through revisions to applicable goals, policies, land use designations, zoning districts, development regulations, and capital plans, including transportation, parks, and other infrastructure investments.

In addition, the City intends to designate a Planned Action consistent with RCW 43.21C.440 and SEPA rules in WAC 197-11 to facilitate future growth by streamlining the environmental review process for development consistent with the subarea plan and mitigation identified in the Environmental Impact Statement (EIS).

This Draft (EIS) considers a range of alternatives that illustrate how to implement the community's vision for an economic and multi-faceted center that respects the natural environment and provides multiple modes of travel:

- **No Action**, a SEPA Required Alternative, assumes growth according to current trends. Between 2012 and 2018 the area appears to have added about 4,400 jobs, largely in existing buildings, and has generally achieved the 2035 job target. Residential permit applications and interest increased as well. Under current City Plans and development regulations, there is capacity to add another 4,500 residents and about 4,800 jobs in new structures by 2035. This alternative retains current Future Land Use designations and zoning, which allow a mix of employment and residential uses through most of the study area. Current RGC boundaries are 733 acres and include areas of wetlands. The updated subarea plan, proposed revisions to the RGC boundary, incentives and regulations, investments in amenities and infrastructure, and planned action would not be adopted.
- **The Business Plus Alternative** would add about the same number of residents as the No Action Alternative (4,500) and a much higher number of jobs (17,350) by 2043. This alternative focuses most future growth in employment but allows select areas of mixed-use at shopping areas in Thrasher's Corner and to the southwest of I-405. Development evaluated includes revisions to (1) height allowances for mixed-use development, (2) minimum densities for residential uses, (3) minimum intensities for

employment uses, and (4) parking standards for businesses and housing uses; added investments in transit, roads, bicycle pedestrian facilities, and trail connections; and transitions to newer stormwater standards. The RGC boundary would be revised to 613 acres to meet Puget Sound Regional Council Criteria. Amendments integrating the Subarea Plan would be made to the City's *Imagine Bothell...* Comprehensive Plan, development regulations, and capital plans.

- **The Live/Work Alternative** anticipates the greatest residential population capacity at nearly 7,200 and a substantial addition of jobs at nearly 15,300 by 2043. This alternative offers the most locations where mixed-use residential and retail or residential and office could be located. Revisions to development standards for both businesses and housing uses, and added investments in both infrastructure and amenities, are similar to the Business Plus Alternative. Revisions to the RGC boundary would be the same as the Business Plus Alternative. Amendments integrating the Subarea Plan would be made to the City's *Imagine Bothell...* Comprehensive Plan, development regulations, and capital plans.
  - **"Mitigated" Live/Work Alternative:** To explore additional mitigation of impacts, a "Mitigated" Live/Work Alternative has been developed with a smaller RGC boundary of 565 acres, and 25% lower growth. It also includes greater transportation demand management measures, greater infrastructure investments, and level of service (LOS) policy options. It reduces impacts and is in the range of the Business Plus and Live/Work alternatives.

## Location

The Canyon Park Subarea is located in the Snohomish County portion of the City of Bothell. The Canyon Park Subarea as defined in the Comprehensive Plan is fully within the city limits. For the purposes of the Subarea Plan Update, a study area has been defined that includes the current Canyon Park Subarea plus an extended area north of Maltby Road that lies in the Bothell municipal urban growth area in unincorporated Snohomish County.

The full study area under review is encompassed to the north by Thrashers Corner, including shopping areas to the north and south of SR 524; to the east by the general alignment, if extended, of 31<sup>st</sup> Avenue SE; to the south by 228<sup>th</sup> Street SE, including commercial areas on both sides; and to the west by the general alignment, if extended, of 8<sup>th</sup> Avenue SE.

The study area is traversed by SR 527, I-405, and North Creek. It contains the Canyon Park Business Center and several large light manufacturing, life sciences, bio-medical device, and other high-technology businesses as well as commercial and residential areas. In total, the study area equals nearly 1,040 acres.

## Proponent

City of Bothell

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## Tentative Date of Implementation

Summer 2020

## Lead Agency

City of Bothell, Community Development Department

## Responsible SEPA Official

Jeffrey N. Smith, Development Services Manager  
City of Bothell, Community Development Department  
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Bothell, WA 98011  
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## Contact Person

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18415 101st Avenue NE  
Bothell, WA 98011  
[Bruce.Blackburn@bothellwa.gov](mailto:Bruce.Blackburn@bothellwa.gov) | 425-806-6405

## Required Approvals

The following City of Bothell actions would be required to implement the Proposal:

- Adoption of updated Canyon Park Subarea Plan as part of the *Imagine Bothell...* Comprehensive Plan
- Adoption of Zoning and Development Regulation Amendments within the Bothell Municipal Code.
- Adoption of a Planned Action ordinance.

Prior to City action, Puget Sound Regional Council will review for consistency with the new Centers framework criteria and the State of Washington Department of Commerce will coordinate state agency review of the legislative proposal.

After City action, the likely permits to be acquired by individual development proposals include but are not limited to land use permits, construction permits, building permits, and street use permits.

## Principal Draft EIS Authors and Principal Contributors

This Draft Environmental Impact Statement (EIS) has been prepared under the direction of the City of Bothell. The following consulting firms provided research and analysis associated with this Draft EIS:

- [BERK](#): Land use patterns and policies, socioeconomics, public services, Planned Action ordinance, and SEPA compliance; alternatives and aesthetics evaluation support.
- [Fehr & Peers](#): Transportation and greenhouse gas emissions.
- [MAKERS](#): Prime, alternatives, urban design/aesthetics, subarea plan, and outreach.
- [Perteet](#): Utilities and stormwater.
- [The Watershed Company](#): Natural environment.

## Date of Draft Environmental Impact Statement Issuance

December 6, 2019

## Date Comments are Due

Comments on the Draft EIS are due at **5 p.m. January 13, 2020**

Email comments are preferred and must be sent to [CanyonPark@Bothellwa.gov](mailto:CanyonPark@Bothellwa.gov) with the proposal name (Canyon Park Subarea Plan Draft EIS) in the subject line. Include your comments in the body of your email message rather than as attachments.

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Public meetings will be publicized on the City's project website. Please see <http://www.ci.bothell.wa.us/1176/Canyon-Park-Visioning>.

## Type and Timing of Subsequent Environmental Review

A Final EIS will be issued in the first half of 2020.

## Location of Background Data

See relevant reports and studies associated with the Canyon Park Subarea Plan at: <http://www.ci.bothell.wa.us/1176/Canyon-Park-Visioning>

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### **Draft EIS Purchase Price**

This Draft EIS has been distributed to agencies, organizations and individuals noted on the Distribution List following this Fact Sheet.

The Draft EIS can be reviewed and downloaded at the project website at:

<http://www.ci.bothell.wa.us/1176/Canyon-Park-Visioning>

Copies of the Draft EIS are also available for review at the Bothell Community Development Department at 18415 101<sup>st</sup> Avenue NE, Bothell, WA 98011.

Flash drives or a limited number of hard copies for public distribution are also available and may be purchased at the City's Community Development Department for the cost of reproduction.

# Distribution List

The Draft Environmental Impact Statement (Draft EIS) distribution list includes:

## Tribes

Muckleshoot Indian Tribe  
Tulalip Tribes

## Federal

Army Corp of Engineers  
Federal Emergency Mgmt. Agency  
US Coast Guard  
US Postal Service

## Multi-County Agencies

Puget Sound Clean Air Agency  
Puget Sound Partnership  
Puget Sound Regional Council

## State of Washington Agencies

Washington Dept. of Ecology  
Washington Parks and Recreation Commission  
Washington State Dept. of Agriculture  
Washington State Dept. of Health  
Washington State Dept. of Social and Health Services  
Washington State Dept. of Archaeology and Historic Preservation  
Washington State Dept. of Commerce  
Washington State Dept. of Fish and Wildlife  
Washington State Dept. of Natural Resources  
Washington State Dept. of the Attorney General  
Washington State Dept. of Transportation

## Counties

King County Dept. of Development and Environmental Services  
King County Comprehensive Plan Manager  
King County Deputy Director Regional Planning  
King County Wastewater Treatment Division  
Seattle and King County Public Health  
Snohomish County  
Snohomish County Health District  
Snohomish County Planning

## Cities

City of Brier  
City of Kirkland  
City of Lake Forest Park  
City of Kenmore  
City of Edmonds  
City of Lynnwood  
City of Everett  
City of Mill Creek  
City of Woodinville

## Education

Cascadia College  
Northshore School District  
UW Bothell

## Transit Agencies

Community Transit  
Sound Transit  
WSDOT

## Utilities

Alderwood Water and Wastewater  
King County Wastewater Treatment Division  
Puget Sound Energy  
Snohomish PUD

**Stakeholders**

Ascent Aerospace  
Ascot Developments  
CBRE  
Chamber  
Fuji Film Sonosite  
Hinds / Bock  
Homeowners association  
Juno  
Kinesis bio-tech  
Life Sciences of Washington  
Lockheed Martin  
Main Street properties  
Owner's Association  
Philips  
ROIC – property owner  
Seattle Genetics  
Snohomish Economic Alliance  
Steelwave LLC

**Owners**

Business Property  
Development  
Canyon Hills Church  
CBRE  
CHCC  
Clise Properties  
J. Martin, Owner  
Kidder Mathews  
MJS Investors  
Northshore School District  
ROIC  
SCP  
Taylor Development  
Van Ness Feldman

**Interested Persons**

Dennis Honey  
Ruth Burrus

# Glossary

Action Alternatives	Proposals which assume growth above current City Plans and development regulations, including the Business Plus Alternative, Live/Work Alternative, and Mitigated Live/Work Alternative.
Activity Units	A measurement of density comprising the sum of population and jobs within a defined area. Used by PSRC for Regional Growth Center calculations.
AWWD	Alderwood Water and Wastewater District
BMC	Bothell Municipal Code
BMP	Best management practice
BRT	Bus Rapid Transit
CARAs	Critical aquifer recharge areas
CC&R	Covenants, conditions, and restrictions
CIPP	Cured in place pipe
CIP	Capital Improvement Program
COBMap	City of Bothell Interactive Map
CPTED	Crime prevention through environmental design
ERU	Equivalent residential unit
ETL	Express toll lane
FEMA	Federal Emergency Management Agency
FFAs	Frequently flooded areas
FONSI	Findings of No Significant Impact
FWHCAs	Fish and wildlife habitat conservation areas
GMA	Growth Management Act
gpd	Gallons per day
KCDNRP	King County Department of Natural Resources and Parks
LIPA	Local infrastructure project area
LOS	Level of service
MFTE	Multi-family tax exemption
Microtransit	A form of demand responsive transportation that offers flexible routing and scheduling, such as bike and scooter shares, small-scale circulator shuttles, or on-demand vans/vanshares.
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
PHS	Priority habitats and species
PSRC	Puget Sound Regional Council
PRV	Pressure reducing valve
R-AC	Residential-Activity Center
RGC	Regional Growth Center
SEPA	State Environmental Policy Act
SMP	Shoreline Master Program
SOV	Single-occupancy vehicles

SWIFT	Community Transit's Bus Rapid Transit brand
SWMA	Surface water management areas
TDM	Transportation demand management
TDR	Transfer of development rights
TMDL	Total maximum daily load
TNCs	Transportation network companies
TOD	Transit-oriented development
USEPA	United States Environmental Protection Agency
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WRIA	Watershed Resource Inventory Area
WSDOT	Washington State Department of Transportation
WTD	Wastewater Treatment Division

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# 1 Summary

## 1.1 Purpose and Introduction

The City of Bothell proposes to update its subarea plan for the Canyon Park neighborhood, including its Regional Growth Center (RGC), to comply with new Puget Sound Regional Council (PSRC) Centers framework criteria. The Canyon Park Subarea Plan is part of the City's *Imagine Bothell... Comprehensive Plan*. The subarea plan update would create opportunities for employment, residential, and mixed-use development through revisions to applicable goals, policies, land use designations, zoning districts, development regulations, and capital plans, including transportation, parks, and other infrastructure investments.

In addition, the City intends to designate a Planned Action consistent with RCW 43.21C.440 and SEPA rules in WAC 197-11. The Planned Action will facilitate future growth by streamlining the environmental review process for development consistent with the subarea plan and mitigation identified in the Draft EIS.

To evaluate the natural and built environment implications of the proposed Subarea Plan Update and associated development regulations, the City identified alternatives that vary the type and location of growth in the study area. The alternatives include the current plan called the No Action Alternative, a Business Plus Alternative focusing mostly on added jobs, and a Live/Work Alternative growing both housing and jobs. A Mitigated Live/Work Alternative is similar to the full Live/Work Alternative, but assumes a lower level of housing and job growth to reduce impacts to transportation, public services, and utilities. The Draft EIS describes and evaluates the alternatives across a range of environmental topics:

- Chapter 1: Summary
- Chapter 2: Proposal and Alternatives
- Chapter 3: Environment, Impacts, and Mitigation
  - Section 3.1: Natural Environment
  - Section 3.2: Land Use Patterns and Policies
  - Section 3.3: Aesthetics and Urban Design
  - Section 3.4: Socioeconomics
  - Section 3.5: Transportation and Greenhouse Gas Emissions
  - Section 3.6: Public Services
  - Section 3.7: Utilities and Stormwater
- Chapter 4: References

This Summary Chapter presents a summary of the Draft EIS. For more context and analysis, please see the detailed chapters following.

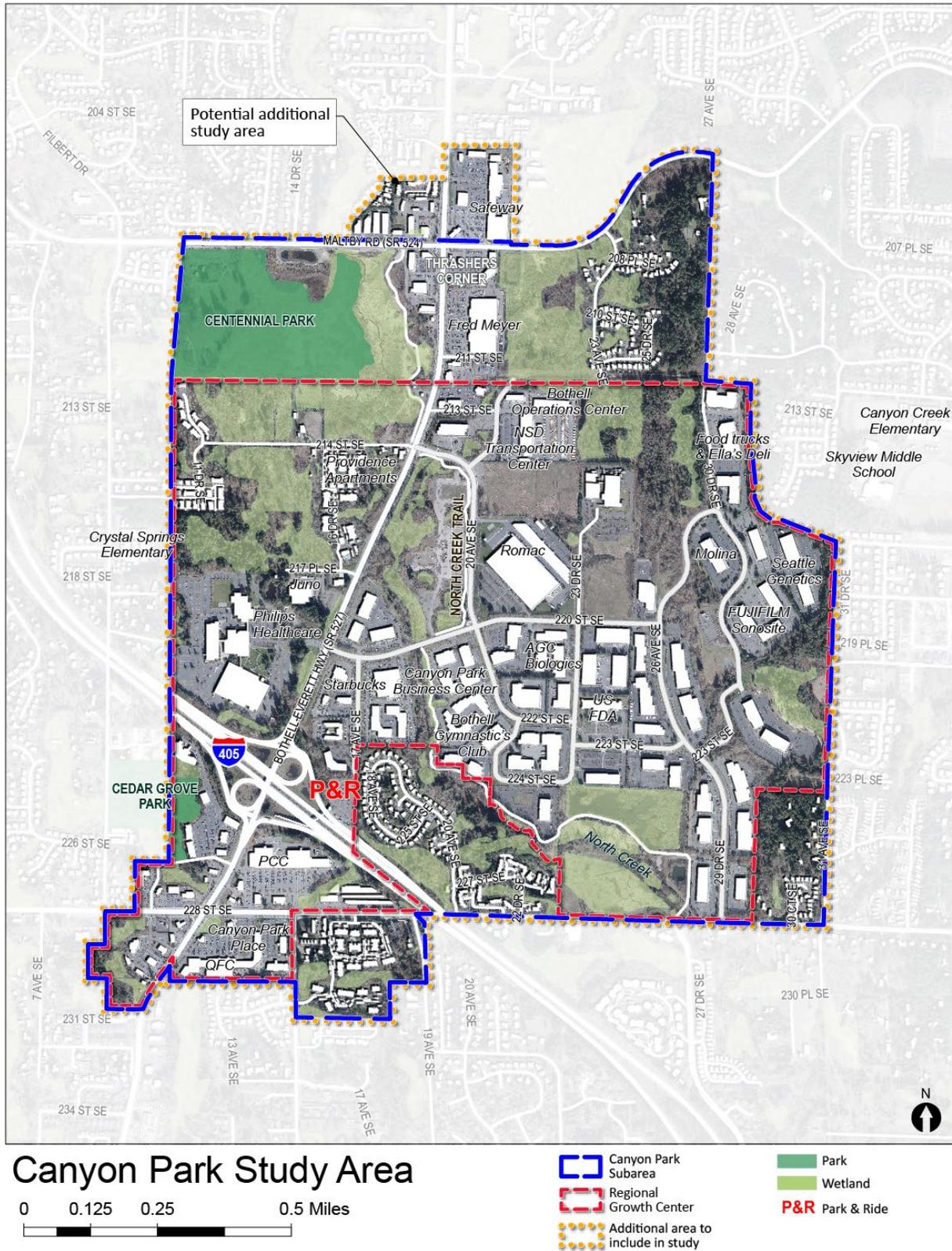
## 1.2 Study Area

The Canyon Park Subarea is located in the Snohomish County portion of the City of Bothell. The Canyon Park Subarea boundaries as defined in the Comprehensive Plan is fully within the city limits. For the purposes of the Subarea Plan Update, a study area has been defined that includes the current Canyon Park Subarea plus an extended portion of the study area north of Maltby Road that lies in the Bothell municipal urban growth area in unincorporated Snohomish County. See Figure 1.

The full study area under review is encompassed to the north by Thrashers Corner, including shopping areas on both sides of SR 524; to the east by 31<sup>st</sup> Ave SE and the general alignment, if extended, of 30<sup>th</sup> Avenue SE; to the south by 228<sup>th</sup> Street SE, including commercial areas on both sides; and to the west by the general alignment, if extended, of 8<sup>th</sup> Avenue SE .

The study area is traversed by SR 527, I-405, and North Creek. It contains the Canyon Park Business Center and several large light manufacturing, life sciences, bio-medical device, and other high-technology businesses, as well as commercial and residential areas. In total, the study area equals nearly 1,040 acres. See Figure 1 on the following page.

Figure 1. Canyon Park Study Area



Source: City of Bothell, 2018; MAKERS, 2019.

## 1.3 Subarea Planning Process

The City of Bothell is investigating current conditions and trends with a consultant team and is engaging community members to refine a vision, identify potential actions, and strategize steps forward. The planning process includes the following steps:

- **Existing conditions report.** The report identifies Canyon Park’s baseline conditions and provides information to share with Canyon Park stakeholders and local government representatives to refine the Vision Report’s goals.
- **Community engagement.** Surveys, discussions with business and property owners, public workshops, and public hearings provide opportunities to influence the alternatives analysis and selection and to plan implementation strategies.
- **Land use alternatives.** Alternatives have been developed to understand implications of potential future scenarios.
- **Analysis and preferred alternative.** The team will analyze and present the alternatives at a public event to select a Preferred Alternative.
- **Subarea plan.** The plan will include recommendations on policies and measures to support land use regulations and design guidelines updates, RGC needs, a multimodal transportation hub, economic development, affordable housing, mixed-use and people-oriented character, infrastructure actions, environmental enhancements, and accessible open space and recreation.
- **Environmental analysis.** This Draft EIS identifies environmental impacts of the alternatives and mitigation measures to ensure compliance with the State Environmental Policy Act (SEPA).
- **Implementation strategy.** The subarea plan will recommend implementation measures and draft updated policies, development regulations, and design guidelines.

## 1.4 State Environmental Policy Act Process

This Draft EIS is an informational document that provides the City, public, and government agencies with environmental information to be considered in the decision-making process. It also allows the public and government agencies to comment on proposals and alternatives. This Draft EIS describes:

- Proposed actions and alternatives.
- Existing conditions of the study area.
- Impacts that may occur if an alternative were implemented.
- Mitigation measures to reduce or eliminate adverse impacts.
- Potential significant, unavoidable, and adverse impacts.

This Draft EIS presents a qualitative and quantitative analysis of potential environmental impacts resulting from the proposal and alternatives. The purpose of this Draft EIS is to

describe environmental impacts to assist the public and City of Bothell officials in deciding upon the magnitude and nature of future growth, zone standards, infrastructure investments, and mitigation measures appropriate in Canyon Park.

This Draft EIS also identifies potential beneficial outcomes, where alternatives incorporate existing environmental features (e.g., streams and wetlands) in a sustainable manner, improve environmental characteristics (e.g., stormwater quality), and emphasize improved access and multimodal travel by transit, foot, and bike.

Following the comment period, a Final EIS will be prepared that responds to comments on the Draft EIS and develops a Preferred Alternative.

## 1.5 Public Involvement

Bothell undertook Phase 1, a visioning process with the Canyon Park community in 2018. During the visioning phase, the City engaged community members in three ways:

1. A Stakeholder Work Group, primarily comprised of property and business owners, helped the City develop a vision for the area. The group also verified economic and infrastructure conditions and an assessment of the center's development potential.
2. A Public Open House allowed residents and employees to offer their thoughts on vision priorities, area challenges, and specific opportunities.
3. An online mapping and commenting tool collected Canyon Park residents and employees' issues, needs, priorities, and general themes.

During Phase 2, which involves developing a draft subarea plan and EIS, Bothell sought public input in the following ways:

1. Administered an online survey directed toward property and business owners checking in on the Phase 1 vision and asking about next steps for their engagement (January 2019).
2. Administered an online survey receiving 333 responses from the general community confirming priorities and interests (March 2019).
3. Issued a Determination of Significance and Scoping Notice on April 8, 2019 and provided a scoping comment period for 21 days until April 29, 2019.
4. Held a community scoping meeting on April 25, 2019 with a presentation and interactive exercises around land use and transportation options for the area.
5. Met with the Canyon Park Owners Association to discuss potential land use and transportation alternatives (July 2019).
6. Explored transportation options with an Interagency Transportation Advisory Committee, comprised of relevant agencies' representatives (August 2019).

The Draft EIS alternatives and topics were developed based on a review of scoping comments and prior engagement results. See Appendix A for the scoping notice and comment summary as well as results of Phase 2 engagement efforts described above.

A Final EIS will include responses to public comments received during the comment period that will follow issuance of this Draft EIS. See the Fact Sheet for the methods to submit comments. Meetings and comment periods regarding the proposals are described on the City's project webpage: <http://www.ci.bothell.wa.us/1176/Canyon-Park-Visioning>.

## 1.6 Proposed Action, Alternatives, and Objectives

### Objectives

SEPA requires the statement of objectives to help identify the purpose and need for the proposals and to allow the City to compare how well the alternatives achieve them. The Canyon Park Vision Plan identifies the following vision:

- **An Economic Driver.** Canyon Park serves as a regional business hub for the life sciences and biomedical industries. It is a designated urban center and is a place of innovation and growth.
- **A Multifaceted Neighborhood.** Canyon Park is a dynamic neighborhood with a diverse mix of housing, office, retail, and public space. It serves both Bothell residents and employees coming from throughout the region.
- **Connected to the Natural Environment.** Canyon Park is defined by its unique access to the natural environment and blend of urban wetlands, creeks, and interconnected trails.
- **A Transportation Hub.** Canyon Park is a transportation hub with infrastructure serving employees and residents commuting to and from the neighborhood, as well as commuters traveling to other areas.

Objectives to meet the vision include:

1. *Transit service and multi-modal access*
  - 1.1. *Improve transit access for employees commuting to the area, overall freeway/highway access, and multi-modal infrastructure to improve circulation within and around Canyon Park.*
  - 1.2. *Maintain or relieve, as possible, congestion levels throughout Canyon Park.*
2. *Job center*
  - 2.1. *Ensure that Canyon Park continues to grow as the regional hub for the biomedical, life sciences and related industries.*
  - 2.2. *Retain and grow existing and new businesses in Canyon Park and continue to meet the needs of both small and large businesses.*
3. *Housing for the workforce*
  - 3.1. *Promote development of a diverse range of market rate and affordable housing in Canyon Park and ensure that it meets the needs of the local workforce.*

4. *Parks and public space*
  - 4.1. *Implement new public park space(s) with recreational uses and with investments in signature public spaces.*
  - 4.2. *Improve access to and crossings of North Creek to make it a unifying element of Canyon Park.*
5. *Amenities and services*
  - 5.1. *Increase the number of retail and service amenities that serve Canyon Park and the surrounding area.*
6. *Natural environment*
  - 6.1. *Maintain the high-quality wetland and creek system.*

The Vision Plan is included in Appendix B.

## Proposed Action and Alternatives

This Draft EIS considers a range of alternatives that illustrate how to implement the community's vision for an economic and multi-faceted center that respects the natural environment and provides multiple modes of travel:

- **No Action**, a SEPA required alternative, assumes growth according to current trends. Between 2012 and 2018 the area appears to have added about 4,400 jobs, largely in existing buildings, and generally achieved the 2035 job target. Residential permit applications and interest increased as well. Under current City Plans and development regulations, there is capacity to add another 4,500 residents and about 4,800 jobs in new structures by 2035. This alternative retains current Future Land Use designations and zoning, which allow a mix of employment and residential uses through most of the study area. Current RGC boundaries are 733 acres and include areas of wetlands. The updated subarea plan, proposed revisions to the RGC boundary, incentives and regulations, investments in amenities and infrastructure, and planned action would not be adopted.
- **The Business Plus Alternative** would add about the same number of residents as the No Action Alternative (4,500) and a much higher number of jobs (17,350) by 2043. This alternative focuses most future growth in employment, but select areas of mixed use would be allowed at shopping areas in Thrasher's Corner and to the southwest of I-405. Development evaluated includes revisions to (1) height allowances for mixed-use development, (2) minimum densities for residential uses, (3) minimum intensities for employment uses, and (4) parking standards for businesses and housing uses; added investments in transit, roads, bicycle, pedestrian facilities, and trail connections; and transitions to newer stormwater standards. The RGC boundary would be revised to 613 acres to meet Puget Sound Regional Council Criteria. Amendments integrating the Subarea Plan would be made to the City's *Imagine Bothell... Comprehensive Plan*, development regulations, and capital plans.

- **The Live/Work Alternative** anticipates the greatest residential population capacity at nearly 7,200 and a substantial addition of jobs at nearly 15,300 by 2043. This alternative offers the most locations where mixed-use residential and retail or residential and office development could be located. Revisions to development standards for businesses and housing uses and added investments in infrastructure and amenities are similar to those in the Business Plus Alternative. Revisions to the RGC boundary would be the same as in the Business Plus Alternative. Amendments integrating the Subarea Plan would be made to the City's *Imagine Bothell...* Comprehensive Plan, development regulations, and capital plans.
  - **“Mitigated” Live/Work Alternative:** To explore additional mitigation of impacts a, “mitigated” Live/Work Alternative was developed with lower growth, greater transportation demand management measures, greater infrastructure investments, and level of service (LOS) policy options. It reduces impacts and is in the range of the Business Plan and Live/Work alternatives.

### Comparison of Alternative Features

While the No Action Alternative would allow growth consistent with current plans and regulations, the City of Bothell would not adopt the subarea plan, incentives and regulations, and planned action. Table 1 compares features of the evaluated alternatives.

**Table 1. Potential Alternative Features**

Features	No Action Alternative (Current Canyon Park Subarea Plan)	Business Plus Alternative	Live/Work & Mitigated Live/Work Alternatives
<b>Potential Changes to Land Use</b>	Per current Comprehensive Plan and Zoning.	<ul style="list-style-type: none"> <li>▪ Allow range of employment and residential uses, with more employment accommodated in the central subarea and mixed use in shopping centers.</li> <li>▪ Remove residential as a permitted use from business-oriented areas (a larger area in this alternative).</li> <li>▪ Require affordable housing or a fee in lieu where development capacity increases, and incentivize creation of affordable housing elsewhere.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Allow range of employment and residential uses, with more mixed-use nodes in the north, central, and south near transit facilities. Employment is focused in the west, central, and east.</li> <li>▪ Remove residential as a permitted use from business-oriented areas (a smaller area in this alternative).</li> <li>▪ Require affordable housing or a fee in-lieu where development capacity increases, and incentivize creation of affordable housing elsewhere.</li> </ul>

Features	No Action Alternative (Current Canyon Park Subarea Plan)	Business Plus Alternative	Live/Work & Mitigated Live/Work Alternatives
<b>Potential Changes to Development Standards</b>	Current plan and code. No changes proposed.	Change height, floor area ratios, density, parking rates, and other standards to increase opportunities for job and housing investments. See Table 7 in Chapter 2.	
<b>Potential Investments in Transportation, Parks, Stormwater, &amp; Business Retention/Expansion</b>	Implement current capital plans. Consider transferring some private roads into public ownership.	<ul style="list-style-type: none"> <li>▪ Transfer select private business park roads into public ownership.</li> <li>▪ City may invest in signature spaces and require development adjacent to parks to have active, lively edges to contribute to the park's character.</li> <li>▪ Onsite open space standards may be amended for commercial and residential uses.</li> <li>▪ Impact fees would contribute to systemwide park improvements.</li> <li>▪ Implement a regional stormwater treatment system to improve water quality.</li> <li>▪ Add ecological enhancements along North Creek and other wetlands areas.</li> <li>▪ Help identify tools to help retain and expand existing businesses, such as technical assistance, relocation programs, and small business grant/loan programs.</li> </ul>	
<b>Regional Growth Center</b>	Keep current subarea plan. Retain current boundaries of about 733 acres.	Prepare a new subarea plan. <ul style="list-style-type: none"> <li>▪ Business Plus and Live/Work: Provide RGC of about 613 acres.</li> <li>▪ Mitigated Live/Work: Provide RGC of about 565 acres with minimum activity units.</li> </ul>	
<b>Potential Growth 'No Action' Above Current Approximate of 15,000 Employees &amp; Residents in Full Study Area (12,600 in RGC)</b>	Approx. 9,271 combined jobs and population added per current plans.  RGC combined population and jobs equals approx. 8,242.*	Combined jobs and population added: <ul style="list-style-type: none"> <li>▪ Full Area: 21,818</li> <li>▪ RGC: 21,221</li> </ul>	Combined jobs and population added: <ul style="list-style-type: none"> <li>▪ <u>Live/Work</u> <ul style="list-style-type: none"> <li>▪ Full Area: 22,472</li> <li>▪ RGC: 21,875</li> </ul> </li> <li>▪ <u>Mitigated Live/Work</u> <ul style="list-style-type: none"> <li>▪ Full Area: 15,302</li> <li>▪ RGC: 13,683</li> </ul> </li> </ul>

\*Range is 8,195 to 8,242, a 1% difference due to disaggregation by blocks/analysis zone and rounding. See Table 21 for details regarding land capacity estimates. Source: MAKERS, 2019; BERK, 2019.

See Chapter 2 for a finer-grained description of potential changes to development standards.

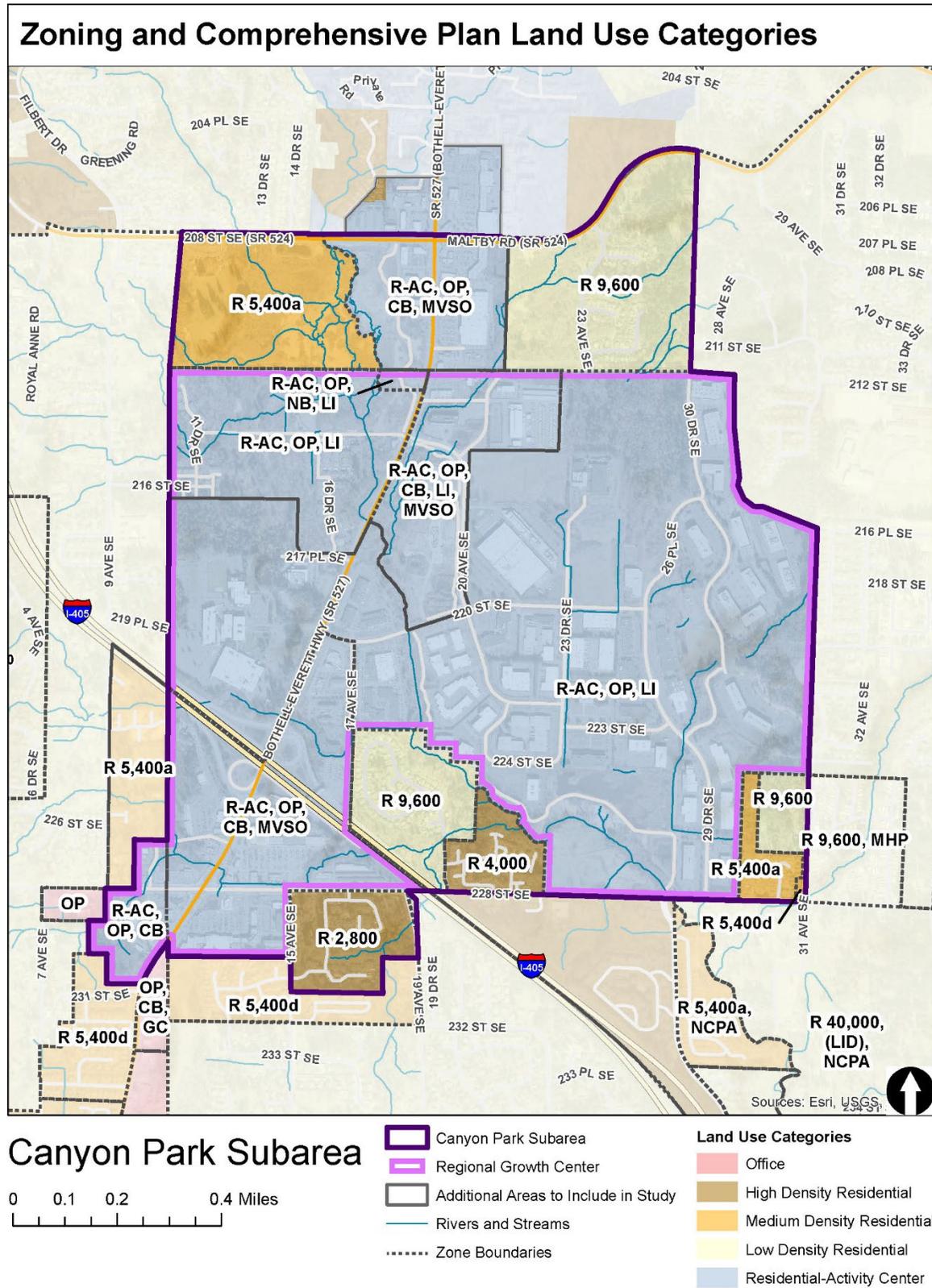
### Land Use Pattern

The No Action Alternative would retain current Future Land Use designations and zoning. Current zoning allows a mix of employment and residential uses through most of the study area. See Figure 2.

The Business Plus Alternative would focus most future growth in employment, but selected areas of mixed use would be allowed at shopping areas in Thrasher's Corner and to the southwest of I-405. See Figure 3.

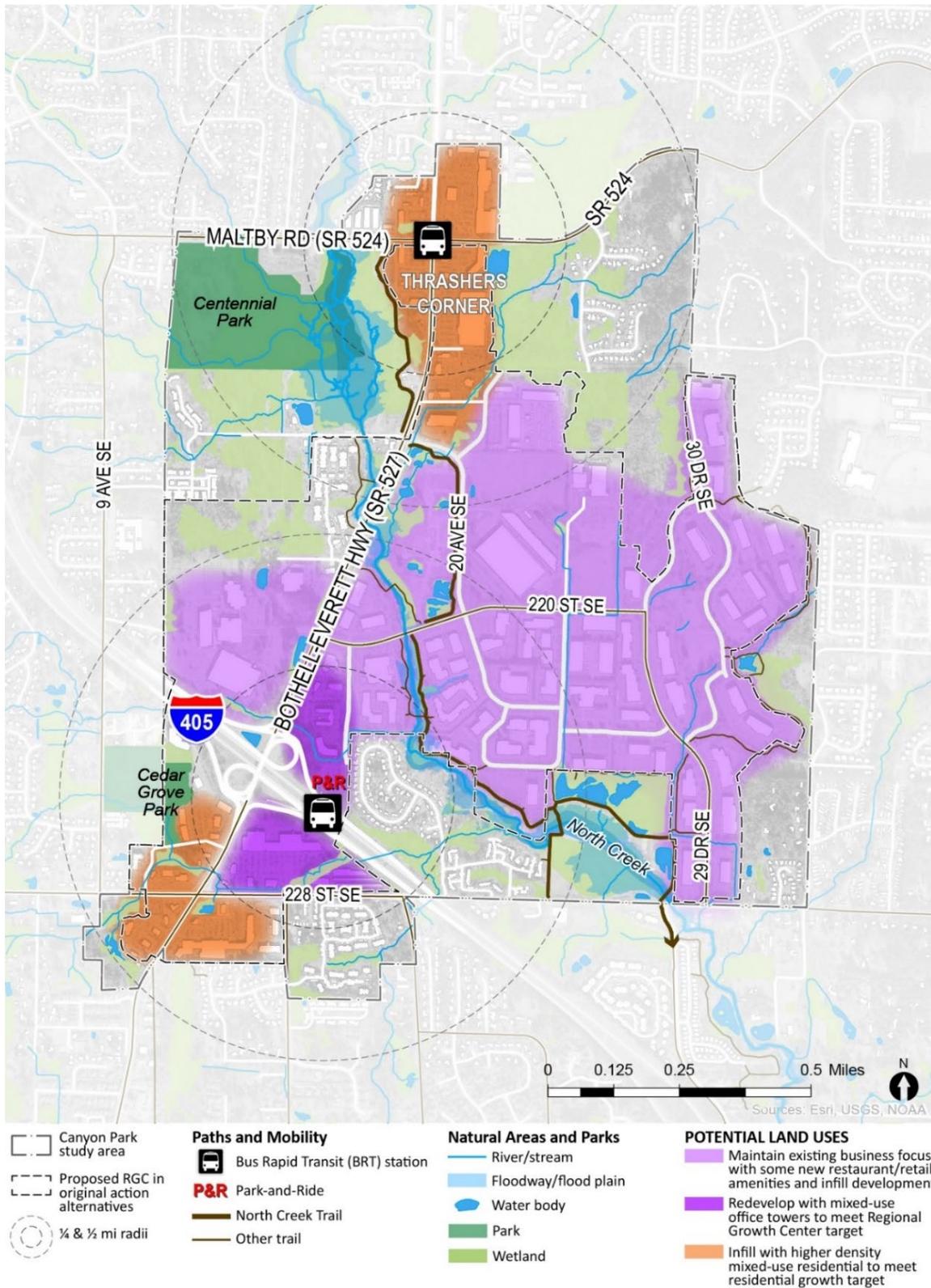
The Live/Work Alternative would offer more locations where mixed-use residential and retail or residential and office could be located. See Figure 4. The Mitigated Live/Work Alternative would have a similar land use pattern as illustrated in Figure 4. However, it proposes a reduced and reconfigured RGC boundary at 565 gross acres. See Figure 5, and the discussion under Regional Growth Center Boundaries on page 1-22.

Figure 2. Current Plan and Zoning—No Action Alternative



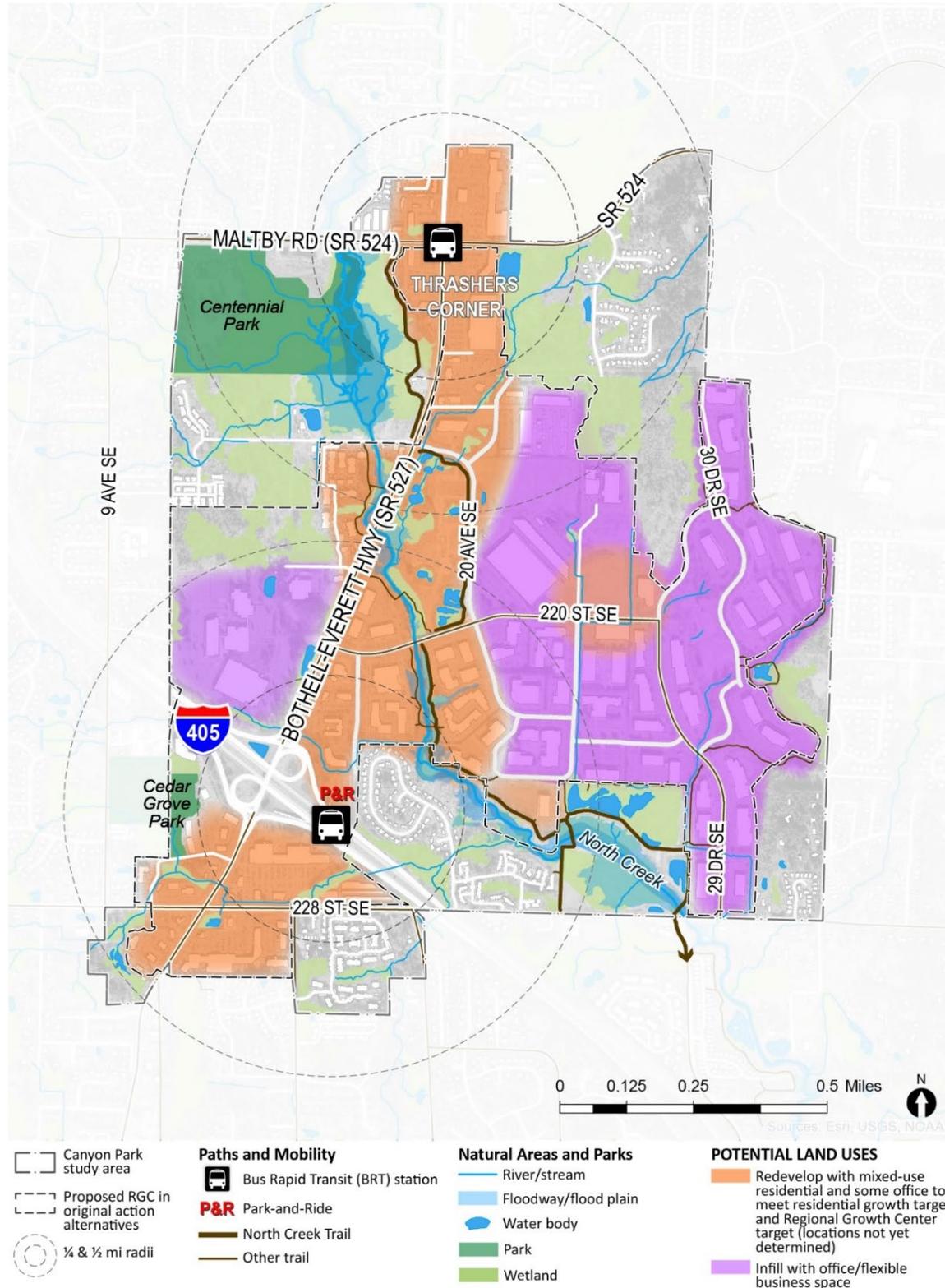
Source: City of Bothell, 2019; BERK, 2019.

Figure 3. Land Use Pattern—Business Plus Alternative



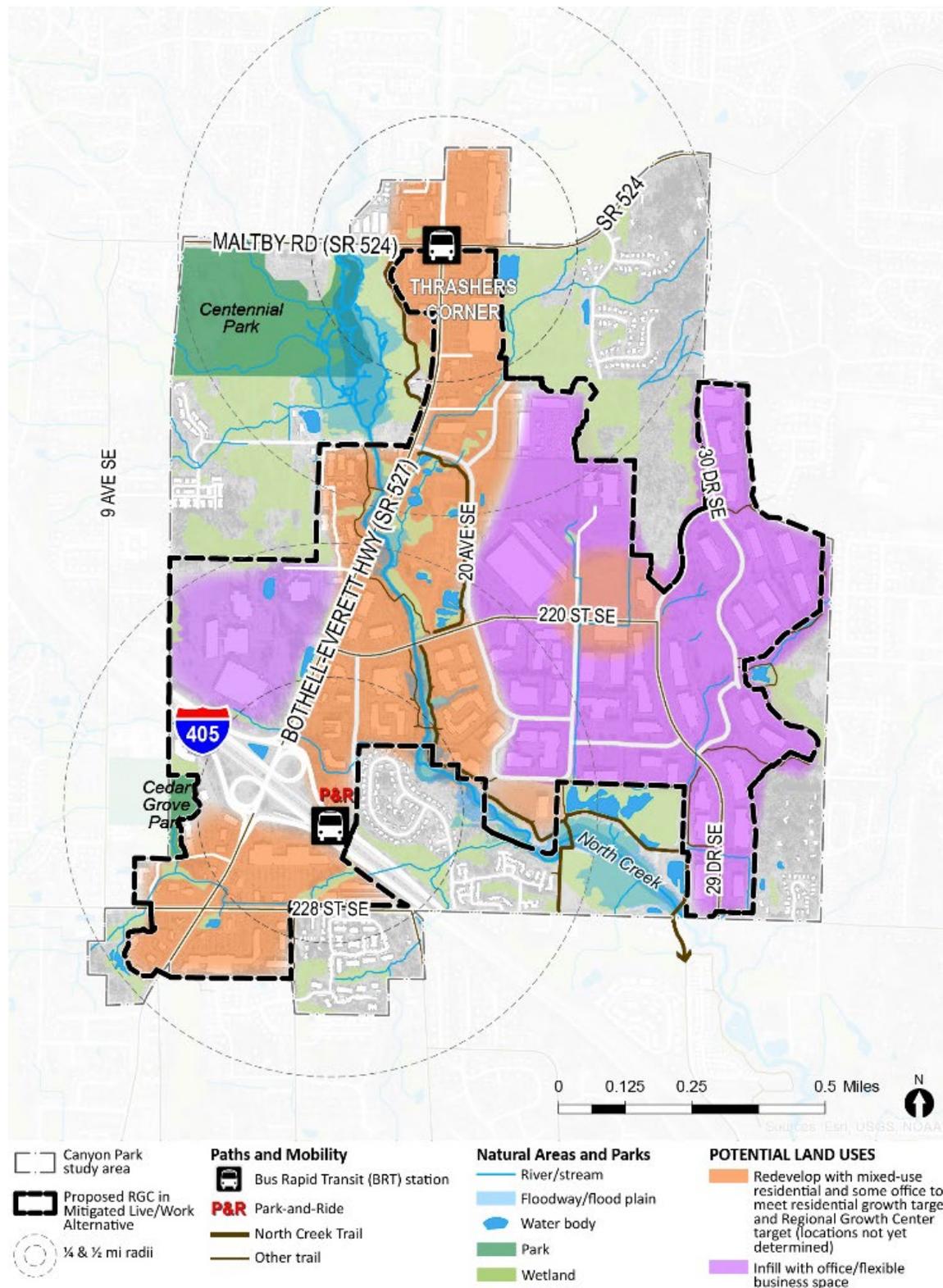
Source: MAKERS, 2019.

Figure 4. Land Use Pattern—Live/Work Alternative



Source: MAKERS, 2019.

Figure 5. Land Use Pattern—Mitigated Live/Work Alternative



Source: MAKERS, 2019.

## Park and Transportation Investments

Proposed investments in parks and transportation facilities are meant to provide amenities to create a livable environment and to support meeting the City's levels of service and relieve congestion. Features and differences of the alternatives are highlighted below.

### *New Public Parks and Signature Public Spaces*

**All Alternatives:** Development under all alternatives would provide park impact fees to contribute to public parks to help realize the City's park system per the Parks, Recreation, and Open Space Plan. It would be difficult to acquire new parkland given land values, but to the extent that current parks and trails can be improved to meet the City's desired level of service it could help address new demand for parks and trails due to added employees and residents in the subarea.

**Action Alternatives:** The Action Alternatives would additionally shape park and public space investments as follows:

- *New Parks and Spaces:* Conceptual locations for central gathering spaces are highlighted in Section 3.3 Aesthetics and Urban Design. The City may invest in signature spaces, or encourage public/private partnerships to achieve the signature spaces. The City would require development adjacent to parks to have active, lively edges to contribute to the park's character.
- *North Creek as unifying element:* The City would invest in and encourage private development to create a signature public space near North Creek and connections to the creek.

### *Multimodal Infrastructure*

**All Alternatives:** North Creek Trail and 17<sup>th</sup> Avenue SE would see improvements to pedestrian and bicycle infrastructure.

**Action Alternatives:** Growth would necessitate a greater emphasis on non-motorized forms of travel, increasing the importance of investing in pedestrian and bicycle infrastructure. Development standards encouraging buffered sidewalks and active ground floors along the major pedestrian and bicycle paths to transit would likely result in safer and more comfortable routes. The City would likely invest in additional pedestrian and bicycle infrastructure, and possibly microtransit like bicycle or scooter share, or inter-park transit shuttle.

### Transportation Improvements

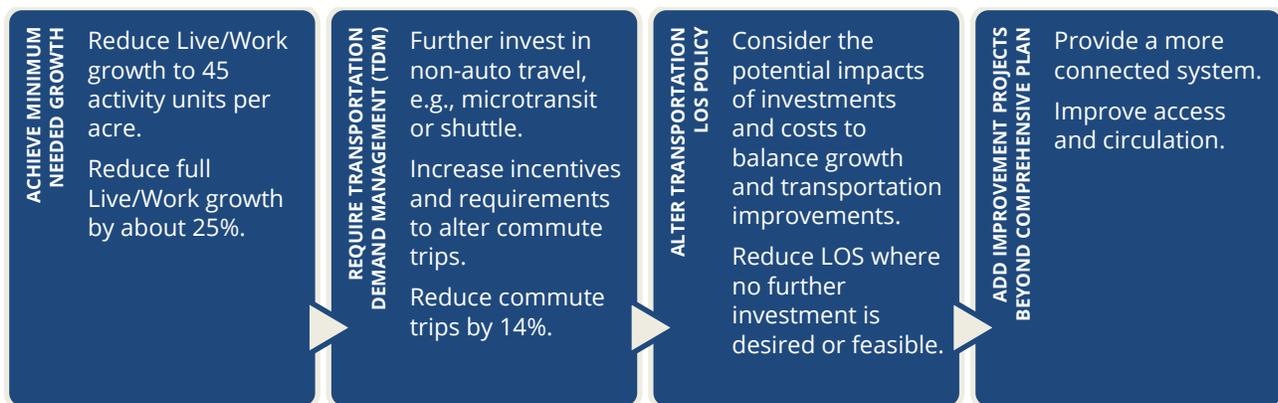
**All Alternatives:** All alternatives would implement roadway and intersection improvements identified in the Comprehensive Plan Transportation Element. All three study corridors are expected to operate at LOS F conditions, with multiple individual intersections expected to operate at LOS F conditions by the year 2043.

**Mitigated Live/Work Alternative:** The Action Alternatives will generate more new PM peak hour vehicle trips compared to the No Action Alternative (9,000-11,000 vehicle trips in the Action Alternatives versus 4,000 trips under No Action). The existing street network likely cannot accommodate this increase in PM peak hour trips – particularly as the main business park is limited to three main access points. All three study corridors of SR 527, SR 524, and 228<sup>th</sup> St SE, are expected to operate at LOS F conditions, with multiple individual intersections expected to operate at LOS F conditions.<sup>1</sup> Potential mitigations to address these impacts could take the form of the following:

- Reduce land use growth.
- Require transportation demand management (TDM) strategies and program.
- Alter transportation LOS policy to accept higher vehicle delays or change the method by which LOS is measured (such as shift from average vehicle delay to average person delay).
- Add transportation improvement projects beyond the Comprehensive Plan.

See Figure 6 for a description of each tactic to provide mitigation.

**Figure 6. Process to Allow for Live/Work Center with Less Capital Investment**



<sup>1</sup> See Table 42 on page 3-125 for definitions of traffic operation levels of service.

### Street Connections

Given the number of trips generated to and from the study area under the Live/Work and Business Plus Alternatives, new access points and streets could provide a more connected system and help distribute trips during peak commute hours.

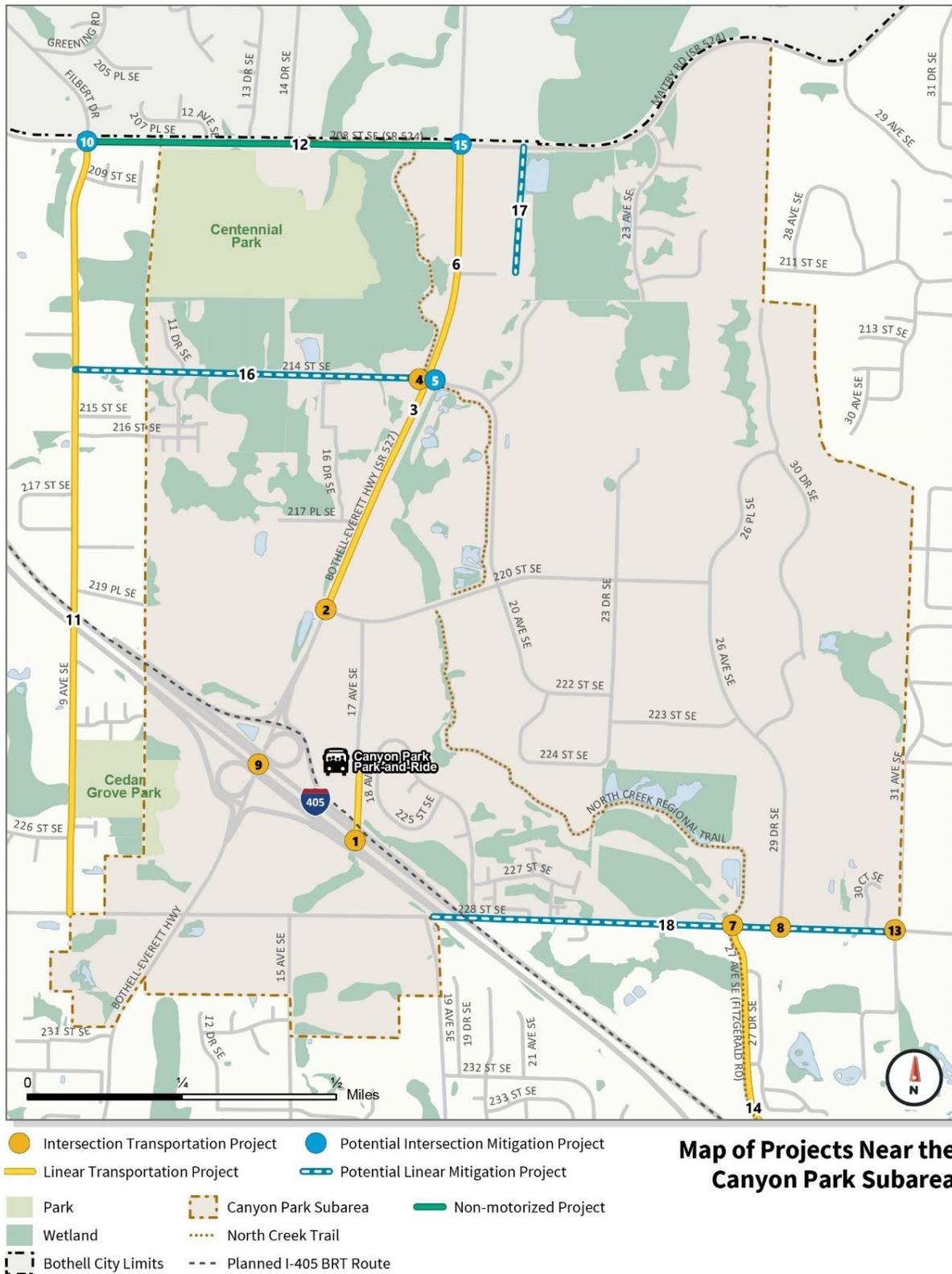
A number of street locations were considered for new road connections to SR 524 to the north, 9<sup>th</sup> Avenue SE to the west, and 228<sup>th</sup> Street SE to the south. The 20<sup>th</sup> Avenue SE connection near Fred Meyer to the north was chosen over two other options: 23<sup>rd</sup> Avenue SE or 30<sup>th</sup> Drive. 23<sup>rd</sup> Avenue SE was less desirable because of potential wetland and neighborhood impacts. Similarly, a 30<sup>th</sup> Drive connection to the north or to 23<sup>rd</sup> Drive to the south was not carried forward because of its length and potential wetland impacts.

A connection to the west would allow some vehicles to avoid two of the most congested intersections on SR 527 (at SR 524 and at 228<sup>th</sup> Street SW). The 214<sup>th</sup> Street SE connection was chosen over 220<sup>th</sup> Street SE to avoid adding more traffic to the intersection of SR 527/220<sup>th</sup> Street SE, which would also serve as the main access point to the planned I-405 direct access ramps.

Another connection that was not assumed in the mitigation project list is the 219<sup>th</sup> Place connection from 9<sup>th</sup> Avenue SE to the Philips and Juno parking lots. While this connection would help alleviate vehicle demand on SR 527 by providing another vehicle route for about 200 peak hour trips destined to the west, the connection may have potential wetland impacts.

A map of the planned transportation improvement projects (yellow) and proposed mitigation projects (blue) proposed in this Draft EIS are shown in Figure 7 and described in Table 2.

Figure 7. Planned and Potential New Transportation Improvement Projects



Source: Fehr & Peers, 2019.

**Table 2. Transportation Project Map Descriptions**

No.	Project	Description
1	WSDOT I-405 Direct Express Toll Lane Access Ramps	Direct access ramps from ETL to Canyon Park at 17 <sup>th</sup> Ave SE and transit connections. Includes improvements to 17 <sup>th</sup> Ave SE and intersections at 220 <sup>th</sup> St SE / 17 <sup>th</sup> Ave SE and 220 <sup>th</sup> St SE / SR-527.
2	220 <sup>th</sup> St SE & SR 527 Intersection	Add another eastbound left turn lane (2 total left turn lanes).
3	SR 527: Add a southbound lane between SR 524 & 220 <sup>th</sup> St SE	Prepare plans, specifications, and estimates to add a third southbound lane, and associated intersection revisions.
4	214 <sup>th</sup> St SE & SR 527	Re-channelize the westbound through/left lane to a through/right lane.
5*	214 <sup>th</sup> St SE & SR 527	Add channelized westbound right turn lane and dual westbound left turn lane.
6	SR 527 (211 <sup>th</sup> St SE to north of SR 524)	Add a third northbound through lane. Add a southbound left turn lane at SR 524 (2 left). Also known as SR 527/SR 524 Intersection Improvements.
7	228 <sup>th</sup> St SE & Fitzgerald Rd intersection	Add eastbound right turn pocket.
8	228 <sup>th</sup> St SE & 29 <sup>th</sup> Dr SE intersection	Add westbound right turn pocket.
9	I-405 Widening & SR 527 Interchange Improvements	Widen I-405 to add a second Express Toll lane from SR 522 to I-5 in Lynnwood. Improvement the SR 527 and I-405 Interchange/ramps.
10*	9 <sup>th</sup> Ave SE & SR 524	Dual northbound left turn lanes.
11	9 <sup>th</sup> Ave SE Widening: 228 <sup>th</sup> St SE to SR 524	Upgrade road to a Collector road standard (3-lanes) with improved pedestrian/bike facilities and improved 228 <sup>th</sup> St SE and SR 524 intersections.
12	North Creek Trail – Section 4	Complete the missing link along SR 524 between current trail and Filbert Rd.
13	229 <sup>th</sup> St SE / 31 <sup>st</sup> Ave SE Intersection	Add a westbound dedicated right turn lane.
14	Fitzgerald Rd: 240 <sup>th</sup> St SE to 228 <sup>th</sup> St SE	Widen road and add curb, gutter, and sidewalks.
15*	SR 527 / SR 524	Modify intersection to include two westbound left turn lanes and two westbound through lanes.
16*	214 <sup>th</sup> St SE Roadway Extension	Extend 214 <sup>th</sup> St SE west to the Canyon Park Subarea boundary.
17*	20 <sup>th</sup> Ave SE	Add new connection from 20 <sup>th</sup> Ave SE to SR 524.
18*	228 <sup>th</sup> St SE	Widen to five lanes from 19 <sup>th</sup> Ave SE to 31 <sup>st</sup> Ave SE. This widening project could be physically constrained where it crosses under I-405 due to the placement of existing I-405 columns and may have impacts to 19 <sup>th</sup> Avenue SE.

\*Potential new project proposed in this study.

Source: Fehr & Peers, 2019.

The benefits and disadvantages of the supplemental transportation investments associated with the Mitigated Live/Work Alternative are described conceptually in Table 3.

Table 3. Transportation Mitigation Projects Summary

Project	Potential Benefits		Potential Impacts & Considerations			Approx. cost (\$-\$\$\$\$)
	Supports businesses & community members who commute by car	Supports multimodal transportation	Community	Wetlands & streams	Other	
<b>5.</b> <b>214<sup>th</sup> St SE &amp; SR 527 intersection modification</b>	<b>Medium:</b> Provides additional vehicle capacity in/out of business park. Average delay decreases by 53 seconds, but still expected to operate at LOS F. (corresponds with 214 <sup>th</sup> street extension).	<b>Medium:</b> Rechannelization would result in some improvements to pedestrian crossings.	<b>Low:</b> Increases crossing distance for North Creek Trail over 214 <sup>th</sup> St SE.	<b>Low:</b> Minor impacts to wetlands and North Creek tributary.	<b>Low:</b> Minor right-of-way impacts to business on northeast corner (and potentially southwest corner).	<b>\$</b>
<b>15.</b> <b>SR 527/SR 524 intersection modification</b>	<b>Medium:</b> Provides additional vehicle capacity and improves vehicle access to the study area. Average delay decreases by about 59 seconds, but still expected to operate at LOS F.	<b>Low:</b> Design may include pedestrian and bicycle infrastructure and reduce pedestrian wait time at the intersection.	<b>Mixed:</b> Pedestrian crossings would be even longer distances.	<b>None</b>	<b>Medium:</b> Right-of-way expansion needed on adjacent commercial properties. Parking and access impacts.	<b>\$\$</b>
<b>16.</b> <b>214<sup>th</sup> St SE street extension</b>	<b>High:</b> Provides improved mobility with a more connected street system to/from the study area.  Reduces unnecessary new vehicle trips on SR 527 and SR 524.	<b>Medium:</b> Potential improvement if pedestrian and bicycle infrastructure is included.	<b>High:</b> Increases vehicle traffic through neighborhood.	<b>High:</b> Impact to wetlands and buffers throughout the corridor. One new Royal Anne Creek stream crossing.  Opportunity to upgrade fish passage to North Creek, North Creek tributary, and Royal Anne Creek stream crossings.	<b>High:</b> Right-of-way strip needs throughout the corridor. Unidentified right-of-way needed near four residences on west end at 9th.	<b>\$\$\$\$</b>
<b>17.</b> <b>20<sup>th</sup> Ave SE street extension (behind Fred Meyer)</b>	<b>High:</b> Provides additional vehicle routing options to/from the study area.  Reduces unnecessary vehicle trips on SR 527 and SR 524.	<b>Medium:</b> Potential improvement with additional crossing of SR 524 if pedestrian and bicycle infrastructure is included.	<b>None</b>	<b>High:</b> Impact to wetlands. One new stream crossing required.	<b>Medium:</b> Impacts to the Fred Meyer commercial business loading and circulation	<b>\$\$\$</b>

Project	Potential Benefits		Potential Impacts & Considerations			Approx. cost (\$-\$\$\$\$)
	Supports businesses & community members who commute by car	Supports multimodal transportation	Community	Wetlands & streams	Other	
<b>18. 228<sup>th</sup> St SE widening &amp; rechannelization</b>	<b>Medium:</b> Increases roadway capacity to improve access to/from study area.  Benefits may be limited as 228 <sup>th</sup> St narrows back to three lanes east of 39 <sup>th</sup> Ave.	<b>Medium:</b> Potential improvement if pedestrian and/or bicycle infrastructure is included, especially if filling the sidewalk gap on 228 <sup>th</sup> St SE under I-405.	<b>Mixed:</b> Roadway crossings, including the North Creek Trail crossing, would be longer. Depending on right-of-way needs and availability, the sidewalk and bicycle environment east of I-405 may narrow.	<b>Low:</b> Potential fish passage improvements to North Creek, Junco Creek, South Fork Perry Creek, Palm Creek, and unnamed tributary stream crossings. Minor wetland impacts.	<b>Medium:</b> Right-of-way expansion needs on both sides throughout the corridor. This project could be physically constrained where it crosses under I-405 due to the placement of existing I-405 columns and may have impacts to 19 <sup>th</sup> Ave SE.	<b>\$\$\$\$</b>

Sources: MAKERS, 2019; The Watershed Company, 2019; Perteet, 2019; Fehr & Peers; 2019.

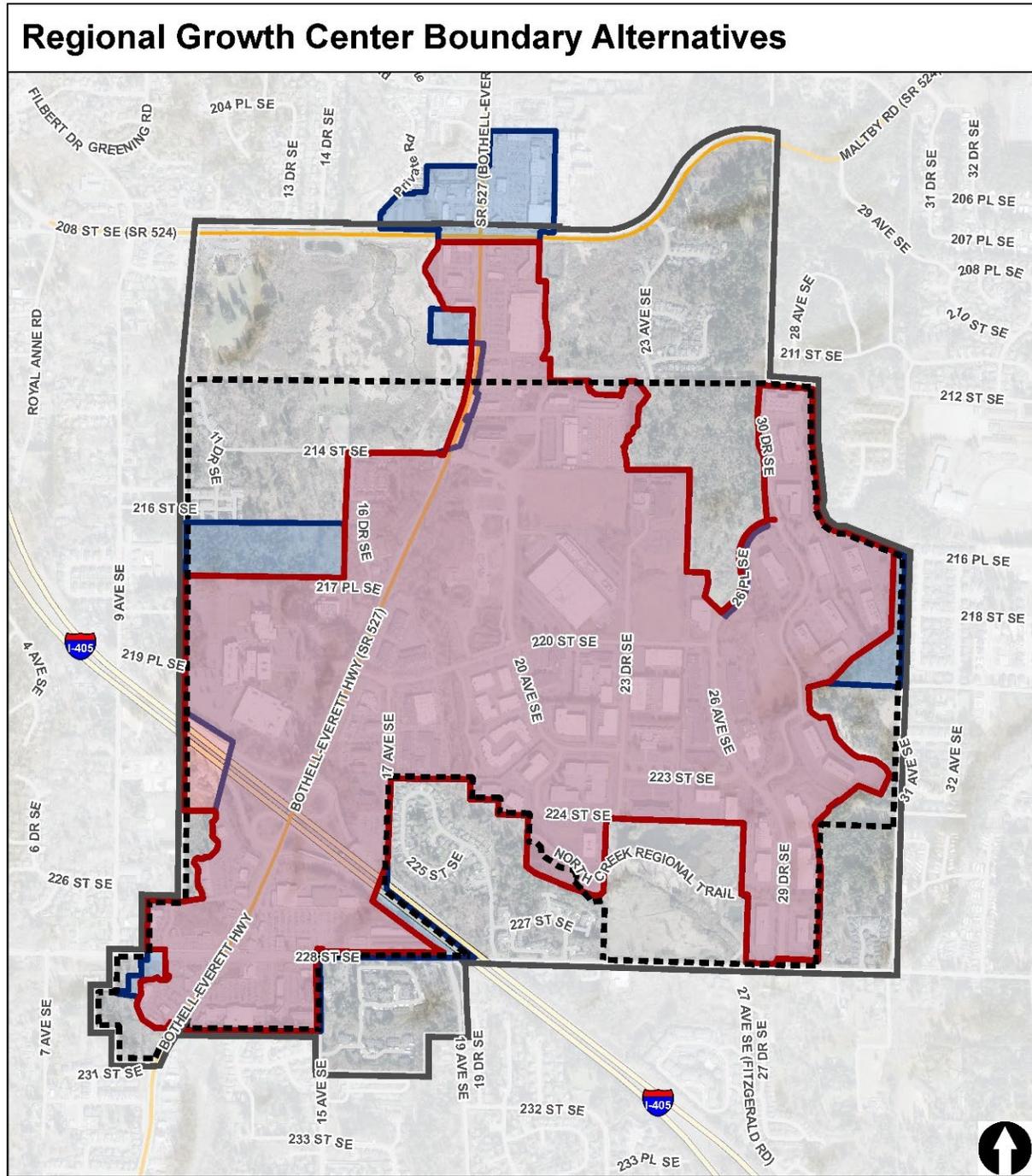
Another potential mitigation project considered was an alternative intersection design at 228th Street/Bothell-Everett Highway which would feature displaced left turns to reduce conflicting movements and allow for more efficient signal phasing. This intersection modification would likely require additional right-of-way along 228<sup>th</sup> Street directly east and west of the intersection and traffic signal modifications. This concept could increase intersection capacity; however, widening of 228<sup>th</sup> Street would also degrade the pedestrian environment by lengthening crossings. This concept could not be evaluated using the tools applied for this EIS analysis; however, research from the FHWA has indicated that intersection delay could be reduced by up to 30%. (FHWA, 2014) Even with a 30% decrease in delay, this intersection is still likely to see LOS F operations, but delay would be reduced compared to if no changes were made at this location.

Lastly, a potential transit project to consider is BAT lanes on SR 527 to improve transit service operations in the subarea. Widening of SR 527 to add a new dedicated transit lane could improve transit speed and reliability along the corridor and encourage transit ridership. Adding a BAT lane however would require substantial funding for right-of-way acquisition and traffic signal modifications. A conversion of a general purpose lane to a BAT lane would also prioritize and improve transit operations in the area; however, it would negatively affect vehicles using remaining general purpose lanes, since they would lose one lane of roadway capacity.

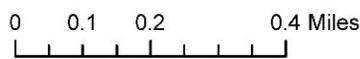
## Regional Growth Center Boundaries

Current RGC boundaries are 733 acres and include areas of wetlands. The new PSRC guidance promotes more compact RGC boundaries of up to 640 acres or a square mile. The Business Plus and Live/Work Alternatives would add the Thrasher's Corner intersection and abutting properties to RGC boundaries and reduce the boundaries elsewhere, particularly excluding wetland areas that are not allowed to develop. The result is an RGC boundary of about 613 acres. The proposed boundary in the Mitigated Live/Work Alternative is similar to those of other Action Alternatives, but refines areas further near wetlands and roads, producing a boundary of 565 acres. See Figure 8 to compare RGC boundary alternatives.

Figure 8. Comparison of RGC Boundary Alternatives



### Canyon Park Subarea



-  Canyon Park Subarea
-  Adopted Regional Growth Center (RGC)
-  Proposed RGC - Live/Work Mitigated Alternative
-  Proposed RGC - EIS Action Alternative

Source: City of Bothell, 2019; BERK 2019.

## Growth Estimates

Based on the current zoning and buildable lands capacity method, the No Action Alternative could accommodate about 4,500 residents and about 4,787 jobs. The Business Plus Alternative has about the same number of residents and a much higher number of jobs at 17,350. The Live/Work Alternative would have a greater residential population of nearly 7,200 and high job count at nearly 15,300. Across all alternatives, nearly all the growth would be in the RGC (see Table 4).

**Table 4. Housing, Population, and Jobs**

Alternative	Regional Growth Center (RGC)				Full Study Area			
	Dwelling Capacity	Population Capacity	Job Capacity	Total Activity Units	Dwelling Capacity	Population Capacity	Job Capacity	Total Activity Units
<b>No Action</b>	1,856	3,712	4,530	8,242	2,242	4,484	4,787	9,271
<b>Mitigated Live/Work</b>	2,816	4,225	9,458	13,683	3,614	5,496	9,805	15,302
<b>Business Plus</b>	2,687	4,012	17,209	21,221	2,915	4,468	17,350	21,818
<b>Live/Work</b>	4,498	6,732	15,143	21,875	4,726	7,188	15,284	22,472

Source: MAKERS, 2019; BERK, 2019.

The alternatives would provide capacity for growth that adds shares of population and jobs, as follows in Table 5.

**Table 5. Balance of Population and Jobs Combined Capacity, Full Study Area—All Alternatives**

Alternative	Net Growth Share		Existing + Future Share	
	Population	Jobs	Population	Jobs
<b>No Action</b>	48%	52%	31%	69%
<b>Mitigated Live/Work</b>	36%	64%	28%	72%
<b>Business Plus</b>	20%	80%	21%	79%
<b>Live/Work</b>	32%	68%	28%	72%

Source: MAKERS, 2019; BERK, 2019.

## 1.7 Major Issues, Significant Areas of Controversy and Uncertainty, and Issues to be Resolved

The key issues facing decision makers include:

- Approval of a Subarea Plan Update including a vision, guiding principles, land use concept and design principles.
- Approval of a new set of development regulations.
- Level of growth to be incentivized in a Planned Action and cost-recovery requirement.
- A constrained and over-capacity roadway system that is anticipated to fail in the future if no improvements or changes are made. This a regional issue that cannot be resolved by Bothell alone.
- Type, location, cost, and financing of transportation improvements, including new public streets.
- Type and location of new park investments, to serve new growth.
- Potential to change private roads to public roads and effect on cost, maintenance, and other factors; and
- The potential for in progress development applications or proposals to alter the vision of future uses in study area, such as the Sound Transit base or others.

## 1.8 Summary of Impacts and Mitigation Measures

### Natural Environment

#### *How did we analyze the Natural Environment?*

This section addresses the five regulated critical areas (wetlands, critical aquifer recharge areas (CARAs), frequently flooded areas (FFAs), geologically hazardous areas, and fish and wildlife habitat conservation areas (FWHCAs)) in the Canyon Park Subarea. A combination of desktop review and field reconnaissance informed the natural environment assessment. Publicly available information and GIS data were used to review mapped regulated critical areas, which were coarsely verified in the field. The type, magnitude, and likelihood of impacts occurring from the alternatives were assessed to determine potential effects on the natural environment.

#### *What impacts did we identify?*

Regional growth has the potential to impact the following elements of the natural environment in the study area.

##### Wetlands

Wetlands may be directly impacted by roads necessary to accommodate growth, resulting in a loss of wetland area and associated wetland functions. Indirect wetland impacts include intrusions by people and pets, increased noise and light, increased potential for transport and establishment of nonnative plants and animals, and increased use of fertilizers and pesticides in the landscape. Some effects of growth and redevelopment may have positive effects on wetlands; for example, redevelopment may reduce or remove existing impacts from wetland buffers.

##### Streams

Streams may be directly affected by new or upgraded crossings associated with new road infrastructure. Upgraded stream crossings would likely improve existing stream habitat. New roads that would require new stream crossings would result in in-stream and buffer impacts that would require compensatory mitigation in accordance with applicable regulations.

Redevelopment may reduce or remove existing impacts from stream buffers. Furthermore, since the subarea is already largely built out, redevelopment is likely to lead to improvements in stormwater management. Decreased stormwater volumes and flow rates and accompanying improvements in water quality would have positive effects on stream habitats if installed. During construction, the primary pollution concerns would be sediment transport, erosion, and fuel and other spills.

**Figure 9. Relocated Section of North Creek Tributary Junco Creek**



Located behind (east of) 22745 29<sup>th</sup> Dr SE #200, northeast of the intersection of 228<sup>th</sup> St SE and 29<sup>th</sup> Dr SE.  
Source: The Watershed Company, April 2017.

### ***Plants and Animals***

Since uplands are not explicitly protected by critical area regulations, build-out under all of the alternatives would reduce the overall quantity of vegetated area in Canyon Park. However, many vacant sites were severely modified in the past through land filling, grading, and introduction of non-native plants and therefore offer very little wildlife value. Current standards are expected to incentivize low-impact development techniques, incorporation of landscaped areas, and reduction of impervious surfaces on highly impervious lots, which may result in an increase in small vegetated patches that could serve as habitat for urban wildlife species. Alteration of habitat area and increased disturbance from some degree of urbanization is likely to affect wildlife species commonly present in the subarea, including but not limited to birds, small mammals, deer, beavers, and insects (including pollinators).

Beavers that are currently active in the study area may be impacted by new or improved road infrastructure and development activities.

Population growth will likely result in some degradation of retained natural areas from disturbance caused by human intrusion, litter, weeds, traffic, noise, and light. Wildlife would also be affected by temporary impacts from construction activities.

### ***What is different between the alternatives?***

Under the No Action Alternative, growth is relatively evenly distributed within the existing RGC boundary and is not focused in specific areas within the RGC boundary. The current RGC boundary includes high-value wetlands and intact habitat areas. Impacts to critical areas within the current RGC boundary are expected to be prevented by applicable

regulations; however, impacts from buffer intrusions and fragmentation may be higher in this alternative as a result of the unfocused growth. The magnitude of direct and indirect impacts to wetlands and wildlife habitat related to increased population is expected to be the least under this alternative given the projected overall growth and the need for additional roads. The No Action Alternative is expected to result in fewer stream benefits than the Action Alternatives and the Mitigated Live/Work Alternative because of fewer anticipated improvements to existing stormwater management in the subarea with less redevelopment.

The Action Alternatives, including the Mitigated Live/Work Alternative, protect large patches of remaining habitat in the Canyon Park Subarea that include wetlands and streams by focusing growth in other locations. However, these alternatives also necessitate additional road infrastructure that would generate impacts to wetlands, streams, and associated habitat. Construction of this infrastructure would not occur (at least to a comparable magnitude) under the No Action Alternative. Under the Action Alternatives, wetlands, plants, and animals would experience greater direct impacts than under the No Action Alternative. While the Action Alternatives would likely result in some new stream crossings, upgrades to existing crossings and stormwater quantity and quality improvements are likely to benefit stream habitats if installed.

### ***What are some solutions or mitigation for the Natural Environment impacts?***

Many impacts to the natural environment will be mitigated through compliance with applicable local, state, and federal regulations. For example, individual projects must comply with local critical areas regulations, the City's Surface Water Design Manual, requirements for developing or redeveloping in special flood hazard areas, the Shoreline Management Act, and federal standards for actions that could affect endangered species or directly impact streams and wetlands (to name a few). Other measures to mitigate impacts from population growth in Canyon Park could include:

- Consider the development of an advance mitigation program for wetland and stream buffer impacts that may result from transportation projects.
- Incorporate a performance standard for disturbance of vegetation on geological hazardous areas that requires mitigation and restoration.
- Develop a stewardship program for retained natural areas.
- Install interpretive signs near natural areas.
- Consider creating development standards related to ongoing beaver presence and activity in the subarea.
- Apply more stringent stormwater requirements in this area that require flow control and water quality facilities to be installed.

***With mitigation, what is the ultimate outcome?***

No significant unavoidable adverse impacts to regulated critical areas are anticipated under any alternative with incorporation of the mitigation measures previously identified. However, the Action Alternatives would likely require substantial wetland and stream mitigation efforts to avoid significant adverse impacts. Mitigation activities may occur outside of the Canyon Park Subarea which would lead to a net reduction in wetland area and associated wetland functions in Canyon Park.

**Land Use Patterns and Policies*****How did we analyze Land Use Patterns and Policies?***

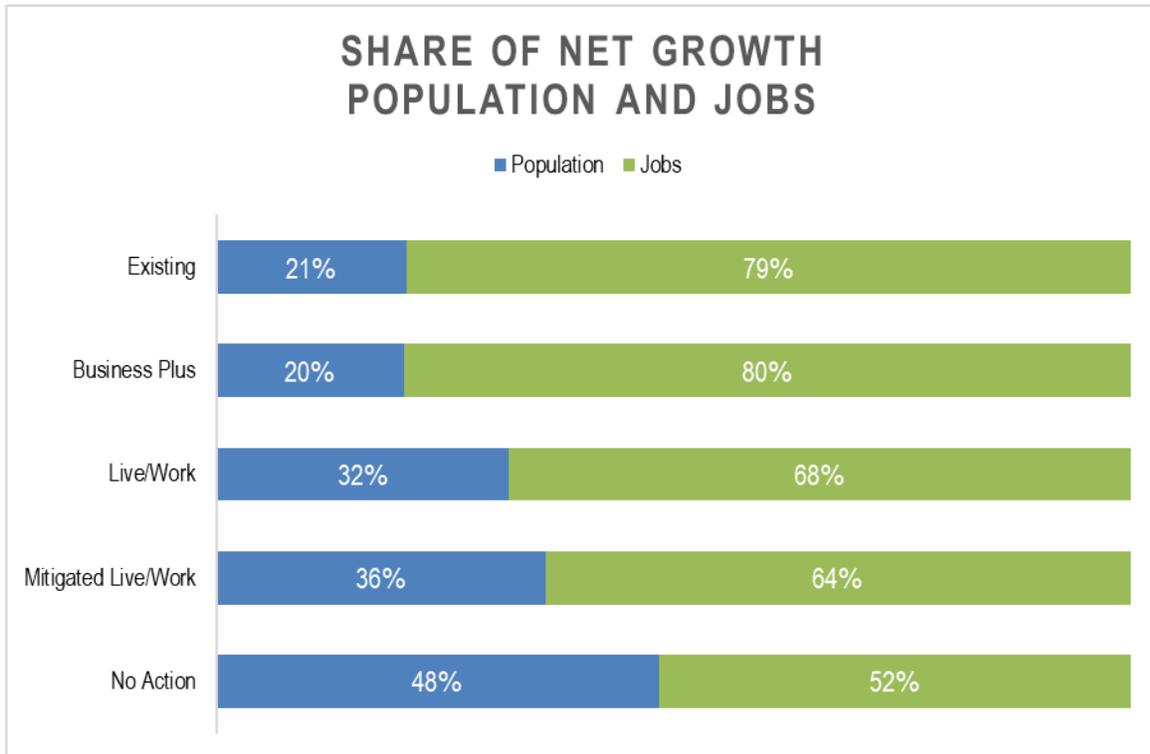
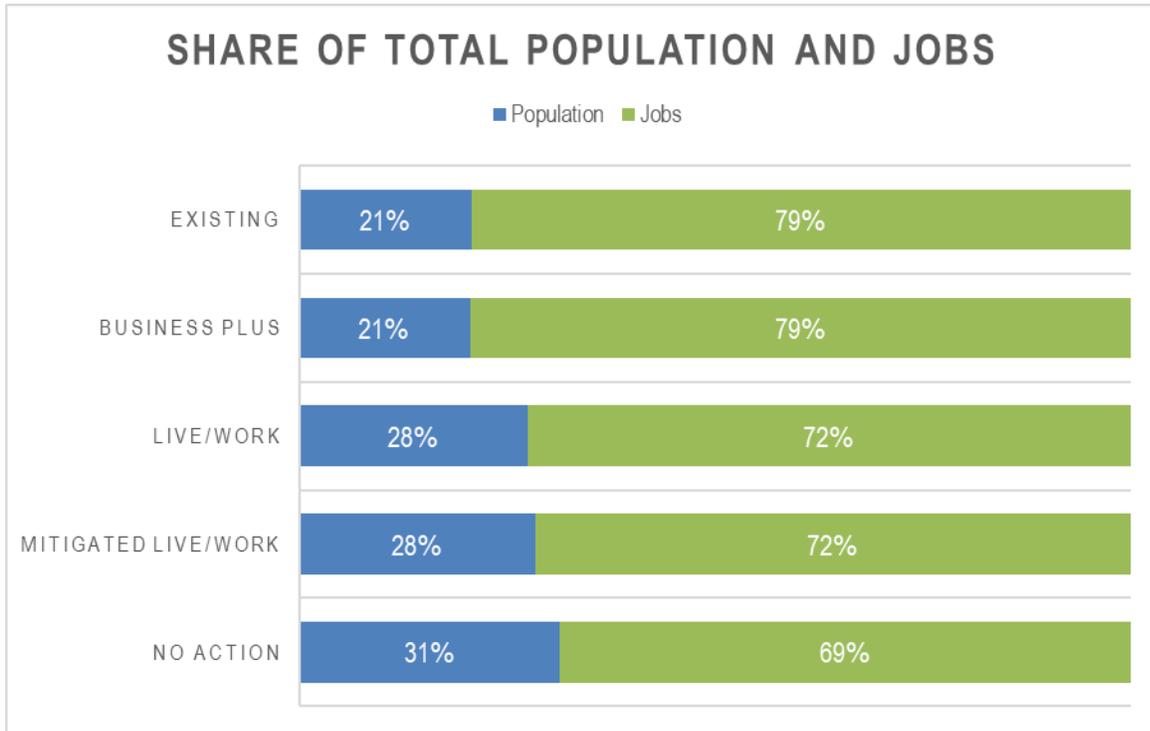
The Land Use Patterns and Policies analysis addresses physical land use patterns within and surrounding the Study Area, considering changes in type and intensity of land uses. Existing land use pattern conditions are based on field reconnaissance, imagery review, and Snohomish County parcel data. Future conditions consider the land use change and transitions, differences in activity levels, and inconsistency with current plans and policies.

***What impacts did we identify?***

Consistent with the community's vision, each alternative would reinforce the Canyon Park Study Area as an employment center with housing choices. The growth of each alternative when added to the existing jobs and population in the area would continue to emphasize employment.

All alternatives would increase growth in the study area above current planning capacities, increasing the level of residential activity in evenings and weekends and job activity principally during the daytime (see Figure 10).

Figure 10. Employment and Population Shares—All Alternatives



Source: BERK, 2019.

All studied alternatives would be consistent with Growth Management Act (GMA) goals. Each alternative would add employment and housing opportunities to different degrees in the Canyon Park Subarea, and particularly within the RGC. This is consistent with the GMA, which promotes urban growth within urban areas to prevent sprawl. The studied alternatives support other GMA goals by encouraging economic development, allowing housing choices, conserving open space, and promoting environmental protection, among other goals.

### ***What is different between the alternatives?***

The No Action Alternative would retain the current Comprehensive Plan and Subarea Plan and would not meet PSRC Centers criteria to have an updated plan. The size and intensity of RGC activity units also would not meet PSRC criteria. Growth capacity would be the lowest of the studied alternatives and there would be less activity in the study area than under the Action Alternatives. Fewer infrastructure or service investments are proposed, which would limit quality of life for current and future residents and employees.

The Action Alternatives would update the Comprehensive Plan with the inclusion of a new Subarea Plan designed to meet the PSRC Centers criteria. Dividing the capacity of each Action Alternative, by the capacity of the No Action Alternative:

- The Business Plus Alternative would add the most capacity for jobs at about 3.6 times the capacity of the No Action Alternative, while retaining a nearly equal population capacity as the No Action Alternative..
- The Live/Work Alternative would increase the capacity for jobs by about 3.2 times that of the No Action Alternative, and 1.6 times the population capacity of the No Action Alternative.
- The Mitigated Live/Work Alternative would increase jobs 2.0 times the No Action Alternative, and 1.2 times the population capacity of the No Action Alternative.

The Action Alternatives provide more growth capacity than the No Action Alternative and could support the City's next Comprehensive Plan Update and the future planning period of 2043. However, Comprehensive Plan amendments would be needed to integrate the new subarea plan, including a consistent land use plan and capital facilities plan.

### ***What are some solutions or mitigation for the Land Use impacts?***

To reduce the increase in activity levels and still achieve policy consistency, the Mitigated Live/Work Alternative was developed in the range of the other alternatives. The Mitigated Live/Work Alternative has a similar land use pattern as the Live/Work Alternative except that the level of growth in residents and jobs would be about 25% less. The growth level is based on an even more compact RGC boundary of 565 acres, but would still be consistent with PSRC Centers criteria. The population and job activity unit numbers under this alternative would meet the minimum PSRC requirements.

The updated Subarea Plan with Action Alternatives would require consistency amendments with the Comprehensive Plan, such as capital facilities plans and other text and policy adjustments.

The Action Alternatives would require the development of new or revised zoning and design regulations for the subarea.

### ***With mitigation, what is the ultimate outcome?***

Under all alternatives, additional growth and development will occur in the study area, leading to increases in land use intensity. This transition is unavoidable but is not considered significant or adverse within an urban area designated as a mixed-use and employment center in the City's Comprehensive Plan and the regional VISION 2040 Plan. Future growth is likely to create temporary or localized land use compatibility issues as development occurs. The potential impacts related to these changes may differ in intensity and location in each of the alternatives. However, with existing and new development regulations, zoning requirements, and design guidelines, no significant adverse impacts are anticipated.

All alternatives are generally consistent with the policy direction of VISION 2040 and the City's Comprehensive Plan and Subarea Plan. However, updates to some policies and maps in both the Comprehensive Plan and the Subarea Plan will be needed under the Action Alternatives to ensure full consistency.

## **Aesthetics and Urban Design**

### ***How did we analyze Aesthetics and Urban Design?***

The analysis compares the impact of development standards and proposed City investments on the following aesthetic and urban design elements:

- Visual impacts of development near low-density residential neighborhoods.
- Potential shadows cast by future development on public open spaces.
- Consistency with plan objectives, including multimodal access, signature public spaces, access and celebration of North Creek, and increased retail and service amenities.

### ***What impacts did we identify?***

Existing buildings in the study area are between one and three stories, which is below current allowed heights. Redevelopment under the No Action and Action Alternatives would see taller buildings.



existing private streets). The increase in vehicular volumes under the Action Alternatives necessitates a shift to a more multimodal transportation network, compelling investment in pedestrian and bicycle infrastructure throughout Canyon Park. Development standards would require active ground floors in key places to create neighborhood centers. A combination of private and public investment would achieve signature public spaces, with at least one connecting to North Creek, and a redeveloped park-and-ride into a transit-oriented mixed-use development connecting transit riders to the business park with a lively and comfortable walking route. Throughout the business park, development would be more likely to include ground floor retail and service amenities, making the neighborhood more holistic and attractive to businesses.

The Action Alternatives reduce required setbacks from adjacent residential zones but would also be accompanied by new zone transition design and development standards to ensure an appropriate transition.

Both Action Alternatives encourage redevelopment of the Canyon Park Park-and-Ride with potential view and shadow impacts on the North Creek Trail.

Expected redevelopment in the Business Plus Alternative consists primarily of office and flex buildings, while the Live/Work Alternative's redevelopment is mostly residential. Office and flex buildings usually have larger floorplates than residential buildings, which create a wider building footprint. The focus on additional jobs in the Business Plus Alternative also adds more activity in the area during the day, assuming work shifts remain in daytime hours. The focus on residential development adds more 24-hour activity and potentially more nonmotorized commutes within Canyon Park.

### ***What are some solutions or mitigation for the Aesthetics and Urban Design impacts?***

**Visual impacts on residential zones.** The City could implement design guidelines and residential zone transition standards that will ensure high quality building aesthetics, respect residential privacy, reduce the visual impact of tall buildings near residential neighborhoods, and appropriately transition between larger- and smaller-scale development.

**Shadows.** The City could study shadow impacts to the North Trail Creek corridor, identify places to preserve solar access, and develop and implement development standards to preserve solar access in those places. Development standards might include stepped-down scale near the corridor and orientation of buildings to reduce their shadow impacts on neighboring areas.

**Plan Objectives.** Generally, the Action Alternatives lead to a multifaceted, holistic neighborhood more so than the No Action Alternative by focusing ground floor activity and improving the public realm in identified centers near transit and along pedestrian paths between destinations. The greater level of growth necessitates a shift toward non-vehicular transportation, meaning that the City and/or region will need to invest in pedestrian,

bicycle, and microtransit infrastructure and programs. Additionally, public investment in signature public spaces and connections to North Creek Trail are essential to meet plan objectives.

### ***With mitigation, what is the ultimate outcome?***

With mitigation—residential zone transition development standards, design guidelines, and public investments in nonmotorized transportation and the public realm—Canyon Park would likely develop with no significant visual impacts on residential zones, no significant shadows on public spaces, and plan objectives met. The visual character of the subarea would change significantly to support a multifaceted neighborhood. New public open spaces, improvements to how buildings relate to the street and to each other, pedestrian walkways, additional ground-level retail and amenities, and new investment in landscaping and habitat protection would provide substantial aesthetic benefits and help develop a stronger identity for the subarea.

## **Socioeconomics**

### ***How did we analyze Socioeconomics?***

This Draft EIS examines current socioeconomic characteristics of the Study Area including population, housing, and jobs using local, state, and federal data. This analysis identifies significant impacts using the following thresholds:

- Insufficient capacity to relocate displaced dwellings and population.
- Insufficient production of dwellings needed, including affordable units.
- Changes to employment mix resulting in involuntary economic displacement by businesses.

**Figure 12. Canyon Park Business Center**



The Canyon Park Business Center, straddling North Creek, houses many smaller businesses.

Source: MAKERS, January 2019.

***What impacts did we identify?***

All alternatives provide capacity for housing, population, and employment growth. There is a potential for displacement of existing jobs and, to a lesser extent, housing. However, there is capacity to retain or replace existing housing or jobs since most sites are partially developed with capacity for added floors or added structures.

***What is different between the alternatives?***

The No Action Alternative would increase dwellings by 163% over existing dwellings and add only 28% more jobs over existing levels. Growth assumptions under the No Action Alternative would essentially apply past trends forward; while the zoning code allows multi-story business and residential uses, the area is generally low-rise. The No Action Alternative would retain current building dimensional standards, and no minimum floor area ratio would be required. The generally low- and mid-rise character of the area would remain.

While there are private covenants, codes, and restrictions that limit residential uses in some areas, the Residential-Activity Center (R-AC) zoning that is most prevalent in the study area allows residential uses. There is moderately dense residential development approved or in the permit pipeline in the central study area that is competing for the same land that businesses would potentially pursue for new or expanding businesses.

The Business Plus Alternative would increase dwellings by 212% and jobs by 147%. This alternative would provide the most jobs of any alternative. Greater private investment is anticipated in response to the revised development regulations and improved streets, parks, and other infrastructure. Development would also be incentivized by facilitated permit review under the Planned Action Ordinance.

The Business Plus Alternative would change height, floor area ratios, density, parking rates, and other standards to increase opportunities for job and housing investments. With some minimum floor area ratios and investment in infrastructure and amenities, more employment growth is projected. Employment type is anticipated to include more multi-story office and greater intensity of manufacturing and retail.

The Live/Work Alternative would increase dwellings by 343% and jobs by 130%. The incentives and investments that would attract new growth under the Live/Work Alternative are similar to the Business Plus Alternative. The Mitigated Live/Work Alternative would have lesser but still substantial growth, increasing dwellings by 263% and jobs by 83%.

***What are some solutions or mitigation for the Socioeconomic impacts?***

To further bolster affordable housing opportunities and to retain and attract businesses, the City could:

- Consider offering incentives to developers that retain current businesses for a period of time or that offer business relocation assistance.

- Offer a multi-family tax exemption (MFTE) in the Canyon Park Subarea.
- Explore a program to ensure affordable office, manufacturing, and retail spaces are available. The programs could consider financial incentives (e.g., tax abatements equivalent of the MFTE), technical assistance and outreach, or the integration of office/retail affordability with density or floor area ratio incentives.

In addition, to reducing growth pressures that could affect displacement, the City could moderate proposed growth while still increasing job and housing opportunities. For example, the Mitigated Live/Work Alternative is similar to the full Live/Work Alternative in its pattern and share of population and jobs, except that the RGC boundary would be smaller and the growth levels less under the Mitigated Live/Work Alternative.

### ***With mitigation, what is the ultimate outcome?***

As the area develops, there may be displacement of existing jobs; however, there is sufficient employment space under any alternative to relocate businesses and thus there are no significant unavoidable adverse impacts. Though rents may increase for relocated businesses within the study area, the customer base may also increase. Retail and service jobs are anticipated to serve increased office and industrial workers. Potential growth in housing may create more potential customers for retail businesses and more opportunities for residents to live near their work.

Under all alternatives, displacement of existing residents in the study area is possible as land is redeveloped. However, since there is limited underutilized or redevelopable land with residential units and the potential is low. All alternatives, particularly the Live/Work Alternative, would substantially increase the capacity for housing that could better meet demand. Increasing affordable housing programs, incentives for developers to provide units affordable to a wide range of income groups, and investment in affordable housing development would partially offset affordability pressures in the city and for employers in the area, as well as meet affordable housing goals.

## **Transportation and Greenhouse Gas Emissions**

### ***How did we analyze Transportation and Greenhouse Gas Emissions?***

Auto/freight modes were evaluated for the expected PM peak traffic operations LOS at study intersections and along the three adjacent concurrency corridors. The PM period was evaluated as it represents the peak travel period of a typical weekday. A PM peak hour trip generation analysis was completed for the proposed land use growth under each alternative, and a travel demand model was used to forecast future year vehicle demand at study intersections. Planning level metrics were qualitatively evaluated for transit (based on planned transit service assumptions). Walking and biking modes were also qualitatively evaluated.

**Figure 13. Existing Roads in the Study Area, 228<sup>th</sup> Street SE and 27<sup>th</sup> Avenue SE**

Source: Google Maps, 2019.

**Figure 14. Bike Lanes on SR 527 Adjacent to Canyon Park Business Park**

Source: Fehr & Peers, 2019.

Study area PM peak period transportation greenhouse gas emissions per capita were estimated from data extracted from the travel model. The vehicle miles travelled, stratified by travel speeds, were converted to CO<sub>2</sub> emissions using California Air Resources Board's EMFAC air quality model.

### ***What impacts did we identify?***

Under the No Action alternative, five individual intersections along state routes, as well as the SR 527 and SR 524 corridors are expected to exceed the City's LOS E standard for concurrency corridors (and operate at LOS F). Because the Live/Work and Business Plus alternatives anticipate more growth in the subarea than is expected under the No Action Alternative, significant traffic impacts are expected along all three adjacent concurrency

corridors (SR 524, SR 527, and 228<sup>th</sup> Street), which are expected to operate at LOS F conditions with increased delay compared to the No Action Alternative during the PM peak hour. In addition, eight individual intersections along SR 524 and SR 527 and three intersections on the 228<sup>th</sup> Street SE corridor are expected to operate at LOS F conditions.

The Mitigated Live/Work Alternative would also result in LOS F conditions along SR 527 and SR 524, but at lower average delay than the No Action Alternative. The 228<sup>th</sup> Street SE corridor is expected to operate at LOS E conditions. In addition, seven individual intersections along the corridors are expected to operate at LOS F conditions (see Table 49).

### ***What is different between the alternatives?***

The Live/Work Alternative is expected to add 10,900 new PM peak hour trips to the study area. The Business Plus Alternative is expected to generate 9,060 new trips (about 17% fewer new PM peak hours trips compared to the Live/Work Alternative). The additional trips under each of these alternatives is higher than the 3,960 new PM peak hour trips expected under the No Action Alternative. Both alternatives are expected to increase congestion on the adjacent three concurrency corridors and result in LOS F operations during the PM peak hours by the year 2043. The Mitigated Live/Work Alternative would also result in LOS F conditions along SR 527 and SR 524 but at lower average delay than the No Action alternative (see Table 49).

### ***What are some solutions or mitigation for the impacts?***

Some mitigation strategies for the Action Alternatives include:

- Reduce the amount of land use growth assumed through 'mitigated' alternatives including RGC acreage reductions. Land use density would still need to meet the RGC required 45 activity units per acre.
- Require transportation demand management (TDM) program strategies to encourage travel by modes other than single-occupant vehicles.
- Alter transportation LOS policy to accept higher vehicle delays or change the method by which LOS is measured (such as shift from average vehicle delay to average person delay).
- Implement capital improvement projects to the transportation network (e.g., new roadway connections and intersection improvements).
- Increase transit service.
- Improve transit hub.
- Evaluate park-and-ride capacity needs.
- A combination of all or any of the above.

***With mitigation, what is the ultimate outcome?***

Under the No Action Alternative, the SR 527 and SR 524 corridors are expected to exceed the City's LOS E standard for concurrency corridors. This is due to both growth expected in the subarea, as well as growth in the region. Because the Live/Work and Business Plus alternatives anticipate more growth in the subarea than is expected under the No Action Alternative, significant traffic impacts are expected along all three adjacent concurrency corridors (SR 524, SR 527, and 228<sup>th</sup> Street), which are expected to operate at LOS F conditions. Additionally, individual intersections on SR 527 and SR 524 are expected to operate at LOS F conditions.

Implementation of the Live/Work or Business Plus alternatives would result in increased traffic in the study area compared to the No Action Alternative. Although the effects of additional vehicles on traffic congestion can be mitigated to varying degrees through the proposed transportation improvements as evaluated in the Mitigated Live/Work Alternative, the actual increase in traffic under the Action Alternatives is considered a significant unavoidable adverse impact.

Proposed street connectivity and intersection capacity improvements shown in Figure 83 would help support mobility throughout the study area under the Live/Work and Business Plus alternatives. Intersections on SR 527 and SR 524 are still expected to operate at LOS F conditions during peak commute hours (although this would result in improved operations compared to without these mitigations).

The Mitigated Live/Work Alternative includes new roadway connections, reduced land use growth, and implementation of TDM strategies, as well as potential LOS policy changes. Even with these mitigation strategies in place, the SR 524 and SR 527 concurrency corridors are still expected to operate at LOS F conditions, but the impact would be reduced to less than significant as the average corridor delay would be less than what is expected under the No Action Alternative. The SR 524 corridor delay improves by about 30 seconds (LOS F), the 228<sup>th</sup> Street SE corridor improves by four seconds (LOS E), and the SR 527 corridor improves by eight seconds (LOS F). See Table 49 for more information.

A significant adverse impact could also result if one or more mitigation measures identified to address expected impacts are not implemented. The combination of recommended roadway improvements the City selects during the entire environmental review and subarea planning process will reflect a balance between desired improvement in traffic operations, policy decisions, and available revenue.

This Draft EIS transportation analysis is focused primarily on vehicle use of the surrounding public street system because 1) the public street system is the primary transportation system that moves people to, from, and within the study area, and 2) the City has a measurable level of service standard for comparison purposes. At this point of analysis, the key assessment should be the impacts to the larger public transportation system. Once a preferred alternative has been defined, including the level of proposed land use growth,

implications to the business park's private street system can be addressed. Even though the private street system was not evaluated in this Draft EIS, the three main business park access intersections (214<sup>th</sup> Street SE/SR 527, 220<sup>th</sup> Street SE/SR 527, and 29<sup>th</sup> Avenue SE/228<sup>th</sup> Street SE) are evaluated consistent with the City's LOS standards to better understand potential access improvements needed. Because business park trips largely funnel through the three main access points to the corridors under study, it is anticipated that the private street evaluation at the time of the preferred alternative development may show that conversion to public streets better distributes trips along a more complete network; if so, the overall traffic congestion results are likely to be similar to or slightly better than the range of results in the Draft EIS.

Internal roads within the Canyon Park Business Park are currently privately owned by the Canyon Park Business Center Owners Association.<sup>2</sup> A separate conversation between the Owners Association and the City of Bothell is currently underway to identify what is necessary to convert those private roads into public streets. Should that conversion occur, the internal roads would be modified as redevelopment occurs to meet city standards for improved capacity and safe crossings.

## Public Services

### *Fire and Emergency Services*

#### *How did we analyze Fire Protection?*

The Draft EIS reviews the current and proposed fire department facilities and staff serving the study area based on department studies and reports. Response time objectives that are the basis for the City's LOS standard are addressed qualitatively by considering the location and type of growth in each alternative and congestion per Section 3.5 Transportation and Greenhouse Gas Emissions. For the purposes of this EIS, firefighters per 1,000 capita is quantified to address a potential increase in demand—the Bothell Fire Department currently has 1.3 firefighters per 1,000 residents serving the City of Bothell.

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<sup>2</sup> See Appendix B for a map of the private streets, Exhibit 22. Rights-Of-Way, Canyon Park, 2017.

**Figure 15. Canyon Park Firehouse, Station #45**

Source: City of Bothell, 2019.

***What impacts did we identify?***

Under all alternatives, growth and development in the study area would create more demand for fire and emergency medical services and would place additional pressure on the Bothell Fire Department to meet response time standards. Emergency medical services typically generate the highest demand for the Department. The Department would attempt to maintain response times consistent with or better than current performance levels as the demand for service increases. Over time, additional staffing and equipment may be required in order to maintain or improve performance levels.

***What is different between the alternatives?***

The Bothell Fire Department currently has 1.3 firefighters per 1,000 residents serving the City of Bothell.

- Under the No Action Alternative, an additional 5.8 firefighters would be needed to continue to provide the LOS under projected population growth in the study area.
- Under the Business Plus Alternative, an additional 5.7 firefighters would be needed, slightly less than the No Action Alternative.
- Under the Live/Work Alternative, an additional 9.2 firefighters would be needed to continue to provide the LOS under projected population growth in the study area.

***What are some solutions or mitigation for the impacts?***

The City could promote a reduced growth alternative that meets PSRC Centers requirement but with less demand on fire services. For example, the Mitigated Live/Work Alternative would have less impacts on fire protection services than the other Action Alternatives. For example, demand would be nearly 25% lower than the full Live/Work Alternative (a need for only 7.1 additional firefighters instead of 9.2 to meet the current rate of 1.3 firefighters per 1,000 population).

Under all alternatives, the City will monitor growth and demand for fire and emergency medical services in the study area in order to determine if and when additional personnel, equipment, or facilities are needed. The City will regularly review trends to ensure the City and Fire District 10 have enough advance time to address the needs. In addition, the County and City should provide opportunities for the fire district to review proposed development plans and consider any anticipated specialized needs from the uses proposed.

***With mitigation, what is the ultimate outcome?***

Future growth in the Canyon Park study area will increase the demand for fire and emergency services. Advanced planning for facilities consistent with the Capital Facilities Element can help ensure services and facilities are adequate at the time of development and reduce impacts to a less-than-significant level.

**Police Services**

***How did we analyze Police services?***

The Draft EIS reviews current and proposed police department facilities and staff serving the study area by considering public safety studies and reports. There is no LOS policy. For the purposes of this EIS, the observed ratio of 1.58 commissioned officers per 1,000 residents and the pattern of crime in employment areas are reference points for the impact analysis.

***What impacts did we identify?***

All alternatives would increase the demand for police service. Based on patterns of employment centers and calls for service, areas of employment increases like retail areas would likely be a focal point for calls for service. Retail areas may see more theft and other employment types may see increases in other types of crime, (e.g., vandalism or white-collar crimes).

***What is different between the alternatives?***

All alternatives would increase the demand for service. Considering population growth and the current rate of commissioned officers per 1,000 residents, there would be a demand for about 7 officers under the No Action Alternative and Business Plus Alternative, both of which have nearly the same population capacity. The Live/Work Alternative would generate demand for over 11 officers and the level of growth under the Mitigated Live/Work Alternative would generate demand for about 9 officers.

*What are some solutions or mitigation for the impacts?*

Demand for public services under the Mitigated Live/Work Alternative would be nearly 25% lower than the Live/Work Alternative in full, requiring 8.7 additional police officers to meet the current rate instead of 11.4 additional officers. In addition, the City could:

- Require on-site private security agreements for new employment centers to reduce calls for service.
- Formalize crime prevention through environmental design (CPTED) principles in the municipal code regulations applicable to the study area.

*With mitigation, what is the ultimate outcome?*

Future growth in the Canyon Park study area will increase the demand for police services. Advanced planning for facilities consistent with the Capital Facilities Element can help ensure services and facilities are adequate at the time of development and reduce impacts to a less-than-significant level.

## **Parks**

*How did we analyze Parks?*

The City's Comprehensive Plan was reviewed for parks and recreation inventory, levels of service, and goals. The City's adopted LOS standard of 4.5 acres of developed, operational, and functional parkland per 1,000 residents is applied to each alternative to address increased demand on recreation. The current adopted LOS standard will likely change with the forthcoming Parks, Recreation, and Open Space Plan (PROS) Plan update in 2020.

*What impacts did we identify?*

Under all alternatives, the study area is assumed to redevelop as a mix of uses. Residential growth would result in additional demand for parks and recreational facilities during both the weekday and weekend periods. While not considered as part of the City's adopted LOS standards, employment growth could also result in greater demand for park facilities, particularly before and after work and during the lunch hour. This demand would be more pronounced under the Action Alternatives because of the higher number of jobs associated with each alternative.

Based on the City's adopted LOS standard, under all alternatives there would be a diminishing surplus of total parklands because the LOS standards allows growth to occur while adding parkland at a lower rate than the current rate. Results are more variable, however, under different park classifications:

- Decreased surpluses of mini parks, open space, and regional parks.
- Exacerbated deficits in core parkland, neighborhood parks, and athletic fields.
- Community parks would switch from having an existing surplus to deficit acreage.

**Figure 16. North Creek Schoolhouse at Centennial Park**

Source: City of Bothell, 2019.

### *What is different between the alternatives?*

Expected growth and development in the study area under all alternatives would likely result in increased demand for additional access to park and recreation facilities.

- No Action Alternative: Residential growth under the No Action Alternative would generate demand for an additional 20.63 acres of parkland. The No Action Alternative includes the smallest amount of employment growth. Potential increased demand on parklands from workers would thus be the lowest of the studied alternatives.
- Business Plus Alternative: Growth under the Business Plus Alternative would generate demand for an additional 20.55 acres of parkland, which is similar to the No Action Alternative. The Business Plus Alternative includes the highest amount of employment growth, and demand on parklands from workers would thus be the highest of the studied alternatives.
- Live/Work Alternative: Growth under the Live/Work Alternative would generate demand for an additional 33.06 acres of parkland.
- Mitigated Live/Work Alternative: Growth under the Mitigated Live/Work Alternative would generate demand for an additional 25.3 acres of parkland.

### *What are some solutions or mitigation for the impacts?*

The City could develop a lower-growth alternative that still meets regional requirements. For example, the demand for public services under the Mitigated Live/Work Alternative would be nearly 25% lower than the Live/Work Alternative in full, requiring an additional 25.3 acres of parkland instead of 33.1 acres.

The City could also:

- Consider applying an employment-based LOS in addition to a resident-based LOS. The City will adopt a new PROS Plan in 2020.
- Require publicly accessible space with private development.
- Encourage and promote dedicated public spaces through public-private partnerships where possible.
- Add programs based on increased demand, directing, in part, marginal increases in revenue to programming.

*With mitigation, what is the ultimate outcome?*

Future growth in the Canyon Park Study Area will increase the demand for parks. Advanced planning for facilities consistent with the Capital Facilities Element can help ensure services and facilities are adequate at the time of development and reduce impacts to a less than significant level.

## **Schools**

*How did we analyze Schools?*

The Draft EIS reviews Northshore School District capital facility plans. The District's anticipated students per dwelling unit is applied to each alternative.

*What impacts did we identify?*

The elementary, middle, and high schools serving the study area do not have enough permanent capacity to accommodate additional demand at any grade level under all alternatives. Taking portables into account, the middle schools have enough total capacity while the high schools do not. Elementary schools have enough total capacity except under the Live/Work Alternative.

*What is different between the alternatives?*

- The No Action Alternative would add 303 students, including 139 elementary, 70 middle, and 94 high school students. Based on Northshore School District's minimum LOS standards, this would require an additional 5.8 elementary, 2.6 middle, and 3.5 high school teaching stations.
- Although residential growth under the Business Plus Alternative is similar to that under the No Action Alternative, the number of dwelling units is slightly higher. The Business Plus Alternative would add 393 students, including 181 elementary, 90 middle, and 122 high school students. This would require an additional 7.5 elementary, 3.3 middle, and 4.5 high school teaching stations (approximately 2, 1, and 1 teaching stations more than the No Action Alternative, respectively).

- The Live/Work Alternative would add 638 students, including 293 elementary, 147 middle, and 198 high school students. Based on Northshore School District's minimum LOS standards, this would require an additional 12.2 elementary, 5.4 middle, and 7.4 high school teaching stations (approximately 7, 3, and 4 teaching stations more than the No Action Alternative, respectively).
- The Mitigated Live/Work Alternative would add 488 students, including 224 elementary, 112 middle, and 152 high school students. This would require an additional 9.3 elementary, 4.1 middle, and 5.6 high school teaching stations (approximately 4, 2, and 2 teaching stations more than the No Action Alternative, respectively).

#### ***What are some solutions or mitigation for the impacts?***

Northshore School District tracks information on growth in enrollment and demand for educational program offerings across all grade spans in the region, including the study area, as part of its determination about if or when additional personnel or facilities are needed. The City will periodically review trends and information from the Northshore School District to ensure the City and the District have enough advance time to address needs, including grade configuration, optimum facility size, educational program offerings, classroom utilization, scheduling requirements, and the use of temporary classroom facilities.

#### ***With mitigation, what is the ultimate outcome?***

Future growth in the Canyon Park study area will increase the demand for schools. Advanced planning for facilities consistent with Northshore School District's Capital Facilities Plan can help ensure services and facilities are adequate at the time of development and reduce impacts to a less-than-significant level.

## **Utilities and Stormwater**

#### ***How did we analyze Utilities?***

The Draft EIS authors considered water and wastewater plans by special districts and King County. Consistency with the plans is a threshold of significance.

#### ***What impacts did we identify?***

Much of the sewer and water infrastructure is in place to support growth in the near-term within the study area. As development occurs, some new extensions and some upgrades of existing infrastructure will naturally need to occur. Growth should be closely coordinated with both Alderwood Water and Wastewater District (AWWD) and the City of Bothell so that demand and growth can be managed within the study area and any system deficiencies can be communicated between agencies.

Recent improvements made by King County Wastewater Treatment Division (WTD) to the North Creek Interceptor and Trunk line provided capacity for projected growth and service demands beyond 2030, the end of the 30-year planning period for the Region Wastewater Service Plan (RWSP). In addition, the King County Brightwater Treatment Facility has capacity through 2060. Regional sanitary sewer treatment capacity and conveyance appear to be enough to support the planned growth for all alternatives.

While the water supply is sufficient, it is expected that additional water pressure will be required with continued growth within the Canyon Park Subarea. This will likely require the addition of pressure zones and the creation of a lower pressure zone within Zone 520. Additional investment in these improvements should be planned concurrent with development.

Since the study area was originally developed, the governing stormwater regulations in the region have become significantly more stringent. Any new development or redevelopment in the study area would be subject to these regulations and therefore likely improve the overall health of the hydraulic system and streams by decreasing volumes and flow rates and improving water quality.

**Figure 17. Tree-lined Boulevard on 29<sup>th</sup> Drive SE (Private Street) with Stormwater Facility**



Tree-lined boulevards, like the pictured 29<sup>th</sup> Dr SE, course through the business parks. Many of these private streets include sidewalks buffered from automobile traffic with landscaping and stormwater facilities.

Source: Google, 2019.

### ***What is different between the alternatives?***

The level of population and employment growth is highest under the Live/Work Alternative and lowest under the No Action Alternative. The Business Plus and Mitigated Live/Work alternatives have moderate levels of population and employment growth. Demand for added water supply or wastewater treatment is accordingly variable.

## ***What are some solutions or mitigation for the impacts?***

### ***Sanitary Sewer and Water***

- AWWD and King County WTD track information on growth and demand for sanitary sewer and water services in the region, including the study area, as part of their determination about if or when additional facilities are needed. The City will periodically review trends and information from AWWD and King County WTD to ensure all parties have enough advance time to address future needs.
- AWWD has identified large growth targets within their service area that address the type of growth that a change in the zoning of the subarea would represent; however, this growth could impact the local wastewater collection systems over time. If the zoning changes the City and AWWD should coordinate and adjust their plans accordingly. In the next update to the District's comprehensive plan, which should be initiated in the next 2-3 years, any changes in zoning to the subarea will need to be considered. A model of the collection system within the subarea that considers build-out conditions should be able to identify any additional system improvements beyond what is already accounted for under the current plan. These new improvements would then need to be added to AWWD's Capital Improvement program.
- Due to the concentrated growth that a rezoning of the subarea would represent, local water system improvements will be necessary to increase system pressures and to provide for additional system transmission capacity.

### ***Stormwater***

- There may be opportunities within older neighborhoods in the study area that currently have no flow control or water quality treatment systems to implement retrofit systems to detain and/or treat runoff before it is released into creeks. These systems could be located within planter areas or unimproved roadside shoulders and ditches, and could include shallow bioretention cells, infiltration trenches, or proprietary treatment best management practices (BMPs) for water pollution, such as Filterrras or Modular Wetlands. The City could consider applying for retrofit project grants offered by the Washington State Department of Ecology to partially fund these upgrades.
- The City could consider trenchless technologies, such as cured in place pipe (CIPP), slip line, and slip line spot repair, to more cost effectively extend the life of existing deteriorating storm pipe infrastructure.
- Flow control and water quality facilities meeting the most recent version of the Bothell *Surface Water Design Manual* will be required for new development and redevelopment. To protect water quality and reduce impacts, the City could enforce more stringent requirements in this area and require that higher flow control and water quality facilities be installed. Higher flow control measures in this area would lessen the demand on existing downstream stormwater infrastructure and North Creek.

- A system-wide hydrologic and hydraulic analysis of the existing storm drain system could help pinpoint areas in the system that are currently over capacity or that would become capacity-constrained due to new development. This analysis could help the City prioritize which stormwater infrastructure improvements should occur first.
- There may be opportunities to complete reconstruction or retrofit of existing stormwater facilities to provide improved flow control and water quality for both existing uses and future development or redevelopment. There are significant opportunities for improved flow control and water quality associated with the large stormwater pond located southeast of the intersection of 244<sup>th</sup> Street SE and 23<sup>rd</sup> Drive SE.

***With mitigation, what is the ultimate outcome?***

While all alternatives will generate additional demand for water and sanitary sewer facilities, no significant unavoidable adverse impacts are anticipated. The water supply and sanitary sewer impacts are anticipated by both AWWD and the King County WTD and will be addressed as development occurs incrementally and in updated capital facilities programs updated every six years or sooner.

No significant unavoidable adverse impacts to stormwater are anticipated. Although demand for stormwater services would increase, the application of existing plans and codes or other mitigation measures can reduce impacts associated with future growth under all alternatives.

## 2 Proposal and Alternatives

This Chapter describes the Proposal and Alternatives evaluated in this Planned Action Draft Environmental Impact Statement (EIS).

### 2.1 Introduction and Purpose

The City of Bothell proposes to update its subarea plan for the Canyon Park neighborhood, including its Regional Growth Center (RGC), to comply with new Puget Sound Regional Council (PSRC) Centers framework criteria. The subarea plan update would create opportunities for employment, residential, and mixed-use development through revisions to goals, policies, land use designations, zoning districts, development regulations, and capital plans including transportation, parks, and other infrastructure investments.

In addition, the City of Bothell intends to designate a Planned Action consistent with RCW 43.21C.440 to facilitate future growth by streamlining the environmental review process for development consistent with the subarea plan and the mitigation identified in the Draft EIS.

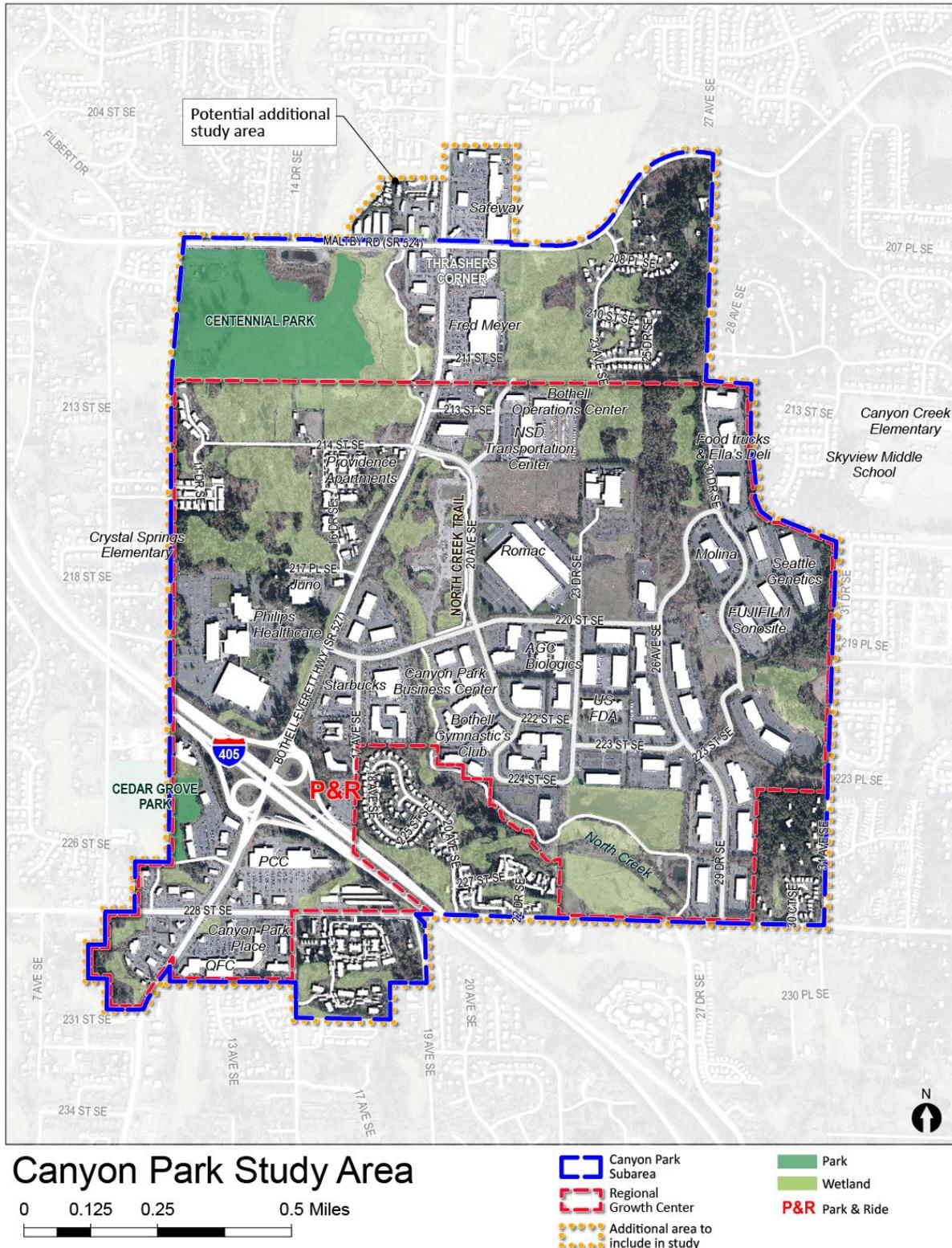
### 2.2 Description of the Study Area

The Canyon Park Study Area is located in the Snohomish County portion of the City of Bothell and is fully within the city limits, and an extended portion of the study area north of Maltby Road is in the Bothell municipal urban growth area (see Figure 18).

The study area is encompassed to the north by SR 524 and Thrashers Corner, including shopping areas to the north and south of SR 527; to the east by the general alignment, if extended, of 31<sup>st</sup> Ave SE ; to the south by 228<sup>th</sup> St SE, including commercial areas on both sides; and to the west by the general alignment, if extended, of 8<sup>th</sup> Ave SE.

The study area is traversed by SR 527, I-405, and North Creek. It contains the Canyon Park Business Center and several large light manufacturing, life sciences, bio-medical device, and other high-technology businesses as well as commercial and residential areas. In total, the study area equals nearly 1,040 acres. Based on parcels excluding public rights of way, the study area equals 935 acres.

Figure 18. Canyon Park Study Area



Source: City of Bothell, 2018; MAKERS, 2019.

## 2.3 Planning Process

The City of Bothell is investigating current conditions and trends with a consultant team and engaging community members to refine a vision, identify potential actions, and strategize steps forward. The planning process includes the following steps:

- **Existing conditions report.** The report identifies Canyon Park’s baseline conditions and provides information to share with Canyon Park stakeholders and local government representatives to refine the Vision Report’s goals.
- **Community engagement.** Surveys, discussions with business and property owners, public workshops, and public hearings provide opportunities to influence the alternatives analysis and selection and plan implementation strategies.
- **Land use alternatives.** Alternatives have been developed to understand implications of potential future scenarios.
- **Analysis and preferred alternative.** The team will analyze and present the alternatives at a public event to select a preferred alternative.
- **Subarea plan.** The plan will include recommendations on policies and measures to support land use regulations and design guidelines updates, RGC needs, a multimodal transportation hub, economic development, affordable housing, mixed-use and people-oriented character, infrastructure actions, environmental enhancements, and accessible open space and recreation.
- **Environmental analysis.** This Draft EIS identifies environmental impacts of the alternatives and mitigation measures to ensure compliance with the State Environmental Policy Act (SEPA).
- **Implementation strategy.** The subarea plan will recommend implementation measures and draft updated policies, development regulations, and design guidelines.

## 2.4 SEPA Process

### 2.4.1 Environmental Review Process

This Draft EIS is an informational document that provides the City, public, and government agencies with environmental information to be considered in the decision-making process. It also allows the public and government agencies to comment on proposals and alternatives. This Draft EIS describes:

- Proposed actions and alternatives.
- Existing conditions of the study area.
- Impacts that may occur if an alternative were implemented.
- Mitigation measures to reduce or eliminate adverse impacts.
- Potential significant, unavoidable, and adverse impacts.

This Draft EIS presents a qualitative and quantitative analysis of potential environmental impacts resulting from the proposal and alternatives. The purpose of this Draft EIS is to describe environmental impacts to assist the public and City of Bothell officials in deciding upon the magnitude and nature of future growth, zone standards, infrastructure investments, and mitigation measures appropriate in Canyon Park.

This Draft EIS also identifies potential beneficial outcomes, where alternatives incorporate existing environmental features (e.g., streams and wetlands) in a sustainable manner, improve environmental characteristics (e.g., stormwater quality), and emphasize improved access and multimodal travel by transit, foot, and bike.

### **Prior Environmental Review**

The City has conducted programmatic SEPA review on its *Imagine Bothell... Comprehensive Plan* and related subarea plans, policies, and regulations since 1996. The City issued the following determinations and documents relevant to the Bothell Canyon Park Subarea:

- Determination of Non-Significance and Integrated SEPA/GMA Document (2001). This document addressed proposals that created the City's activity centers, which included amendments to the RGC allowing building heights up to 100 feet (150 feet for certain manufacturing processes) and was applied over substantial portions of the RGC.
- Update of the *Imagine Bothell... Comprehensive Plan Final EIS* (2004-2005), issued December 10, 2004, addended July 8, 2005, supplemented October 13, 2005, and supplemented November 27, 2006. Addressed rezone in the RGC.
- Periodic update of *Imagine Bothell... Comprehensive Plan Mitigated Determination of Non-Significance*, issued May 22, 2015. Added a residential zoning classification (R-AC) to the Canyon Park Subarea.

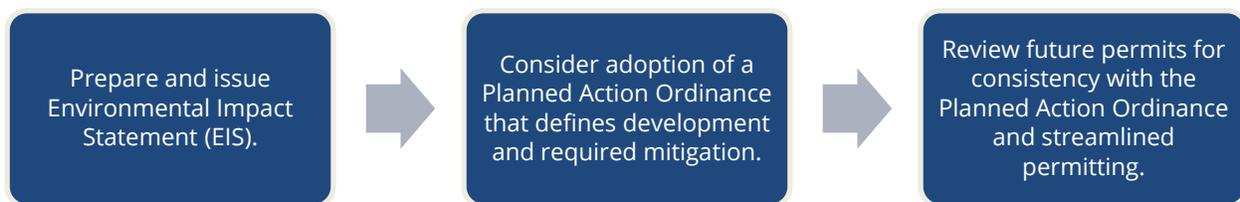
Other relevant documents prepared from a regional perspective include:

- VISION 2040 Final EIS (April 2008), prepared by the Puget Sound Regional Council. The document addresses the regional growth strategy including county and city hierarchy and mixed use and employment centers including the Canyon Park Regional Growth Center. An addendum was prepared for the Regional Centers Framework Update in January 2018.
- WSDOT and FHWA, I-405 Corridor Program NEPA/SEPA EIS (June 2002). Addresses a multimodal system of transportation improvements to reduce traffic congestion and improve personal and freight mobility throughout the I-405 corridor over the next 20-30 years. A FONSI and Environmental Assessment was issued in 2011 to address I-405 Improvements from Bellevue to Lynnwood, including improvements in the Bothell area.

## Planned Actions

The City proposes that the Canyon Park area be designated as a Planned Action, pursuant to the State Environmental Policy Act (“SEPA”; see RCW 43.21c.440 and WAC 197-11-164 to 172). A planned action provides more detailed environmental analysis during an areawide planning stage rather than at the project permit review stage. Designating a planned action streamlines environmental review for development proposals. Planned actions would be allowed if they meet or exceed proposed land use and environmental performance standards in the planned action ordinance. A diagram of the Planned Action process is included in Figure 19.

**Figure 19. Planned Action Process**



### 2.4.2 Public Comment Opportunities

Bothell undertook Phase 1, a visioning process with the Canyon Park community in 2018. During the visioning phase, the City engaged community members in three ways:

1. A Stakeholder Work Group, primarily comprised of property and business owners, helped the City develop a vision for the area. The group also verified economic and infrastructure conditions and an assessment of the center’s development potential.
2. A Public Open House allowed residents and employees to offer their thoughts on vision priorities, area challenges, and specific opportunities.
3. An online mapping and commenting tool collected Canyon Park residents and employees’ issues, needs, priorities, and general themes.

During Phase 2, which involves developing a draft subarea plan and EIS, Bothell sought public input in the following ways:

1. Administered an online survey directed toward property and business owners checking in on the Phase 1 vision and asking about next steps for their engagement (January 2019)
2. Administered an online survey receiving 333 responses from the general community confirming priorities and interests (March 2019)
3. Issued a Determination of Significance and Scoping Notice on April 8, 2019 and provided a scoping comment period for 21 days until April 29, 2019
4. Held a community scoping meeting on April 25, 2019 with a presentation and

- interactive exercises around land use and transportation options for the area
5. Met with the Canyon Park Owners Association to discuss potential land use and transportation alternatives (July 2019)
  6. Explored transportation options with an Interagency Transportation Advisory Committee, comprised of relevant agencies' representatives (August 2019)

The Draft EIS alternatives and topics were developed based on a review of scoping comments and prior engagement results. See Appendix A for the scoping notice and comment summary as well as results of Phase 2 engagement efforts described above.

A Final EIS will include responses to public comments received during the comment period that will follow issuance of this Draft EIS. See the Fact Sheet for the methods to submit comments. Meetings and comment periods regarding the proposals are described on the City's project webpage: <http://www.ci.bothell.wa.us/1176/Canyon-Park-Visioning>.

## 2.5 Objectives and Alternatives

### 2.5.1 Proposal Objectives

SEPA requires the statement of objectives that help identify the purpose and need for the proposals and allow the City to compare how well the alternatives achieve them. The vision for Canyon Park includes the following characteristics:

- **An Economic Driver.** Canyon Park serves as a regional business hub for the life sciences and biomedical industries. It is a designated urban center and is a place of innovation and growth.
- **A Multifaceted Neighborhood.** Canyon Park is a dynamic neighborhood with a diverse mix of housing, office, retail, and public space. It serves both Bothell residents and employees coming from throughout the region.
- **Connected to the Natural Environment.** Canyon Park is defined by its unique access to the natural environment and blend of urban wetlands, creeks, and interconnected trails.
- **A Transportation Hub.** Canyon Park is a transportation hub with infrastructure serving employees and residents commuting to and from the neighborhood as well as commuters traveling to other areas.

Selected objectives to meet the vision include:

1. *Transit service and multi-modal access*
  - 1.1. *Improve transit access for employees and residents commuting to and from the area, overall freeway/highway access, and multi-modal infrastructure to improve circulation within and around Canyon Park.*
  - 1.2. *Maintain or relieve, as possible, congestion levels throughout Canyon Park.*

2. *Job center*
  - 2.1. *Ensure that Canyon Park continues to grow as the regional hub for the biomedical, life sciences and related industries.*
  - 2.2. *Retain and grow existing and new businesses in Canyon Park, and continue to meet the needs of both small and large businesses.*
3. *Housing for the workforce*
  - 3.1. *Promote development of a diverse range of market rate and affordable housing in Canyon Park and ensure that it meets the needs of the local workforce.*
4. *Parks and public space*
  - 4.1. *Implement new public park space(s) with recreational uses and with investments in signature public spaces.*
  - 4.2. *Improve access to and crossings of North Creek to make it a unifying element of Canyon Park.*
5. *Amenities and services*
  - 5.1. *Increase the number of retail and service amenities that serve Canyon Park and the surrounding area.*
6. *Natural environment*
  - 6.1. *Maintain the high quality wetland and creek system.*

## 2.5.2 Description of Alternatives

This Draft EIS evaluates a range of alternatives, including the SEPA-required “No Action Alternative” that retains the current plans and regulations, and two Action Alternatives, Live/Work and Business Plus that could meet above objectives for an economic and multi-faceted center that respects the natural environment and provides multiple modes of travel.

Within the range of alternatives, a variation on the Live/Work alternative was developed to explore mitigation to transportation systems and public services and utilities called the “Mitigated” Live/Work Alternative. It reduces impacts and is in the range of the above alternatives. It is contrasted with the Live/Work Alternative and evaluated under Mitigation Measures under each environmental topic.

While the No Action Alternative would allow growth consistent with current plans and regulations, the subarea plan, incentives, regulations, and planned action would not be adopted. Table 6 compares features of the alternatives.

**Table 6. Potential Alternative Features**

Features	No Action Alternative (Current Canyon Park Subarea Plan)	Business Plus Alternative	Live/Work & Mitigated Live/Work Alternatives
<b>Potential Changes to Land Use</b>	Per current Comprehensive Plan and Zoning.	<ul style="list-style-type: none"> <li>▪ Allow range of employment and residential uses, with more employment accommodated in the central subarea and mixed-use in shopping centers.</li> <li>▪ Remove residential as a permitted use from business-oriented areas (a larger area in this alternative).</li> <li>▪ Require affordable housing or a fee in-lieu where development capacity increases, and incentivize creation of affordable housing elsewhere.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Allow range of employment and residential uses, with more mixed-use nodes in the north, central, and south near transit facilities. Employment is focused in the west, central, and east.</li> <li>▪ Remove residential as a permitted use from business-oriented areas (a smaller area in this alternative).</li> <li>▪ Require affordable housing or a fee in-lieu where development capacity increases, and incentivize creation of affordable housing elsewhere.</li> </ul>
<b>Potential Changes to Development Standards</b>	Current plan and code. No changes proposed.	Change height, floor area ratios, density, parking rates, and other standards to increase opportunities for job and housing investments. See Table 7.	
<b>Potential Investments in Transportation, Parks, Stormwater, &amp; Business Retention/Expansion</b>	Implement current capital plans. Consider transferring some private roads into public ownership.	<ul style="list-style-type: none"> <li>▪ Consider transferring some private roads into public ownership.</li> <li>▪ City may invest in signature spaces and require development adjacent to parks to have active, lively edges to contribute to the park’s character.</li> <li>▪ Onsite open space standards may be amended for commercial and residential uses.</li> <li>▪ Impact fees would contribute to systemwide park improvements.</li> <li>▪ Implement a regional stormwater treatment system to improve water quality.</li> <li>▪ Add ecological enhancements along North Creek and other wetlands areas.</li> <li>▪ Help identify tools to help retain and expand existing businesses, such as technical assistance, relocation programs, and small business grant/loan programs.</li> </ul>	
<b>Regional Growth Center</b>	Keep current subarea plan. Retain current boundaries of about 733 acres.	Prepare a new subarea plan. <ul style="list-style-type: none"> <li>▪ Business Plus and Live/Work: Provide RGC of about 613 acres.</li> <li>▪ Mitigated Live/Work: Provide RGC of about 565 acres</li> </ul>	

Features	No Action Alternative (Current Canyon Park Subarea Plan)	Business Plus Alternative	Live/Work & Mitigated Live/Work Alternatives
<b>Potential Growth Above Current 'No Action' Approximate of 15,000 Employees &amp; Residents in Full Study Area (12,600 in RGC)</b>	Approx. 9,271 combined jobs and population added per current plans. RGC combined population and jobs equals approx. 8,242.*	Combined jobs and population added: <ul style="list-style-type: none"> <li>▪ Full Area: 21,818</li> <li>▪ RGC: 21,221</li> </ul>	Combined jobs and population added: <ul style="list-style-type: none"> <li>▪ <u>Live/Work</u> <ul style="list-style-type: none"> <li>▪ Full Area: 22,472</li> <li>▪ RGC: 21,875</li> </ul> </li> <li>▪ <u>Mitigated Live/Work</u> <ul style="list-style-type: none"> <li>▪ Full Area: 15,302</li> <li>▪ RGC: 13,683</li> </ul> </li> </ul>

\*Range is 8,195 to 8,242, a 1% difference due to disaggregation by blocks/analysis zone and rounding. See Table 21 for details regarding land capacity estimates. Source: MAKERS, 2019; BERK, 2019.

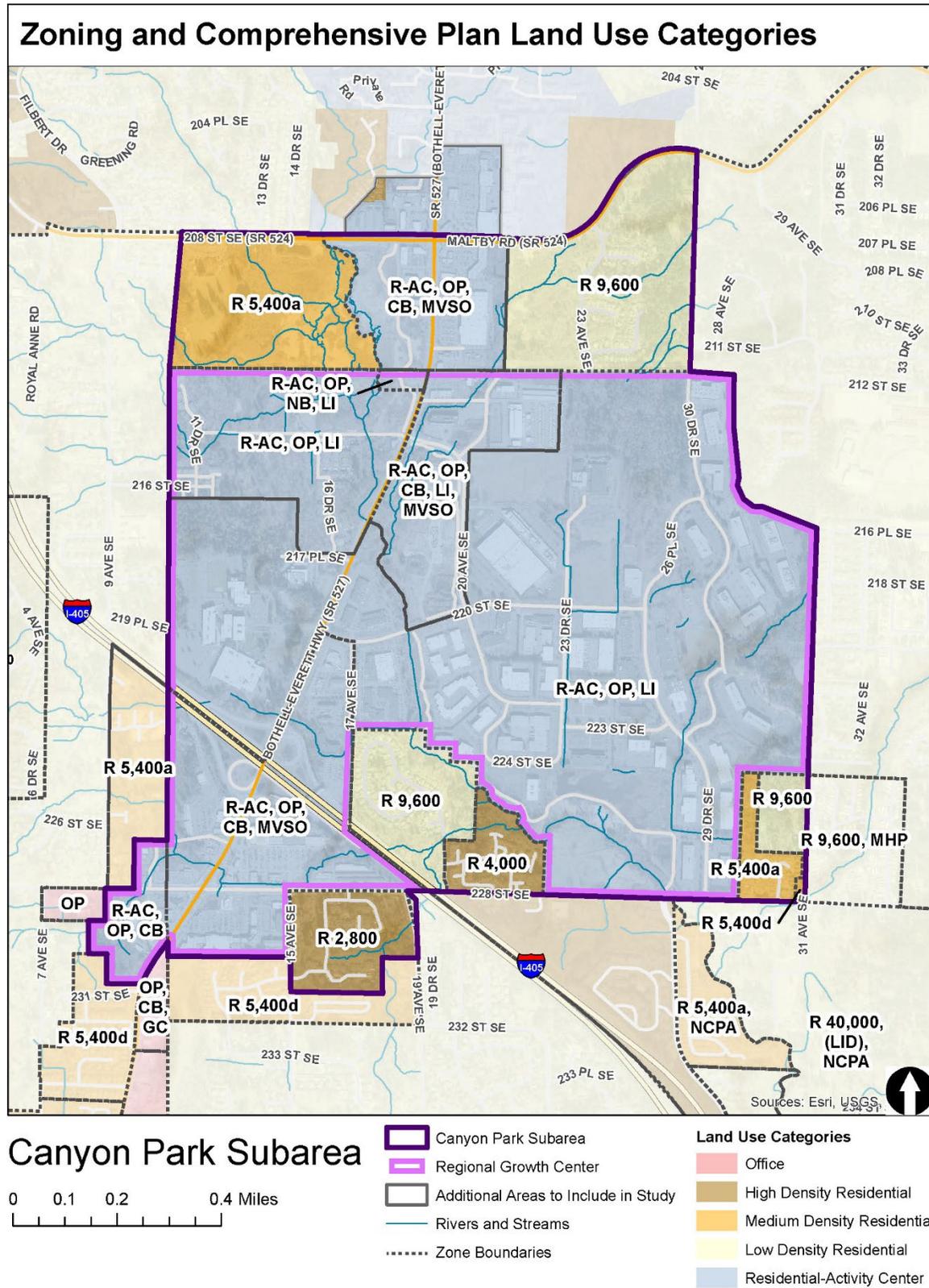
### Land Use Pattern

The No Action Alternative would retain current Future Land Use designations and zoning. Current zoning allows a mix of employment and residential uses through most of the study area, as shown in Figure 20.

The Business Plus Alternative would focus most future growth in employment, but selected areas of mixed-use would be allowed at shopping areas in Thrasher’s Corner and to the southwest of I-405, as shown in Figure 21. As described later in this chapter, the Business Plus Alternative would carry forward 100-150 foot business heights for employment uses and slightly increase mixed use residential heights from 65 feet for to 75 feet.

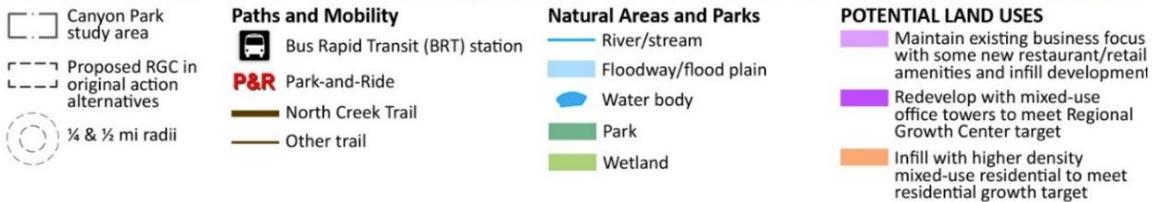
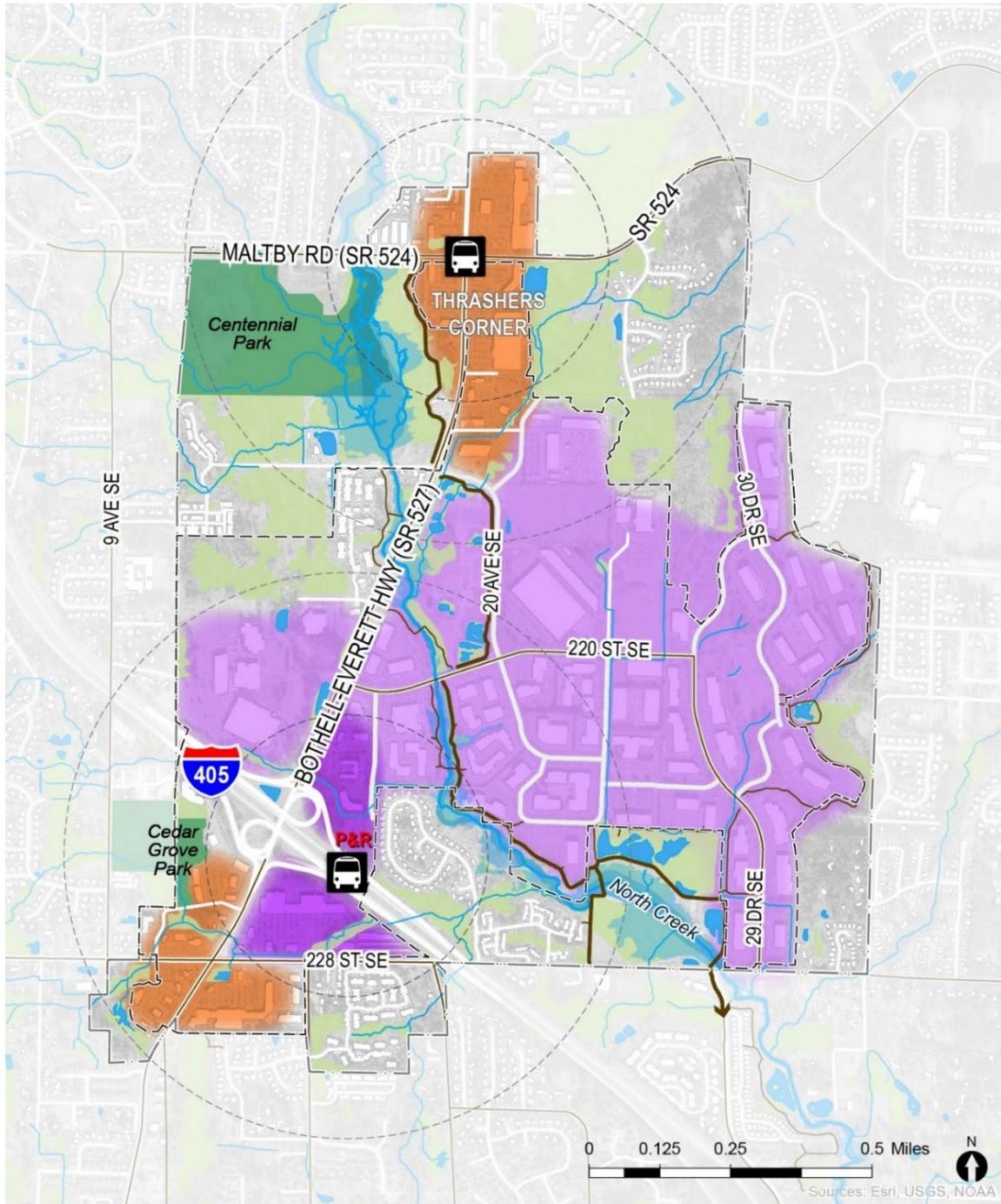
The Live/Work Alternative would offer more locations where mixed-use residential and retail or residential and office buildings could be located as shown in Figure 22. The Mitigated Live/Work Alternative would have a similar land use pattern as illustrated in Figure 23, but the RGC boundary would be reduced and modified as shown in Figure 23. The Mitigated Live/Work Alternative would produce a reduced and reconfigured RGC area of 565 gross acres. See discussion under Regional Growth Center Boundaries below.

Figure 20. Current Plan and Zoning—No Action Alternative



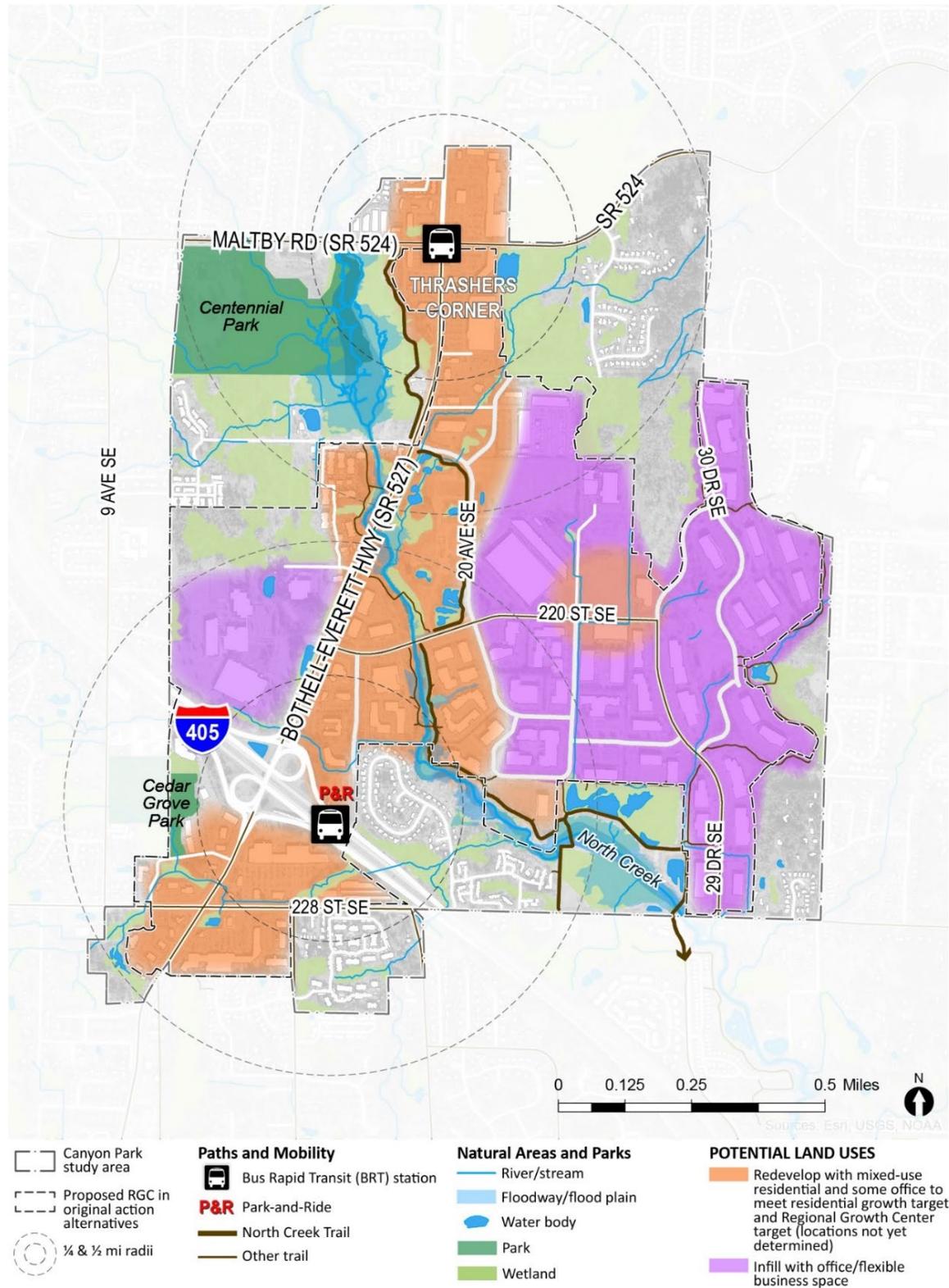
Source: City of Bothell, 2019; BERK 2019.

Figure 21. Land Use Pattern—Business Plus Alternative



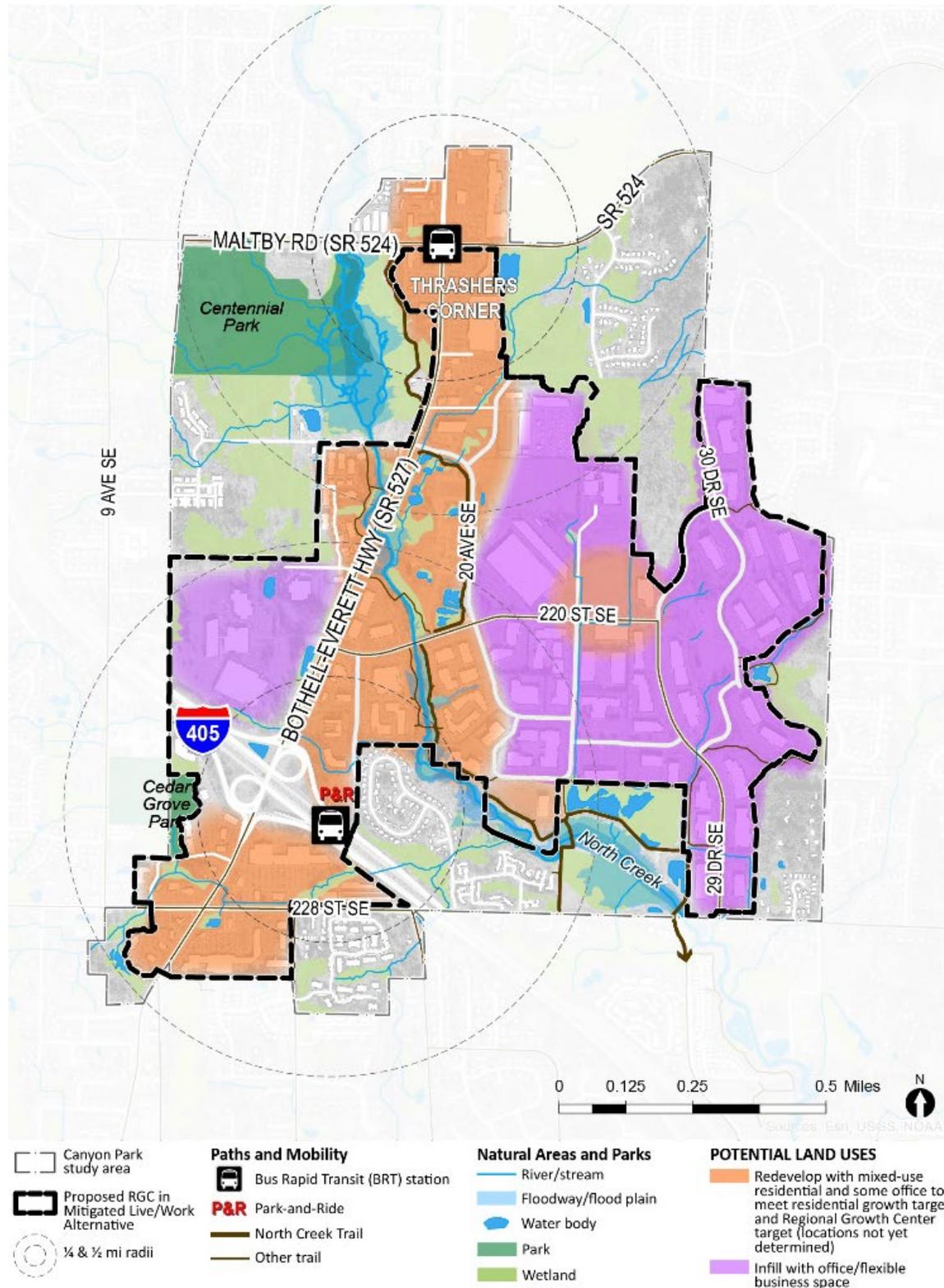
Source; MAKERS, 2019.

Figure 22. Land Use Pattern—Live/Work Alternative



Source; MAKERS, 2019.

Figure 23. Land Use Pattern—Mitigated Live/Work Alternative



Source: MAKERS, 2019.

## Development Standards

The No Action Alternative would retain current use allowances and standards, and the Action Alternatives would adjust the location where residential uses are allowed, height allowances for mixed-use development, and parking standards for business and housing uses, as shown in Table 7.

**Table 7. Development Standard Proposals**

Development Standard	No Action Alternative	Business Plus Alternative	Live/Work & Mitigated Live/Work Alternatives
<b>Allowed Uses</b>	Current allowances.	Fine tune residential use locations to promote business retention and business focus areas (larger in this alternative).	Fine tune residential use locations to promote business retention and business focus areas (smaller in this alternative).
<b>Maximum Height</b>	<p><u>Northeast of I-405:</u></p> <ul style="list-style-type: none"> <li>Maximum building height shall be 65 feet for buildings containing residential uses and 100 feet for buildings containing nonresidential uses, except that buildings may be up to 150 feet to accommodate manufacturing processes which require structures taller than 100 feet.</li> </ul> <p><u>Southwest corner of subarea:</u></p> <ul style="list-style-type: none"> <li>35 feet unless underbuilding parking is provided at 40%, and 10% of the gross floor area is in retail.</li> </ul>	<p><u>Business park (light purple areas in Figure 21):</u></p> <ul style="list-style-type: none"> <li>Retain.</li> </ul> <p><u>Southwest of I-405, 17th Ave SE area, and Thrasher's Corner (dark purple and orange areas):</u></p> <ul style="list-style-type: none"> <li>Allow greater heights of 75 feet for mixed-use office (and some residential) and refine the requirements for ground floor retail and structured parking.</li> <li>Apply transitional height and setback standards along border with residential areas.</li> </ul>	<p><u>Business park (light purple areas in Figure 22):</u></p> <ul style="list-style-type: none"> <li>Retain.</li> </ul> <p><u>Southwest of I-405, 17th Ave SE area, and Thrasher's Corner (orange areas):</u></p> <ul style="list-style-type: none"> <li>Allow greater heights of 75 feet for mixed-use residential and refine the requirements for ground floor retail and structured parking.</li> <li>Apply transitional height and setback standards along border with residential areas.</li> </ul> <p><i>Mitigated Live/Work proposes a similar mix of uses and standards, though only within Bothell city limits.</i></p>
<b>Density</b>	Current standards. A minimum density and intensity is being established as part of the City's 2019 Plan and Code amendments. It is proposed to be 35 DU/ac for residential and 0.5 FAR for non-residential. This should be in place by December, 2019.	Add minimum and target employment and residential densities: <ul style="list-style-type: none"> <li>Within ¼ mile of a bus rapid transit (BRT) stop: minimum density of 0.6 floor area ratio (FAR) or 90 dwelling units (du)/acre and target of 3.0 FAR or 133 du/acre.</li> <li>Between ¼ mile and ½ mile of BRT stop: minimum density of 0.5 FAR or 45 du/acre and target of 1.5 FAR or 57 du/acre.</li> <li>Beyond ½ mile from BRT stop: minimum and target density of 0.5 or 35 du/acre.</li> </ul>	
<b>Affordable Housing</b>	Current standards.	Throughout, require 5% or 10% of units to be affordable to moderate income households, or for non-residential uses, 5% of gross floor area or pay a fee-in-lieu (\$11.20/GSF). (See Bothell code for Downtown Transition and SR 522 Corridor overlays.)	

Development Standard	No Action Alternative	Business Plus Alternative	Live/Work & Mitigated Live/Work Alternatives
<b>Affordable Commercial Space</b>	No requirements.	In addition to removing residential in some areas as an allowed use to support larger businesses in the area, support small business space affordability:	<ul style="list-style-type: none"> <li>▪ Set a maximum retail space size and provisions for flexible commercial space to accommodate co-ownership and/or growing businesses.</li> <li>▪ Encourage flexible commercial space to accommodate co-ownership and/or growing businesses.</li> <li>▪ Add design guidelines that encourage neighborhood-oriented small businesses on main streets.</li> </ul>
<b>Parking</b>	<p>Current standards:<sup>1</sup></p> <p><u>Residential</u></p> <ul style="list-style-type: none"> <li>▪ Dwelling units, primary, two or more units per structure: 2 stalls per dwelling unit, plus 1 guest parking stall for every 5 dwelling units (i.e. 2.2 spaces/unit).</li> </ul> <p><u>Commercial</u></p> <ul style="list-style-type: none"> <li>▪ Business and personal services (including general “office”): 1 stall per 300 square feet (SF).</li> <li>▪ Eating and drinking establishments: 1 stall per 75 SF in dining or lounge areas; 1 stall per 300 SF elsewhere.</li> <li>▪ Manufacturing, distribution, storage, and warehousing: 0.9 stalls per 1,000 SF.</li> <li>▪ Retail uses: 1 stall per 300 SF.</li> </ul>	<p>Relax parking requirements to allow for greater employment or housing productivity and affordability and respond to changing mobility trends and investments:</p> <p><u>Residential</u></p> <ul style="list-style-type: none"> <li>▪ Transit-oriented development (TOD) mixed-use residential/commercial (within ¼ mile of bus rapid transit stop (BRT)): 1 stall per 450 SF retail + 0.75 stalls per bedroom, but no more than 2.2 stalls per unit (approximate average 1.25 stalls per unit.)</li> <li>▪ Higher density multifamily (between ¼ and ½ mile from BRT): 1.1 stall per bedroom but no more than 2.2 stalls per unit. (Approx. average 1.5 stalls per unit.)</li> <li>▪ Residential Mixed-Use beyond ½ mi: 1.5 stalls per bedroom, but no more than 2.2 stalls per unit.</li> </ul> <p><u>Commercial</u></p> <ul style="list-style-type: none"> <li>▪ TOD mixed-use office/retail (within ¼ mile of BRT): 1 stall per 500 SF office/retail.</li> <li>▪ TOD office/light industrial (within ¼ mile of BRT): 1 stall per 500 SF office/retail + 0.9 stalls per 1,000 SF light industrial.</li> <li>▪ Office/light industrial (further than ¼ mile from BRT): 1 stall per 400 SF office + 0.9 stalls per 1,000 SF light industrial.</li> </ul>	
<b>Mid-block Connections</b>	None.	Require through-block pedestrian connections at least every 300 feet. Where possible, align to create a grid.	
<b>Neighborhood Center Street</b>	None.	Encourage a “main street” with diverse, neighborhood-serving businesses and a lively environment through the following form-based code and/or design standards:	<ul style="list-style-type: none"> <li>▪ Require active ground floors.</li> <li>▪ Require frequent entries (e.g., every 30 feet) to enliven the street and ensure space for small businesses.</li> <li>▪ Encourage creative space options to accommodate small and growing businesses, such as flexible commercial space for co-ownership.</li> </ul> <p>Set maximum retail size limits (except for grocery, pharmacy, and hardware) or average area to ensure a diversity of sizes.</p>

Development Standard	No Action Alternative	Business Plus Alternative	Live/Work & Mitigated Live/Work Alternatives
<b>Residential Transition</b>	Current standards.	Continue requiring step backs and setbacks adjacent to single-purpose residential zones to prevent shadows and respect privacy.	
<b>Landscape</b>	Current standards.	Throughout the area: <ul style="list-style-type: none"> <li>▪ Require street trees in planting strips between the street and sidewalk.</li> <li>▪ Consider a “green factor” or other method of ensuring vegetation replacement.</li> <li>▪ Require common Usable Open Space for all development. Require private open space only in Residential Mixed Use Areas.</li> </ul>	

<sup>1</sup>BMC 12.16.030

Source: MAKERS, 2019; BERK, 2019.

## Park and Transportation Investments

Proposed investments in parks and transportation facilities are meant to provide amenities to create a livable environment as well as to support meeting the City’s levels of service and relieve congestion. Features are highlighted below.

### *New Public Parks and Signature Public Spaces*

**All Alternatives:** Development under all alternatives would provide park impact fees to contribute to public parks to help realize the City’s park system per the Parks, Recreation, and Open Space Plan. It would be difficult to acquire new parkland given land values, but to the extent that current parks and trails can be improved to meet the City’s desired level of service it could help address new demand for parks and trails due to added employees and residents in the subarea.

**Action Alternatives:** The Action Alternatives would additionally shape park and public space investments as follows:

- *New Parks and Spaces:* Conceptual locations for central gathering spaces are highlighted in Section 3.3 Aesthetics and Urban Design. The City may invest in signature spaces, or encourage public/private partnerships to achieve the signature spaces. The City would require development adjacent to parks to have active, lively edges and contribute to the park’s character.
- *North Creek as unifying element:* The City would invest in and encourage private development to create a signature public space near North Creek and connections to the creek.

### **Multimodal Infrastructure**

**All Alternatives:** North Creek Trail and 17<sup>th</sup> Avenue SE would see improvements to pedestrian and bicycle infrastructure.

**Action Alternatives:** Growth would necessitate a shift to non-motorized forms of travel, increasing the importance of investing in pedestrian and bicycle infrastructure. Development standards encouraging buffered sidewalks and active ground floors along the major pedestrian and bicycle paths to transit would likely result in safer and more comfortable routes. The City would likely invest in additional pedestrian and bicycle infrastructure, and possibly microtransit, like bicycle or scooter share, or inter-park transit shuttle.

### **Road and Intersection Improvements**

**All Alternatives:** All alternatives would implement roadway and intersection improvements identified in the Comprehensive Plan Transportation Element. All three study corridors are expected to operate at LOS F conditions, with multiple individual intersections expected to operate at LOS F conditions by the year 2043.

**Mitigated Live/Work Alternative:** The Action Alternatives will generate more new PM peak hour vehicle trips compared to the No Action Alternative as described in Chapter 1, Section 1.8, and Chapter 3, Section 3.5. All three study corridors are expected to operate at LOS F conditions, with multiple individual intersections expected to operate at LOS F conditions. Potential mitigations to address these impacts could take the form of the following:

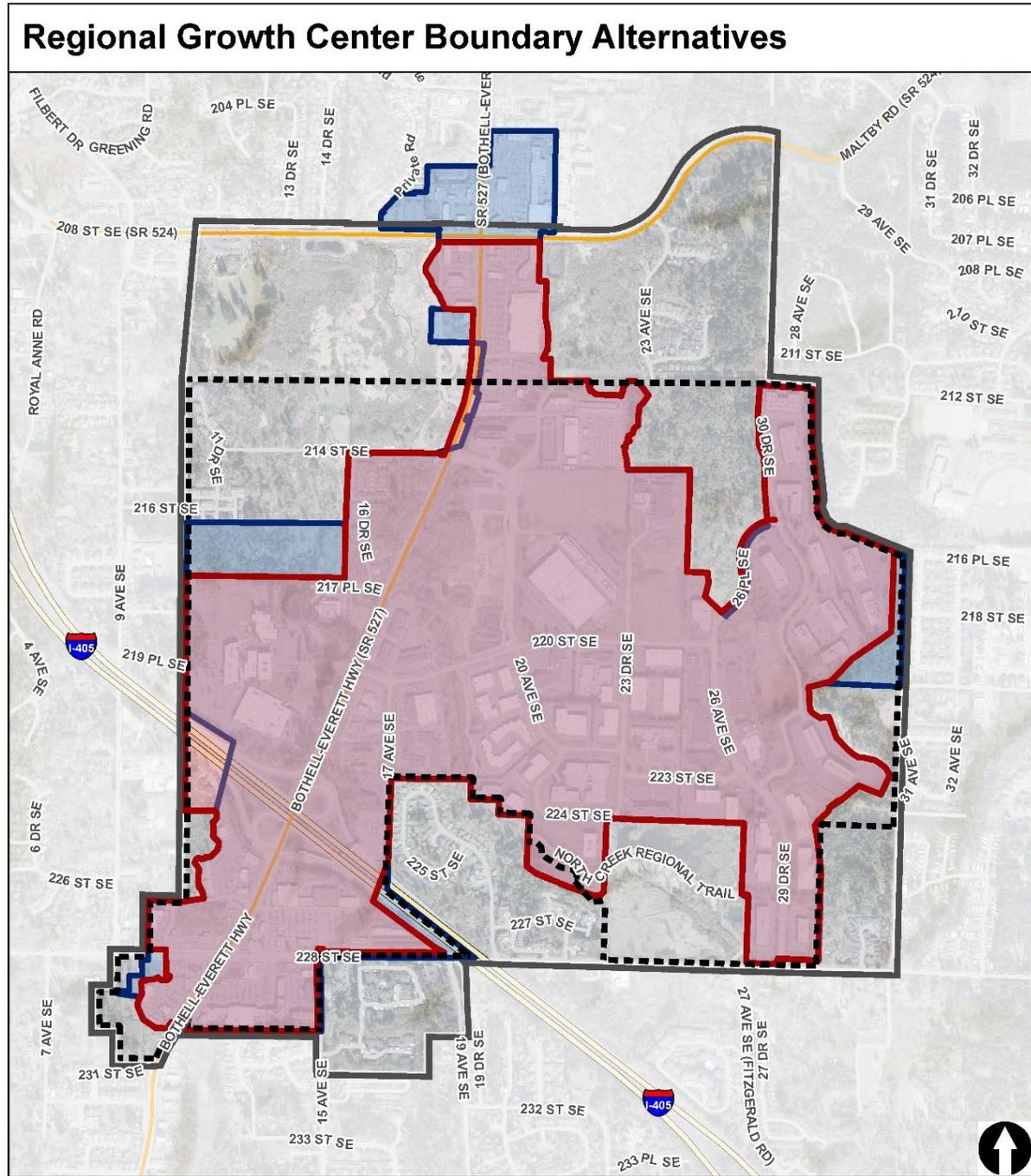
- Reduce land use growth.
- Require transportation demand management (TDM) strategies and program.
- Alter transportation LOS policy to accept higher vehicle delays or change the method by which LOS is measured (e.g., shift from average vehicle delay to average person delay).
- Add transportation improvement projects beyond the Comprehensive Plan.

See the description of each mitigation strategy and benefits and impacts in Chapter 1.

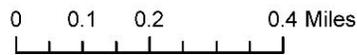
### **Regional Growth Center Boundaries**

Current RGC boundaries are 733 acres and include areas of wetlands. The new PSRC guidance promotes more compact RGC boundaries of up to 640 acres or a square mile. The Business Plus and Live/Work Alternatives would add the Thrasher's Corner intersection and abutting properties and reduce the boundaries elsewhere, particularly excluding wetland areas that are not allowed to develop. The result is an RGC boundary of about 613 acres. The proposed boundary in the Mitigated Live/Work Alternative is similar to those of the other Action Alternatives, but refines areas further near wetlands and roads producing a boundary of 565 acres, as shown in Figure 24.

Figure 24. Comparison of RGC Boundary Alternatives



Canyon Park Subarea



- Canyon Park Subarea
- Adopted Regional Growth Center (RGC)
- Proposed RGC - Live/Work Mitigated Alternative
- Proposed RGC - EIS Action Alternative

Source: City of Bothell, 2019; BERK, 2019.

## Growth Estimates

Based on the current zoning and buildable lands capacity method, the No Action Alternative could accommodate about 4,500 residents and about 4,787 jobs. The Business Plus Alternative has about the same number of residents and a much higher number of jobs at 17,350. The Live/Work Alternative would have a greater residential population of nearly 7,200 and high job count at nearly 15,300. Nearly all the growth would be in the RGC, as shown in Table 8.

**Table 8. Housing, Population, and Jobs—Net Growth**

Alternative	Regional Growth Center (RGC)				Full Study Area			
	Dwelling Capacity	Population Capacity	Job Capacity	Total Activity Units	Dwelling Capacity	Population Capacity	Job Capacity	Total Activity Units
<b>No Action</b>	1,856	3,712	4,530	8,242	2,242	4,484	4,787	9,271
<b>Mitigated Live/Work</b>	2,816	4,225	9,458	13,683	3,614	5,496	9,805	15,302
<b>Business Plus</b>	2,687	4,012	17,209	21,221	2,915	4,468	17,350	21,818
<b>Live/Work</b>	4,498	6,732	15,143	21,875	4,726	7,188	15,284	22,472

Source: MAKERS, 2019; BERK, 2019.

The alternatives would provide capacity for growth that add shares of population and jobs as follow in Table 9:

**Table 9. Balance of Population and Jobs Combined Capacity, Full Study Area—All Alternatives**

Alternative	Net Growth Share		Existing + Future Share	
	Population	Jobs	Population	Jobs
<b>No Action</b>	48%	52%	31%	69%
<b>Mitigated Live/Work</b>	36%	64%	28%	72%
<b>Business Plus</b>	20%	80%	21%	79%
<b>Live/Work</b>	32%	68%	28%	72%

Source: MAKERS, 2019; BERK, 2019.

## Future Alternatives

The ultimate legislation considered by the City Council may be a composite of the studied alternatives or within the range of alternatives. Land uses, growth, RGC boundaries, policies and regulations, capital investments, and mitigation measures may be varied in a preferred alternative. A Preferred Alternative will be addressed in the Final EIS.

## 2.6 Benefits and Disadvantages of Delaying the Proposed Action

The benefits of delaying the Proposed Action could include:

- Avoid the need for some added infrastructure that has the potential to affect wetlands and streams, and avoid added costs to address mitigation.
- Less future planned growth and travel on transportation routes requiring capital investment.
- Less future demand for public services and utilities.
- Allowing proposed state and regional transit and road improvements (e.g. ST Bus Rapid Transit and ETL on an off ramps) to commence and become established ahead of additional increased capacity for employment and residential development.

The disadvantages of delaying the Proposed Action include:

- Continued development at density and intensity levels that are less than those appropriate for a RGC.
- Lack of consistency with the Puget Sound regional growth strategy, potential loss of RGC status, and associated decreased opportunity for transportation and infrastructure funding.
- Lack of a subarea plan update intended to guide development and investments for a livable center.
- Continued adverse effects of regional growth trends with less investments in state routes and transit.
- Missed opportunities to invest in parks, trails, multimodal transportation, and road or intersection investments that would create an enhanced public realm, support recreation, and offer commute options.
- Fewer opportunities to create a more connected public road system.
- Less leveraging of investments in water and sewer infrastructure, and fire and police stations.
- Reduced opportunities for business retention and attraction.
- Fewer opportunities for quality mixed use areas that allow live-work opportunities.
- Delay in preparing a subarea plan that can be folded into the next Comprehensive Plan Update ahead of the next scheduled update in 2023.

## 3 Environment, Impacts, and Mitigation

This chapter describes the affected environment, potential impacts, and mitigation measures for the following topics:

- Section 3.1: Natural Environment
- Section 3.2: Land Use Patterns and Policies
- Section 3.3: Aesthetics and Urban Design
- Section 3.4: Socioeconomics
- Section 3.5: Transportation and Greenhouse Gas Emissions
- Section 3.6: Public Services
- Section 3.7: Utilities and Stormwater

Following a description of current conditions (affected environment), the analysis compares the alternatives and provides mitigation measures for identified impacts. It also summarizes whether there are significant unavoidable adverse impacts.

## 3.1 Natural Environment

### 3.1.1 Affected Environment

General conditions in the Canyon Park Subarea for each of the five regulated critical areas (wetlands, critical aquifer recharge areas (CARAs), frequently flooded areas (FFAs), geologically hazardous areas, and fish and wildlife habitat conservation areas (FWHCAs)) are described below. The Canyon Park Subarea boundaries plus a small area to the north (see Figure 18) mark the study area limits for this Draft EIS.

#### Wetlands

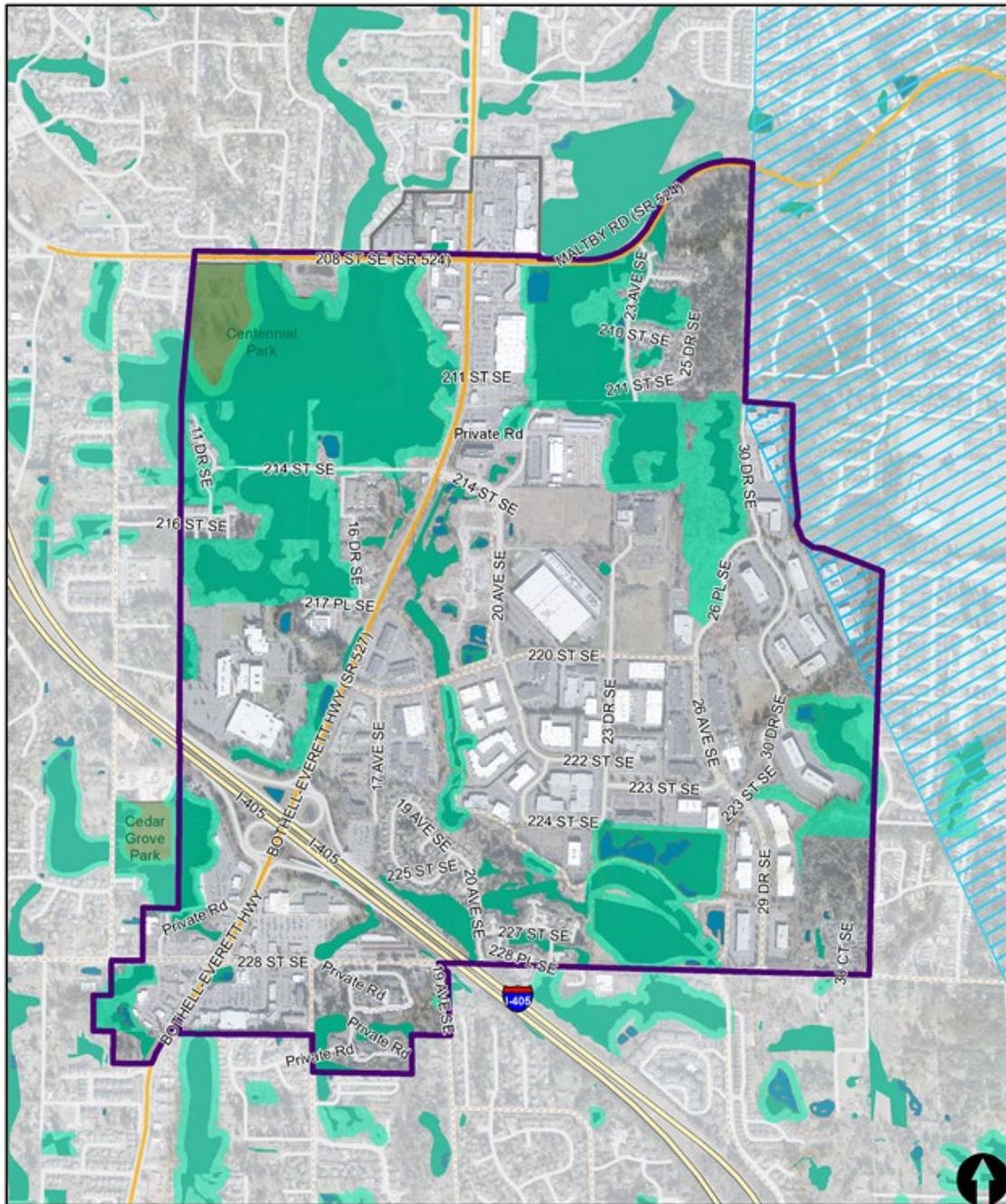
Many wetlands have been identified within the Canyon Park Subarea, as documented by the City of Bothell (Figure 25). While mapped wetland areas generally appear consistent with field observations, wetland boundaries and conditions often change over time. Site-specific studies are necessary to determine the presence, absence, or change of wetland conditions for individual projects. The jurisdictional status of areas mapped as wetland that have been created for stormwater management would also need to be determined for individual projects (i.e., the area in the southeast portion of the subarea on the north side of the North Creek Trail, and northeast of the Fred Meyer store in the northern portion of the study area).

The largest remaining wetland areas in the Canyon Park Subarea are located in the northwest corner of the subarea near Centennial Park (and extending south on both sides of 214<sup>th</sup> Street SE), the northeast corner of the subarea between Thrasher's Corner and single family residential development, and at the south end of the subarea near North Creek. These large wetland units provide important functions and values to the Canyon Park area and North Creek.

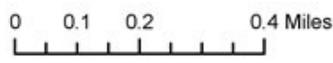
Wetlands associated with and within 200 feet of a Shoreline of the State are managed under the City's Shoreline Master Program (SMP). Several wetlands associated with North Creek fall within shoreline jurisdiction, including the large wetland complexes on the north (near Centennial Park) and south sides of the subarea.

Wetland functions are influenced by physical, chemical, and biological processes that occur within a wetland unit and in the surrounding landscape. In Washington, wetlands are rated based upon three primary functions: water quality, hydrologic, and habitat (Hruby, 2014). Wetlands perform water quality and hydrologic functions through several processes including water filtration, shoreline stabilization, and floodwater detention. Wetlands also have the potential to support a variety of wildlife species depending upon physical characteristics, including the landscape position and the type and number of vegetation classes and hydroperiods present. Anadromous and resident fish, amphibians, reptiles, mammals, birds, and countless invertebrate species utilize wetland habitats during some portion of their life history cycles. Wetlands can also have cultural and socioeconomic value; and offer opportunities for recreation, education, and research.

Figure 25. Wetlands and Critical Aquifer Recharge Areas



**Canyon Park Subarea:**  
 Wetlands and Critical Aquifer Recharge Areas



- Canyon Park Subarea
- Additional Area to Include in Study
- Trails
- USEPA Sole Source Aquifer
- Water Bodies
- Wetlands
- Wetland Buffers
- Bothell Parks

Note: Critical area buffers are based on City of Bothell data, retrieved December 2018; not all buffers for wetlands and streams are shown.

Sources: City of Bothell, 2018; The Watershed Company, 2018.

Wetland processes that alleviate flooding, improve stormwater control, provide erosion protection, and improve water quality are particularly valuable to protect infrastructure and limit the effects of development on the City's natural resources. Riverine wetlands associated with North Creek are significant because the creek and several of its tributaries support populations of listed salmonids (discussed further under Fish and Wildlife Habitat Conservation Areas).

Upland vegetated buffer areas protect wetland functions from effects of surrounding land uses. The factors that influence the performance of a buffer include vegetative structure, percent slope, soils, and buffer width and length. Wetland buffers in urban settings commonly include invasive species such as Himalayan blackberry and infrastructure intrusions. Degraded buffer areas provide an opportunity to improve wetland conditions within the City through restoration or enhancement. Wetland buffer widths required by the City of Bothell are provided in Table 10 and Table 11 below and are based on shoreline jurisdiction, wetland category (based upon the *Washington State Wetland Rating System for Western Washington* [revised], Department of Ecology Publication No. 04-06-025), and the associated habitat score. Wetland buffers are depicted in Figure 25 based upon data managed by the City; buffer information is not available for all wetlands depicted. The City recently completed a periodic review of its shoreline master program. The City is currently in the process of updating their critical areas ordinance, which may affect the standard buffer widths.

**Table 10. Assigned Wetland Buffers outside of Shoreline Jurisdiction in Bothell**

Wetland Category	Habitat Score	Standard Buffer Width	Minimum Buffer Width
I	20 or greater	125 feet	100 feet
	Less than 20	100 feet	75 feet
II	20 or greater	125 feet	100 feet
	Less than 20	100 feet	75 feet
III	20 or greater	100 feet	75 feet
	Less than 20	75 feet	50 feet
IV	—	50 feet	37.5 feet

Source: City of Bothell, 2019.

**Table 11. Assigned Wetland Buffers within Shoreline Jurisdiction in Bothell**

Wetland Category	Standard	Buffer if 6 habitat points	Buffer if 7 habitat points	Buffer if 8-9 habitat points
I	75 feet	105 feet	165 feet	225 feet
II	75 feet	105 feet	165 feet	225 feet
III	60 feet	105 feet	165 feet	Not applicable
IV	40 feet	Not applicable	Not applicable	Not applicable

Source: City of Bothell Municipal Code, 2019.

### Critical Aquifer Recharge Areas (CARAs)

The City of Bothell defines critical aquifer recharge areas (CARAs) as “areas designated by WAC 365-190-080(2) that are determined to have a critical recharging effect on aquifers used for potable water as defined by WAC 365-190-030(2)” (BMC Section 14.04.005). An aquifer is a geologic formation that readily transmits water to wells or springs. Where the surficial geology consists of glacial deposits, aquifers are typically the sand and gravel-dominated deposits where there is ample pore space for infiltrated water to be stored and discharged.

CARAs in the Canyon Park Subarea are mapped by Snohomish County’s Planning and Development Services’ (PDS) interactive mapping application (PDS Map Portal). The PDS Map Portal CARAs include the following features: WA Department of Health Wellheads, WA Department of Health Wellhead Protection Areas, US Environmental Protection Agency (USEPA) Sole Source Aquifers, and Snohomish County Wellhead Protection Areas. Of these features, only one USEPA Sole Source Aquifer (Cross Valley Aquifer Area) is present within Bothell city limits; and only a narrow margin of the Cross Valley Aquifer Area is located in the Canyon Park Subarea, as shown in Figure 25.

### Frequently Flooded Areas

Frequently flooded areas (FFAs) are regulated to manage potential risks to public safety. Such areas commonly overlap riparian and buffer areas that also provide valuable instream habitat benefits, such as recruitment of large woody debris, areas of natural vegetation, temporary floodwater storage to attenuate flows, and others. The City of Bothell defines “frequently flooded areas” or “flood hazard areas” under BMC 14.04.005 as lands in the floodplain subject to a one percent or greater chance of flooding in any given year. Such flooding would result from a “base flood” with an average 100-year return frequency, or 100-year flood. According to the code definition, these areas could include, but are not limited to, streams, lakes, wetlands and their associated floodplains, flood fringes, or Federal Emergency Management Agency (FEMA) floodway. Per Bothell’s municipal code, frequently flooded areas consist of the following components:

*“Floodplain” means the total area subject to inundation by the base flood.*

*“Flood fringe” means that portion of the floodplain outside of the FEMA floodway which is covered by floodwaters during the base flood; it is generally associated with standing water rather than rapidly flowing water.*

*“FEMA floodway” means the channel of the stream and that portion of the adjoining floodplain which is necessary to contain and discharge the base flood flow without increasing the base flood elevation more than one foot.*

The basin of interest within the Canyon Park Subarea is the North Creek Basin. Urban development has altered flows in this basin, creating new flooding problems. Natural floodplains have been modified over decades of clearing, farming, development, and levee construction.

FFAs are mapped along North Creek within the Canyon Park Subarea, as shown in Figure 26. Flooding within the subarea, with its small- to mid-sized streams, is most often triggered by heavy rains. It is exacerbated by runoff from impervious surfaces related to development throughout the entire North Creek basin and extending into the headwaters in Snohomish County. FEMA Mapping covering the study area identifies Zone X and Zone AE floodplains along North Creek. Areas with low to moderate risk of flooding are designated Zone X. High risk flood areas determined by base floodplain elevations are designated Zone AE. The City's 2015 *Imagine Bothell... Comprehensive Plan and Code Update* includes mapping of the 100-year floodplain along North Creek.



## Geologically Hazardous Areas

Geologically hazardous areas “include areas susceptible to erosion, sliding, earthquake, or other geological events” (BMC 14.04.800). The four types of geologically hazardous areas in the City of Bothell include:

*Erosion hazard;*

*Landslide hazard;*

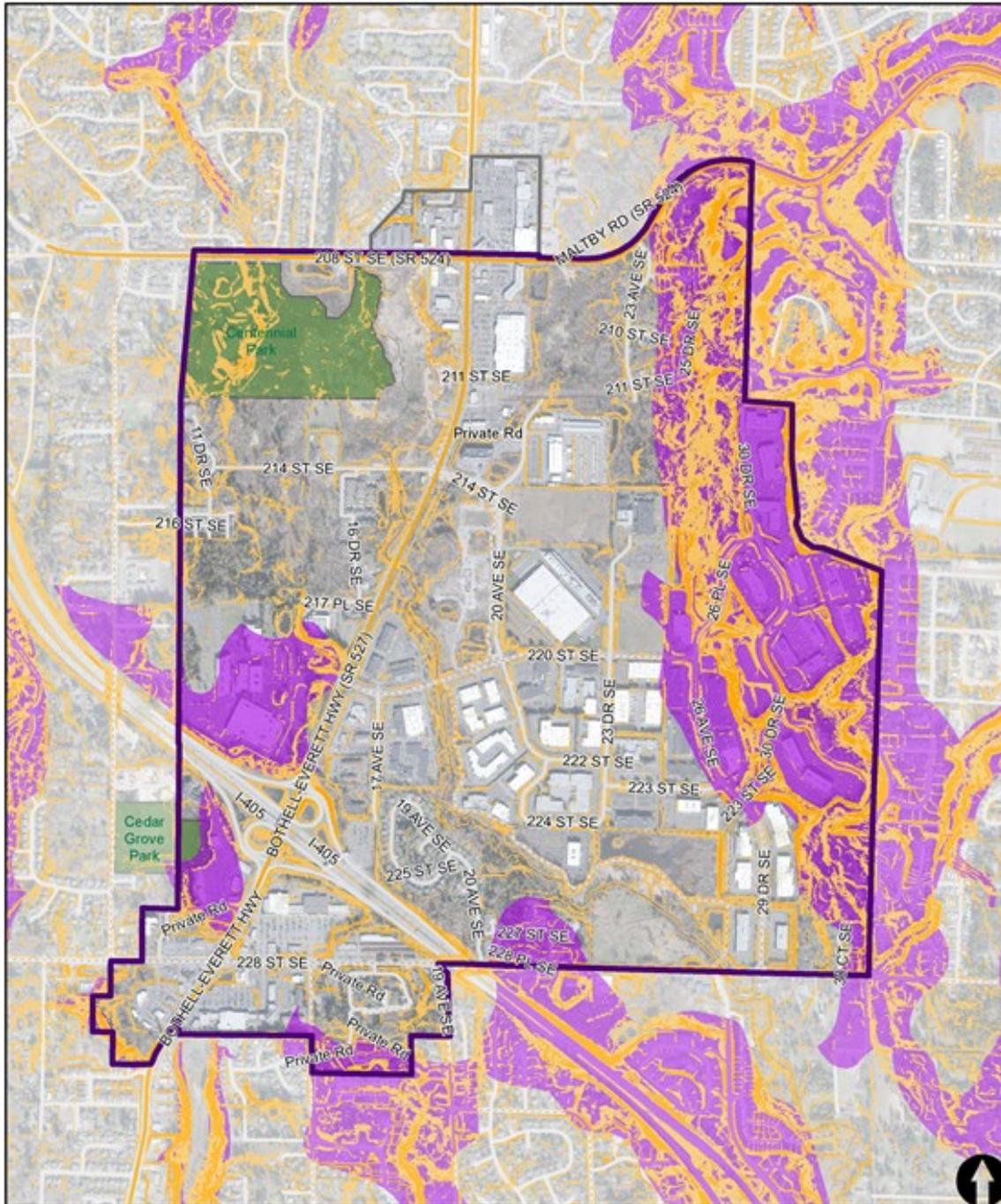
*Seismic hazard; and*

*Other geologic events including mass wasting, debris flows, rock falls, and differential settlement.*

Like frequently flooded areas, in contrast to most other GMA-mandated critical areas where the goal is to protect a valued resource, the purpose of regulating activities in geologically hazardous areas is less to protect the area and more to protect the public from the hazard represented by the area.

Based upon the City’s interactive map (COBMap), the Canyon Park Subarea contains erosion hazard areas (Figure 27). Areas of compressible, soft soils along with high groundwater levels have been observed during construction of infrastructure improvements in Canyon Park. Areas identified as liquefaction- and landslide-prone deposits occur outside of subarea boundaries. Erosion hazard areas are present on the west side of the Bothell-Everett Highway, north and south of Interstate-405; south of Perry Creek near the Salmon Run at Perry Creek Apartments; and in association with steep slope gradients along the eastern portion of the subarea.

Figure 27. Geologically Hazardous Areas



Canyon Park Subarea: Geohazards

0 0.1 0.2 0.4 Miles

- Canyon Park Subarea
- Additional Area to Include in Study
- Trails
- Low Slope (15-40%)
- Steep Slope (>40%)
- Erosion Hazard
- Bothell Parks

Source: City of Bothell, 2018; The Watershed Company, 2018.

## Fish and Wildlife Habitat Conservation Areas

Per BMC 14.04.005, fish and wildlife habitat conservation areas (FWHCAs) are “*areas necessary for maintaining species in suitable habitats within their natural geographic distribution so that isolated subpopulations are not created as designated by WAC 365-190-080(5).*” These areas include:

1. Areas with which state or federally designated endangered, threatened, and sensitive species have a primary association;
2. State priority habitats and areas associated with state priority species;
3. Habitats of local importance, including but not limited to areas designated as priority habitat by the Washington State Department of Fish and Wildlife (WDFW);
4. Naturally occurring ponds under 20 acres and their submerged aquatic beds that provide fish or wildlife habitat, including those artificial ponds intentionally created from dry areas in order to mitigate impacts to ponds;
5. Waters of the state, including lakes, rivers, ponds, streams, inland waters, underground waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington;
6. Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity; and
7. State natural area preserves and natural resource conservation areas.

Known FWHCAs in the Canyon Park Study Area include North Creek, tributary streams passing through and entering North Creek, and wetlands (discussed previously). Some state priority species may use habitat available in the subarea, often collocated with the critical areas described previously. Each type of FWHCA present or potentially occurring in the Canyon Park Subarea is described below.

### Rivers and Streams

The Canyon Park Subarea contains a network of streams, shown in Figure 28. The main stream, North Creek, is a defining landscape feature, flowing north to south through the subarea. North Creek is approximately 13 miles long. Its headwaters are located roughly five miles to the north, on a plateau near Everett Mall. From there, it descends through a valley that gradually broadens as it approaches its confluence with the Sammamish River.

North Creek supports runs of federally listed (threatened) Chinook salmon (*O. tshawytscha*) and steelhead trout (*O. mykiss*), as well as coho salmon (*O. kisutch*), a federal species of concern, and sockeye (*O. nerka*), kokanee (*O. nerka*), and coastal cutthroat trout (*O. clarkii clarkii*) (Kerwin 2001), all of which are Washington State Priority Species. Table 12 identifies the priority fish species occurring within the Canyon Park Subarea’s water bodies as reported for Watershed Resource Inventory Area (WRIA) 8 and in WDFW Priority Habitat Species (PHS) data (WDFW, n.d.).

**Table 12. Priority Fish Species Occurrence in the Canyon Park Study Area**

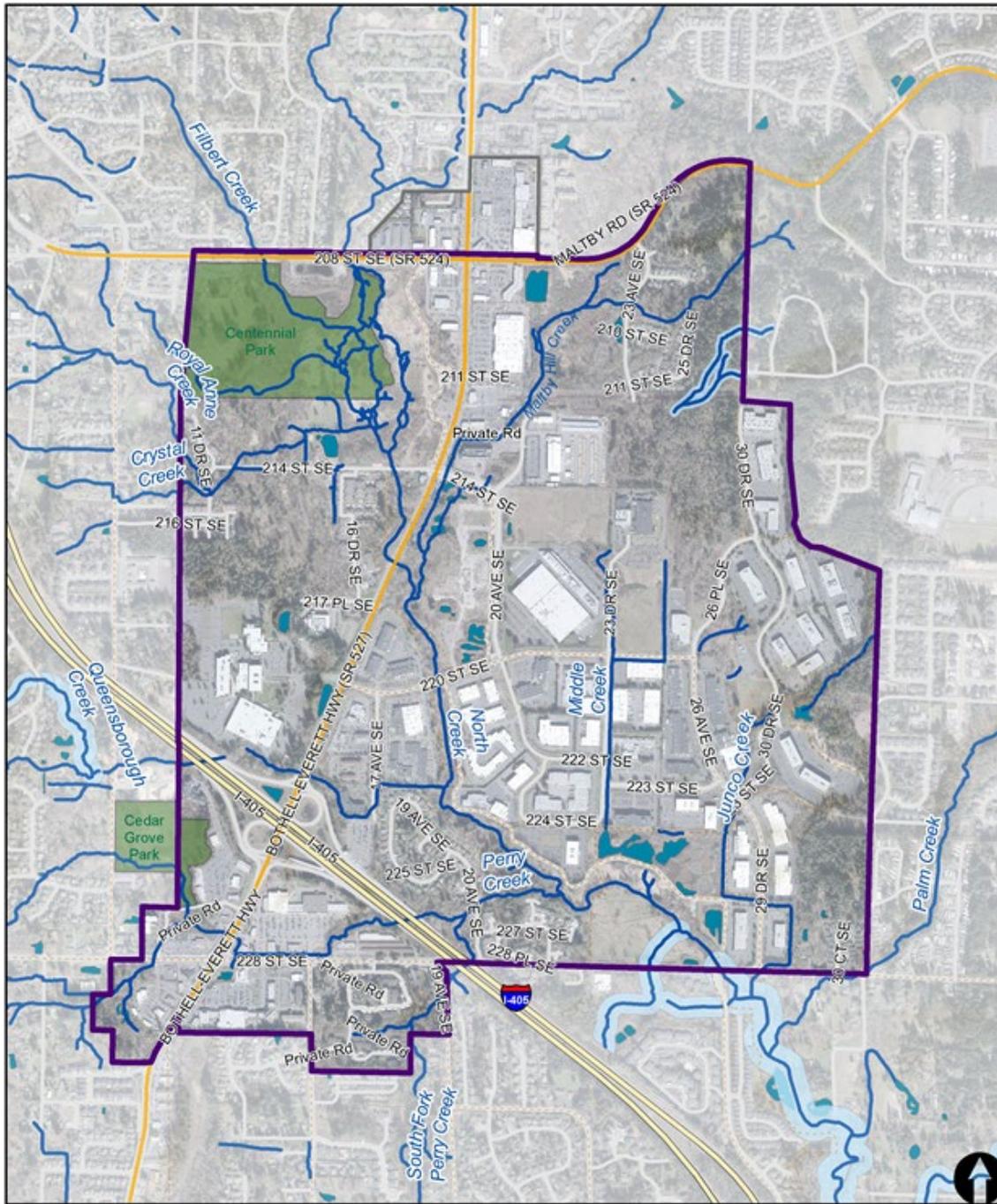
Common Name	Scientific Name	State Status	Federal Status	Water Bodies with Documented Occurrence in the Study Area
<b>Puget Sound Chinook Salmon</b>	<i>Oncorhynchus tshawytscha</i>	Candidate	Threatened	North Creek
<b>Puget Sound Steelhead</b>	<i>O. mykiss</i>	—	Threatened	North Creek
<b>Puget Sound-Strait of Georgia Coho Salmon</b>	<i>O. kisutch</i>	—	Species of Concern	North Creek and lower tributary sections
<b>Sockeye/ Kokanee Salmon</b>	<i>O. nerka</i>	—	—	North Creek
<b>Rainbow Trout</b>	<i>O. mykiss</i>	—	—	North Creek
<b>Cutthroat Trout</b>	<i>O. clarkii</i>	—	—	North Creek and lower tributary sections

Source: WRIA 8, n.d.; WDFW, n.d.

Throughout the North Creek basin, including within the Canyon Park Subarea, channel complexity and connectivity with the floodplain and adjacent stream reaches have been reduced due to road crossings and culverts, streambank hydromodification, channel incision and instability, and historical and on-going clearing and development in riparian areas. Changes in land-use practices have reduced native riparian forests, altered remaining riparian vegetation, limited in-stream large woody debris recruitment, increased stream temperatures, and altered basin hydrology. The present 2-year flood discharge exceeds the historical 100-year discharge, and 100-year flows have increased by 50% (Kerwin 2001).

Along the upstream portion of the subarea associated with Centennial Park (Reach 2, in the Bothell Shoreline Master Program (SMP)), the well-vegetated streambanks result in relatively stable banks and limit the rate of potential channel migration and associated erosion. However, since the reach lies in a low-gradient, depositional area which presently exhibits some channel braiding, channel locations, forms, and braiding patterns can be expected to evolve over time. The broad floodplains are largely depositional areas (Figure 28).

Figure 28. Streams



Canyon Park Subarea: Streams



- Canyon Park Subarea
- Additional Area to Include in Study
- Trails
- Rivers and Streams
- Stream Buffers
- Water Bodies
- Bothell Parks

Note: Critical area buffers are based on City of Bothell data, retrieved December 2018; not all buffers for wetlands/streams are shown.

Sources: City of Bothell, 2018; The Watershed Company, 2018.

Throughout the remaining, more developed portions of the subarea (i.e., the RGC), dense bank vegetation is present along many sections and some areas of armoring remain from past agricultural and commercial land uses. See Figure 29. These well-vegetated streambanks as supplemented by armoring result in relatively stable banks and the rate of channel migration and associated erosion is expected to be limited as shown in Figure 30. Where bank erosion does occur, actions will likely be taken to the extent needed to prevent significant channel migration and thereby protect existing development and associated infrastructure. (The section of North Creek within the RGC is designated as Reach 3, in the Bothell SMP.)

**Figure 29. Extensive Riparian Floodplain Wetlands within the Study Area along North Creek at Centennial Park**



Source: The Watershed Company, December 2018.

**Figure 30. Armored and Vegetated Section of North Creek, Centrally Located in Canyon Park Near 220<sup>th</sup> Street SE**



Source: The Watershed Company, April 2017.

Water quality parameters were researched on the Washington Department of Ecology website. The Water Quality Assessment Categories referenced below are defined as follows:

*Category 5 (303(d) list)—polluted waters requiring a Total Maximum Daily Load (TMDL) or similar improvement project.*

*Category 4—impaired waters not requiring a TMDL. 4a—TMDL already in place. 4b—other control program in place. 4c—not suited to a TMDL.*

*Category 3—Insufficient data to assess water quality for a given parameter (not included below).*

*Category 2—Waters of Concern.*

*Category 1—Meets water quality standards.*

Within the Canyon Park Subarea boundaries, North Creek is on the State's 303(d) list in Category 5 for dissolved oxygen, temperature, and bioassessment, and Category 4a for fecal coliform bacteria. Of note, North Creek is assigned a Category 1 within the study area for the following parameters, and so meets water quality standards for them: ammonia, arsenic, copper, mercury, selenium, and zinc.

In addition to North Creek, seven small, similarly-sized North Creek tributary streams occur within the Canyon Park Subarea. These are mapped in Figure 28. From south to north along the west side of North Creek they are Perry, Queensborough, Royal Anne, and Filbert Creeks. Along the east side, also from south to north, are Junco, Middle, and Maltby Hill Creeks. Palm Creek farther to the southeast is just outside the subarea boundary. Several of these, including Queensborough, Junco, and Maltby Hill Creeks, have been the subject of past relocation and enhancement projects associated with Canyon Park development. A relocated and largely recovered section of Junco Creek is pictured in Figure 31.

**Figure 31. Relocated Section of North Creek Tributary Junco Creek**



Located behind (east of) 22745 29<sup>th</sup> Dr SE #200, northeast of the intersection of 228<sup>th</sup> St SE and 29<sup>th</sup> Dr SE.  
Source: The Watershed Company, April 2017.

With the possible exception of Middle Creek, which flows through a large detention facility, these tributary streams are likely used by resident cutthroat trout and juvenile coho salmon, with some used by adult coho along their lower sections as they approach North Creek. These creeks typically headwater in areas of fairly dense residential development and then cross more naturally vegetated, often-wetland open space areas as they near North Creek. Filbert and Maltby Hill Creeks are both included in the North Creek TMDL for fecal coliform bacteria (Category 4a), and each is also listed as Category 5 for dissolved oxygen and temperature.

The City of Bothell's stream classification system and associated buffer widths under the current code are reported in Table 13. The City is currently in the process of updating their shoreline master program and critical areas ordinance.

**Table 13. Assigned Stream Buffers in Bothell**

Stream Type	Standard Buffer Width
<b>Type S; or shorelines of the state, or shorelines of statewide significance</b>	100 feet <sup>1</sup>
High intensity/high-intensity-park environment	15 feet
Marina environment	100 feet
Shoreline residential environment	100 feet <sup>1</sup>
Urban conservancy environment	100 feet <sup>1</sup>
Natural environment	150 feet
<b>Type F; or other salmonid bearing streams</b>	100 feet
<b>Type Np, or other, perennial, non-salmonid bearing streams</b>	75 feet
<b>Type Ns; or other intermittent, non-salmonid bearing streams</b>	50 feet

<sup>1</sup>Except that the main stem of North Creek located between 240<sup>th</sup> St SE and 228<sup>th</sup> St SE shall have a stream buffer width of 150 feet.

Source: City of Bothell Municipal Code, 2019 (Chapters 13.13 and 14.04).

### **Wildlife Observations**

The Canyon Park Subarea includes some large patches of natural vegetation that provide habitat functions to various wildlife species. Retained vegetation patches are often collocated with regulated critical areas (i.e., streams and wetlands) and on steep slopes. These habitat patches are utilized by urban wildlife species.

During field investigations, wildlife species observations were limited to common winter birds (e.g., robin, sparrow, junco, towhee, waterfowl) and North American beaver. The North American beaver presence is discussed because of its implications to the associated stream and wetland systems. The species is regulated as a furbearer by Washington State, subject to trapping licensing, seasons, and other rules. On December 27, 2018, one beaver was observed in flooded riverine wetland southeast of the intersection of Bothell-Everett

Highway and 214<sup>th</sup> Street SE. It was observed near a den constructed on what is presumably the edge of road fill associated with Bothell-Everett Highway (Figure 32). Recent beaver activity was apparent during the site visit. Large amounts of vegetation had recently been cut and an active dam was obstructing water flow (Figure 33), causing flooding in and potentially expanding wetland areas in the vicinity.

**Figure 32. Beaver Den in Riverine Wetland Adjacent to Bothell-Everett Highway**



Source: The Watershed Company, December 2018.

**Figure 33. Beaver Dam and Recent Cuttings in Riverine Wetland South of 214<sup>th</sup> Street SE**



Source: The Watershed Company, December 2018.

### Habitat for Priority Species

Vegetation patches in the Canyon Park Subarea have the potential to provide habitat for State priority species but are unlikely to be associated with federally listed species (except for salmonids in North Creek). No state natural area preserves or are known to exist in the subarea. The interactive online application, Priority Habitats and Species (PHS) on the Web (WDFW, n.d.), shows no priority species occurrences, breeding areas, regular concentrations, communal roosts, or migration corridors located within the Canyon Park Subarea.

The greatest potential for priority species presence is in the large riverine wetland complex east of Centennial Park and the ponded wetlands located south of existing businesses in the southern portion of the subarea. At both locations, a variety of vegetation types, hydroperiods, and the presence of nearby standing snags increase the potential of the sites to support priority species. Both locations have also become local birding “hotspots,” for eBird users (hotspots known as “Centennial Park” and “Canyon Park Wetlands”) (eBird, 2012). eBird is an application that allows recreational to professional birders to publicly document bird observations. eBird data is not peer-reviewed or verified, but generally trusted in the field. Based on eBird hotspot data and field observations, the priority species in Table 14 may utilize habitat in the Canyon Park Subarea during some stage of their life history.

**Table 14. Priority Species**

Common Name	Scientific Name	Status	WDFW Priority Area	Notes
<b>Pileated Woodpecker</b>	<i>Dryocopus pileatus</i>	State Candidate	Breeding Areas	No breeding areas identified. Likely utilizes large trees in retained forests and standing snags as foraging habitat.
<b>Snow Goose</b>	<i>Chen caerulescens</i>	Priority Species	Regular concentrations	Occasional winter migrant.
<b>Trumpeter Swan</b>	<i>Cygnus buccinator</i>	Priority Species	Regular concentrations	Occasional winter migrant.
<b>Band-tailed Pigeon</b>	<i>Patagioenas fasciata</i>	Priority Species	Regular concentrations	Bird observations rare.
<b>Vaux's Swift</b>	<i>Chaetura vauxi</i>	State Candidate	Breeding Areas Communal Roosts	Relatively uncommon in summer. Likely forages over open water and wetlands.
<b>Great Blue Heron</b>	<i>Ardea herodias</i>	Priority Species	Breeding Areas	No known rookeries present. Regularly uses wetland and riparian areas for foraging.
<b>Columbian Black-tailed Deer</b>	<i>Odocoileus hemionus columbianus</i>	Priority Species	Regular Concentrations Migration Corridors	May occasionally utilize forested habitat or cleared areas in the Canyon Park Subarea.
<b>Western Toad</b>	<i>Bufo boreas</i>	State Candidate	Any occurrence	Suitable habitat exists, but no known occurrences.
<b>Cavity-nesting Ducks</b>	—	Priority Species	Breeding Areas	No known breeding areas present in the subarea; suitable breeding habitat may exist.

Sources: WDFW, 2008; The Watershed Company, 2018.

### 3.1.2 Impacts

#### Thresholds of Significance

The thresholds of significance utilized in this impact analysis include:

- Inconsistency with current regulations, guidance documents and/or best available science including *Wetland Guidance for CAO Updates* (Department of Ecology, 2016).
- Likelihood of jeopardizing a plant or animal population that is not currently vulnerable in Bothell and is a priority habitat or species.
- Impact to critical area functions and values that reach a magnitude that is qualitatively considered to be more than moderate.

For the purposes of this analysis, it is presumed that the City's updated Critical Areas Ordinance (in progress) will be consistent with Ecology recommendations (Department of Ecology, 2016) at the time of adoption.

#### Impacts Common to All Alternatives

All alternatives involve some degree of population growth and associated new and infill development and redevelopment in the Canyon Park Subarea. The natural environment in the Canyon Park Subarea has experienced adverse impacts related to urbanization in the past. Much of the subarea is already developed to some degree; and while vacant lots exist, most were previously stripped of their natural vegetation and re-graded. Therefore, the impact of infill development and redevelopment is expected to be relatively small.

No significant increase in impervious surface coverage is anticipated under any of the alternatives because the subject area is already mostly built out with a high proportion of impervious surface. Furthermore, since new landscaping and open space areas will be incorporated into redevelopment, particularly under the Business Plus and Live/Work alternatives, a net reduction of impervious surfaces may be possible. However, since it is presumed that landowners will maximize the development potential of their property under each alternative, any resulting impervious surface coverage reductions may be small. Impervious surface coverage rates will be comparable across the alternatives and will remain high, at urban levels, given present and future development densities. Regulatory constraints may serve to limit impervious surface coverage and associated impacts.

Urban development and high levels of impervious surface coverage may directly impact the natural environment as follows:

- Reduction in wildlife and wildlife habitat.
- Habitat fragmentation and degradation.
- Alteration of wildlife species abundance, diversity, composition, and movement patterns.
- Changes to surface water and ground water quality and quantity.

Temporary construction activities associated with increased development may affect the natural environment in the following ways:

- Temporary loss of wildlife habitat.
- Temporary disruption and displacement of wildlife (even where habitat remains intact) due to disturbances from noise and activity during construction.
- Loss of wildlife (particularly less mobile wildlife species).
- Increased sediment transport to downstream water resources.
- Soil erosion.
- Increased potential for hazardous material spills (e.g., fuel).

Regional growth and urbanization in Canyon Park may also affect the natural environment indirectly as follows:

- Increased use of fertilizers and pesticides from increased residential uses and landscaped areas associated with businesses.
- Increased magnitude and duration of noise and light from greater traffic volumes and increased population.
- Contribution to urban heat island effect.
- Increase in nonnative or noxious weeds and animal pests from increase in potential sources (e.g., residential yards) and land uses that support pest populations.
- Increased vehicle/wildlife incidents from increased traffic and infrastructure and reduction in available habitat.
- More intrusions into retained natural areas.
- Increased opportunity to educate and foster interest in the natural world and conservation in the community.

### **Wetlands**

Under all alternatives, wetlands will be protected by the same overarching mechanisms, including local, state, and federal regulations and stormwater standards (see Section 3.1.3). At the time of this Draft EIS, current critical area regulations are outdated. The City is in the process of amending the critical area regulations to reference the most up-to-date manuals and guidance. It is assumed the applicable regulations and stormwater manual that would be in place to guide site-specific development decisions in the future are the most current versions and based on best available science.

Minor impacts to wetlands that may occur under all alternatives are indirect and primarily result from an increased population. Indirect impacts include intrusions by people and pets, increased noise and light, increased potential for transport and establishment of nonnative plants and animals, and increased use of fertilizers and pesticides in the landscape. Overall, the impacts from these indirect effects are expected to be relatively small (particularly under the No Action Alternative), and currently exist at lower levels.

There is also potential for all alternatives to improve wetland functions as future development proposals are expected to be held to stricter standards than previous development activities. For example, redevelopment activities are likely to require removal of buildings or infrastructure now located in wetland buffers, followed by restoration. The expected result is incrementally larger, more intact, vegetated wetland buffers (on a site by site basis) that function better to protect nearby wetlands.

### ***Critical Aquifer Recharge Areas***

Groundwater infiltration is affected in both quantity and quality by changes in impervious surfaces. Groundwater infiltration is also affected by infiltration opportunities provided through stormwater system design such as semi-permeable paving and rain gardens. Changes in groundwater volume and flow rates have the potential to affect critical aquifer recharge areas (CARAs). Known CARAs are present on the eastern edge of the study area and are largely associated with a neighboring sub-basin to the east. Land uses located in the mapped CARAs consist of primarily business and parking areas and are currently dominated by impervious surfaces. Governing stormwater regulations have become more stringent since existing development occurred, so any redevelopment in the mapped CARAs is likely to result in an improvement over existing conditions. Site-specific analyses by a qualified professional would be required according to the Bothell Municipal Code. Significant adverse impacts to groundwater infiltration in this area are not anticipated under any alternative.

### ***Frequently Flooded Areas***

The regulatory framework that guides proposed activities that may affect frequently flooded areas is expected to adequately prevent impacts from occurring in this critical area. Future development activities are subject to current floodplain requirements with respect to flood-proofing and elevating but are not expected to increase flooding in the study area. No significant adverse impacts are anticipated.

### ***Geologically Hazardous Areas***

Known geologically hazardous areas present in the study area consist of erosion hazard areas. Where erosion hazard areas are mapped, or suspected (non-mapped) geologically hazardous areas occur, a qualified professional shall conduct a site-specific study as required by Bothell Municipal Code, which is presumed to mitigate the risk of impact to soil/slope stability and erosion. Vegetation growing on geologically hazardous areas that provides slope stability functions may still be impacted by development even if slope stability can be maintained through other methods such as retaining walls, drain pipes, or regrading. Effects of vegetation removal are discussed in the next section.

## ***Fish and Wildlife Habitat Conservation Areas***

### ***Streams***

Under all alternatives, streams will be protected by the same overarching mechanisms, including local, state, and federal regulations and stormwater standards. Stormwater regulations in the region are significantly more stringent than when the study area was originally developed. New development or redevelopment in the study area would be subject to these more protective regulations, and impervious surface levels are not expected to significantly increase as the study area is largely built-out. As a result, stream habitat is expected to improve overall due to anticipated decreases in stormwater volumes and flow rates and accompanying improvements in water quality. In addition, functional stream buffers of adequate width, as supported by best available science, are established for streams in the study area.

Assuming that both these applicable regulations and the stormwater manual requirements that guide future site-specific development decisions are the most current versions based on best available science, impacts would not be considered significant and some level of stream habitat improvement is anticipated.

During construction, the primary pollution concerns would be sediment transport, erosion, and fuel and other spills. Runoff rates from each development site may temporarily increase if there is an overall increase in impervious surface across the site; long-term rates from completed projects would be controlled by stormwater regulations. A Temporary Erosion and Sediment Control Plan is required for each project to monitor sediment control measures, clearing limits, and surface water control facilities.

### ***Plants and Animals***

Since uplands are not explicitly protected by critical area regulations, build-out under all of the alternatives would reduce the overall quantity of upland wildlife habitat present in the study area. However, current standards are also expected to incentivize low-impact development techniques, incorporation of landscaped areas, and reduced impervious surfaces on highly impervious lots, which may result in an increase in small vegetated patches that could serve as habitat for urban wildlife species. Alteration of habitat area and increased disturbance from some degree of urbanization is likely to affect wildlife species commonly present in the subarea, including but not limited to birds, small mammals, deer, beavers, and insects (including pollinators).

Preservation of existing wetland and stream critical areas and associated wildlife habitat is a primary goal of the subarea plan, and large patches of habitat would be retained under all alternatives. The potential for the subarea to support sensitive wildlife species is greatest in these larger patches planned for retention. Habitat loss or alteration is expected to occur in small upland patches that are likely already degraded. The overall effect of this change in habitat is not expected to be noticeably different than existing conditions.

Beavers are active in the urban Canyon Park Subarea. Beavers create dynamic hydrologic systems that are likely to conflict with water management in urban settings. However, they also create habitat utilized by many other species, from fish to birds. Under all alternatives, increasing population and associated development activities have the potential to negatively impact beavers. Beaver-related conflicts with infrastructure may result in increased maintenance costs, the need for infrastructure updates, or the need for beaver trapping and relocation to achieve resolution. The City of Bothell does not currently have regulations or policies regarding beaver management. As a result, management is likely to be reactionary as problems arise. In general, development activities are likely to result in beaver impacts if beaver presence is not considered during site planning and design.

Population growth under all of the alternatives is likely to result in some degradation of retained natural areas from disturbance caused by human intrusion, litter, weeds, traffic, noise, and light. Wildlife would also likely be affected by temporary impacts from construction activities. However, these indirect and temporary impacts are not expected to reach levels of significance given the urban condition of the study area today.

### **Impacts of No Action Alternative**

Impacts under the No Action Alternative are generally consistent with those described under Impacts Common to All Alternatives. The magnitude of direct and indirect impacts related to increased population is expected to be less under this alternative than the Action Alternatives given the projected difference in overall growth (about 8,000 vs. 22,000 additional residents, respectively) and the need for additional roads in the Action Alternatives.

#### ***Wetlands***

Under the No Action Alternative, growth is relatively evenly distributed within the existing RGC boundary and is not focused in central areas within the refined RGC boundary. The current RGC boundary includes high-value wetlands and intact habitat areas. Impacts to critical areas within the current RGC boundary are expected to be prevented by applicable regulations; however, impacts from buffer intrusions and fragmentation may be higher in this alternative as a result of the unfocused growth.

#### ***Fish and Wildlife Habitat Conservation Areas***

Under the No Action Alternative, stormwater runoff volumes and rates are expected to decrease and water quality is expected to improve. This is because more stringent stormwater regulations now in place will be activated on a site by site basis as further development and redevelopment occurs. Impervious surface coverage is also not expected to increase as the study area is already mostly built-out. These factors will serve to improve stream and wetland habitat due to improvements in water quality and quantity parameters as effects resulting from these more protective regulations are realized over time.

## Impacts of Action Alternatives

In the Action Alternatives, increased growth is achieved through changes to building volume (mixed-use height, parking reductions for all uses allowing more building space, infill on parking lots) in areas that are already predominantly developed. Growth on a parcel by parcel basis is therefore achieved without directly impacting the remaining natural environment. However, as documented in the transportation analysis, new roads would be required to distribute traffic to and from the RGC, which would impact the natural environment.

Differences in impacts between the Action Alternatives are minor and related to the greater increase in residents under the Live/Work Alternative and greater increase in employees under the Business Plus Alternative. Residents could spend more time in or near critical areas relative to an increase in workers under the Business Plus Alternative. The workers may only have time for short walks during lunch and other work breaks and so could be more inclined to stay on designated trails. Excessive and uncontrolled intrusion into natural areas may result in spur trail formation, impacts to native vegetation, wildlife disturbance, and soil and streambank erosion. Residents would also likely bring pets with them to the natural areas, which would increase intrusion impacts like wildlife disturbance and an increase in pet waste. Conversely, residents may feel a sense of ownership of their natural surroundings and so may be more inclined to protect these areas and participate in improvement projects. Additionally, under the Live/Work Alternative, new landscaping and open space areas would likely be incorporated into redevelopment to a greater extent than under the Business Plus Alternative.

### *Wetlands*

Road infrastructure necessary to support growth under the Action Alternatives is expected to impact wetlands in the Canyon Park Subarea. Four transportation projects were originally evaluated for potential impacts to wetlands with the Business Plus and Live/Work Alternatives (Table 15) prior to development of the Mitigated Live/Work Alternative. Based on these transportation projects, wetland impacts could reach 1-2 acres or more, depending on selected road alignments and alternatives. Impacts would presumably be mitigated using the Keller Farm Mitigation Bank, which is in Redmond, Washington at the confluence of Bear, Evans, and Perrigo Creeks. Use of mitigation banks and other non-permittee-responsible mitigation instruments is consistent with the US Army Corps of Engineers' current preferred method of mitigating impacts. The resulting effect within the Canyon Park Subarea would be a net loss in wetland area if mitigation occurs off-site.

Wetland functions, including hydrologic, water quality, and habitat functions, would also be lost where wetlands are filled. Presumably, water quality and flows will not be significantly impacted through compliance with applicable stormwater management regulations. However, new and improved roads are expected to reduce and disconnect available wildlife habitats. This would likely result in increased traffic-wildlife conflicts, alterations to

wildlife movement patterns, and degradation of remaining wildlife habitat associated with wetland areas.

Wetland and stream buffer impacts may also be mitigated using the Keller Farm Mitigation Bank or within the Canyon Park Subarea, in areas of degraded wetland and/or stream buffer as well as in degraded wetland areas. A loss of buffer area may result from necessary infrastructure, but mitigation is likely to improve the quality of other degraded areas.

### ***Fish and Wildlife Habitat Conservation Areas***

#### ***Streams***

Stream habitats are expected to improve under either of the Action Alternatives to a greater degree than the No Action Alternative. The Action Alternatives would result in further decrease in stormwater runoff and an increase in water quality compared to the No Action Alternative because redevelopment would occur at higher densities, and impervious surface coverage would be reduced from new landscaping and open space areas incorporated into redevelopment activities on a project-by-project basis. While some new roads are proposed, overall impervious surface area is not expected to increase significantly, and could potentially decrease, resulting in less runoff and improved water quality.

Four transportation projects were originally evaluated for potential impacts to streams with the Business Plus and Live/Work Alternatives (Table 15), prior to development of the Mitigated Live/Work Alternative. New roads that would require new stream crossings or upgrades to existing crossings from these select transportation projects are not expected to significantly degrade stream channels. Upgrades to existing crossings have the potential to improve stream habitat. Some stream buffer impacts may result from road/existing culvert improvements and/or infrastructure associated with new roads. As shown in Table 15, Figure 28 on page 3-12, and Figure 83 on page 3-145, both of the north-south route alternates (23<sup>rd</sup> Drive SE or 20<sup>th</sup> Avenue SE) cross the small Maltby Hill Creek tributary. The 23<sup>rd</sup> Drive SE route also crosses an unnamed mapped drainage tributary to Middle Creek that is likely not fish bearing. Of the two north-south routes, 23<sup>rd</sup> Drive SE exhibits the lowest level of impact to Maltby Hill Creek because 1) the crossing is the farthest upstream, 2) an existing culvert is upgraded, and 3) buffer impacts are limited to the extent that the road would be widened and the culvert lengthened. An overall benefit may result under the 23<sup>rd</sup> Drive SE route if combined stream crossing improvements at the crossing locations outweigh buffer impacts. Although designed to current standards, the 20<sup>th</sup> Avenue SE route would result in both in-stream and buffer impacts because of a new (as opposed to upgraded) creek crossing.

**Table 15. Anticipated New or Improved Stream Crossings and Determination of Buffer Impacts for Considered Transportation Projects**

Project	Potential Stream Effects			Project Evaluation Timeline	
	New Stream Crossing, to Standard	Existing Crossing, Upgraded to Standard	Stream Buffer Impact	Evaluated Under Business Plus & Live/Work Alternatives	Evaluated Under Mitigated Live/Work Alternative
214 <sup>th</sup> St SE/SR 527 intersection modification	—	Possibly Maltby Hill Creek	Low	No	Yes
SR 527/SR 524 intersection modification	—	—	None	No	Yes
23 <sup>rd</sup> Dr SE	—	Maltby Hill Creek & unnamed tributary	Low	Yes	No
214 <sup>th</sup> St SE extension	Royal Anne Creek	North Creek, Royal Anne Creek, & unnamed tributary	Medium	Yes	Yes
217 <sup>th</sup> Pl SE	—	—	High	Yes	No
20 <sup>th</sup> Ave SE street extension <sup>1</sup>	Maltby Hill Creek	—	Medium	Yes	Yes
228 <sup>th</sup> St SE widening & rechannelization	—	North Creek, Junco Creek, Palm Creek, South Fork Perry Creek, & unnamed tributary	Medium	No	Yes

<sup>1</sup>Assumed roadway behind Fred Meyer.

Source: The Watershed Company, 2019.

Although the 217<sup>th</sup> Place SE east-west route does not include any new or existing stream crossings, the eastern portion of it closely parallels North Creek and portions of the alignment lie within the regulatory stream buffer. Though it appears that most of this regulatory buffer area is currently developed (and thus consists of paved areas), redevelopment or a new road project would be subject to buffer widths according to applicable, in-effect development standards. Project design would need to incorporate applicable requirements for mitigation sequencing.

The 214<sup>th</sup> Street SE east-west route would upgrade the existing North Creek culvert to current stream simulation standards. This would be considered a substantial improvement with concomitant benefits as North Creek is the primary, salmonid-fish-bearing stream in the study area. A new crossing of Royal Anne Creek, and upgraded crossings of Royal Anne Creek and an unnamed drainage would be designed to current standards with low in-stream impacts but some buffer impacts.

### ***Plants and Animals***

See discussion above under Wetlands.

### 3.1.3 Mitigation Measures

#### Incorporated Plan Features

- Action Alternatives include a subarea plan and development regulation updates. The expected policies and regulations would be designed to maintain the subarea's connection to nature through preservation of known critical areas, which limits the potential for direct impacts to high-value areas of the natural environment.

#### Mitigated Live/Work Alternative

The Mitigated Live/Work Alternative (Figure 23) includes a lower population growth than the Action Alternatives and added transportation mitigation (Figure 83) that would result in natural environment impacts that have been described previously.

#### *Wetlands*

- Direct wetland impacts would occur from necessary new/expanded road infrastructure. More information regarding the projected type and quantity of wetland impact will be determined with an ecological impact assessment, the findings of which will be incorporated into the Final EIS.
- Indirect impacts from an increase in population may include more intrusions by people and pets, which cause increased noise and light; increased potential for transport and established of nonnative plants and animals; and increased use of fertilizers and pesticides in the landscape.
- Wetland functions could be improved as future development proposals are expected to be held to stricter standards than previous development activities, potentially resulting in removal of existing impacts.
- Natural areas like wetlands may serve as community amenities, foster interest and appreciation for the environment, and offer community education opportunities.

#### *Fish and Wildlife Habitat Conservation Areas*

##### Streams

- Stream habitats are expected to improve to a greater degree than under the No Action Alternative. Redevelopment at higher densities would replace impervious surfaces with new landscaping and open space. While some new roads are proposed, overall impervious surface area is not expected to increase significantly, and could potentially decrease, resulting in less runoff and improved water quality.
- Upgrades to existing stream crossings (Table 15) have the potential to improve stream habitat.
- New roads that would require new stream crossings (Table 15) would result in in-stream and buffer impacts that would require compensatory mitigation in accordance with applicable regulations.

### Plants and Animals

- Alteration of habitat area and increased disturbance from some degree of urbanization is likely to affect wildlife species commonly present in the subarea, including but not limited to birds, small mammals, deer, beavers, and insects (including pollinators).
- Beavers that are currently active in the study area may be impacted by new and/or improved road infrastructure and development activities.
- Population growth under all of the alternatives is likely to result in some degradation of retained natural areas from disturbance caused by human intrusion, litter, weeds, traffic, noise, and light. Wildlife would also likely be affected by temporary impacts from construction activities.

### **Regulations and Commitments**

The following regulations would help limit impacts to the natural environment:

- City of Bothell Critical Areas Ordinance (CAO) and associated requirements for project-specific critical area studies. Assessments and findings of this section presume the City's CAO is updated for consistency with best available science prior to approval of any development activities.
- City of Bothell Frequently Flooded Area Regulations and referenced FEMA flood insurance mapping.
- City of Bothell tree retention and landscaping standards.
- City of Bothell Surface Water Design Manual.
- Washington Department of Ecology, Shoreline Management Act.
- Washington Department of Fish and Wildlife, Hydraulic Code Rules.
- Temporary Erosion and Sediment Control measures; other Best Management Practices as required under the National Pollutant Discharge Elimination System (NPDES) construction permit.
- US Fish and Wildlife Service and/or the National Marine Fisheries Service, for federally permitted actions that could affect endangered species (i.e., salmon or bull trout).
- US EPA, Clean Water Act.

### **Other Proposed Mitigation Measures**

As part of the amendments to the subarea plan and development regulations, add policies and code that:

- Consider the development of an advance mitigation program for wetland and stream buffer impacts that may result from transportation projects to offset unavoidable impacts to critical area buffers through buffer and/or wetland restoration. This would mean mitigation and enhancement are accomplished at locations determined to be degraded and capable of ecological lift. Such advance mitigation would demonstrate

improved functions and values prior to development (e.g., prior to public infrastructure investments). Potential sites where restoration activities may occur are generally located in the vicinity of Centennial Park and south of North Creek, associated with a private parcel (27052900303900) at the south end of the Canyon Park Subarea. An example of such a program includes the Kirkland Critical Area Buffer Advance Mitigation Program.

- Mitigate for loss of vegetated areas not otherwise protected by critical area regulations. For example, protect vegetation on steep slopes. For geologically hazardous areas, mitigate for impacts to vegetated slopes at a 1-to-1 ratio. A reduced mitigation ratio could be approved on a case-by-case basis, based upon the results of a functional analysis. For example, the City of Bellevue's performance standards for disturbance of landslide hazard areas and steep slopes includes a mitigation and restoration requirement (Bellevue City Code 20.25H.125).
- Develop a stewardship program for retained natural areas that improves habitat and offers a way for community members to become involved.
- Install interpretive signs near natural areas to highlight important functions the natural environment provides.
- Consider creating development standards that allow for ongoing beaver presence and activity in the subarea. Where beaver activities are known to occur, development proposals could include a Beaver Management Plan with requirements to consider the site's history, existing conditions, and proposed conditions and how those may be influenced by beaver activities. The Beaver Management Plan should identify strategies to minimize impacts to beavers, anticipate potential infrastructure impacts that may result from beaver dams, and develop a way to mitigate possible flooding issues should they become a problem.

### 3.1.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts to regulated critical areas are anticipated under any alternative with incorporation of the mitigation measures previously identified.

Under the Action Alternatives (including the Mitigated Live/Work Alternative), large impacts to wetlands could result at the local scale from new road infrastructure necessary to mitigate traffic impacts. Wetland impacts would presumably be appropriately mitigated within the nearby landscape. However, since mitigation is likely to occur off site, the Canyon Park Subarea would likely experience a net reduction in wetland area and associated wetland functions.

## 3.2 Land Use Patterns and Policies

### 3.2.1 Land Use Patterns

#### Current Land Use

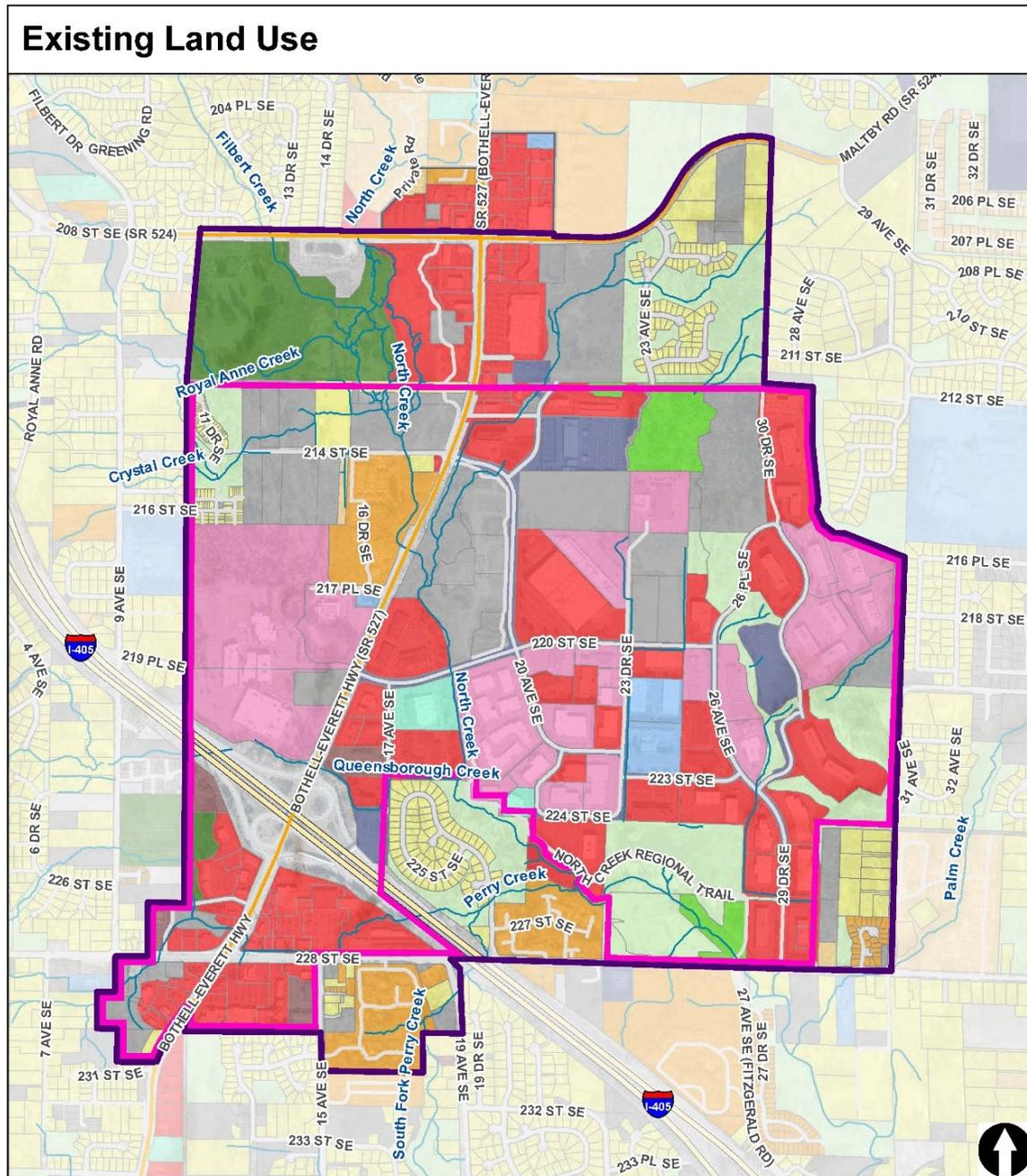
The Canyon Park Subarea is in north Bothell, extending from the intersection of 208<sup>th</sup> Street SE (SR 524) and SR 527 on the north to 228<sup>th</sup> Street S on the south, and from 10<sup>th</sup> Avenue SE approximately on the west to 31<sup>st</sup> Avenue SE on the east. The study area is comprised of about 1,037 gross acres and contains the approximately 735-gross acre Canyon Park Regional Growth Center (RGC). Excluding public rights of way, the total acres are just under 935 acres. Within the study area, a small amount of residential development is located in the northeast, south central, and southeast parts of the subarea and along 214<sup>th</sup> Street SE west of SR 527. Outside the study area are moderate and low density residential and retail uses. The most prevalent land uses in the study area include commercial trade and service uses, undeveloped land, and manufacturing, as shown in Table 16 and Figure 34.

**Table 16. Canyon Park Current Land Use, Full Study Area**

Use	Parcel Acres	Percent
Commercial Trade and Services	206.9	22%
Government and Education	10.6	1.1%
Lodging and Group Quarters	11.2	1%
Manufactured Housing	2.0	<1%
Manufacturing	150.5	16%
Miscellaneous Services	29.9	3%
Multifamily Residential	55.4	6%
Open Space, Privately Owned	113.3	12%
Open Space, Publicly Owned	18.5	2%
Public Parks	50.4	5%
Religious and Cultural Activities	14.8	2%
Single Family Residential	57.4	6%
Transportation and Utilities	48.6	5%
Undeveloped Land	163.9	18%
No Data	1.7	0.2%
<b>Total*</b>	<b>934.8</b>	<b>100%</b>

Note: Excludes public rights of way. Totals may differ due to rounding.  
Source: Snohomish County Assessor, 2019; BERK, 2019.

Figure 34. Existing Land Use



### Canyon Park Subarea

0 0.1 0.2 0.4 Miles

- Canyon Park Subarea
- Regional Growth Center
- Additional Area to Include in Study
- Rivers and Streams

#### Land Use Category

- |                                   |                              |
|-----------------------------------|------------------------------|
| Single Family Residential         | Manufacturing                |
| Manufactured Housing              | Transportation and Utilities |
| Multifamily Residential           | Public Parks                 |
| Lodging and Group Quarters        | Open Space, Publicly Owned   |
| Commercial Trade and Services     | Open Space, Privately Owned  |
| Government and Education          | Undeveloped Land             |
| Religious and Cultural Activities | Other                        |

Source: Snohomish County Assessor, 2019; BERK, 2019.

## Comprehensive Plan Land Use and Zoning

Most of the land in the study area is designated and zoned Residential-Activity Center (R-AC) which, in combination with other designations, allows for different mixes of residential, commercial, and industrial uses. See Table 17 and Figure 35.

In general, low-density residential areas outside of the designated RGC are regulated through a single zoning designation. Commercial areas, including all areas within the RGC, are regulated through a combination of zoning designations.

Bothell Municipal Code (BMC) Title 12 contains the zoning regulations that control the location and development of land within the city of Bothell. Zoning classifications may be applied separately or, where more than one category of land use is designated as appropriate by the *Imagine Bothell...* Comprehensive Plan, in combination. Where more than one classification is designated, the most permissive regulations of the combined zones shall apply, unless specifically provided otherwise (BMC 12.04.020). BMC Chapter 12.48 contains subarea-specific zoning regulations that are applicable in addition to the city-wide zoning regulations. Where subarea regulations are more restrictive, they take the place of city-wide zoning regulations.

**Table 17. Canyon Park Land Use Designations and Zoning Districts, Full Study Area**

Category	Acronym	Parcel Acres	Percent
Residential 1 dwelling unit per 2,800 sq. ft. of net buildable area	R 2,800	24.2	3%
Residential 1 dwelling unit per 4,000 sq. ft. of net buildable area	R 4,000	13.7	1%
Residential 1 dwelling unit per 5,400 sq. ft. of net buildable area (attached or detached units permitted)	R 5,400a	55.9	6%
Residential 5,400 sq. ft. minimum lot size (only detached units permitted)	R 5,400d	0.3	0%
Residential 9,600 sq. ft. minimum lot size	R 9,600	105.8	11%
Residential-Activity Center <sup>1</sup> Office-Professional, Community Business	R-AC, OP, CB	14.9	2%
Residential-Activity Center, Office-Professional, Community Business, Light Industrial, Motor Vehicle Sales Overlay	R-AC, OP, CB, LI, MVSO	55.3	6%
Residential-Activity Center, Office-Professional, Community Business, Motor Vehicle Sales Overlay	R-AC, OP, CB, MVSO	106.4	11%
Residential-Activity Center, Office-Professional, Light Industrial	R-AC, OP, LI	535.0	57%
Planned Community Business - Snohomish County	PCB	2.8	0%
Mobile Home Park - Snohomish County <sup>2</sup>	MHP	1.9	0%
Urban Center - Snohomish County <sup>2</sup>	UC	18.7	2%
<b>Total<sup>3</sup></b>		<b>934.8</b>	<b>100%</b>

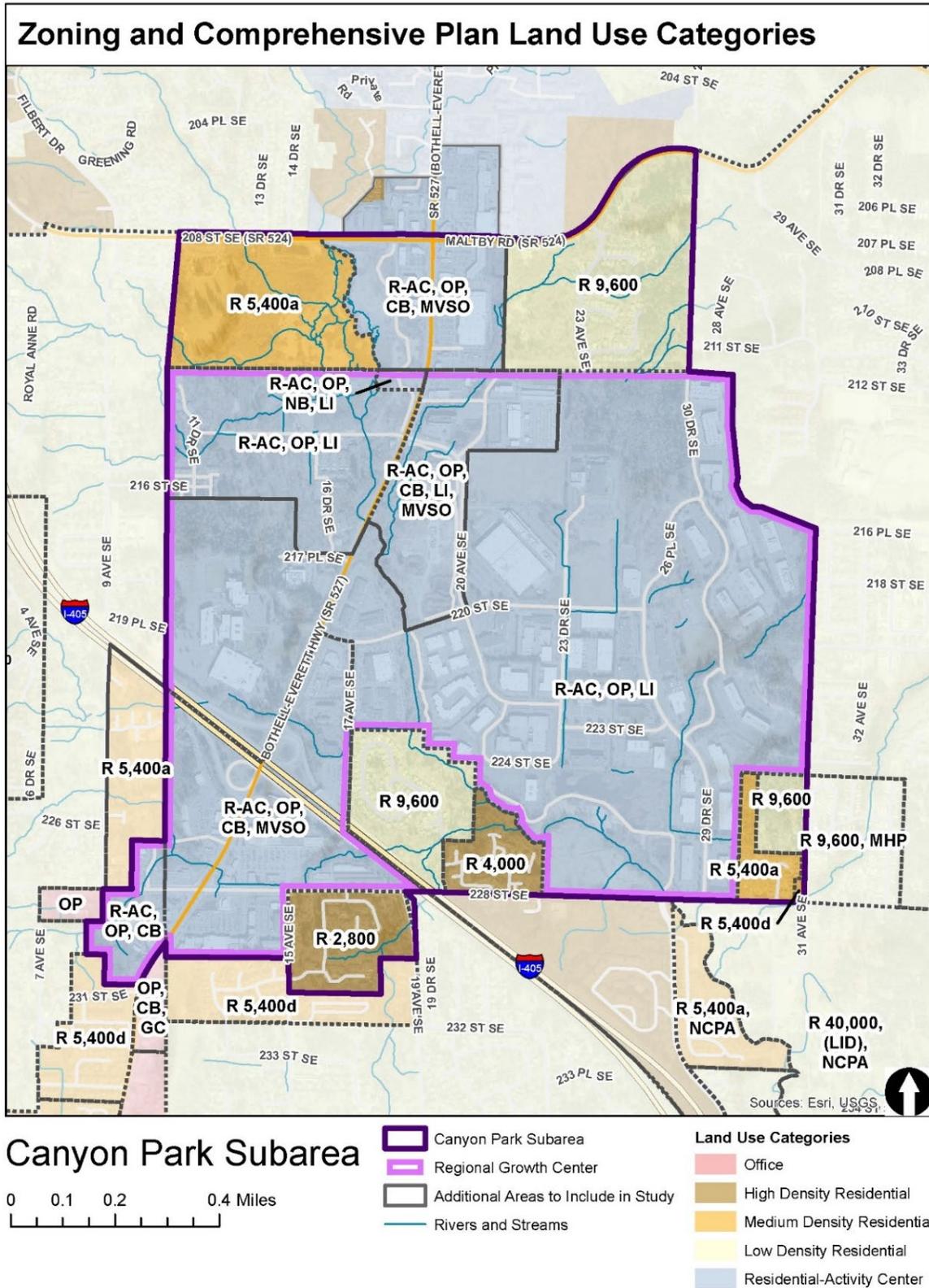
<sup>1</sup>Number of units controlled by site and building envelope regulations.

<sup>2</sup>Snohomish County designations are confined to the Additional Area for Study north of SR 524, outside the adopted Canyon Park Subarea.

<sup>3</sup>Excludes public rights of way.

Source: City of Bothell, 2019; BERK, 2019.

Figure 35. Zoning and Comprehensive Plan Categories



Source; City of Bothell, 2019; BERK, 2019.

## Comprehensive Plan Designations

**Residential – Activity Center (R-AC):** This designation shall provide for multifamily residential development in designated activity centers, and is intended to promote a variety of housing types in sufficient numbers to support a range of shopping, dining and entertainment opportunities within those centers. No specific density is prescribed: the number of units which may be constructed on an individual property or within the center shall be controlled by site and building regulations concerning height, parking, landscaping, setbacks and other aspects of development.

**Office-Professional (OP):** This designation shall include personal and professional service businesses which commonly locate in office buildings, such as banks, medical and dental clinics, accounting, law, real estate, insurance, travel agencies and similar businesses.

**Community Business (CB):** This designation comprises most retail, dining, entertainment and similar businesses which are conducted primarily indoors. Such uses include but are not limited to grocery stores, drug stores, furniture stores, clothing stores, book stores, music stores, restaurants, movie theaters, and bowling alleys.

**General Commercial (GC):** This designation comprises more intensive retail and service uses than described under Community Business above. General Commercial uses typically require outdoor display and/or storage of merchandise and tend to generate noise as a part of their operations. Such uses include but are not limited to auto, boat and recreational vehicle sales lots, tire and muffler shops, equipment rental, and mini-warehouses and vehicle storage.

**Motor Vehicle Sales Overlay (MVSO):** This overlay designation shall allow motor vehicles sales on properties designated Community Business (CB) in specified locations where such development has been determined to be appropriate due to meeting three or more of the following criteria:

- Abut an arterial street;
- Adjacent to an intersection of two State Routes;
- The presence of intense retail activities in the vicinity including proximity to properties currently conducting motor vehicle sales; and
- The presence of an existing screening type landscape buffer or the ability to create such a buffer between any property designated MVSO and residential properties.

Policies concerning the design and/or operation of motor vehicles sales shall be set forth in the Subarea Plan in which a MVSO is located. The Motor Vehicle Sales Overlay provides for an additional use within, but does not replace, the underlying plan designation.

**Light Industrial (LI):** This designation comprises non-polluting manufacturing and processing, wholesaling, warehousing and distribution and other similar activities. Such uses tend to require large buildings and to generate more large truck traffic than do other types of land uses.

**Park (P):** This designation shall include public neighborhood, community and regional parks and recreation facilities. Potential sites for parks and recreation facilities shall be denoted on the plan map by the letter P in brackets to indicate that a facility is appropriate in an area but that the exact location may not yet be determined. Depiction of an existing or potential park site shall not supersede the underlying Comprehensive Plan designation.

**Open Space (OS):** This designation shall be assigned to land which has been preserved as undisturbed natural open space, through purchase by the City or other public entity, acquisition of development rights, or other mechanism. Potential dedicated open space is denoted on the land use allocation map by the letters OS in brackets to indicate that preservation of land as open space is appropriate, but that the exact location and amount of land to be reserved may not yet be determined. It is intended that a corridor with a minimum width of 50 feet to enhance wildlife movement shall be preserved within these areas. Depiction of existing or potential open space shall not supersede the underlying Comprehensive Plan designation. The basis for establishment of an open space system shall be the existing network of heavily treed steep slopes, wetlands and waterway corridors depicted in Figure LU-54. A second component of open space is the aesthetic concept termed the 'feathered edge'. The feathered edge comprises the silhouette of hillside or hilltop coniferous trees against the sky, and is an important part of Bothell's visual character. Such treed areas also provide habitat and retard erosion and runoff. Trees which constitute the feathered edge typically are those located along ridgelines and for a distance of 50 to 75 feet or more downhill from the ridgelines. The City shall strive to preserve the feathered edge through the imposition of clearing restrictions on development proposals located on or near ridgelines and hilltops. The feathered edge is mapped on Figure LU-65.

**R 9,600:** This designation provides for detached residential development at minimum lot sizes of 9,600 square feet, or as amended by land use techniques including, but not limited to, clustering, planned unit development, Low Impact Development, lot size averaging and lot rounding and other applicable development policies regulations and standards, and compatible uses such as schools and churches. In the R 9,600 designation, limited lot size averaging shall be allowed. Under this approach, the total area of all lots within a proposed R 9,600 subdivision divided by the number of lots shall amount to an average lot area of at least 9,600 square feet: 20 percent of lots in such a subdivision may be smaller than 9,600 square feet, but no smaller than 8,400 square feet nor larger than 14,400 square feet.

**R 5,400a, R 2,800:** These designations shall provide for attached or detached residential development at one dwelling unit per 5,400 and 2,800 square feet of net buildable area, or as amended by land use techniques including, but not limited to, clustering, planned unit development, Low Impact Development, lot size averaging and lot rounding and other applicable development policies regulations and standards, and compatible uses such as schools, churches and day care centers. Generally, these designations are appropriate for land which is located convenient to arterials and to business and commercial activity centers.

## Buildable Land Capacity

Under the State of Washington Growth Management Act, each County and City is required to provide sufficient land capacity for added population to meet growth targets assigned by counties in consultation with cities. Many counties, including Snohomish and King Counties, also assign housing and employment targets.

The City of Bothell found that its 2014 Comprehensive Plan did not provide enough population capacity. In 2015, Bothell added opportunities for mixed-use development in the Canyon Park study area. The capacity for jobs and housing was increased by amending the zoning of portions of the study area to include the Residential-Activity Center designation, as shown in Table 18 and Table 19.

**Table 18. Current Bothell Comprehensive Plan Population Capacity**

County (portion)	2014 OFM <sup>1</sup> Pop. Est.	2035 Pop. Target (net)	Current (2014) plus target population	Pop. Capacity (2014 Pop. + Pop. capacity)	Pop. Capacity Surplus (+) or Deficit (-)	Canyon Park: Additional population capacity
King	24,610	6,495	31,105	35,263	+4,158	
Snohomish	17,020	6,940	23,960	20,406	-3,544	4,498
<b>Total</b>	<b>41,630</b>	<b>13,435</b>	<b>55,065</b>	<b>55,669</b>	<b>See note</b>	

<sup>1</sup>Washington State Office of Financial Management

Note: A total population capacity is not given for both combined counties, since surplus in one county cannot be used to offset a deficit in another county. All numbers in the above table are stated in terms of population (persons).

Source: City of Bothell, 2015.

**Table 19. Current Bothell Comprehensive Plan Employment Capacity**

County (portion)	Employment Target (2035) (additional jobs)	2035 Employment Capacity (surplus jobs [+] or deficit [-])	Canyon Park: Additional employment capacity	Expanded Red Barn Village
King	3,097	6,344 (+3,247)		
Snohomish	4,960	5,500 (+540)	753	807
<b>Total</b>	<b>8,057</b>	<b>11,844</b>	<b>753</b>	<b>807</b>

Note: Current employment figures are not shown due to the constantly changing nature of employment numbers.

Source: City of Bothell, 2015.

Most of the study area is fully or partially developed. A small amount of the study area is in active permit review, or in the “pipeline”, and some lands are redevelopable or vacant. About one third of land in the study area is mapped as critical area and protected from alteration, as shown in Table 20.

**Table 20. Canyon Park Property Buildable Land Status**

Property Status	Acres	Critical Area Acres
Developed	472.5	245.3
Partially-Used <sup>1</sup>	352.4	48.4
Pipeline <sup>2</sup>	30.7	3.1
Redevelopable <sup>3</sup>	33.4	2.7
Vacant	45.8	2.4
<b>Total<sup>4</sup></b>	<b>934.8</b>	<b>302.0</b>

<sup>1</sup>Partially-Used: For commercial, industrial, and mixed-use zones, the floor area ratio is usually less than 25% and the building improvement to land value ratio is greater than 100%.

<sup>2</sup>Pipeline: Properties in permit review.

<sup>3</sup>Redevelopable: For multifamily, commercial, industrial, or mixed-use zoned or designated land, existing buildings valued at less than 100% of the land value are usually considered potentially redevelopable.

<sup>4</sup>Total acres are net parcel acres excluding public rights of way. With rights of way total acres are 1,037.

Source: Snohomish County Tomorrow, 2012; Snohomish County Assessor, 2018; BERK, 2019.

The *2012 Buildable Lands Report for Snohomish County* calculated capacity in the Canyon Park Study Area based on Vacant and Redevelopable Land. Redevelopable land includes parcels where the improvement value is less than 100% of the land value. As described above, the City added capacity for mixed-use development on Redevelopable land in its 2015 Comprehensive Plan.

Reviewing results and maps available at the time, it appears that Partially Developed Land was not identified in the *2012 Buildable Lands Report* and not in the City’s capacity analysis of its 2015 R-AC additions in the Canyon Park area, shown in Figure 36. The 2012 Buildable Lands Report defines Partially Developed land as developed to 25% of allowed building space even if building value exceeds more than 100% of the land value.

Figure 37 and Table 21 shows updated population and employment capacity conditions based on updated Snohomish County data (excluding critical areas and applying similar market availability factors as the 2012 report). The resulting population capacity is similar to the City's results in 2015 (4,498 in Comprehensive Plan is similar to results in Table 21) and the employment results are greater. Adjusting some of the assumptions about the share of property that could be used for residential and commercial in mixed-use formats could alter the results (e.g., greater population, less employment).

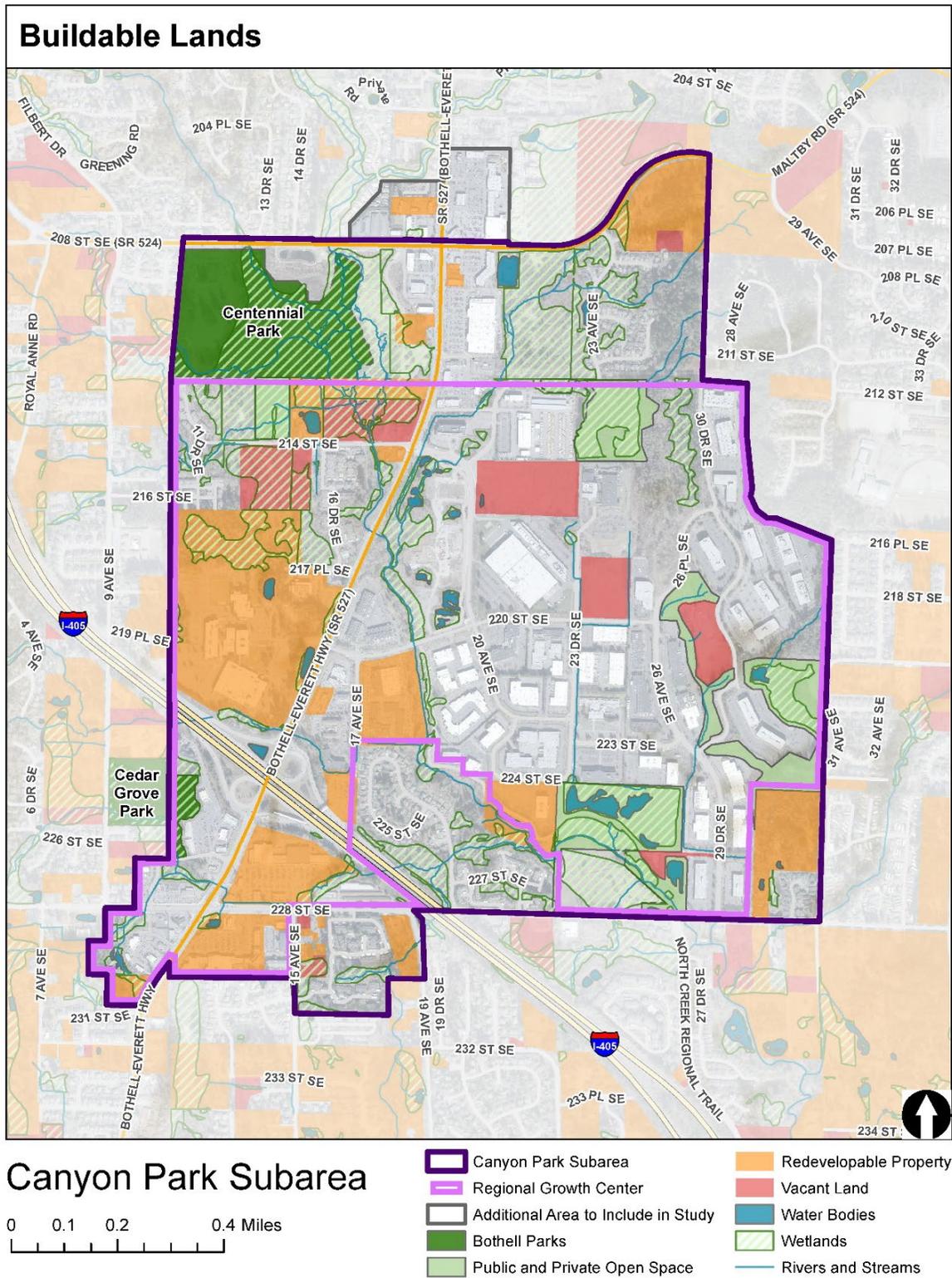
**Table 21. Current Canyon Park Capacity Review**

	Population Capacity		Employment Capacity	
	Full Study Area	RGC	Full Study Area	RGC
Redevelopable Land	282	124	456	401
Partially Developed Land	2,192	1,640	3,877	3,681
Pipeline Development	1,836	1,836	0	0
Vacant	174	108	454	405
<b>Total</b>	<b>4,484</b>	<b>3,708*</b>	<b>4,787</b>	<b>4,487*</b>

Notes: \*Reflects the adopted RGC boundary. When the capacity estimates were applied to more refined blocks and transportation analysis zones the estimates rounded and were around 1% higher: 3,712 population (+4) and 4,530 (+43) but when considering the full study area, the numbers added to similar amounts.

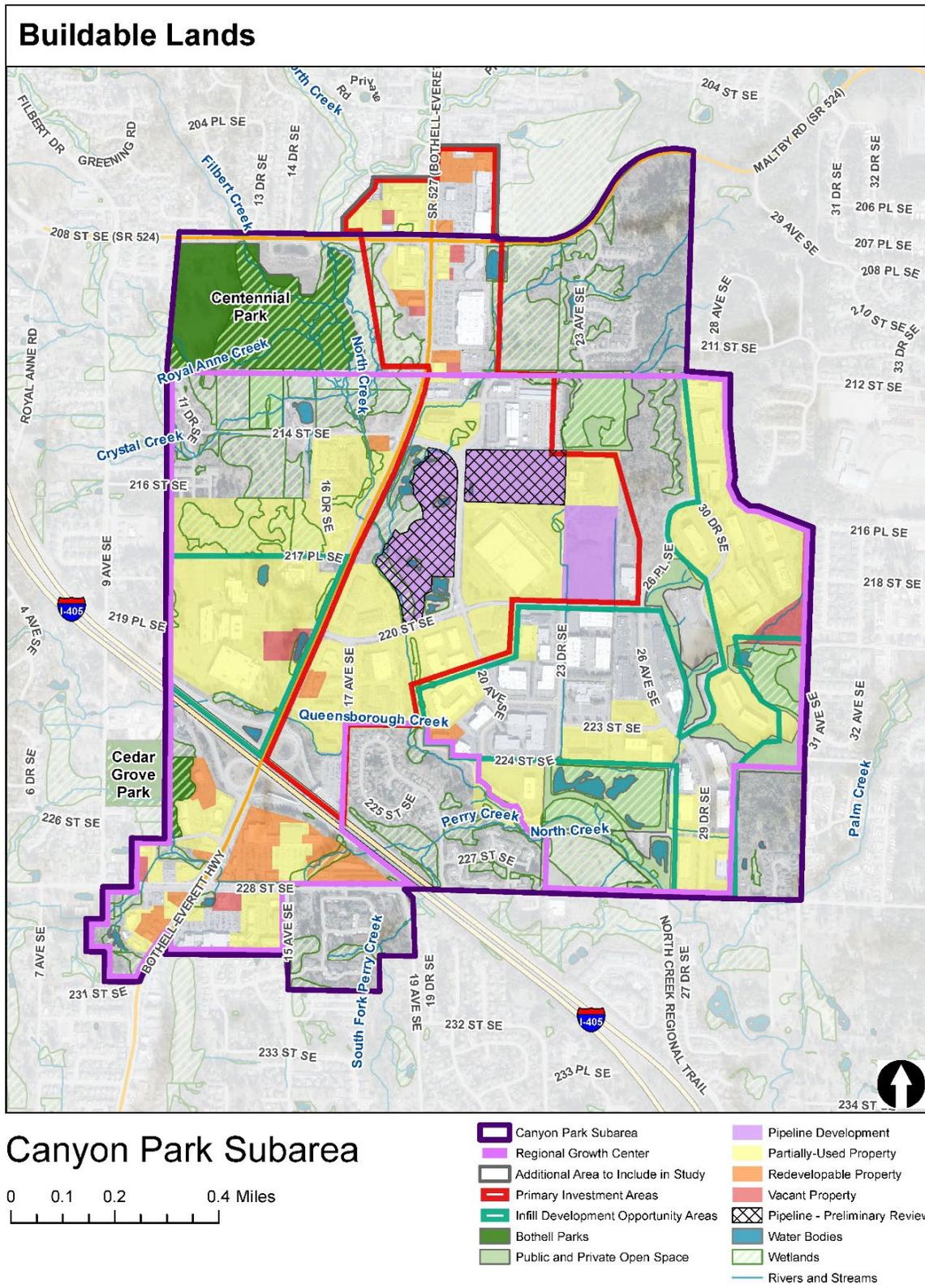
Source: Snohomish County Tomorrow, 2012; Snohomish County Assessor, 2018; BERK, 2019.

Figure 36. Canyon Park Buildable Lands, 2012



Source: Snohomish County Tomorrow, 2012; BERK, 2019.

Figure 37. Canyon Park Buildable Lands, 2018



Source: Snohomish County Tomorrow, 2012; Snohomish County Assessor, 2018; BERK, 2019.

Adding buildable land capacity to the Comprehensive Plan reported capacity, the maximum activity units per net acre by 2035 is projected to be 31 in the present RGC boundaries.

**Table 22. Activity Units, Current and 2035 Projected Current Comprehensive Plan**

Activity Units	Regional Growth Center (RGC) Current	Regional Growth Center (RGC) 2035	Full Study Area Current	Full Study Area 2035
Population <sup>1</sup>	1,773	5,485 <sup>4</sup>	3,079	7,563
Employment <sup>2</sup>	10,833	15,363 <sup>4</sup>	11,767	16,554
Gross Acres	733	733	1,037	1,037
<b>Activity Units per Gross Acre</b>	<b>17.2</b>	<b>28.4</b>	<b>14.3</b>	<b>23.3</b>
Net Acres <sup>3</sup>	673	673	935	935
<b>Activity Units per Net Acre</b>	<b>18.7</b>	<b>31.0</b>	<b>15.9</b>	<b>25.8</b>

Notes/Sources:

<sup>1</sup>ESRI Business Analyst – 2018 population, accessed 2019.

<sup>2</sup>PSRC, 2017.

<sup>3</sup>Excludes non-parcel areas but retains private roads.

<sup>4</sup>The estimates of units for the current RGC reflect the 1% higher estimates that occurred when disaggregating capacity results across blocks and analysis zones. See notes associated with Table 21.

## Current and Planned Uses and State Routes

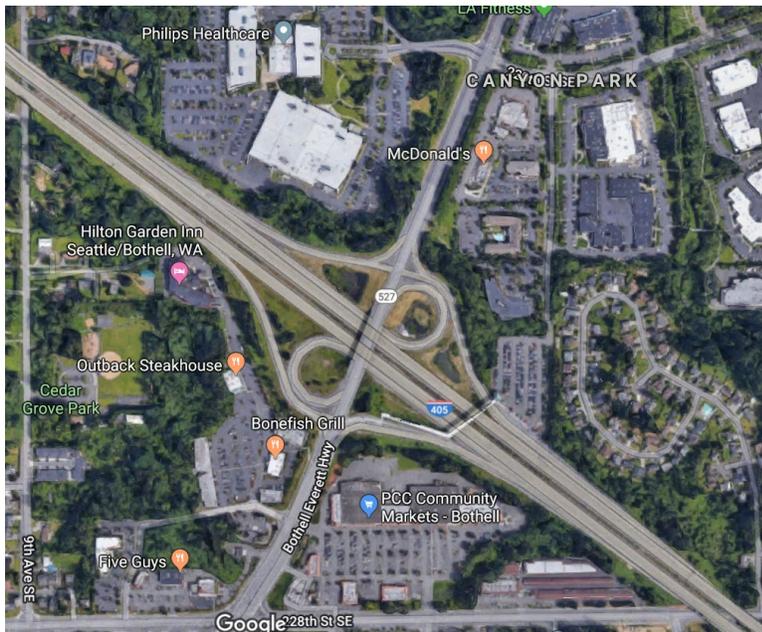
Current land uses along I-405 include to the northwest Phillips Healthcare and to the northeast a park-and-ride, professional services, and restaurants, as well as single-family residential uses, To the southeast with a PCC Community Market Shopping Center, is commercial services and to the southwest with a range of restaurants and hotel to the southwest. See Figure 38. The current zoning consists of mixed use RAC, OP, CB, MVSO as illustrated in Figure 20, which allows for mixed uses including residential.

Prior studies of I-405 improvements have indicated that existing residential uses are subject to highway noise and are exposed to air quality emissions, and found a number of parcels planned for residential uses could be exposed over a 20-30 year timeframe. (Washington State Department of Transportation, 2002) (Washington State Department of Transportation, 2011)

The Bothell-Everett Highway SR 527 traverses the study area. Current uses include employment and residential to the west, and vacant land, residential uses, and a Fred Meyer shopping center to the east. See Figure 39.

Planned land uses are also mixed use with RAC, OP, CB, LI, MVSO zoning as seen in Figure 20. Current residential uses are buffered to some degree by vegetation which may limit noise and air quality effects. Residential uses are under review for vacant land to the east beyond North Creek.

**Figure 38. I-405 Interchange and Abutting Uses**



Source: Google Earth, 2019.

**Figure 39. SR 527 and Abutting Uses**



Source: Google Earth, 2019.

### 3.2.2 Relationship to Plans and Policies

#### Growth Management Act

Fourteen goals describe the desired outcomes of GMA (RCW 36.70A.020 and RCW 36.70A.480):

- Concentrated urban growth
- Sprawl reduction
- Regional transportation
- Affordable housing
- Economic development
- Property rights
- Permit processing
- Natural resource industries
- Open space and recreation
- Environmental protection
- Early and continuous public participation
- Public facilities and services
- Historic preservation
- Shoreline management

The goals guide the preparation of comprehensive plans and development regulations. Bothell's Comprehensive Plan, including the Canyon Park Subarea Plan, seeks to integrate and balance the goals for compact growth that is respectful of the natural environment and served by quality and affordable public facilities and services. The plan was developed in 2015 for a 2035 horizon year.

#### Regional Growth Strategy

The Puget Sound Regional Council (PSRC) provides a regionally-coordinated land use plan also containing multicounty planning policies required under GMA. The plan, known as VISION 2040, provides a regional growth strategy (RGS). The RGS directs the largest share of future growth to the region's five major Metropolitan Cities: Seattle, Bellevue, Everett, Bremerton, and Tacoma. The region's Core Cities – including Bothell – that have designated RGCs like Canyon Park are allocated high concentrations of growth and serve as economic and transportation hubs for the region. Other areas of urban growth are Large and Small Cities; the least growth is planned in other unincorporated and rural areas.

In 2018, PSRC approved a Regional Centers Framework Update. Each RGC like Canyon Park will be redesignated as a center subject to the following requirements:

- Adopted center plan (subarea plan, plan element or functional equivalent) is completed by 2020.

- Designation of the regional center in the adopted local comprehensive plan and countywide planning policies.

A basic requirement of a designated regional center is density as follows:

- **Existing density.** 18 activity units per acre minimum.
- **Planned target density.** 45 activity units per acre minimum.

The full range of RGC criteria are described below.

By 2025, the year of the first monitoring review, existing RGCs, such as Canyon Park will be to fully meet RGC eligibility and designation criteria similar to that required for new centers, including:

- **Local Commitment.** Evidence center is a local priority and sponsor city/county has sustained commitment over time to local investments in creating a walkable, livable center.
- **Center Plan Update.** An updated center plan (subarea plan, plan element, or functional equivalent that provides detailed planning or analysis) that addresses regional guidance, and plans for a mix of housing and employment, bicycle and pedestrian infrastructure, amenities, and a street pattern that supports walkability.
- **Housing Need.** Assessment of housing need, including displacement risk, as well as documentation of tools, programs, or commitment to provide housing choices affordable to a full range of incomes and strategies to further fair housing.
- **Capital Investments.** Capital investments by the local government in the center in the current or prior 6-year capital planning cycle, and commitment to infrastructure and utilities in the jurisdiction's capital improvement program sufficient to support center growth, pedestrian infrastructure, and public amenities.
- **Center Criteria.** Consistent with designation criteria for size, planning, transit, market potential, and role for new RGCs. (See Table 23 for a complete list of criteria.) Existing centers will remain designated if they do not meet the new center density criteria, provided that the center is consistent with other criteria identified in this section.
- **Market Study.** RGCs that have existing density levels below the level required for new regional centers at the time of the review must complete a market study to evaluate the potential for and opportunities to best support center growth. The market study must consider a planning horizon reasonably far beyond the monitoring period (2025). The market study should show how the center can meet targeted levels of growth within the planning period. The jurisdiction should demonstrate its work to address opportunities identified in the market study.

Per the Center Criteria above, new centers and redesignated centers monitored through 2025 should meet the following parameters in Table 23.

**Table 23. PSRC Centers Criteria 2025+**

Urban Growth Center
<p><b>Definition</b></p> <p>These centers have an important regional role, with dense existing jobs and housing, high-quality transit service, and planning for significant growth. These centers may represent areas where major investments – such as high-capacity transit – offer new opportunities for growth.</p>
<p><b>Criteria</b></p> <p>Center must meet each of the following criteria:</p> <ul style="list-style-type: none"> <li>▪ <b>Existing density.</b> 18 activity units per acre minimum.</li> <li>▪ <b>Planned target density.</b> 45 activity units per acre minimum.</li> </ul> <ul style="list-style-type: none"> <li>▪ <b>Mix of uses.</b> Regional growth centers should have a goal for a minimum mix of at least 15% planned residential and employment activity in the center.</li> <li>▪ <b>Size.</b> 200 acres minimum – 640 acres maximum (may be larger if served by an internal, high-capacity transit system).</li> <li>▪ <b>Transit.</b> Existing or planned fixed route bus, regional bus, Bus Rapid Transit, or other frequent and all-day bus service. May substitute high-capacity transit mode for fixed route bus. Service quality is defined as either frequent (&lt; 15-minute headways) and all-day (operates at least 16 hours per day on weekdays) or high-capacity.</li> <li>▪ <b>Market potential.</b> Evidence of future market potential to support planning target.</li> <li>▪ <b>Role.</b> Evidence of regional role</li> <li>▪ Clear regional role for center (serves as important destination for the county).</li> <li>▪ Jurisdiction is planning to accommodate significant residential and employment growth under Regional Growth Strategy.</li> </ul>

Source: Puget Sound Regional Council, 2018.

## Bothell Comprehensive Plan

The *Imagine Bothell...* Comprehensive Plan includes the following elements or chapters that provide background information and analysis and goals and policies:

- Land Use
- Natural Environment
- Shoreline Master Program
- Housing and Human Services
- Economic Development
- Parks, Recreation and Open Space
- Historic Preservation
- Urban Design
- Annexation
- Utilities
- Transportation
- Capital Facilities
- Subarea Plans addressing all areas of the city including Canyon Park

The Comprehensive Plan elements are guided by a Vision Statement.

*OUR VISION FOR BOTHELL,...is of a community which:*

- 1. Celebrates and respects its picturesque setting by achieving harmony between the built and natural environments;*
- 2. Fosters the fulfillment of human potential through an assortment of employment, educational, recreational and cultural opportunities available to individuals and families of all ages, incomes and ethnic backgrounds;*
- 3. Demonstrates a commitment to sustainability through the actions of residents, businesses and public institutions, by living and working in ways that meet the needs of the present without compromising the ability of future generations to meet their own needs;*
- 4. Ensures the safety and security of community residents, employees and visitors through responsive police, fire and emergency medical aid services;*
- 5. Demonstrates a commitment to the conservation of scarce natural resources through the actions of residents, businesses and public institutions;*
- 6. Develops and maintains a transportation system which serves land use and conservation goals and offers a variety of motorized and non-motorized modes of travel, placing emphasis on each, so as to maximize individual choice;*
- 7. Maintains strong residential neighborhoods through public investments in physical improvements intended to enhance neighborhood identity and through public policy decisions intended to protect neighborhoods from intrusion by incompatible uses;*
- 8. Conveys an overall single family residential character while offering a range of housing types and prices to ensure an adequate choice of attractive living accommodations to persons desiring to reside in Bothell;*
- 9. Provides commercial areas which offer multiple transportation modes including walking, bicycling and a variety of transit choices; are vibrant and inviting by design; and are located and sized so as to ensure adequate selection and availability of goods and services for all Bothell residents;*
- 10. Provides an appealing business environment and thriving employment "hub" for residents of North King County and South Snohomish County, offering job opportunities which are generated by diverse, sustainable and environmentally sound economic activities; sufficient in number and concentrations to support employee-oriented transit, recreation and human services; and located in settings characterized by high quality design; thereby placing Bothell at a competitive advantage with its peer cities for attracting and retaining businesses, and generating economic value for the community;*

- 11. Honors its past and provides a perspective for the future by preserving significant historic buildings and other links to the early years of the City;*
- 12. Protects, preserves and enhances those features of the natural environment which are most sensitive to human activities;*
- 13. Promotes protection of native wildlife habitats, recognizing that the human species is but one of many within the Bothell area;*
- 14. Provides a diversity of active and passive recreation opportunities through recreation programs and a system of parks, open spaces and interlinking trails;*
- 15. Possesses a range of affordable and physically accessible human services to assist individuals and families in need;*
- 16. Ensures necessary utility services via public or private providers including clean water supply, electricity, telecommunications and data transmission, natural gas, storm water management, and disposal of wastewater and solid waste in a manner which is fiscally and environmentally responsible;*
- 17. Continually strives to improve the quality and cost-effectiveness of municipal services, and extends those services through annexation at the request of residents of adjacent unincorporated areas;*
- 18. Recognizes that each community's decisions affect other communities and that certain issues are most effectively addressed on a regional level, and therefore works closely with other public agencies at the city, county, state and federal levels to ensure that local and regional goals are achieved; and*
- 19. Through realization of the preceding components of this vision statement, fosters a sense of belonging and pride in Bothell's unique and distinctive community; a feeling of well-being; and a commitment towards an ever-improving City in the future.*

A summary of Comprehensive Plan policies applicable to each topic of this Draft EIS is found in the Canyon Park Existing Conditions Report, April 2019, available via this link: <http://www.ci.bothell.wa.us/1193/Canyon-Park-Background>.

The Comprehensive Plan is evaluated every eight years as part of a periodic review schedule set by the Growth Management Act. The next update for all cities and counties in King, Pierce, and Snohomish Counties is 2023, and a new horizon year will be 2043. The plan is based on growth targets (see Table 18 and Table 19), and all elements must be in accord to support the City's growth targets.

## Canyon Park Subarea Plan

The Canyon Park Subarea Plan is an element of the Comprehensive Plan. It intends Canyon Park to be a strong mixed-use center:

*The plan for the Canyon Park Subarea provides for continued development of the business park and retail/services activity centers in the Subarea, while expanding opportunities for residential development within and around the retail/services centers.*

Key policies and actions in the subarea plan include:

- Continued improvements to Bothell Everett Highway (SR-527) and its intersections to relieve congestion and to improve mobility and safety.
- Construction of sidewalks/walkways where "gaps" in the pedestrian system have been identified.
- Acquisition of land and development of park sites to serve the area.
- Preservation of high-quality wetlands and wildlife habitat.
- Continued development of high-quality business park uses.
- Continued development of the Canyon Park and Thrasher's Corner retail/services areas, with allowed uses at Canyon Park expanded to include multiple family.
- Recognition and protection of the existing single-family neighborhoods.
- Provision for residential development at a variety of densities.
- Pedestrian crossings protected by signals along busy arterials.
- Provision for a future Urban Design Study and investigation of a Transfer of Development Rights (TDR) Program for portions of the Subarea.

The Canyon Park Subarea Plan element includes RGC policies that promote:

- The Canyon Park regional activity center should provide opportunities for businesses to start and grow in Bothell, and for employees to work close to home.
- Four locations west of SR-527, east of SR-527, and southwest of I-405 are "designated for residential dwellings at densities controlled by site and building envelope regulations." Other policies indicate that Canyon Park should provide for a range of housing alternatives within the Subarea for persons of varying incomes and lifestyles and which support the various commercial and business park employment centers.

Actions intended to ensure quality development and environmental quality include:

- Undertake an Urban Design Study for the Canyon Park Subarea and for lands designated as the Canyon Park Regional Growth Center. This Urban Design Study should be a comprehensive review and analysis of opportunities and constraints, an investigation of appropriate land uses, urban design concepts, site, infrastructure, building design, and other features that support a successful Regional Activity Center.
- Participate to the fullest extent possible with Snohomish County in implementing the North Creek Watershed Management Plan, identifying and implementing further

actions which will aid in reducing the rate and volume of flows, improving water quality, and encouraging improved fish habitat.

Other civic and recreation uses are promoted to support the Canyon Park job and residential center per Element actions:

- Consider acquisition and development of park sites to serve the Subarea based on the City's Parks, Recreation, and Open Space Plan. It is recognized that such parks, while serving the Subarea, may or may not be located within the Subarea.
- Extend the North Creek regional trail system through the Subarea, making appropriate connections to the Snohomish County regional system.

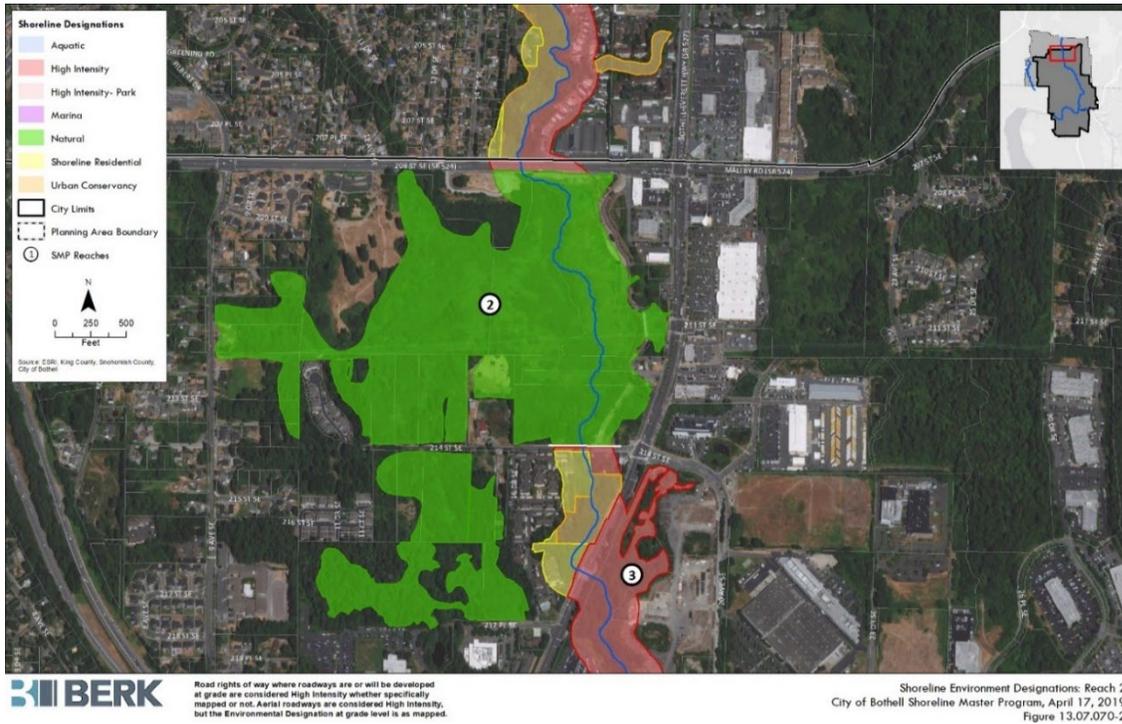
### **Bothell Shoreline Master Program**

Shorelines of the State and associated wetlands and critical areas within shoreline jurisdiction are managed under the City's Shoreline Master Program (SMP). The current SMP was adopted in March 2013 and updated with minor changes as of November 2019.

According to the SMP, shoreline jurisdiction in the Canyon Park Subarea includes North Creek plus 200 feet from the ordinary high-water mark, as well as floodways, floodplain areas including the 100-year floodplain, and associated wetlands. Wetlands that extend beyond the 200-foot shoreline area, but contiguous with it, are subject to SMP jurisdiction.

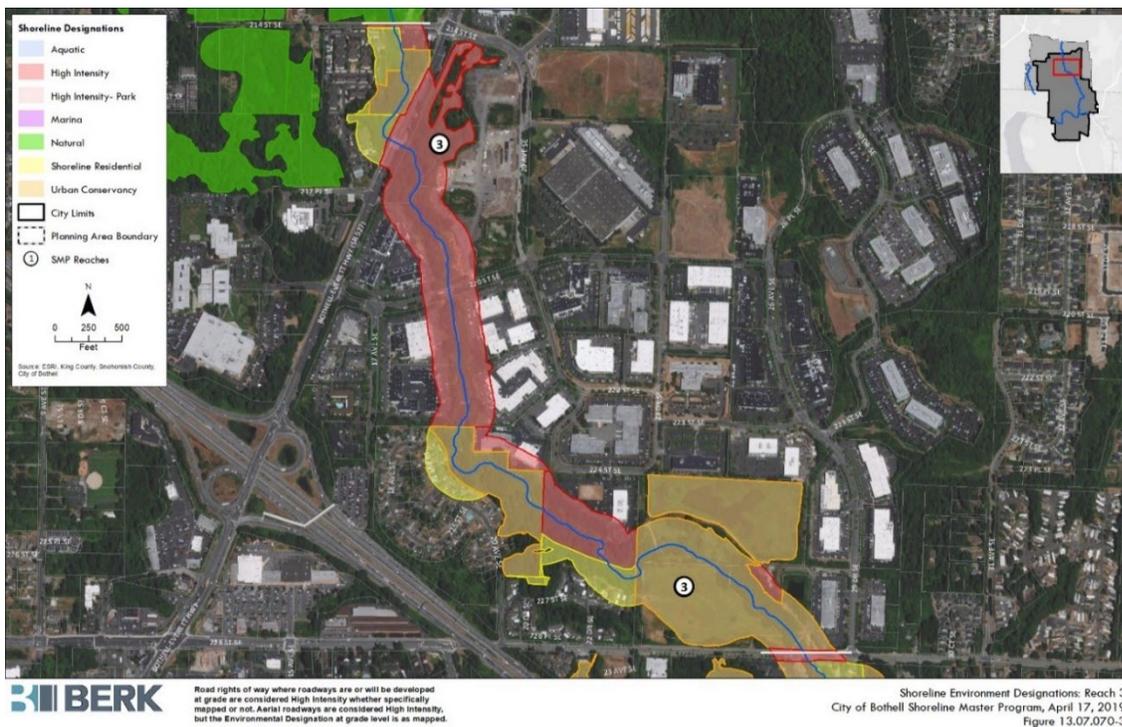
Shoreline designations within the Canyon Park Subarea include Natural, High Intensity, Urban Conservancy, and Shoreline Residential, as shown in Figure 40 and Figure 41.

Figure 40. Shoreline Master Program Designations Reach 2, Northern Canyon Park Study Area



Source: City of Bothell, 2019; BERK, 2019.

Figure 41. Shoreline Master Program Designations Reach 3, Southern Canyon Park Study Area



Source: City of Bothell, 2019; BERK, 2019.

Natural applies to high value wetlands. Urban Conservancy applies to parks or lands that may be more suited to clustered development to conserve values. Shoreline Residential applies to existing developed areas. High Intensity applies to much of the already developed business park areas.

These designations act as an overlay to the Comprehensive Plan Land Use designations and zoning. Land uses are more limited in Natural and Urban Conservancy Areas compared to High Intensity and Shoreline Residential areas.

### **3.2.3 Impacts**

#### **Thresholds of Significance**

For the purposes of this EIS, the thresholds of significance are:

- Change to land use patterns or development intensities that preclude reasonable transitions between areas of less intensive zoning and more intensive zoning.
- Differences in activity levels or use type at boundaries of uses likely to result in incompatibilities.
- Inconsistency with current plans and policies.

#### **Impacts Common to All Alternatives**

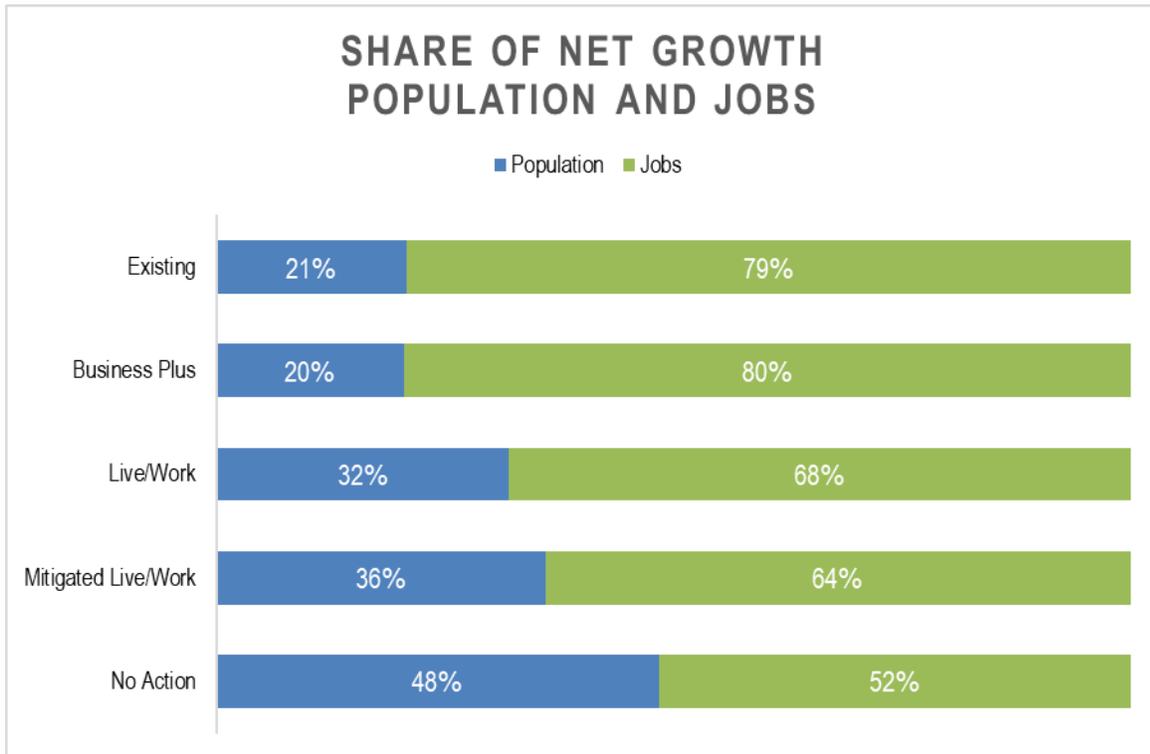
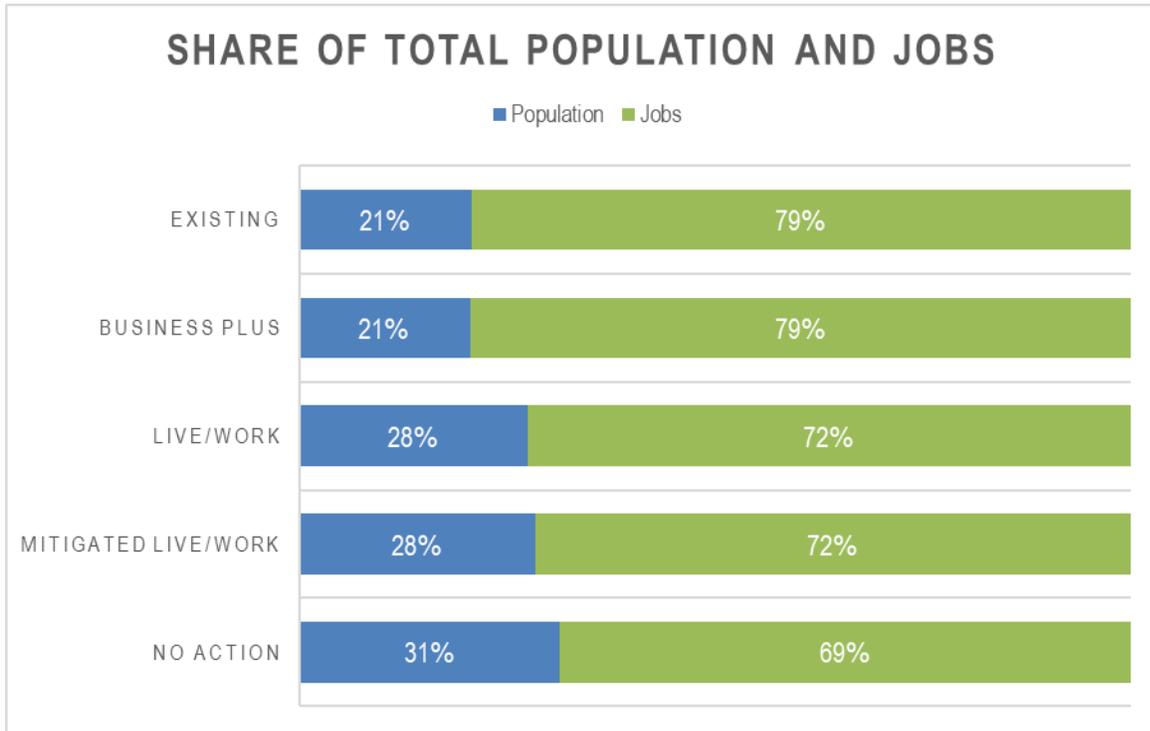
##### ***Land Use Patterns***

Each alternative would reinforce the Canyon Park Study Area as an employment center with diverse housing choices.

Net growth added to existing jobs and population equals “total” population and jobs. Based on totals the employment has a majority share under each alternative, ranging from 69%-79% job shares, as shown in Figure 42. Business Plus would have the highest job share of any Action Alternative and would be similar to existing conditions.

Based on net capacity of each alternative that excludes existing residents and employees, jobs are still the majority share from 52% to 80%, but new population share is more prominent in some alternatives. Population would make up 48% of the new growth with the No Action Alternative, the highest share studied. The lowest population share is 20% for Business Plus. Live/Work Alternative is has 32% population and Mitigated Live/Work 36%. See Figure 42.

**Figure 42. Employment and Population Shares—All Alternatives**



Source: BERK, 2019.

Current land use patterns do not reflect the height or bulk allowed by the zoning code (see Section 3.3 Aesthetics and Urban Design), and under all alternatives the intensity of employment and mixed-use growth would increase. However, current Zoning Code requirements include greater setbacks and landscaping next to Residential zones that would continue to apply (see BMC 12.44.020.A.2.).

Differences in land use patterns among alternatives are summarized under each alternative below.

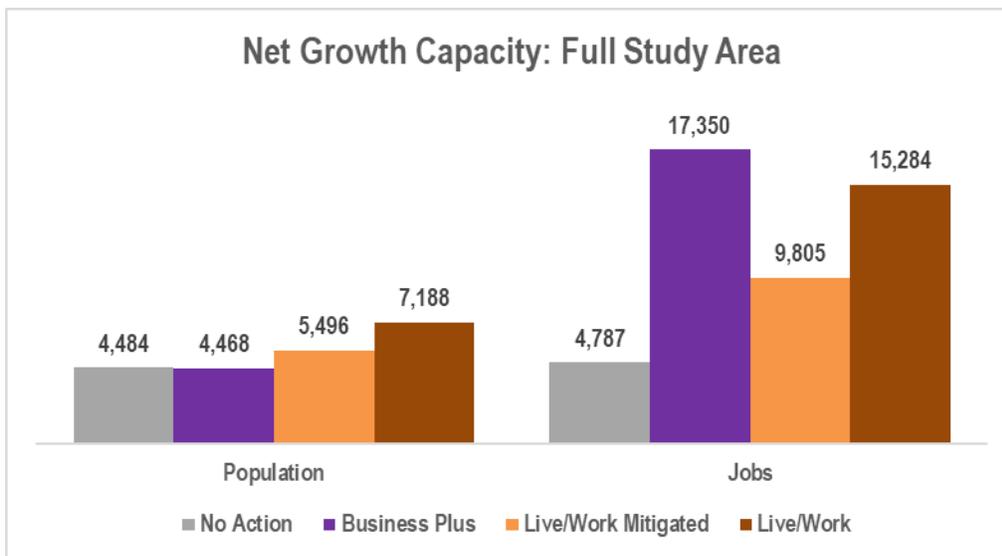
**Activity Levels and Use and Roadway Compatibility**

Activity Levels

All alternatives would increase growth in the study area above current conditions, as shown in Figure 43. Growth would increase the level of residential activity in evenings and weekends and job activity principally during the daytime. There could be an increase in light, traffic, and recreation facility use (see Sections 3.3 Aesthetics and Urban Design, 3.5 Transportation and Greenhouse Gas Emissions, and 3.6 Public Services). The City’s zoning and urban design standards would apply under all alternatives. Under the Action Alternatives, the standards would increase for additional quality and compatibility.

Differences in activity levels are addressed under each alternative below.

**Figure 43. Net Growth—All Alternatives**



Source: BERK, 2019.

Use and Roadway Compatibility

The Canyon Park Subarea is identified as a mixed use employment center in the Comprehensive Plan and zoned as such (Figure 20). Mixed use zoning would continue under

all alternatives. Placing added residential uses near high-volume roadways could expose future residents to air quality and noise affecting quality of life and compatibility of uses.

**Noise:** At a programmatic level, the Action Alternatives consider mixed uses in retail areas, similar to allowances found today in the No Action Alternative. As illustrated in Figure 21, the Business Plus Alternative includes locations of mixed use most similar to the No Action Alternative, with the Live/Work and Mitigated Live/Work alternatives expanding mixed uses to more locations per Figure 22 and Figure 23, respectively.

Bothell regulates noise in Chapter 8.26 BMC, including construction noise, noise emanating from land uses (e.g., commercial uses near residential uses), and motor vehicle noise consistent with state rules. These rules would continue to apply under any alternative. The application of the State Energy Code and Building Code can assist in reducing interior noise. These codes would continue to apply.

WSDOT considered noise sensitive uses in its *I-405 Master Plan Final EIS*. WSDOT is also considering reconstructing affected noise walls and new noise walls as part of its I-405 and SR 527 improvements, which should address the areas of existing and planned residential development under the No Action Alternative. (Washington State Department of Transportation, 2002) (Washington State Department of Transportation, 2011) (Washington State Department of Transportation, 2019)

As part of the Subarea Plan update associated with the Action Alternatives, the City can promote building locations and materials that reduce exterior and interior noise. For example, the City could develop policies and regulations that encourage mixed development sites to place non-residential uses closer to major highways and residential uses elsewhere on the sites.

**Air Quality:** At a programmatic level, the Action Alternatives consider mixed uses in retail areas, similar to allowances found today in the No Action Alternative, with allowances expanded more under the Live/Work and Mitigated Live/Work alternatives than the Business Plus Alternative (which is similar to the No Action Alternative in population growth).

Some of the mixed use areas lie near state routes. As studied by WSDOT, urban areas that include residential uses next to major roads could expose residents to air pollutants. (Washington State Department of Transportation, 2002) (Washington State Department of Transportation, 2011)

Dense landscaping along roadways can reduce air pollutants by up to 50% (Deshmukh, 2019) Green infrastructure is another source of potential air emission mitigation at a microscale (Tiwari, 2019). As part of the Subarea Plan update associated with the Action Alternatives, the City can promote landscaping and green infrastructure. It can also address orientation and location of residential uses in mixed use developments to reduce the potential for localized air quality effects and improve compatibility.

**Growth Management Act**

All studied alternatives would be consistent with GMA goals. Each would add employment and housing opportunities to different degrees in the Canyon Park Subarea, and particularly within the RGC. This is consistent with the Growth Management Act (GMA), which promotes urban growth within urban areas to prevent sprawl. The studied alternatives support other GMA goals by encouraging economic development, allowing housing choices, conserving open space, and promoting environmental protection, among other goals.

**Regional Growth Strategy**

The PSRC Centers criteria are listed in Table 24. The table below evaluates all three alternatives compared to the PSRC criteria. A summary of compliance is addressed under individual alternatives below starting on page 3-59.

**Table 24. Canyon Park Subarea Planned Action EIS Alternatives Centers Criteria Evaluation**

Centers Criteria	Evaluation of All Alternatives
<p>Adopted center plan (subarea plan, plan element or functional equivalent) is completed by 2020.</p>	<p>The No Action Alternative retains the City’s current Subarea Plan. The Action Alternatives include adoption of a new subarea plan by 2020.</p>
<p>Designation of the regional center in the adopted local comprehensive plan and countywide planning policies. By 2025, the year of the first monitoring review, existing regional growth centers will be expected to fully meet eligibility and designation criteria similar to new centers, including:</p>	<p>Under the No Action Alternative, the City designates the Canyon Park RGC in its Comprehensive Plan. The Comprehensive Plan contains the Canyon Park Subarea Plan. The Action Alternatives would retain the RGC designation in a new subarea plan meeting the criteria below.</p>
<p><b>Local Commitment.</b> Evidence center is a local priority and sponsor city/county has sustained commitment over time to local investments in creating a walkable, livable center.</p>	<p>The No Action Alternative includes policies and strategies regarding multimodal improvements. The Action Alternatives would leverage multimodal transportation improvements and amenities to encourage a walkable, livable center. See Transportation and Greenhouse Gas Emissions.</p>
<p><b>Center Plan Update.</b> An updated center plan (subarea plan, plan element or functional equivalent that provides detailed planning or analysis) that addresses regional guidance, and plans for a mix of housing and employment, bicycle and pedestrian infrastructure, amenities, and a street pattern that supports walkability.</p>	<p>The No Action Alternative would retain the current Subarea Plan. The Action Alternatives would adopt a new plan by 2020.</p>
<p><b>Housing Need.</b> Assessment of housing need, including displacement risk, as well as documentation of tools, programs, or commitment to provide housing choices affordable to a full range of incomes and strategies to further fair housing.</p>	<p>The No Action Alternative includes capacity for housing, a key feature added in 2015 as part of the Comprehensive Plan Update. The Action Alternatives also address housing opportunities, and inclusionary housing requirements. See Proposal and Alternatives and Socioeconomics.</p>

Centers Criteria	Evaluation of All Alternatives
<p><b>Capital Investments.</b> Capital investments by the local government in the center in the current or prior 6-year capital planning cycle, and commitment to infrastructure and utilities in the jurisdiction's capital improvement program sufficient to support center growth, pedestrian infrastructure, and public amenities.</p>	<p>The No Action Alternative includes improvements in the City's adopted Capital Facilities Plan.</p> <p>The Action Alternatives include the No Action improvements plus additional infrastructure identified in the Subarea Plan and this Draft EIS, particularly transportation improvements to advance multimodal transportation and support growth in employment and residences. Additionally, streetscape and open space amenities would be implemented. See Transportation and Greenhouse Gas Emissions.</p>
<p><b>Center Criteria.</b> Consistent with designation criteria for size, planning, transit, market potential, and role for new regional growth centers in the rows below. Existing centers will remain designated if they do not meet the new center density criteria, provided that the center is consistent with other criteria identified in this section.</p> <p>Center must meet each of the below criteria:</p>	
<ul style="list-style-type: none"> <li>▪ <b>Existing density.</b> 18 activity units per acre minimum.</li> <li>▪ <b>Planned target density.</b> 45 activity units per acre minimum.</li> </ul>	<p>The No Action Alternative boundaries and current population and jobs result in activity units of just under 18 per gross acre; in the future, about 30 activity units per gross acre would be provided, less than the minimum criteria of 45.</p> <p>The Business Plus and Live/Work Action Alternatives include a smaller RGC boundary that meets the PSRC criteria at 613 acres, and with current development more than meets 18 activity units per acre. In the future, the Action Alternatives would exceed the minimum 45 activity units per gross acre. See Table 25.</p> <p>The Mitigated Live/Work Alternative would increase the current activity unit rate of 20.1 in a smaller 565 acre boundary to a rate of 45.1, meeting the minimum target.</p>
<ul style="list-style-type: none"> <li>▪ <b>Mix of uses.</b> Regional growth centers should have a goal for a minimum mix of at least 15% planned residential and employment activity in the center.</li> </ul>	<p>All alternatives would provide at least 15% population or more, on a net or gross basis. See Figure 42.</p>
<ul style="list-style-type: none"> <li>▪ <b>Size.</b> 200 acres minimum – 640 acres maximum (may be larger if served by an internal, high-capacity transit system).</li> </ul>	<p>The current RGC boundary at 733 acres exceeds the maximum size requirements of new centers.</p> <p>The Business Plus and Live/Work Action Alternatives reduce and reshape the RGC boundaries to 613 acres.</p>
<ul style="list-style-type: none"> <li>▪ <b>Transit.</b> Existing or planned fixed route bus, regional bus, Bus Rapid Transit, or other frequent and all-day bus service. May substitute high-capacity transit mode for fixed route bus. Service quality is defined as either frequent (&lt; 15-minute headways) and all-day (operates at least 16 hours per day on weekdays) or high-capacity.</li> </ul>	<p>All Alternatives promote transit investments.</p> <p>The Action Alternatives would leverage multimodal transportation improvements and amenities to encourage a walkable, livable center. See Transportation and Greenhouse Gas Emissions.</p>
<ul style="list-style-type: none"> <li>▪ <b>Market potential.</b> Evidence of future market potential to support planning target.</li> </ul>	<p>The Canyon Park Vision Plan and the Canyon Park Subarea Plan Existing Conditions Report address market potential of the subarea.</p>

Centers Criteria	Evaluation of All Alternatives
<ul style="list-style-type: none"> <li>▪ <b>Role.</b> Evidence of regional role:                             <ul style="list-style-type: none"> <li>○ Clear regional role for center (serves as important destination for the county).</li> <li>○ Jurisdiction is planning to accommodate significant residential and employment growth under Regional Growth Strategy.</li> </ul> </li> </ul>	<p>The Canyon Park Subarea is an importance center regionally for manufacturing and office park uses. Much of Bothell's job growth is planned in the subarea.</p>

Source: PSRC, 2018.

All alternatives provide population and employment growth that increase the intensity or activity in the subarea. See Table 25 and the discussion under each alternative.

**Table 25. Activity Units, Current and Future**

Activity Units	2018 Current RGC Boundary	2035 No Action	2043 Business Plus	2043 Live/Work	2043 Mitigated Live/Work
Population <sup>1</sup>	1,773	5,485	4,472	7,192	4,570
Employment <sup>2</sup>	10,833	15,363	28,651	26,585	20,895
Gross Acres	733	733	613	613	565
<b>Activity Units per Gross Acre</b>	<b>17.2</b>	<b>28.4</b>	<b>54.0</b>	<b>55.1</b>	<b>45.1</b>

Sources: <sup>1</sup>ESRI Business Analyst—2018 population, accessed 2019.

<sup>2</sup>ESD Covered Employment, 2017, accessed from PSRC.

### ***Bothell Comprehensive Plan***

Each alternative is consistent with the Comprehensive Plan vision statement, and therefore the elements of the plan that are built from the vision. The Action Alternatives more optimally implement the vision elements regarding sustainable growth patterns, and investments in infrastructure, services, and amenities, as shown in Table 26.

**Table 26. *Imagine Bothell...* Comprehensive Plan Vision Statement Compatibility**

Vision Statement	No Action	Business Plus	Live/Work	Notes
1. Celebrates and respects its picturesque setting by achieving harmony between the built and natural environments.	√	√+	√+	All alternatives protect and conserve natural features. Action alternatives identify opportunities for environmental enhancement.

Vision Statement	No Action	Business Plus	Live/Work	Notes
2. Fosters the fulfillment of human potential through an assortment of employment, educational, recreational and cultural opportunities available to individuals and families of all ages, incomes and ethnic backgrounds.	√	√+	√+	Additional investments in recreational opportunities, e.g., trails and opportunities for gathering spaces, are promoted in each alternative and particularly Action Alternatives with the subarea plan.
3. Demonstrates a commitment to sustainability through the actions of residents, businesses and public institutions, by living and working in ways that meet the needs of the present without compromising the ability of future generations to meet their own needs.	√	√+	√+	All alternatives promote sustainable development (e.g., water quality improvements).
4. Ensures the safety and security of community residents, employees and visitors through responsive police, fire and emergency medical aid services.	√	√	√	All alternatives would require emergency services. Changes in demand are addressed in Public Services.
5. Demonstrates a commitment to the conservation of scarce natural resources through the actions of residents, businesses and public institutions.	√	√+	√+	Compact growth in proximity to transit helps reduce natural resource and energy consumption.
6. Develops and maintains a transportation system which serves land use and conservation goals and offers a variety of motorized and non-motorized modes of travel, placing emphasis on each, so as to maximize individual choice.	√	√	√	See Transportation and Greenhouse Gas Emissions. All alternatives have a greater emphasis on multimodal transportation. To serve growth, mitigation requires a mix of land use adjustments, transportation improvements, transportation demand management, and adjustment of levels of service policies.

Vision Statement	No Action	Business Plus	Live/Work	Notes
7. Maintains strong residential neighborhoods through public investments in physical improvements intended to enhance neighborhood identity and through public policy decisions intended to protect neighborhoods from intrusion by incompatible uses.	√	√	√+	All alternatives include housing opportunities, particularly the Live/Work Alternative. All alternatives ensure investments in infrastructure to meet growth anticipated under each.
8. Conveys an overall single-family residential character while offering a range of housing types and prices to ensure an adequate choice of attractive living accommodations to persons desiring to reside in Bothell.	√	√	√	Areas within and abutting the subarea with Residential zoning are retained. Growth of multifamily and mixed-uses in the Center ensure protection of lower-density areas elsewhere.
9. Provides commercial areas which offer multiple transportation modes including walking, bicycling and a variety of transit choices; are vibrant and inviting by design; and are located and sized so as to ensure adequate selection and availability of goods and services for all Bothell residents.	√	√	√+	All alternatives allow for added commercial uses. The Live/Work Alternative provides the most retail employment. See Socioeconomics.
10. Provides an appealing business environment and thriving employment "hub" for residents of North King County and South Snohomish County, offering job opportunities which are generated by diverse, sustainable and environmentally sound economic activities; sufficient in number and concentrations to support employee-oriented transit, recreation and human services; and located in settings characterized by high quality design; thereby placing Bothell at a competitive advantage with its peer cities for attracting and retaining businesses, and generating economic value for the community.	√	√+	√	All alternatives advance Canyon Park as an employment hub, served by transit, recreation, and other amenities. The Business Plus Alternative adds the most jobs while promoting nodes that are transit oriented mixed-use.
11. Honors its past and provides a perspective for the future by preserving significant historic buildings and other links to the early years of the City.	√	√	√	All alternatives are subject to federal, state, and local historic preservation laws and rules.

Vision Statement	No Action	Business Plus	Live/Work	Notes
12. Protects, preserves and enhances those features of the natural environment which are most sensitive to human activities.	See #1	See #1	See #1	See #1. See also Natural Environment.
13. Promotes protection of native wildlife habitats, recognizing that the human species is but one of many within the Bothell area.	See #1	See #1	See #1	See #1. See also Natural Environment.
14. Provides a diversity of active and passive recreation opportunities through recreation programs and a system of parks, open spaces and interlinking trails.	See #2	See #2	See #2	See #2
15. Possesses a range of affordable and physically accessible human services to assist individuals and families in need.	√	√	√	All alternatives allow for human services to be established or active in the study area.
16. Ensures necessary utility services via public or private providers including clean water supply, electricity, telecommunications and data transmission, natural gas, storm water management, and disposal of wastewater and solid waste in a manner which is fiscally and environmentally responsible.	√	√	√	All alternatives add growth that requires public services and utilities. Each alternative increases demand compared to levels of service. Future development is subject to proof of adequate public facilities and services.
17. Continually strives to improve the quality and cost-effectiveness of municipal services, and extends those services through annexation at the request of residents of adjacent unincorporated areas.	See #16	See #16	See #16	See #16
18. Recognizes that each community's decisions affect other communities and that certain issues are most effectively addressed on a regional level, and therefore works closely with other public agencies at the city, county, state and federal levels to ensure that local and regional goals are achieved.	√	√+	√+	Each alternative advances an employment center important to the region (e.g., VISION 2040). The City coordinates with Snohomish County and PSRC. The Action Alternatives would promote greater consistency with PSRC Centers criteria.

Vision Statement	No Action	Business Plus	Live/Work	Notes
19. Through realization of the preceding components of this vision statement, fosters a sense of belonging and pride in Bothell's unique and distinctive community; a feeling of well-being; and a commitment towards an ever-improving City in the future.	√	√+	√+	All Alternatives promote Bothell's Vision. The Action Alternatives would improve the Canyon Park Subarea with infrastructure and amenities and reinforce the identity of the center.

Source: BERK, 2019.

### Shoreline Master Program

All Alternatives will be subject to the current SMP policies and rules. Consistency with the SMP provisions would be needed when the Subarea Plan and zoning amendments are prepared.

### Impacts of No Action Alternative

The No Action Alternative would retain the current Comprehensive Plan and Subarea Plan and would not meet PSRC Centers criteria to have an updated plan. The RGC size and intensity of activity units would not meet PSRC criteria. Growth capacity would be the lowest of the studied alternatives. There would be less activity in the study area, but less infrastructure or service investments are proposed which would limit quality of life for current and future residents and employees.

### Impacts of Business Plus Alternative

The Business Plus Alternative would update the Comprehensive Plan with the inclusion of a new Subarea Plan designed to meet the PSRC Centers criteria. The Alternative would add the most new jobs and, together with residential population that meets the Centers activity units criteria, would result in a higher activity level in the subarea. Transitional design standards and transportation investments could address the increase in activity. Investments in transportation, parks, and other amenities would support the proposed land use pattern, City Vision Statement elements, and other goals and policies.

The Action Alternatives including the Business Plus Alternative provide more growth capacity than the No Action Alternative and could support the City's next Comprehensive Plan Update and the future planning period of 2043. However, Comprehensive Plan amendments would be needed to integrate the new subarea plan including a consistent land use plan and capital facilities plan.

## Impacts of Live/Work and Mitigated Live/Work Alternatives

Impacts of the Live/Work Alternative are similar to the Business Plus Alternative, except that there is a greater share of housing planned, which would further advance GMA goals for housing, Comprehensive Plan vision to focus growth centers/hubs to protect other neighborhoods, and PSRC Centers Criteria for a minimum 15% of residential uses. Under the Live/Work Alternative, jobs will continue to be the primary focus in the subarea and exceed the capacity for employment of the No Action Alternative.

The level of activity units (combined jobs and population) under the Mitigated Live/Work Alternative would be about 25% less than the Live/Work Alternative. As a result, total activity units and levels under the Mitigated Live/Work Alternative would be less than the Live/Work Alternative. Additionally, the growth and associated activity level would be less than the Business Plus Alternative.

### 3.2.4 Mitigation Measures

#### Incorporated Plan Features

- The Comprehensive Plan designates Canyon Park as an RGC and includes a subarea plan and identification of needed improvements. While it does not fully meet PSRC Centers criteria, the subarea plan provides a platform for the Action Alternatives.
- The Action Alternatives include development of a subarea plan and regulations that are designed to address new mixed-use and employment opportunities, amenities (e.g., trail, gathering spaces, etc.).

#### Mitigated Live/Work Alternative

The Mitigated Live/Work Alternative proposes a balance of 28% population and 72% employment. This is similar to the full Live/Work Alternative except that the level of activity units (combined jobs and population) would be about 25% less. As a result, total activity units and levels under the Mitigated Live/Work Alternative would be less than the Live/Work Alternative. Additionally, the growth and associated activity level would be less than the Business Plus Alternative.

The growth level is based on an even more compact RGC boundary of 565 acres, still consistent with PSRC Centers criteria. The growth level would achieve 45.1 population/job activity units per acre meeting the 45.0 rate required by PSRC Centers criteria. The mixed uses investments in transit, pedestrian and open space amenities would be consistent with regional and state planning goals. The Mitigated Live/Work Alternative would fulfill the intent of policies in the Canyon Park Element of the Comprehensive Plan to have a vibrant diverse employment center that respects the natural environment. Future public and private development would need to meet the City's development regulations to ensure aesthetic and environmental quality. This includes no-net-loss of critical areas functions

and values and no-net-loss of shoreline ecological function related to road crossings. See Section 3.1 for more information.

### Regulations and Commitments

- Development Regulations. Title 12 Zoning includes land use and design regulations intended to promote a variety of residential and employment uses that are designed in a quality manner.

### Other Proposed Mitigation Measures

- Land Use Plan Consistency. The new Subarea Plan with Action Alternatives would likely require consistency amendments with the Comprehensive Plan, such as capital facilities plans and other text and policy adjustments.
- Zoning and Design Standards. The Action Alternatives would require the development of new or revised zoning and design regulations for the subarea. The City could address transitions between uses of different scales and activity levels as part of design and development policies and standards. The City could also address the orientation and location of residential components of mixed uses in proximity to high-volume roadways and ensure appropriate landscaping and green infrastructure treatments that can address air quality and noise compatibility.

### 3.2.5 Significant Unavoidable Adverse Impacts

Under all alternatives, additional growth and development will occur in the study area, leading to increases in land use intensity. This transition is unavoidable but is not considered significant or adverse within an urban area designated as a mixed-use and employment center in the City's Comprehensive Plan and the regional VISION 2040 Plan. Future growth is likely to create temporary or localized land use compatibility issues as development occurs. The potential impacts related to these changes may differ in intensity and location in each of the alternatives. However, with existing and new development regulations, zoning requirements, and design guidelines, no significant adverse impacts are anticipated.

All Alternatives are generally consistent with the policy direction of VISION 2040 and the City's Comprehensive Plan and Subarea Plan. However, updates to some policies and maps in both the Comprehensive Plan and the Subarea Plan will be needed under the Action Alternatives to ensure full consistency.

## 3.3 Aesthetics and Urban Design

### 3.3.1 Affected Environment

#### Overall Built Environment

The Canyon Park Subarea is characterized by 1990s-era business park development, a landscape emphasizing trees and greenery, an outdoor environment and street and building layout designed more for automobiles, and retail and restaurant activity mostly segregated from other uses. The dispersion of different land uses throughout the large area makes Canyon Park feel suburban and lacks any clear centers of human activity. Tree-lined boulevards, extensive wetlands, and evergreen stands give the area a park-like atmosphere with significant greenery.

**Figure 44. Aerial View of Canyon Park**



Source: Google, 2019.

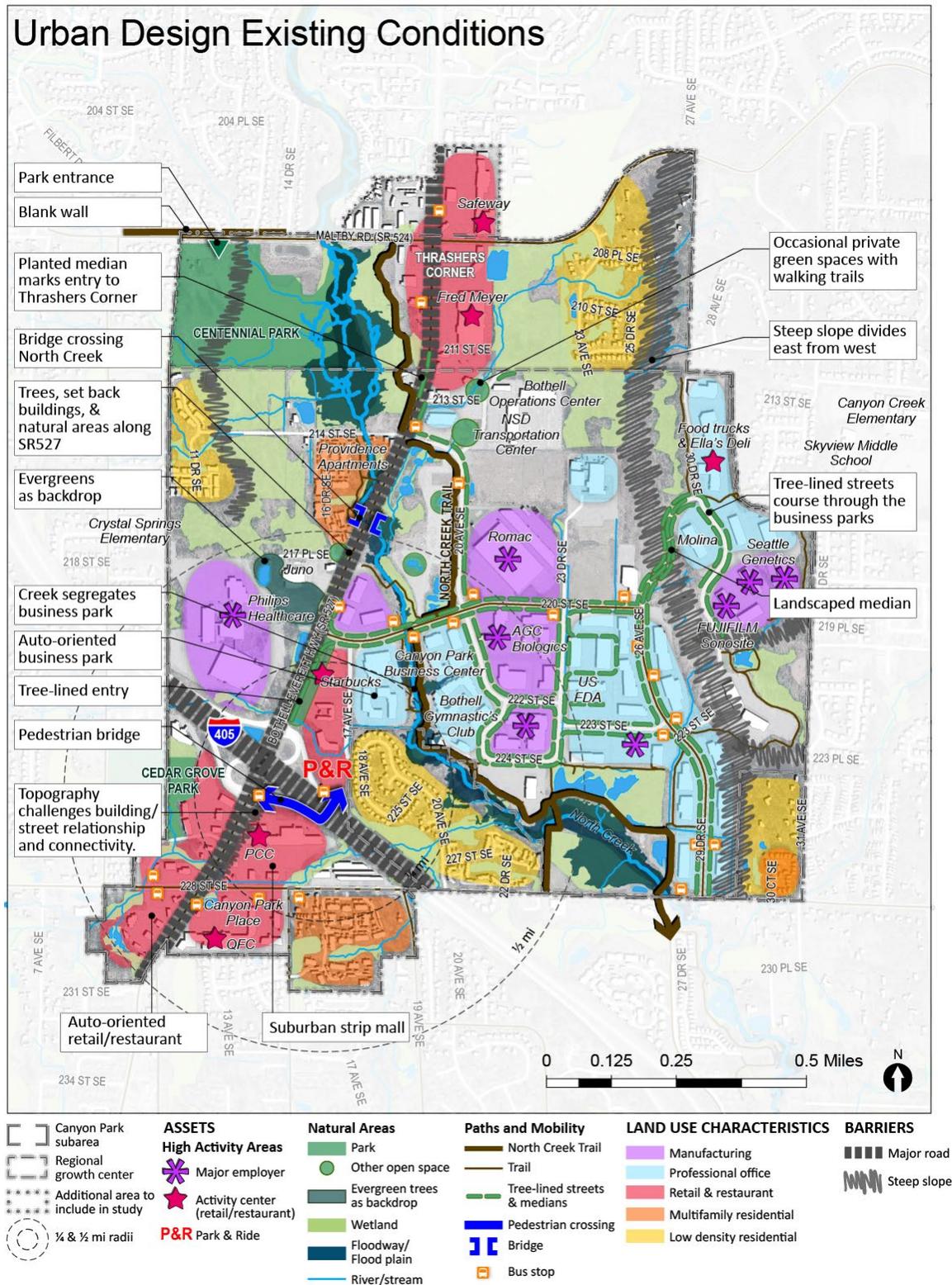
#### Assets

Canyon Park's major assets include a few activity centers and gathering places; extensive natural areas and open space; some recreational opportunities; and trails and mobility options. These assets are described on the following pages.

#### Barriers

Steep slopes and major roads/highways physically separate distinct areas within Canyon Park as shown in Figure 45. In addition, North Creek acts as a barrier dividing the Canyon Park Business Center and other land uses with few crossings and underdeveloped connections to the existing crossings.

Figure 45. Urban Design Existing Conditions



Source: MAKERS, 2019; City of Bothell, 2018.

### ***Gathering Places and High Activity Areas***

As urban design is centered around people, this analysis begins by identifying places where people are already convening or visiting. Areas with high levels of activity include:

- **Major employers.** With over 10,000 jobs in Canyon Park and many concentrated at a few major employers (noted with purple asterisks on Figure 45), daily visits bring life to the business parks.
- **Retail and restaurants.** Canyon Park has two strip mall-oriented shopping centers, Thrasher’s Corner and Canyon Park/Canyon Park Place, that draw people to the area. For people already in the area, there are also two additional gathering places—Starbucks/McDonalds and food trucks (noted with red stars on Figure 45). The strip malls house a mix of national chains and small, local businesses. These local businesses, such as Apna Bazaar in Thrashers Corner, likely have a regional clientele and add to the character of the area.
- **Park-and-ride and bus rapid transit.** The Canyon Park Park-and-Ride on 17<sup>th</sup> Avenue SE at I-405 draws around 1,000 people per day to use Community Transit and other buses.

However, Canyon Park is generally not seen by businesses and employees within the business park as an amenity-rich area with lively gathering places, and no activated public places are found in the area. The assets listed above are a starting point for improvement.

### ***Open Space and Recreation***

Canyon Park is rich with passive and recreational natural areas. In particular, the following elements build the identity of the subarea as a “green,” park-like place:

- **Tree-lined streets.** A mix of naturally occurring and human-planted trees gives the area a green character. Travel along SR 527 includes a sequence of major stands of trees to mark entry into Canyon Park from I-405; planted trees that subdue the strip mall and business parks’ architectural impact on the streetscape; a planted median upon entry at Thrashers Corner; and remaining natural areas, including a stand of evergreens that act as a backdrop to certain views. Private streets running through the business parks are typically lined with trees and manicured grass, extending the park-like character throughout the area. Likewise, parking lots tend to contain many trees.
- **North Creek and North Creek Trail.** Running north-south through Canyon Park, North Creek and the North Creek Trail offer a natural greenway through the center of the study area. The creek provides a green spine and the trail a recreational and functional path set in nature. One missing link exists in the trail along 220<sup>th</sup> Street and some areas are heavily root-damaged.
- **Wetlands.** Much of the area, especially in the northwest, is wetlands, resulting in much land being preserved as open space for environmental functions.
- **Parks.** Centennial Park is a large park with passive recreational opportunities near its entrance on SR 524 to view the wetlands. Cedar Grove Park includes sports courts and a playground but is cut off from much of Canyon Park by wetlands, I-405, and SR 527.

- **Private open spaces.** A handful of private open spaces dot the area, likely provided as outdoor amenities as part of developments. The open spaces offers walking trails, seating, picnicking (near North Creek at the Canyon Park Business Center), or simply a landscaped viewable area.

On the following pages, Figure 46 through Figure 57 illustrate several of the open and recreational spaces in the study area.

**Figure 46. North Creek**



North Creek is a natural and visual asset to Canyon Park. Opportunities exist to better connect pedestrians to and across the creek. Photo location near the pedestrian bridge south of 220<sup>th</sup> Street SE.  
Source: MAKERS, January 2019.

**Figure 47. North Creek Trail Walking/Bicycling Path**



The North Creek Trail offers a walking and bicycling path separated from vehicles in a natural environment.  
Source: MAKERS, January 2019.

Figure 48. Wetlands and Evergreen Tree Clusters in Canyon Park



Wetlands and evergreen tree clusters characterize much of Canyon Park, especially this northwest area.  
Source: Google, 2019.

**Figure 49. Canyon Park Business Center Picnic Area and Lawn**



The Canyon Park Business Center includes a picnic area and lawn adjacent to North Creek. By connecting to the North Creek Trail and to a creek crossing that connects users to the western portion of the business center, this is an important node.

Source: MAKERS, January 2019.

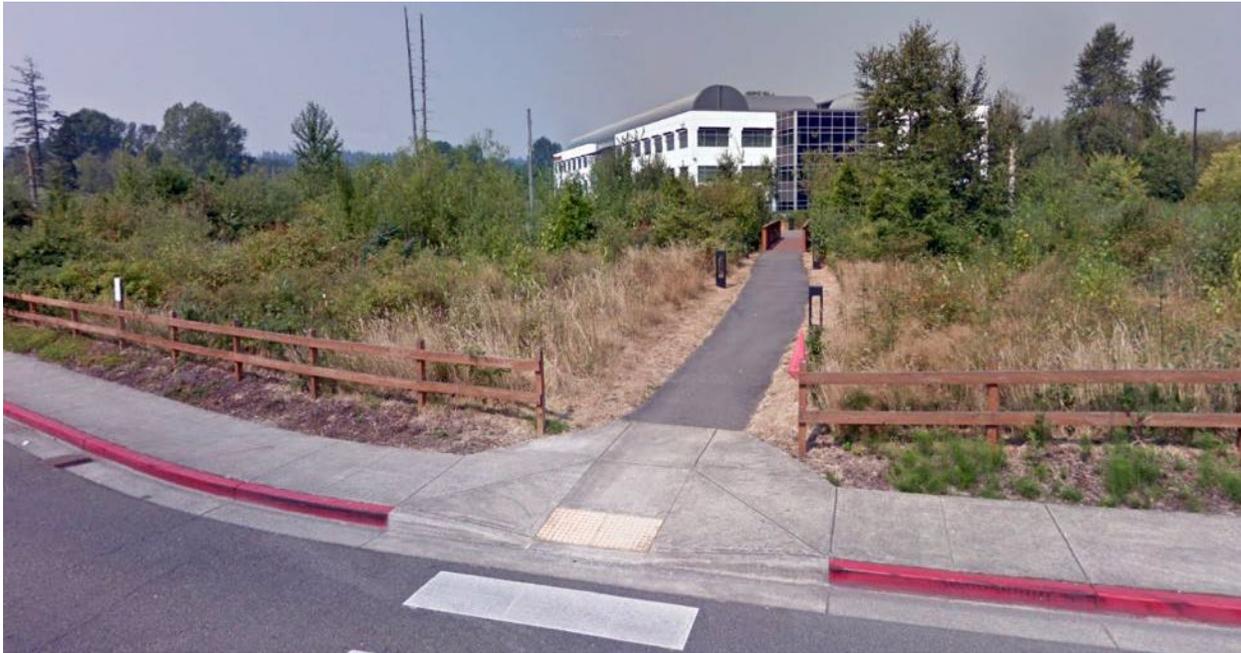
**Figure 50. Open Space in Front of Romac**



Open space in front of Romac provides green space, safe pedestrian paths, and a soft celebrated entry. However, it is not designed for gathering, recreation, play, eating lunch, or other typical park activities. As Canyon Park densifies, spaces like this might be improved to better support community purposes.

Source: Google, 2019.

**Figure 51. Natural Open Space Associated with Silicon Mechanics on 20<sup>th</sup> Avenue SE**



The Silicon Mechanics grounds include wetlands and a walking path.  
Source: Google, 2019.

**Figure 52. Open Space in Front of Providence Apartments**



Open space in front of Providence Apartments buffers homes from the street and adds aesthetic value but does not function for human gathering. Siting the open space away from the highway could have resulted in a more usable space.  
Source: Google, 2019.

**Figure 53. Play Area within the Providence Apartment Complex**



A play area within the Providence Apartment complex provides a gathering space for residents of the complex. Source: Google, 2019.

### ***Paths, Mobility, and Connectivity***

Canyon Park has the beginnings of a pedestrian and bicycle-friendly network. Assets include:

- The North Creek Trail, as mentioned above,
- Many smaller trails that provide options for people walking or biking in the area,
- Sidewalks buffered from vehicular traffic with landscaped strips that provide safe and comfortable walking paths through many of the business parks, and
- Access to buses and a private internal shuttle along SR 527, 220<sup>th</sup> Street SE, and 26<sup>th</sup> Avenue SE.

Though walking trails and sidewalks exist in places, missing connections, a lack of amenities such as shopping, restaurants, and gathering places, and distances between destinations make it challenging for pedestrians and cyclists. The overall street network has primarily been designed for automobiles, and surface parking lots take up a large portion of the land.

**Figure 54. Pedestrian Bridge in Canyon Park Business Center**



This pedestrian bridge connects the Canyon Park Business Center east-west across North Creek and is adjacent to the open space pictured in Figure 49.  
Source: MAKERS, January 2019.

**Figure 55. Tree-lined Boulevards on 23<sup>rd</sup> Drive SE (Private Street) at Leviton**



Tree-lined boulevards, like the pictured 23<sup>rd</sup> Dr SE at Leviton, course through the business parks. Many of these private streets include sidewalks buffered from automobile traffic with landscaping (like the right side of this photo), while some areas are missing sidewalks (like the left side).  
Source: Google, 2019.

### ***Existing Architecture and Aesthetics***

**Business parks.** These flexible buildings allow for changing uses over time, including manufacturing, office, and tech. The one to four story buildings are set far back from and have little relationship with the street. Though this provides for extensive landscaped areas, it disperses activity away from the street and over greater distances, thus encouraging travel by automobile rather than foot or bike. The landscaped areas do visually buffer the extensive surface parking lots and subdued architecture.

**Retail/restaurants.** Similarly, the retail environments, though accommodating to pedestrians, are intended for visitors arriving by car. They are suburban strip malls with extensive surface parking. Street landscaping gives them a green character.

**Figure 56. Commercial Buildings in Canyon Park**



Commercial buildings in Canyon Park hold offices, small-scale manufacturing, high tech work, and/or labs. Uses have changed over the years, indicating that the flexibility of the buildings has been useful.  
Source: MAKERS, January 2019.

**Figure 57. Canyon Park Business Center**



The Canyon Park Business Center, straddling North Creek, houses many smaller businesses.  
Source: MAKERS, January 2019.

## Development Standards

### Building Heights

Current zoning allows heights up to 100 feet for employment uses in general, 150 feet for manufacturing, and 35-65 feet for residential mixed use, as shown in Figure 58. Much of the study area is not developed to the full height potential, and most often includes buildings of one to three stories.

### Density, Parking, Landscaping, and Site Design Standards

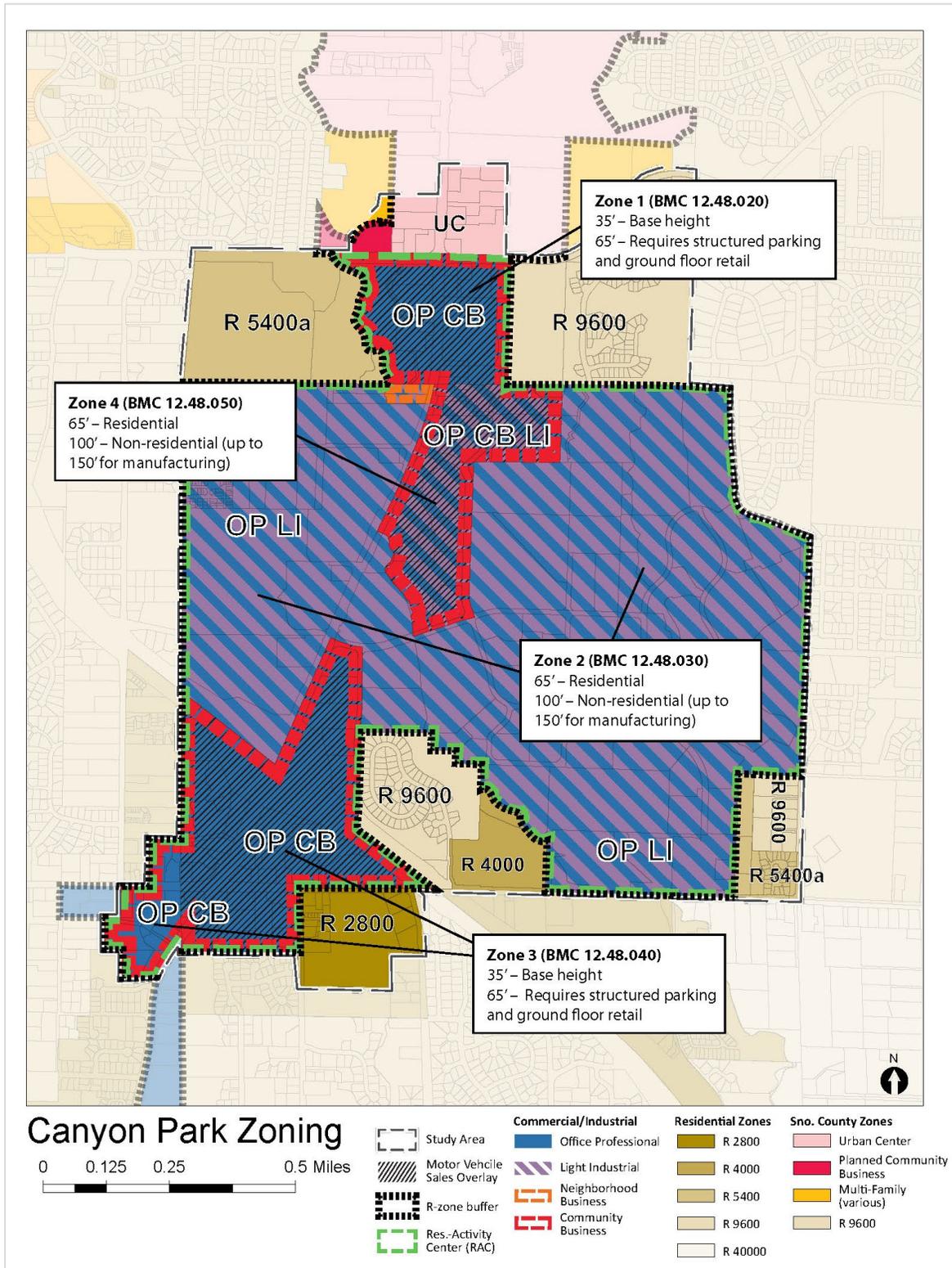
The landscaping standards are comprehensive, addressing public and private sites and parking lots and transitions to other zones, particularly single family zones. Under current development standards, streetscapes are addressed on public streets, but not on private streets such as in the business parks. There are limited mid-block standards that are more focused on vehicular standards (e.g., connected driveways). See Table 27 for all current development standards.

**Table 27. Current Development Standards**

Standard	Description
<b>Density</b>	Current standards (no minimum or maximum).
<b>Parking</b>	<p><u>Residential</u></p> <ul style="list-style-type: none"> <li>▪ Dwelling units, primary, two or more units per structure: 2 stalls per dwelling unit, plus 1 guest parking stall for every 5 dwelling units.</li> </ul> <p><u>Commercial</u></p> <ul style="list-style-type: none"> <li>▪ Business and personal services (including general “office”): 1 stall per 300 square feet (SF).</li> <li>▪ Eating and drinking establishments: 1 stall per 75 SF in dining or lounge areas; 1 stall per 300 SF elsewhere.</li> <li>▪ Manufacturing, distribution, storage, and warehousing: .9 stalls per 1,000 SF (1 per 1,111 SF).</li> <li>▪ Retail uses: 1 stall per 300 SF.</li> </ul>
<b>Mid-block Connections</b>	BCC 12.48.050 addresses site-to-site access ways for vehicles and pedestrians without a need to use a street.
<b>Onsite Open Space</b>	BMC 12.14.180 (Site Design) requires a community gathering place for proposed developments in the OP, NB, CB, and GC zones and their combo with R zoning districts. Projects of 5 acres or more shall provide a community gathering place or places at a ratio of 20 SF of improved space per acre, with a minimum of 100 SF per gathering place. “Community gathering place” means an informal, small-scale, hard-surfaced area intended for use by the general public.
<b>Landscaping</b>	<p>Requirements for landscaping:</p> <ul style="list-style-type: none"> <li>▪ Street right of way landscaping .</li> <li>▪ Boulevard system landscaping (SR 527).</li> <li>▪ Parking lots.</li> <li>▪ Between zoning classifications.</li> </ul> <p>Transitional landscaping at boundary of single family zones.</p>

Source: City of Bothell Municipal Code, 2019.

Figure 58. Current Zoning Building Heights



Source: City of Bothell, 2019; MAKERS, 2019.

### 3.3.2 Impacts

#### Thresholds of Significance

The following thresholds are considered in the impact analysis:

- Height of development, location of roads, and landscaping abutting surrounding neighborhoods creating an appropriate transition to areas of greater or lower density.
- The potential for future development to cause shadows on public open spaces that could hinder public use and enjoyment of the space.
- Consistency with plan objectives to achieve a holistic, multifaceted neighborhood and Regional Growth Center:
  - Improve transit access for employees commuting to the area, overall freeway/highway access, and multi-modal infrastructure to improve circulation within and around Canyon Park.
  - Implement new public park space(s) with recreational uses and with investments in signature public spaces.
  - Improve access to and crossings of North Creek to make it a unifying element of Canyon Park.
- Increase the number of retail and service amenities that serve Canyon Park and the surrounding area.

#### Impacts Common to All Alternatives

##### *Height*

All Alternatives increase in height and intensity over current conditions. Most of the study area is one, two, or three stories in height. Current zoning allows 35-150-foot heights depending on the allowed uses. The Action Alternatives have similar height maximums as the No Action Alternative, except that greater height would be allowed in mixed-use areas southwest of I-405 and Thrasher's Corner, and transitional heights would be applied along the border with residential uses.

##### *Landscape and Roads*

All alternatives require landscaping treatments of varying type. Landscaping is required in roadways and on sites.

##### *Shadows on Public Open Spaces*

See discussion under each alternative.

## Impacts of No Action Alternative

As noted under Impacts Common to All Alternatives and in Figure 58, buildings could be developed or expanded under existing zoning up to heights of 150 feet for manufacturing, 100 feet for office, or 65 feet for mixed uses. Building heights remain at potential maximum levels along public lands, but buildings could be taller along R-zone boundaries and, depending on location, could result in shadows on parks or trails.

Streetscape design and connectivity is focused on buffering sidewalks along major streets from vehicles with landscape strips. Many of the roads are private in the central part of the subarea and are not designed to City streetscape or landscape standards.

Though Canyon Park would see redevelopment, current development standards and planned City investments would not achieve all plan objectives:

- **Multimodal infrastructure:** Only the North Creek Trail and 17<sup>th</sup> Avenue SE would see improvements to pedestrian and bicycle infrastructure, leaving the area lacking in comfortable and safe connections to transit. Likewise, development along the paths to transit would likely not result in a lively, active, stimulating, or comfortable walk to transit.
- **New public parks and signature public spaces:** With minimal requirements or incentives for open space, private development would likely not contribute to new public parks or signature public spaces. Even if public space were provided, adjacent and nearby development may not have active, lively edges around parks or contribute to their character.
- **North Creek as unifying element:** Minimal investment is planned in improving the North Creek Trail, and the City's current standards, incentives, and programs do not invest in or encourage private development that would create either signature public spaces near North Creek or connections to the creek.
- **Retail and service amenities:** Redevelopment under current development standards and without further City investment or encouragement through regulatory approaches is unlikely to include ground floor retail and service amenities.
- **Holistic neighborhood:** In addition, development is occurring, and is likely to continue occurring, in an uncoordinated manner, with residential uses popping up as islands amidst office and industrial uses, disconnected from amenities.

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## Impacts of Business Plus Alternative

### *Heights*

Heights under the Business Plus Alternative would be similar to those under the No Action Alternative. There would be increased heights of about 10 feet for mixed-use residential in two current shopping areas, and the basis for greater height would be refined.

Southwest of I-405, the 17<sup>th</sup> Avenue SE area, and Thrasher's Corner (the dark purple and orange areas in Figure 59), the Business Plus Alternative would allow greater heights of 75 feet of five to seven-story mixed-use office (and some residential) buildings, and would refine the requirements for ground floor retail and structured parking. The alternative would apply transitional height and setback standards along borders with residential land.

### *Density, Parking, Landscaping, and Site Design*

The Business Plus Alternative would build on and improve design standards in place under the No Action Alternative.

To create a center that grows, provides multimodal access, and encourages entrepreneurial businesses and affordable housing, the Business Plus Alternative proposes the development standards listed in Table 28, and summarized below:

- As a designated regional center, the Canyon Park Subarea is meant to take a larger share of the City's growth. The Business Park Alternative would set minimum densities for housing and minimum employment levels for jobs to ensure land is used wisely over the long-term in the center. Minimum densities would also allow for more effective use of transit.
- Reflecting recent and planned transit investments, parking standards would be reduced, with greater reductions within a quarter mile walking distance to transit and less reduction further out.
- Standards would require common usable space and private open space as the area densifies.

**Table 28. Development Standard Amendments—Action Alternatives**

Zone	Allow Res?	Min Density (gross)	Target Density (gross) <sup>1</sup>	Minimum Parking	Require Common Usable Open Space? <sup>2</sup>	Require Private Open Space? <sup>3</sup>
<b>Residential Mixed-use: ¼ mi</b>	Yes	90 du/acre (135 AU/acre)	133 du/acre (200 AU/acre)	<ul style="list-style-type: none"> <li>1 stall per 450 SF retail + 0.75 stalls per bedroom, but no more than 2.2 stalls per unit.</li> <li>(Approx. average 1.25 stalls per unit.)</li> </ul>	Yes	Yes
<b>Residential Mixed-use: ½ mi</b>	Yes	45 du/acre (68 AU/acre)	57 du/acre (85 AU/acre)	<ul style="list-style-type: none"> <li>1.1 stall per bedroom, but no more than 2.2 stalls per unit</li> <li>(Approx. average 1.5 stalls per unit.)</li> </ul>	Yes	Yes
<b>Residential Mixed-use: beyond ½ mi</b>	Yes	25 du/acre (50 AU/acre)	25 du/acre (50 AU/acre)	<ul style="list-style-type: none"> <li>1.5 stalls per bedroom, but no more than 2.2 stalls per unit.</li> </ul>	Yes	Yes
<b>Commercial Mixed-use: ¼ mi</b>	No	0.60 FAR <sup>3</sup> (60 AU/acre)	3.00 FAR <sup>3</sup> (250 AU/acre)	<ul style="list-style-type: none"> <li>1 stall per 500 SF office/retail.</li> </ul>	Yes	No
<b>Commercial Mixed-use: ½ mi</b>	No	0.50 FAR <sup>3</sup> (50 AU/acre)	1.5 FAR <sup>3</sup> (150 AU/acre)	<ul style="list-style-type: none"> <li>1 stall per 500 SF office/retail.</li> <li>0.9 stalls per 1,000 SF light industrial.</li> </ul>	Yes	No
<b>Commercial Mixed-use (primarily office/flex/manufacturing): beyond ½ mi</b>	No	0.35 FAR <sup>3</sup> (30 AU/acre)	0.50 FAR <sup>3</sup> (50 AU/acre)	<ul style="list-style-type: none"> <li>1 stall per 400 SF office.</li> <li>0.9 stalls per 1,000 SF light industrial.</li> </ul>	Yes	No

<sup>1</sup> Approximately one quarter of Canyon Park’s RGC (using the smallest boundary) needs to redevelop at these densities to reach the RGC criteria of 45 AU/acre. Note that dwelling units are assumed to have 1.5 people per unit in ¼ mile and ½ mile zones and 2 people per unit in other zones.

<sup>2</sup> Encourage consolidation of open space as central gathering places in neighborhood centers (i.e., Thrasher’s Corner, Canyon Park Place, and Canyon Park Business Center).

<sup>3</sup>To be explored and defined during Preferred Alternative and subarea planning alongside development feasibility analysis. Private open space may not be broken out in this way.

<sup>4</sup>Floor area ratio (FAR) and/or height standards to be explored during subarea planning.

Source: MAKERS, 2019.

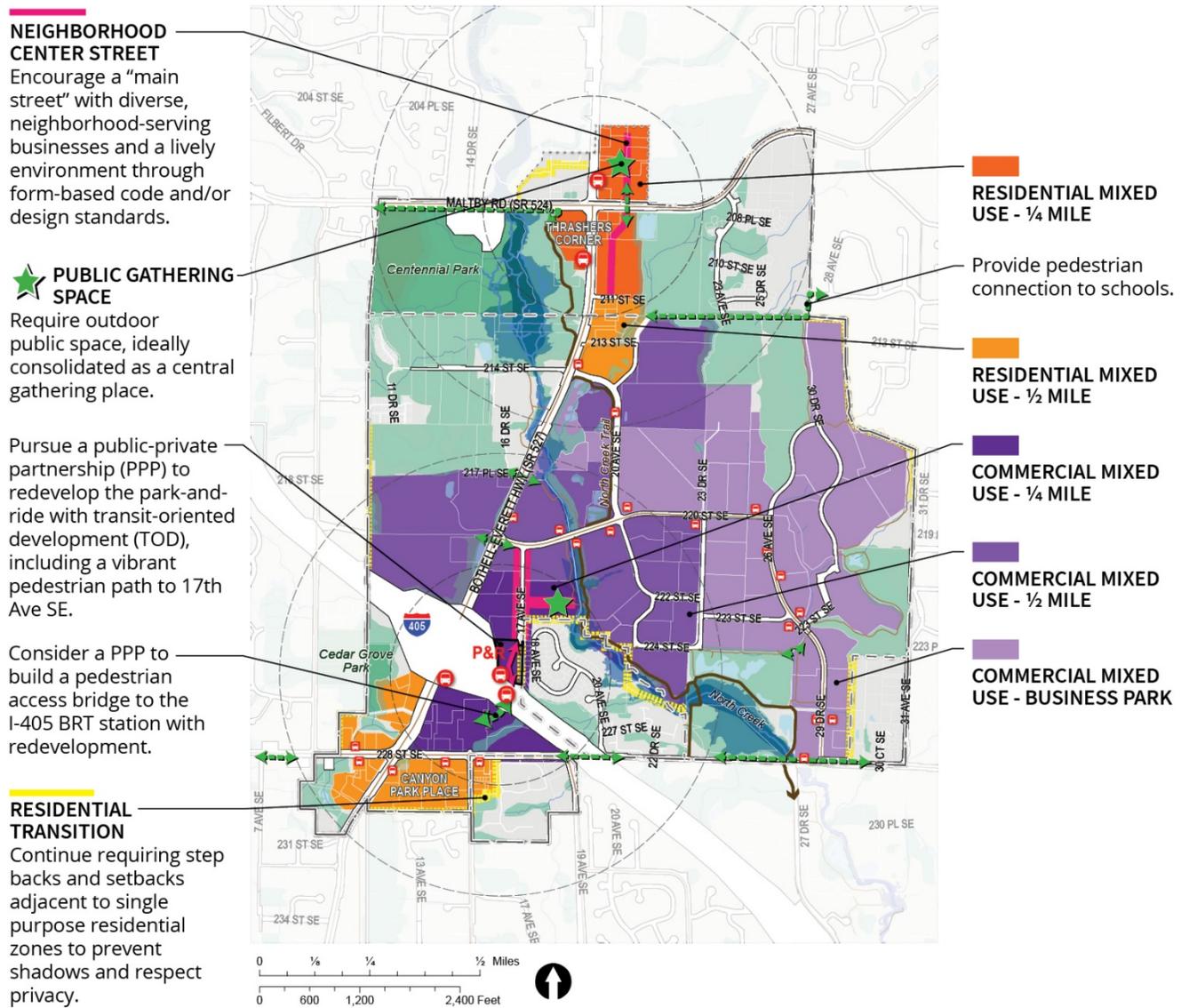
Key elements of center design under the Business Plus Alternative are reflected in Figure 59. In addition to the development standards identified in Table 28, other investments would be made to create a vibrant employment-focused center with nodes of mixed-use on the north and south. These investments include:

- Additional neighborhood center streets that serve as “main streets” with form-based design and mixed-uses.
- Conceptual locations for central gathering spaces in addition to the private onsite open space standards described above.
- A public private partnership (PPP) to redevelop the park-and-ride as a transit-oriented development (TOD) with a great pedestrian connection into the business park.
- Complete the North Creek Trail missing link and improve the trail and connections to it.
- A direct pedestrian connection between the I-405 freeway BRT stop and the PCC area, and another PPP that could be required with redevelopment of that site.
- Residential transition areas would be provided to ensure compatibility with surrounding uses. Current development standards require an extensive setback between any new building taller than 35 feet and a residential zone (BMC 12.48.020.B.2). The Action Alternatives propose development standards that would require an appropriate transition between higher-intensity zones and single family residential zones (e.g., height and stepback standards along the border between zones) but would likely allow development closer to the residential zone.

The public open spaces and parks are highlighted in Figure 59, though transitional heights to address shadows are not specified. See proposed mitigation measures.

Additionally, per Section 3.5, Action Alternatives would improve some private streets to serve as public streets, thus providing an opportunity to add streetscape, landscape, and other improvements for a more cohesive center.

Figure 59. Urban Design—Business Plus Alternative



**Land Use & Urban Design Proposals**

- Residential mixed-use (MU) - ¼ mi
- Residential MU - ½ mi
- Commercial MU - ¼ mi
- Commercial MU - ½ mi
- Commercial MU
- Neighborhood center street

- Public gathering space
- Residential buffer
- Natural Areas**
- Water body
- Wetland & buffer
- Floodway/flood plain
- River/stream

**Paths and Mobility**

- Proposed pedestrian improvement
- North Creek Trail
- Other bike route/trail
- I-405 Bus Rapid Transit (BRT) or Swift Green Line
- Bus stop
- P&R Park-and-ride

- Canyon Park subarea
- Study area
- ¼ & ½ mi radii
- Park

Source: MAKERS, 2019.

The combination of City investments and development standards would further plan objectives:

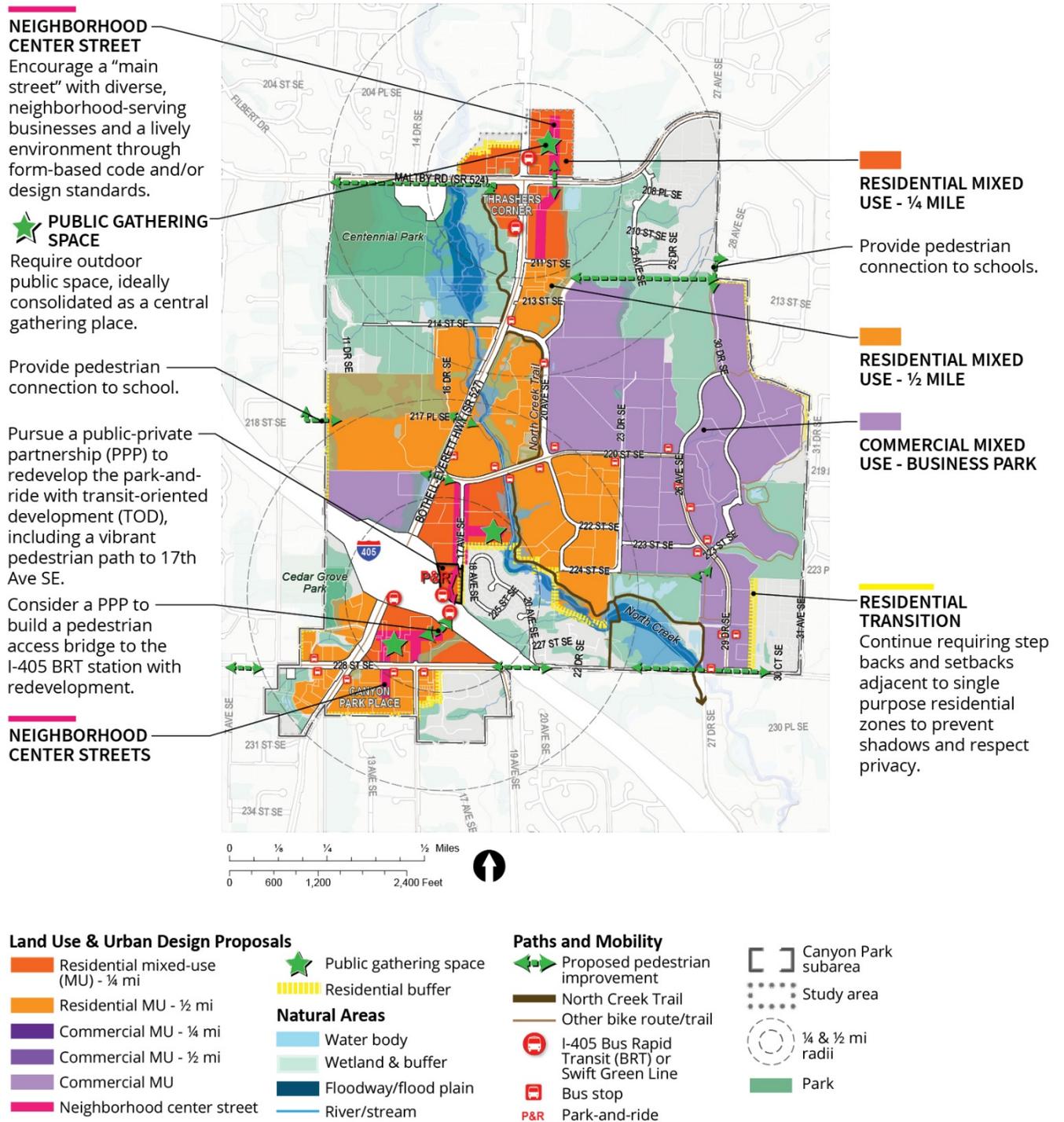
- **Multimodal infrastructure:** Beyond the planned North Creek Trail and 17<sup>th</sup> Avenue SE improvements, the City would likely invest in additional pedestrian and bicycle infrastructure, and possibly also microtransit like a scooter share. The growth would necessitate a shift to non-motorized forms of travel, increasing the importance of investing in pedestrian and bicycle infrastructure. Development standards encouraging buffered sidewalks and active ground floors along the major pedestrian and bicycle paths to transit would likely result in safer and more comfortable routes.
- **New public parks and signature public spaces:** Private development would be required to contribute to new public parks or signature public spaces. The City may invest in signature spaces and require adjacent development to have active, lively edges around parks and contribute to their character.
- **North Creek as unifying element:** The Business Plus Alternative calls for the City to invest in and encourage private development that would create a signature public space near North Creek, complete North Creek's missing link, and improve the trail and connections to the creek.
- **Retail and service amenities:** With City investment and updated development standards, mixed use development with ground floor retail becomes more likely, especially where needed to create a neighborhood center.
- **Holistic neighborhood:** The proposed development pattern and associated standards would encourage a more cohesive and multifaceted neighborhood with activity centers and quality, multimodal connections.

### Impacts of Live/Work and Mitigated Live/Work Alternatives

The Live/Work Alternative includes similar density, design, and development standards as the Business Plus Alternative (see Table 28 and Figure 60) and would thus advance the design and character of the subarea beyond the No Action Alternative. However, the main street amenities, public gathering spaces, and neighborhood center streets would be more oriented towards residential mixed-use areas than under the Business Plus Alternative. The ultimate character of the study area would be more residential along the spine of Bothell Everett-Highway from I-405 to Thrasher's Corner. While there would be transitional standards at boundaries of residential zones, there are no specific transitional heights along public open spaces. Core job areas to the east and west would continue to focus on business uses.

The Live/Work Alternative would impact height, bulk, shadow, and plan objectives similarly to the Business Plus Alternative. Signature public spaces, as well as the public realm in general, may have extended active hours because of the greater amount of and proximity to residences.

Figure 60. Urban Design—Live/Work Alternative



Source: MAKERS, 2019.

Note that under the Mitigated Live/Work Alternative, the urban design measures remain the same. However, the shift to focus south of Maltby Road (within the proposed RGC)

means that Bothell would have less direct policy influence on implementing a signature space and main street environment in the unincorporated Snohomish County portion of the study area. This bolsters the importance of implementing small gathering spaces and a main street environment with redevelopment in the Thrasher's Corner area south of Maltby Road.

### 3.3.3 Mitigation Measures

#### Incorporated Plan Features

- The Comprehensive Plan includes an Urban Design Element intended to create a development pattern that achieves harmony, fosters community pride and identity, promotes design that encourages pedestrian, bicycle, and transit usage, promotes high quality design, and more. The current Comprehensive Plan includes an action to develop an urban design study of the Canyon Park RGC. (LU-A6)
- As part of developing a subarea plan under the Action Alternatives, the Canyon Park Vision identifies key elements of the subarea's identity, utilizes these to build a vision framework for future development of the center, and includes priority urban design concepts to inform the design of future buildings, transportation infrastructure, and open spaces. This includes:
  - Private and public actions to improve access to and crossings of North Creek to make it a unifying element of Canyon Park.
  - Private and public actions to achieve signature public spaces, especially connecting to North Creek.
- The Action Alternatives propose development standards, design standards, and public investments to improve the quality of the urban environment and attract investments in mixed-use residential and job-oriented uses. Redevelopment with a greater mix of uses (i.e., active ground floors, at least on key corners) would result in greater retail and service amenities serving the Canyon Park area.
- Bothell is updating its required buffer between single family residential zones adjacent to higher-intensity zones. The Action Alternatives propose development standards resulting in an appropriate transition that respects privacy and steps down in scale.

#### Mitigated Live/Work Alternative

The lower growth alternative generally maintains the character and intent of the Action Alternatives. Expected density and building heights may decrease, reducing any height, bulk, or shadow impacts. The plan objectives would be met in similar ways to the action alternatives. However, by removing the Thrasher's Corner area north of Maltby Road from the RGC, the plan is less likely to directly impact policies about connecting to the neighborhoods just north of the study area and investing in a signature space north of Maltby Road.

Specific transportation improvements included in this alternative may impact development. Additional lanes at intersections may have construction impacts and long-term impacts to business access and circulation. The potential for park-and-rides north and south of the RGC to capture riders before entering the most congested segments of SR 527 may have beneficial aesthetic impacts.

### **Regulations and Commitments**

- The City of Bothell Municipal Code includes zoning standards controlling height, setbacks, landscaping, and other features intended to help create development that is compatible with the intent of the zones.

### **Other Proposed Mitigation Measures**

- The City could require stepped-down heights or shade/shadow studies if development would have the potential to adversely affect public parks, trails, and open spaces.
- The City could apply development and design standards to any park-and-ride development to be mixed-use, transit-oriented development with active edges on sides facing important paths.

### **3.3.4 Significant Unavoidable Adverse Impacts**

Over time, redevelopment will occur, even under the No Action Alternative, as older structures are replaced and property owners increase development to take full advantage of the capacity allowed by zoning. Under all alternatives, increased development in the study area would create a more urban character and more intensive development pattern, and public spaces would experience increased shading from taller buildings.

The overall character, significance, or magnitude of visual impacts on the analysis area depends largely on the quality of the architectural and urban design features incorporated into the development, the degree to which the overall scale and form of the development incorporates features of the local setting, and the values and preferences of those viewing the change. With proposed mitigation, particularly through implementation of design guidelines addressing height and bulk, development would meet the City's vision and standards for the Canyon Park Regional Growth Center, a place targeted for additional development and infrastructure investment. However, views and character will change under either Action Alternative compared to current conditions.

## 3.4 Socioeconomics

### 3.4.1 Affected Environment

#### Overview

The study area for the Canyon Park Subarea Plan represents a major regional employment hub in the City of Bothell. The primary focus of this has been the Canyon Park Regional Growth Center (RGC) located within the area, which was designated by PSRC in 1995. This has meant that the neighborhood has been identified to help fulfill regional targets for both residential density and employment intensity in the city and county. To date, significant employment has been supported by the 300-acre Canyon Park Business Center, including light manufacturing and scientific businesses related to biotechnology and medical equipment. The Thrasher's Corner Community Activity Center to the north also provides significant neighborhood and regional commercial uses at the junction of SR 527 and SR 524.

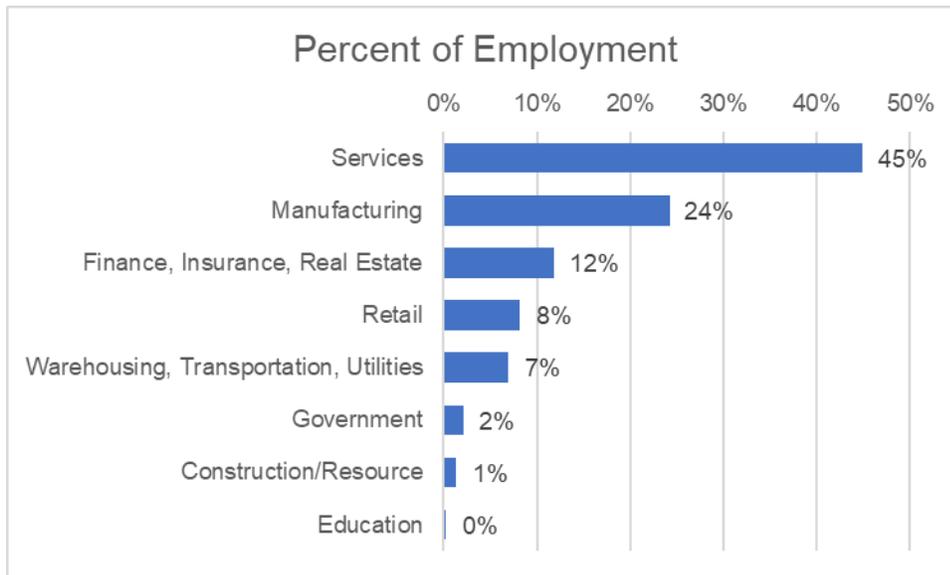
The role of the Canyon Park neighborhood in the economy of Bothell is expected to evolve over time. Expected changes in regional transportation systems will provide more accessibility for the Canyon Park neighborhood, and there is capacity to support additional population and employment growth in the area into the future. This also means that the types of land uses and patterns of development will change over time. Understanding the current conditions for real estate, development, and economic activity is essential in guiding future growth in this area to maintain and enhance the benefits of this job center while taking advantage of other opportunities for residential and institutional development.

This section provides information related to the current market conditions and local employment in the study area. This includes:

- Information on current policies and plans applicable to employment and real estate development in this area.
- Key market and development characteristics related to economic activity and future growth.

#### Employment and Industries

The total employment of the study area was estimated to be approximately 11,767 jobs in 2017 according to employment estimates, or about 38% of the total employment in the City of Bothell (PSRC, 2017). A breakdown of employment in the study area by sector is provided in Figure 61.

**Figure 61. Proportion of Local Covered Employment by Major Sector, 2017**

Source: PSRC, 2017.

Major employers in the area include:

- Philips/Advanced Technology Laboratories, Inc. (medical ultrasound systems)
- Seattle Genetics (biotechnology and cancer therapy)
- Romac (water and wastewater pipe products)
- AGC Biologics (biotechnology and protein-based therapeutics)
- Pacific Medical Centers (healthcare services)
- Juno Therapeutics (biotechnology and manufacturing)
- Astarte Biologics (biotechnology and medical research product manufacturing)
- Leviton Network Solutions (home electronics)
- US Food and Drug Administration (regulatory agency)
- Ventec Life Systems (medical product manufacturer and respiratory care)
- T-Mobile (phone and telecommunications)
- Element (materials testing)
- Fred Meyer (general retail)

Key characteristics of local employment in the study area include the following:

- This area includes a distinct biotechnology cluster, with a significant proportion of employment in the area in both manufacturing and professional/technical services. These activities are related primarily to the production of biotechnology and medical products, including therapeutic treatments in oncology and immunology. Recognizing the specific needs of businesses in this cluster and developing new amenities and

services to support these industries can help to promote the economic health of this job center.

- A wide spectrum of other businesses is also located within the Canyon Park Business Park, which is situated inside of the broader study area. Many of the uses found in the Business Park are likely drawn by the need for flex space and available rents. These include businesses such as See Kai Run (children's clothing), Bothell Gymnastics Club (children's athletics), Grand Event Rentals (party equipment rental), 3Wire Group (food service equipment repair), and Xcelerate Driving School (driving education). An evolution towards higher quality office space in this area could potentially displace these types of businesses, especially as many rely on the lower leasing costs of flex space in the Business Park.
- Retail commercial businesses in the study area are found primarily in centers close to the SR 527 / I-405 junction and to the north of the study area in Thrashers Corner. However, these businesses are not well connected to much of the Business Park, and there are limited retail and restaurant offerings found within the Business Park itself.

### Real Estate Market Data

A summary of the total amount of commercial real estate in the study area is provided in Table 29. Information on the real estate market conditions for the area is provided in Figures 62 and 63, with 5-year average growth rates of lease rates provided in Table 30. Comparisons to these local conditions are provided using broader statistics from the Seattle metro region.

Key elements from these real estate statistics include the following:

- The primary role of the Canyon Park area has been a job center, accommodating business activity in available office and flex space in the neighborhood. Rents for office space tend to be slightly lower, with slightly higher than average rents for flex space. The area has a notable number of scientific, research, and light manufacturing uses that may require a larger amount of cheaper space.
- Flex space in the study area, which largely accommodates light manufacturing and professional and scientific service businesses in the area, draws slightly higher rents than regional market averages, but has consistently had higher vacancy rates than other flex space in the regional market.
- Office space in the Canyon Park area tends to have lower rents than the regional average. While vacancy rates have generally been higher, these rates were lower than regional averages for 2014–2016 and have very recently declined below the regional average.
- Vacancy rates for retail space in the area have been consistently lower than the regional average, with rents higher than the regional average. This development type is primarily associated with the uses to the north of the study area along SR 527, within and just outside of Thrashers Corner.

- Overall, growth in local lease rates over the past five years has been notable but slightly lower than the regional average, especially with respect to office space. While this can help to support tenants who require lower cost spaces, it may also indicate that this area may be less competitive in attracting higher-end tenants into available spaces.
- Local retail rents suggest a higher likelihood that mixed-use development in the neighborhood could be feasible and profitable, especially with restaurant and retail uses that complement existing uses in the area.
- Plans to promote new development in the neighborhood should balance the appeal of more intensive mixed-use development with the need to retain affordable space for businesses like the current tenants of the Business Park and surrounding areas. The conversion of flex space and increases in rents could result in the loss of affordable space for tenants, including startups and small businesses, and increase turnover in the area.

**Table 29. Commercial Inventory Square Footage, Canyon Park Study Area, 2019**

Real Estate Type	Total Square Footage	% of Total
Flex	2,326,369	43%
Office	1,632,064	30%
Retail	742,103	14%
Industrial	421,594	8%
Other	338,598	6%
<b>Total</b>	<b>5,460,728</b>	

Source: CoStar 2019.

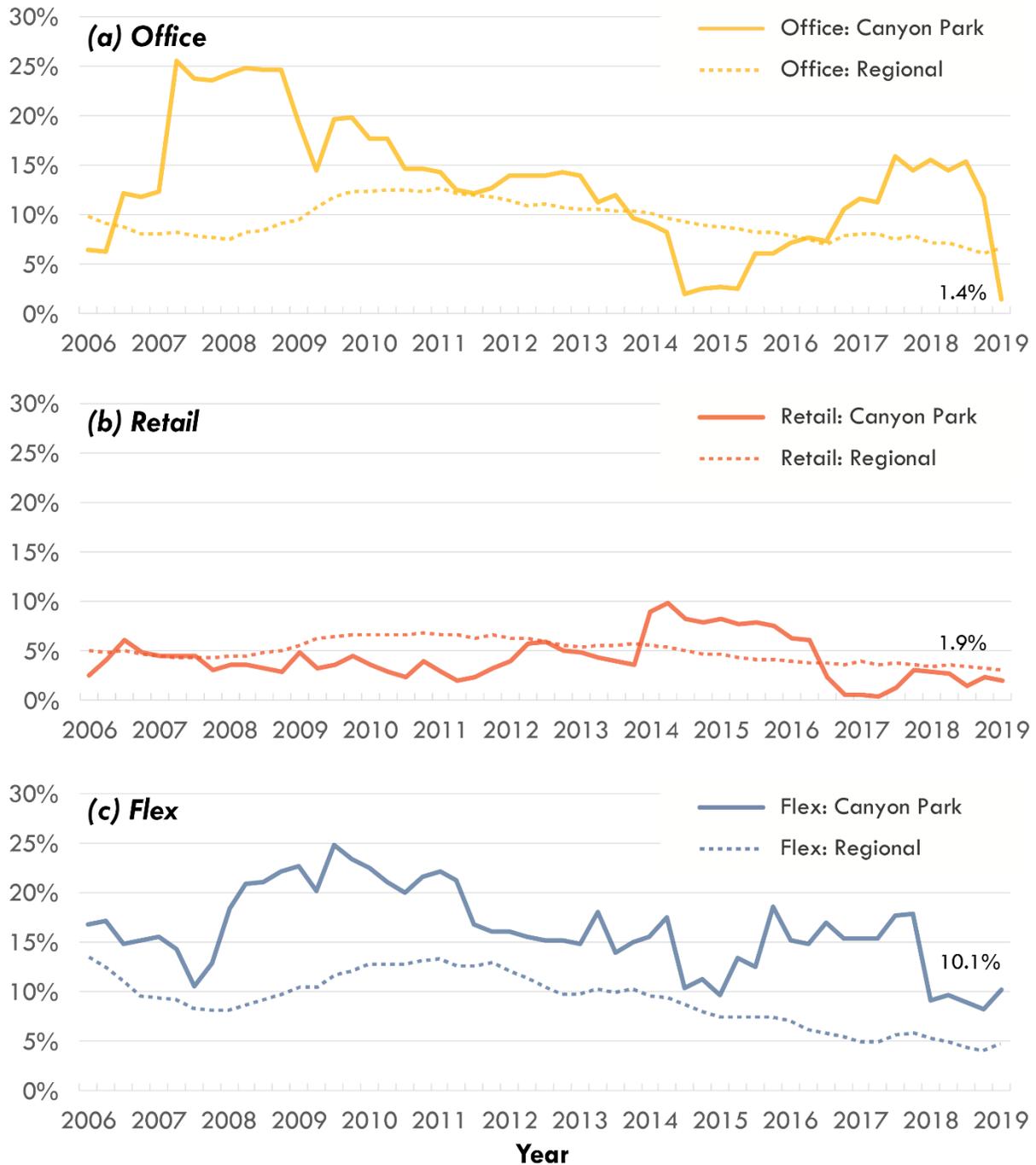
**Table 30. Lease Rates and Growth, Canyon Park Study Area and Region, 2019**

Type	Study Area		Region	
	5-Year Growth Rate	Average Rent/SF, 2019Q1	5-Year Growth Rate	Average Rent/SF, 2019Q1
<b>Flex</b>	4.2%	\$19.22	5.0%	\$17.58
<b>Office</b>	4.6%	\$29.88	6.3%	\$35.72
<b>Retail</b>	3.7%	\$28.45	3.9%	\$23.78

Source: CoStar 2019.

Figure 62. Vacancy Rates, Study Area and Region, 2006–2019

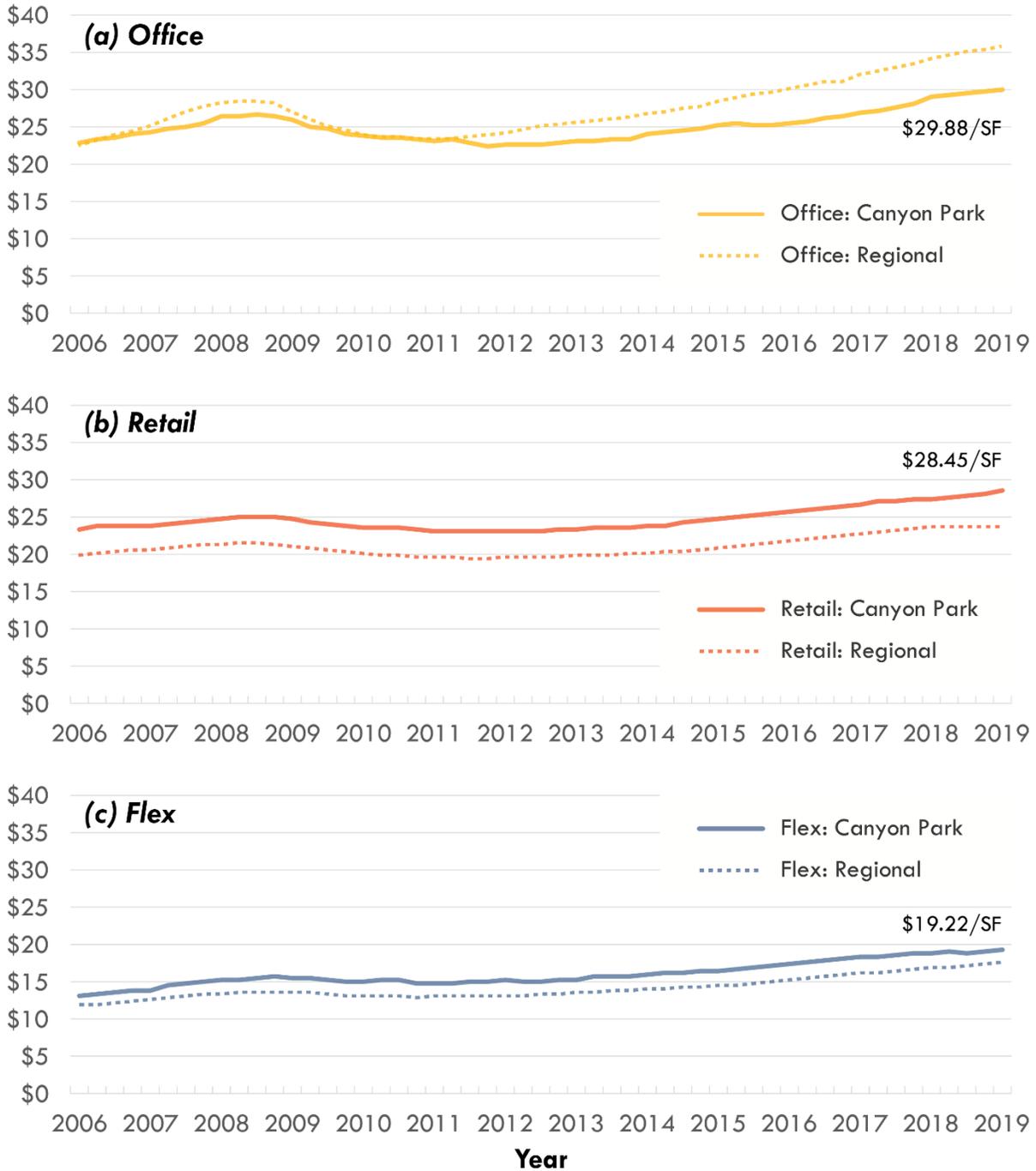
**Vacancy Rate**



Source: CoStar, 2019.

Figure 63. Rent Rates Per Square Foot, Study Area and Region, 2006–2019

Rent / SF



Source: CoStar, 2019.

## Land Ownership

A map of land ownership in the study area is provided in Figure 64. Major owners of property in the study area include the following in Table 31:

**Table 31. Major Property Owners, Study Area**

Property Owner	Acres
Canyon Park Business Center Owners Association	85.9
City of Bothell	74.6
Advanced Technology Laboratories, Inc.	57.1
Canyon Park Owners LLC	50.3
BRE WA Office Owner LLC	36.9
Essex Portfolio LP	30.5
Teachers Insurance & Annuity Association	28.4
Olson Management Group LLC	18.9
EQR-Fanwell 2007 LP	18.1
CPBC 43OS LLC	17.2
Northshore School District #417	16.2
Canyon Park ROMAC LLC	16.0

Source: Snohomish County Department of Assessments, 2018.

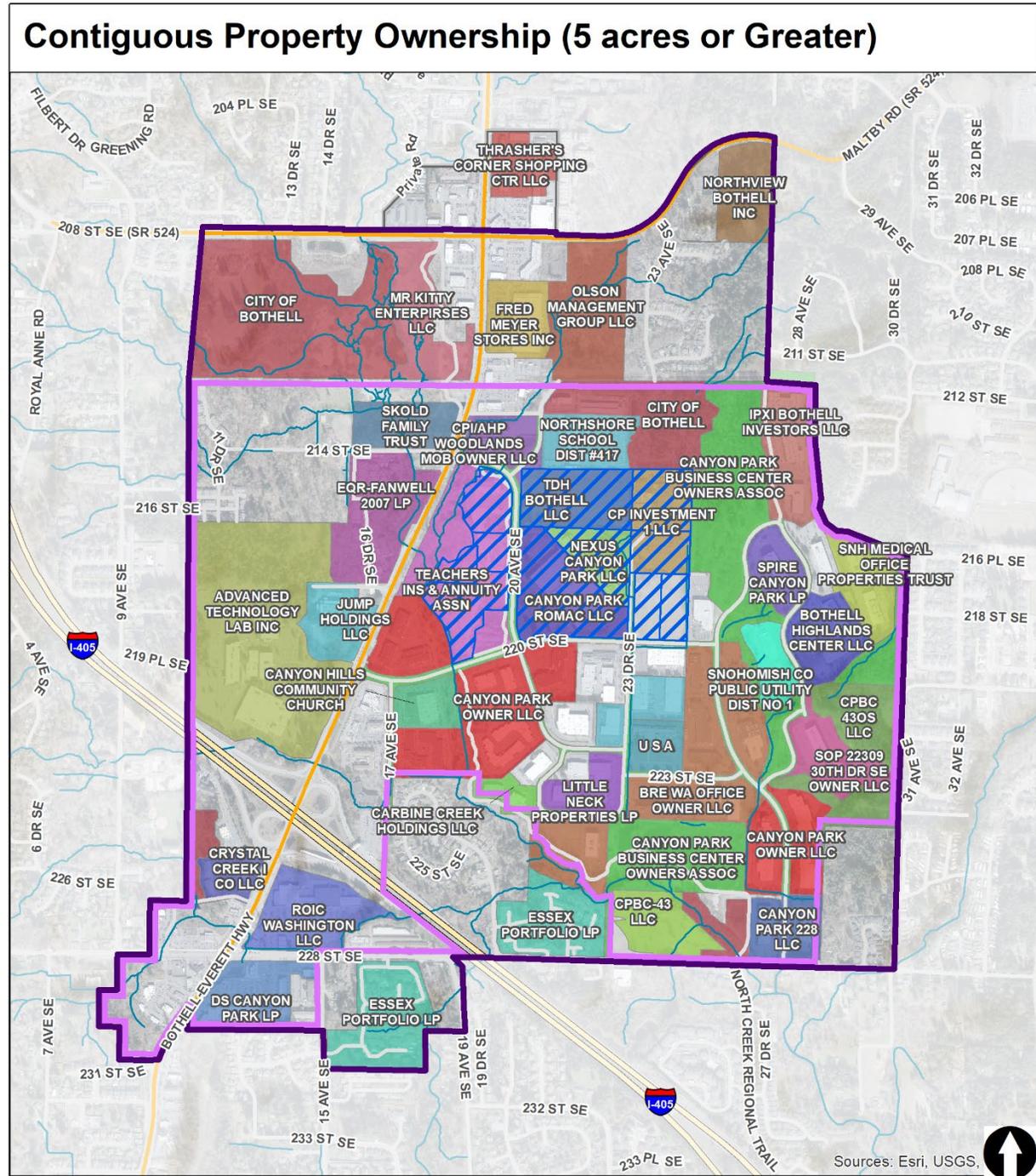
Current property ownership patterns indicate the following:

- The City of Bothell is the largest public land holder in the area. These properties include Centennial Park, the City Operations Center, and areas around North Creek. Other institutional landowners are also present in the area, including the Northshore School District, Snohomish Public Utility District No. 1, the US Food and Drug Administration, and the Washington State Department of Transportation.
- The Canyon Park Business Center Owners Association is the largest private landholder in the area, with about 86 acres of land within the study area. These lands reflect a significant portion of land within the Canyon Park Business Park and include a significant portion of the land that would likely redevelop as part of revised planning for this area.
- The second-largest private property holder in the area, Advanced Technology Lab Inc., currently holds the Phillips site in the western portion of the subarea. Although these holdings are significant, there are wetland and critical area concerns on this site that may limit future expansions of facilities on these properties.
- In addition to the Phillips site, there are several other properties in the area that are owner-occupied. This includes the 16-acre ROMAC property and other smaller

properties within the Canyon Park Business Center. Businesses on owner-occupied sites are less impacted if rents in the area increase, and they are more likely to remain given this type of shock in the local market.

- Although the Canyon Park Business Center Owners Association and other local real estate owners are major landholders in this area, there are several properties that are also controlled by regional and national real estate investment companies. This includes the largest holder of commercial rental property in the study area: BRE WA Office Owner LLC, a subsidiary of Equity Office Properties Trust.
- Companies in the area also control a significant amount of residential property in the study area, including Equity Residential and Essex Portfolio LP, which hold major multifamily developments.

Figure 64. Property Ownership, Contiguous Properties of Five Acres or More



Canyon Park Subarea

Source: City of Bothell, 2018.

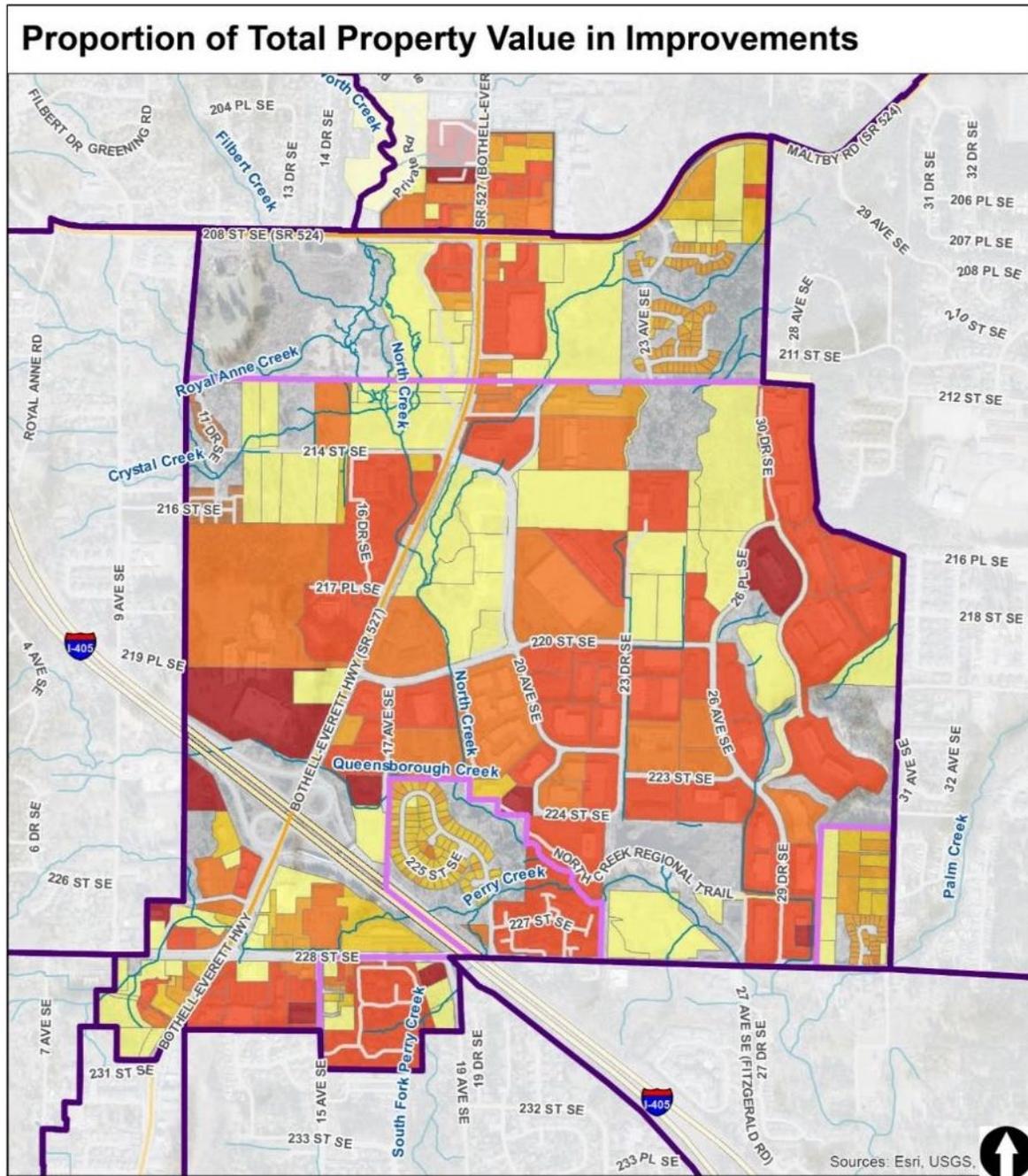
## Land and Building Value Assessment Ratios

Figure 65 provides an assessment of the proportion of the total value of a developed site determined to be from improvements. This is intended to show sites where lower levels of improvement value would suggest development and/or redevelopment opportunities.

The distribution of improvement value in the area indicates the following:

- There are underbuilt parcels located within the Business Park towards the center of the study area. Note that these sites are where residential development is now permitted under the Covenants, Conditions, and Restrictions (CC&Rs) for the Business Park and include sites where development applications are currently approved or interest in development has otherwise been expressed (CP Investment #1 and Teachers Insurance and Annuity Association sites, respectively).
- Of the commercial parcels in the area, developed properties generally have assessed improvement values (i.e., value of structures) that constitute greater than 50% of the total assessed value of the parcel. This suggests that under the current real estate market, existing improvements represent higher and better uses that will not likely change in the short-term. This may change based on longer-term trends and investments in the neighborhood, such as with the addition of BRT along SR 527 and I-405, and with possible future investment in neighborhood amenities.
- The existing Canyon Park Office Center property to the north of the current park-and-ride is a Class B office space built in 1990 that has a higher proportion of building improvements as a share of total property value. At present, this site would be more challenging to redevelop than other locations, especially without increases in allowable development intensity above current zoning regulations. However, improved transit access could provide a significant increase in value and present a possible driver for future redevelopment.

Figure 65. Proportion of Total Assessed Property Value in Assessed Improvement Value, 2018



### Canyon Park Subarea

0 0.1 0.2 0.4 Miles

- Canyon Park Subarea
  - Regional Growth Center
  - Additional Area to Include in Study
  - Rivers and Streams
- Improvement Value/Total Value**
- 0-20%
  - 20-40%
  - 40-50%
  - 50-65%
  - 65-85%
  - 85-100%

Source: Snohomish County Assessor, 2018; BERK, 2018.

## 3.4.2 Impacts

### Thresholds of Significance

This analysis identifies significant impacts using the following thresholds:

- Insufficient capacity to relocate displaced dwellings and population.
- Insufficient production of dwellings needed, including affordable units.
- Changes to employment mix resulting in involuntary economic displacement by businesses.

### Impacts Common to All Alternatives

All alternatives provide capacity for housing, population, and employment growth; see Table 32. Most properties are already developed; there are 1,376 dwellings, about 3,079 persons, and about 11,767 jobs.

There is a potential for displacement of existing jobs and to a lesser extent housing, but there is capacity to retain or replace existing housing or jobs since most sites are partially developed with space for added floors or added structures. See Figure 37 for a map of developable lands (page 3-38).

**Table 32. Net Growth Capacity by Alternative, Full Study Area**

Alternative	Dwelling Capacity	Increase Above Existing	Population Capacity	Increase Above Existing	Job Capacity	Increase Above Existing
<b>Existing</b>	1,376		3,079		11,767	
<b>No Action</b>	2,242	163%	4,484	146%	4,787	41%
<b>Mitigated Live/Work</b>	3,614	263%	5,496	178%	9,805	83%
<b>Business Plus</b>	2,915	212%	4,468	145%	17,350	147%
<b>Live/Work</b>	4,726	343%	7,188	233%	15,284	130%

Sources: Existing Housing and Population - ESRI Business Analyst 2018; Existing Jobs – PSRC, 2017; Capacity of Alternatives: BERK, 2019.

About 3,800 jobs were estimated on sites considered developable (vacant, partially developed, and redevelopable) using employee rates in the 2012 Buildable Lands Report. These developable sites are mapped on Figure 37. It is possible that current jobs could be displaced if new development does not replace the space they occupy. However, capacity numbers are presented as net increases above existing; the presumption is that current employment space can be replaced and there could be additional jobs above existing levels.

**Table 33. Current Employment on Buildable Sites with Buildable Lands Assumptions**

Location	Acres	Current Employees
<b>Regional Growth Center (Current)</b>	<b>348</b>	<b>3,582</b>
Partially-Used	264	3,302
Pipeline	43	—
Redevelopable	22	247
Vacant	19	33
<b>Subarea (not RGC)</b>	<b>20</b>	<b>79</b>
Partially-Used	5	50
Redevelopable	2	26
Vacant	14	4
<b>Added Study Area</b>	<b>11</b>	<b>88</b>
Partially-Used	6	43
Redevelopable	4	44
<b>Total</b>	<b>380</b>	<b>3,749</b>

Source: Snohomish County Assessor, 2018; BERK, 2019.

Similar to sites with existing employment, 83 acres of the over 1,037-acre study area have existing residential uses that also have capacity for more population. Current population is not estimated.

**Table 34. Sites with Current Residential Uses that Have Capacity for More Population**

Study Area Location	Acres
<b>Regional Growth Center (Current)</b>	<b>22</b>
Partially-Used: Single Family & Multifamily Sites	21
Redevelopable: Single Family Sites	2
<b>Subarea (not RGC)</b>	<b>57</b>
Partially-Used: Single Family & Multifamily Sites	53
Redevelopable: Single Family Sites	4
<b>Added Study Area</b>	<b>3</b>
Partially-Used: Multifamily Sites	3
<b>Total</b>	<b>83</b>

### Impacts of No Action Alternative

The No Action Alternative would increase dwellings by 163% over existing dwellings and add only 28% more jobs. See Table 32. This alternative would have capacity to

accommodate another 4,500 people and an additional 4,800 jobs, the least of the studied alternatives. Growth assumptions under the No Action Alternative would essentially apply past trends forward; while the zoning code allows multi-story business and residential uses, the area is generally low-rise.

The amount of land that is developable or redevelopable includes nearly the entire study area, per Figure 37. There is potential for displacement of current housing and jobs as identified under Impacts Common to All Alternatives. However, the City's zoning standards allow more stories of development on developable sites than currently exists; the current housing and jobs could be replaced, and more growth could be added.

The No Action Alternative would retain current allowances for density, with the maximum number of dwelling units limited only by site and building envelope design regulations. With no minimum density applicable to multifamily/commercial combination zoning districts, such as is prevalent in the study area, land may be used less efficiently, such as for townhomes. There are no existing affordable housing incentives or requirements. Housing developed in the study area has been offered at market rates. While there are private covenants, codes, and restrictions that limit residential uses in some areas, the R-AC zoning most prevalent in the study area allows residential uses, and there is moderately dense residential development approved or in the permit pipeline in the central study area competing for the same land that businesses would potentially pursue for new or expanding businesses.

The No Action Alternative would retain current building dimensional standards, and no minimum floor area ratio would be required. The generally low- and mid-rise character of the area would remain.

### **Impacts of Business Plus Alternative**

The Business Plus Alternative would increase dwellings by 212% over existing units and result in a 147% increase in jobs. This alternative would provide the most jobs of any alternative. Greater private investment is anticipated in response to the revised development regulations and improved streets, parks, and other infrastructure. Development would also be incentivized by facilitated permit review under the Planned Action Ordinance.

There is a potential for displacement of current housing and jobs as identified under Impacts Common to All Alternatives. However, the Business Plus Alternative would change height, floor area ratios, density, parking rates, and other standards to increase opportunities for job and housing investments. With some minimum floor area ratios and investment in infrastructure and amenities, more employment growth is projected. Employment type is anticipated to include more multi-story office and greater intensity of manufacturing and retail. See Table 35.

**Table 35. Capacity for New Jobs and Mix—Business Plus Alternative**

Total Employment*	Retail	Office	Manufacturing
17,350	2,270	11,206	3,873

\*Subject to rounding.

Source: BERK, 2019.

As noted in the affected environment, flex rents in this area are generally lower than the regional average, and businesses may be vulnerable to increases in lease rates if more services and higher-quality amenities are offered. There is a potential that smaller businesses could be replaced by larger businesses as older buildings are redeveloped with new buildings. To reduce displacement due to economic factors, the Business Plus Alternative would include requirements for variety in business space sizes.

Depending on market forces and a tight housing supply in the region, housing could replace employment uses in areas allowing mixed-use development. The Business Park Alternative would remove residential as a permitted use from business-oriented areas such as on the central and east side of the subarea (a larger area in this Business Plus alternative than for Live/Work Alternative) to ensure that the vibrant employment uses in affordable building spaces can be retained.

The Business Plus Alternative would also create more capacity for housing with greater heights, reduced parking, and other standards that encourage more housing. The Subarea Plan and regulations would require affordable housing or a fee in-lieu similar to requirements for Downtown and SR-522.

### Impacts of Live/Work and Mitigated Live/Work Alternatives

The Live/Work Alternative would increase dwellings by 343% over existing units and increase jobs by 130%. The incentives and investments that would attract new growth under the Live/Work Alternative are similar to the Business Plus Alternative.

Similar to the Business Plus Alternative, the potential for displacement of current jobs and housing is low under the Live/Work Alternative. The alternative adds capacity for uses on top of existing space, and uses can be retained or relocated. A minimum floor area ratio for business uses and minimum densities would ensure efficient use of land and increased opportunities for jobs.

The total number of retail, office, and manufacturing jobs is higher than the No Action Alternative. The mix of jobs is different than the Business Plus Alternative because of a higher amount of retail associated with the greater extent of mixed-use residential development. The number of manufacturing jobs would be similar to the Business Plus Alternative, and there would be less office jobs than for the Business Plus Alternative as there would be more upper-story residential in the Live/Work Alternative. See Table 36.

**Table 36. Capacity for New Jobs and Mix—Live/Work Alternative**

	Total Employment*	Retail	Office	Manufacturing
<b>Mitigated Live/Work</b>	<b>9,805</b>	1,961	4,742	3,102
<b>Live/Work</b>	<b>15,284</b>	3,775	7,448	4,062

\*Subject to rounding.  
Source: BERK, 2019.

The Live/Work Alternative provides the greatest capacity for housing and assumes more locations would develop with mixed-uses along the BRT station areas and in shopping centers. This Alternative would allow greater heights, reduced parking, and other standards that encourage more housing. The Subarea Plan and regulations would require affordable housing or a fee in-lieu where development capacity increases, and incentives for affordable housing elsewhere.

The Mitigated Live/Work Alternative would provide more jobs and population than the No Action Alternative and more population than the Business Plus Alternative. Additional discussion is provided under Mitigation Measures.

### 3.4.3 Mitigation Measures

#### Incorporated Plan Features

- The No Action Alternative does not cap density. The Action Alternatives would alter development standards (e.g., height and parking) to allow greater densities.
- The Action Alternatives include a subarea plan and regulations that could require affordable housing or in-lieu fees where development capacity increases. The City could require affordable housing similar to its requirements for Downtown and SR 522 corridor.
- The Action Alternatives would include limits on residential uses in some locations to protect core business areas.
- The Action Alternatives promote infrastructure investments and amenities to support current and future residents and employees.

#### Mitigated Live/Work Alternative

The Mitigated Live/Work Alternative is similar to the full Live/Work Alternative in pattern and share of population and jobs, except that the RGC boundary would be smaller and the growth levels would be less though greater than the No Action Alternative.

The Mitigated Live/Work Alternative would increase capacity for housing by 263% above existing dwellings. As with other Action Alternatives, there would be new policies and

regulation designed to require affordable housing similar to the Downtown and SR 522. There would be 83% more jobs with the highest share for office, moderate shares for manufacturing, and the least for retail. There is sufficient capacity to provide replacement space for existing businesses.

### **Regulations and Commitments**

- The Bothell zoning code guides the development of employment and housing uses through heights, setbacks, and other requirements.

### **Other Proposed Mitigation Measures**

- The City could consider offering incentives to developers that retain current businesses for a period of time or that offer business relocation assistance.
- The City could offer a multi-family tax exemption (MFTE) in the Canyon Park Subarea.
- The City could explore a program to ensure affordable office, manufacturing, and retail spaces are available. The programs could consider financial incentives (e.g., tax abatements equivalent of the MFTE), technical assistance and outreach, or the integration of office/retail affordability with density or floor area ratio incentives.

### **3.4.4 Significant Unavoidable Adverse Impacts**

Under all alternatives, additional growth may occur in the study area, leading to an increase in building height and bulk and development intensity over time, as well as the gradual conversion of single purpose, low-intensity uses to higher intensity mixed-use development patterns. This transition may be unavoidable but is not significant and adverse since this is an expected characteristic of a mixed-use center.

As the area develops, there may be displacement of existing jobs; however, there is sufficient employment space under any alternative to relocate businesses and thus there are no significant unavoidable adverse impacts. Though rents may increase for relocated businesses within the study area, the customer base may also increase. Retail and service jobs are anticipated to serve increased office and industrial workers. Potential growth in housing may create more potential customers for retail businesses and more opportunities for residents to live near their work.

Under all alternatives, displacement of existing residents in the study area is possible as land is redeveloped. However, since there is limited underutilized or redevelopable land with residential units and the potential is low. All alternatives, particularly the Live/Work Alternative, would substantially increase the capacity for housing that could better meet demand. Increasing affordable housing programs, incentives for developers to provide units affordable to a wide range of income groups, and investment in affordable housing development would partially offset affordability pressures in the city and for employers in the area, as well as meet affordable housing goals.

## 3.5 Transportation and Greenhouse Gas Emissions

### 3.5.1 Affected Environment

This section summarizes the transportation conditions for the Canyon Park Subarea, including a detailed discussion of conditions for auto, freight, transit, bike, and walking modes and a summary of relevant transportation plans and policies. The road network in the study area and RGC are shown in Figure 66.

#### Overview

Vehicle travel through the area is mostly served on three main roadways: SR 527 is a north-south trending state facility that connects Bothell to communities to the north such as Mill Creek and Everett. Two east-west trending roadways connect Canyon Park to Maltby to the east and Mountlake Terrace/Lynnwood to the west: SR 524 along the northern border of the study area and 228<sup>th</sup> Street SE along the southern edge of Canyon Park. The subarea is also divided by I-405 which has an interchange with SR 527 at the southwest portion of the subarea. The area currently experiences heavy vehicle congestion during commute hours from 1) people traveling through the area to access regional facilities for longer distance trips, and 2) people traveling to this mostly employment-oriented business park. In addition, the business park is limited to three signalized access points (214<sup>th</sup> Street and 220<sup>th</sup> Street from SR 527, and 29<sup>th</sup> Drive SE from 228<sup>th</sup> Street SE).

Within the business park, all internal roads<sup>3</sup> were established as privately owned with a stipulation that they would become public upon completion of the business park. These private roads were constructed in the 1980s and likely do not meet City standards. The City and the Canyon Park Business Center Owner's Association are currently discussing the potential of converting some of these private streets into public rights-of-way. While the area has limited connections to the City's street system, it does offer amenities such as sidewalks on at least one side of most roadways, which in many cases include landscape buffers from vehicle traffic. Sidewalk conditions likely depend on how recently buildings on the adjacent parcels were built or redeveloped. The study area also includes the multi-use North Creek Regional Trail (with plans for future connections to the north), a transit park-and-ride served by local and regional express transit routes. There are future plans for the subarea to be served by enhanced transit service provided by Community Transit and Sound Transit. In addition, WSDOT will construct I-405 direct express toll lane access ramps from the SR 527 interchange to 17<sup>th</sup> Avenue SE within Canyon Park. I-405 toll lane users could now be directed in and out of Canyon Park. This project was assumed in all future analysis scenarios.

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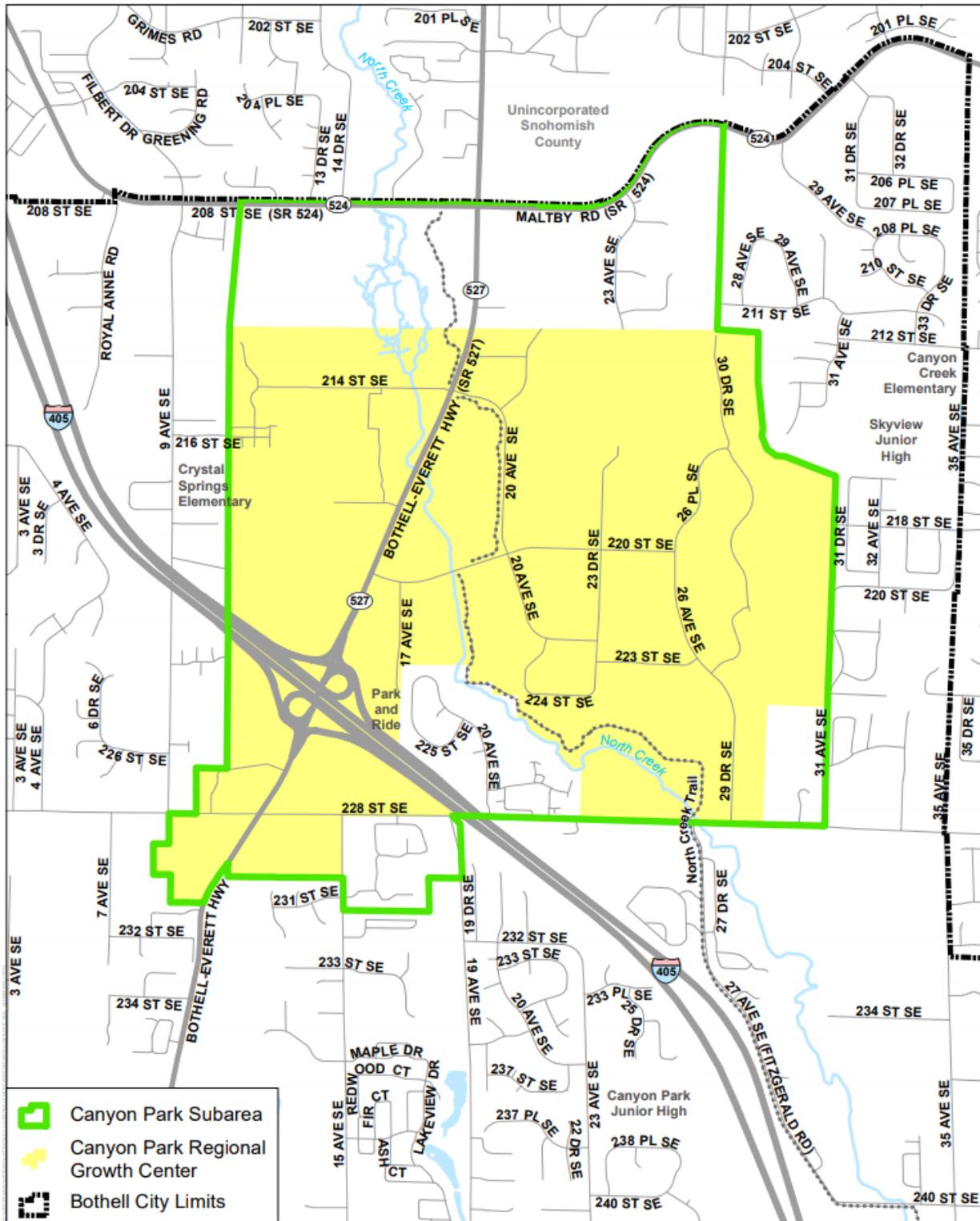
<sup>3</sup> See Appendix B for a map of the private streets, Exhibit 22. Rights-Of-Way, Canyon Park, 2017.

Transportation conditions in the subarea are summarized below:

- Major roadways through the subarea have recurrent, peak hour commute congestion.
- Within the business park, low volume streets generally provide a pleasant walking experience. Low volume streets can also provide a lower stress biking experience; however, the only dedicated bicycle facility is the North Creek Trail, which traverses diagonally through the business park. Despite speed limits of 25 mph, wide travel lanes and congestion on the roadway system outside of the business park may encourage drivers to speed through the business park, detracting from walking and biking safety and comfort.
- During the weekends/evenings, streets within the business park may be empty due to lack of residential units, little activity, and limited street connectivity.
- Lack of connectivity within the business park and to the adjacent street network contributes to the imbalanced network of congested major streets and quiet, sometimes empty, internal roads.

More detailed information is provided in the following subsections.

Figure 66. Study Area Public Road Network



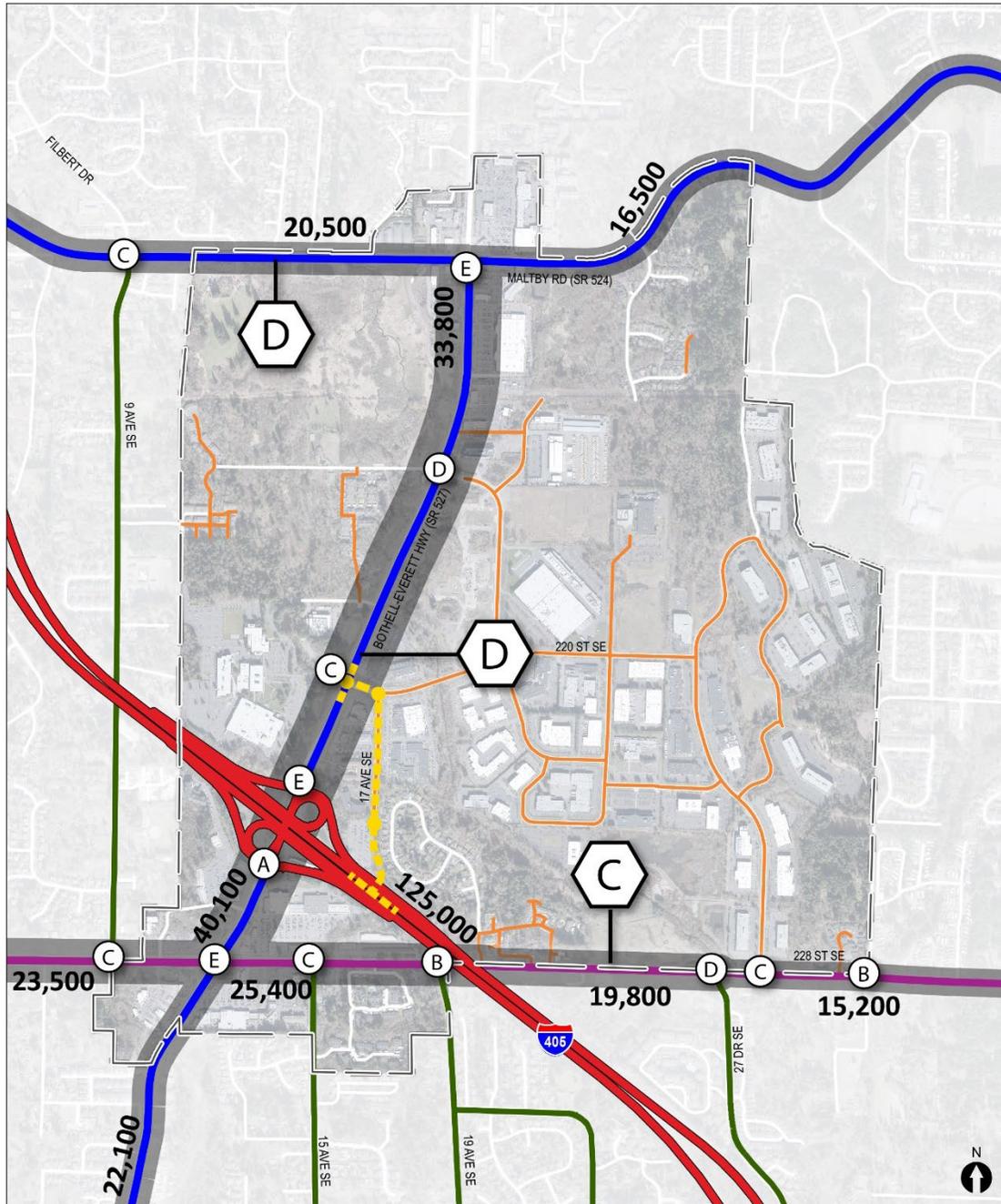
Note: Figure 67 includes private rights-of-way as well as the public street network functional classifications.  
 Source: City of Bothell, 2017.

## **Street Network**

A map of the City's street network, 2015 intersection and corridor LOS, and functional classification system is shown in Figure 67. The Canyon Park Subarea is generally bounded by 9<sup>th</sup> Avenue SE (collector road to the west), SR 524 (principal arterial to the north), 228<sup>th</sup> Street SE (minor arterial to the south), and 31<sup>st</sup> Avenue SE (local street to the east). The SR 527/Bothell-Everett Highway (a principal arterial) traverses north-south through the study area, and the I405/SR 527 interchange is located in the southwest portion of the study area. Note that SR 527 is the only north-south route that traverses the entire subarea, thus most north-south travel is funneled along this route.

The internal Canyon Park Business Center roads are privately owned by the Canyon Park Business Center Owners Association. A separate conversation between the Owners Association and the City of Bothell is currently underway to identify what is necessary to convert those private access roads into public streets. Should that conversion occur, the internal roads would be modified with development to meet city standards for improved capacity and safe crossings. Table 37 describes in more detail the different roadway types.

Figure 67. 2015 Roadway Functional Classification and Traffic Volumes



Canyon Park Roadway Classification & Traffic

- Limited Access Highway
- Principal Arterial
- Minor Arterial
- Collector
- Private Rights-of-Way
- - - Future Express Toll Lane access and 220th St and 17th Ave improvements
- Line weight represents traffic volume
- Canyon Park Study Area
- Intersection LOS
- Corridor LOS
- #####** Avg Daily Vehicle Count (2017)

0 0.125 0.25 0.5 Miles

Source: *Imagine Bothell... Comprehensive Plan, 2015.*

**Table 37. Roadway Classifications**

Roadway	Description	Example	Photo
<b>Limited Access Highways</b>	State routes provide connections between cities and carry high volumes of traffic. They are grade separated and have limited access through ramps.	<ul style="list-style-type: none"> <li>▪ I-405</li> <li>▪ SR-522 (east of 112<sup>th</sup> Ave NE)</li> </ul>	
<b>Principal Arterial</b>	Principal arterials tend to carry the next highest volume of traffic. They serve regional through trips and connect Bothell with the rest of the region.	<ul style="list-style-type: none"> <li>▪ SR-527/Bothell-Everett Highway</li> <li>▪ SR-524/Maltby Road/S 208th St</li> <li>▪ SR-522/ Bothell Way</li> </ul>	
<b>Minor Arterial</b>	Minor arterials are designed for higher volumes, but they tend not to be major regional travel ways. Minor arterial streets provide inter-neighborhood connections.	<ul style="list-style-type: none"> <li>▪ 228<sup>th</sup> St SE</li> <li>▪ Beardslee Blvd</li> <li>▪ 120<sup>th</sup> Ave NE</li> <li>▪ Meridian Ave S</li> </ul>	
<b>Collectors</b>	Collectors distribute trips between local streets and arterials and serve as transition roadways to or from commercial and residential areas. Collectors have lower volumes than arterials and must balance experience for all modes.	<ul style="list-style-type: none"> <li>▪ 9<sup>th</sup> Ave SE</li> <li>▪ Fitzgerald Rd</li> <li>▪ 27<sup>th</sup> Ave SE</li> <li>▪ North Creek Parkway</li> </ul>	
<b>Local Roads</b>	Local streets are the lowest functional classification, providing circulation and access within residential neighborhoods.	<ul style="list-style-type: none"> <li>▪ 104<sup>th</sup> Ave NE</li> <li>▪ 220<sup>th</sup> St SE</li> <li>▪ 96<sup>th</sup> Ave NE</li> <li>▪ 112<sup>th</sup> Ave NE</li> </ul>	

Source: Fehr & Peers, 2019; Google Maps, 2019.

## Auto/Freight

The study area is in a constrained location at the crossroads of I-405, SR 527, and SR 524, which each carry high volumes of regional and local trips. During the online public outreach portion of the Phase I visioning process, transportation access to and from the Canyon Park area was a frequently raised concern. See Appendix B.

Access to the business park is difficult because it is limited to three main access points: 220<sup>th</sup> and 214<sup>th</sup> Streets SE from SR 527 on the west side of the business park, and 29<sup>th</sup> Drive SE from SE 228<sup>th</sup> Street on the south side of the business park. All internal roads are privately owned and likely do not meet City standards. There are no motorized access points on the east side of the business park and only local business driveway access on the north side. The majority of people accessing the business park are thus funneled to three main access points via corridors that experience significant peak period congestion. During a site visit, long queues were observed on SR 527 traveling northbound as early as 3 pm. The 228<sup>th</sup> Street corridor also experiences long queues during peak periods.

### *Intersection and Corridor Level of Service (LOS)*

The City of Bothell uses a corridor LOS approach, which captures the average delay experienced by drivers over a length of roadway. Specifically, the City evaluates traffic congestion at the corridor level, as measured by the volume-weighted average delay of vehicles at individual intersections. The corridor LOS is more influenced by higher volume signalized intersections than lower volume intersections. The corridor approach provides the City some flexibility in identifying capital improvements along its most important arterial routes.

The City's Comprehensive plan reported on the performance (in terms of LOS) for seven major corridors, which are listed below. These corridors were selected because they represent the city's key principal and minor arterials that run along primarily high density/commercial corridors. The three bolded corridors are directly adjacent to the study area and were evaluated by authors in this study. A map of the study area corridors and the Comprehensive Plan's 2015 reported intersection and corridor LOS results are shown in Figure 67.

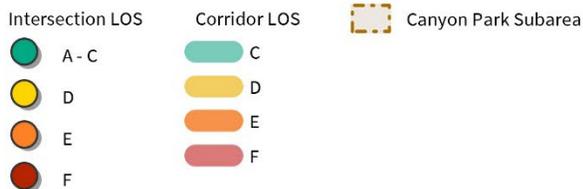
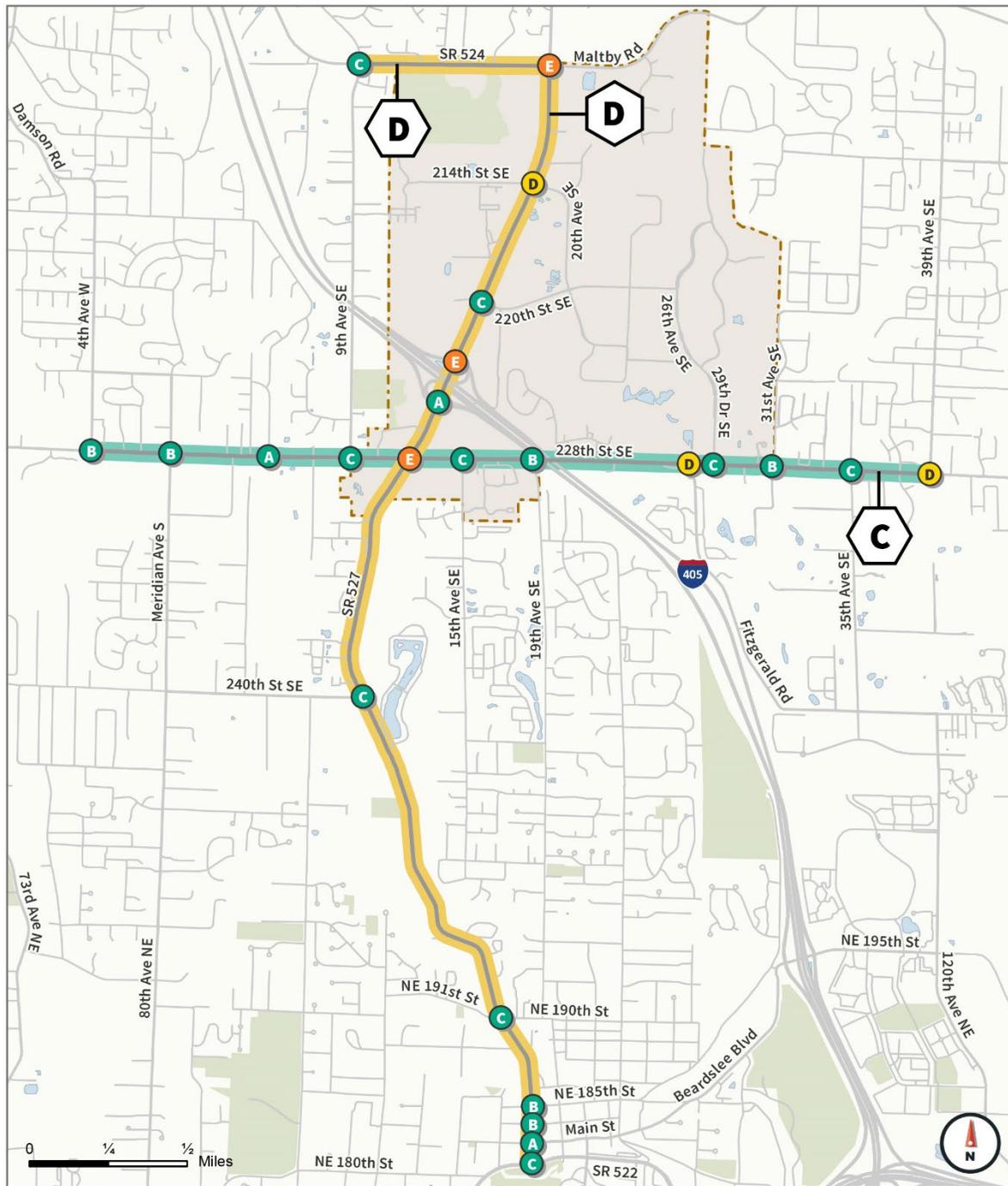
- 1. SR 524 (208<sup>th</sup> Street SE/Maltby Road) corridor between 9<sup>th</sup> Avenue SE and SR 527**
- 2. 228<sup>th</sup> Street SW/SE corridor between 4<sup>th</sup> Avenue W and 39<sup>th</sup> Avenue SE**
3. SR 522 (NE Bothell Way) corridor between 96<sup>th</sup> Avenue NE and Kaysner Way
4. Beardslee Boulevard/NE 195<sup>th</sup> Street corridor between NE 185<sup>th</sup> Street and 120<sup>th</sup> Avenue NE
- 5. SR 527/Bothell-Everett Highway/Bothell Way corridor between SR 524 and SR 522**
6. 39<sup>th</sup>/35<sup>th</sup> Avenue SE/120<sup>th</sup> Avenue NE/NE 180<sup>th</sup> Street corridor between SR 524 and 132nd Avenue NE
7. NE 145<sup>th</sup> Street/Juanita-Woodinville Way/NE 160<sup>th</sup> Street corridor between 100<sup>th</sup> Avenue NE and 124<sup>th</sup> Avenue

For this study, an updated corridor analysis was performed with PM peak hour traffic counts collected in 2018/2019. The results of this analysis are shown in Figure 68. The PM conditions for the three study corridors are similar to what was reported in the Comprehensive Plan's 2014 results: all three adjacent concurrency corridors operate between LOS C/D conditions, which meets the City's LOS E standard. Note that the 228<sup>th</sup> Street SE/29<sup>th</sup> Drive intersection is no longer operating at LOS F conditions since it was converted to a signalized intersection.

In addition to the City's corridor LOS policy, WSDOT has a LOS E standard for SR 527 and SR 524.

See Appendix C for intersection LOS results.

Figure 68. 2019 PM Peak Hour Study Intersection and Corridor LOS, Existing



**Canyon Park  
 Existing Level of Service (LOS)**

Source: Fehr & Peers, 2019.

Over the next 20 years, the traffic volumes on the concurrency corridors adjacent to the study area (228<sup>th</sup> Street SE, SR 527, and SR 524) are expected to grow 1-2% annually. The *Imagine Bothell...Comprehensive Plan* analysis anticipates that vehicle delays along all three adjacent corridors will increase, degrading to an average LOS E condition by 2035 (Figure TR-3B). While the corridors are expected to meet the City's LOS E standard through 2035, the following individual intersections near the subarea are expected to operate at LOS F during the peak hours by that horizon year:

- 228<sup>th</sup> Street SE/9<sup>th</sup> Avenue SE (experiences queueing delay from 228<sup>th</sup> Street SE/Bothell-Everett Highway)
- 228<sup>th</sup> Street SE/Bothell-Everett Highway
- SR 527/220<sup>th</sup> Street SE

Delays are also expected to be high at the SR 527/SR 524 intersection which is expected to operate at worse LOS E conditions.

**Figure 69. Example Northbound Queueing on SR 527 During PM Peak Hour (Looking Southbound)**



## Transit

Transit service is provided by Community Transit and Sound Transit along SR 527, 228<sup>th</sup> Street SE, and I-405. Service is provided between the study area and Downtown Bothell, UW Bothell/Cascadia College, Boeing/Everett, Mill Creek, Lynnwood/Edmonds Community College, Downtown Seattle, and Kirkland/Bellevue. The Canyon Park Park-and-Ride is located at the southwest quadrant of the business park with a freeway stop near I-405. The park-and-ride lot offers approximately 300 parking stalls, which are often nearly fully utilized (90% occupancy on a typical weekday). This park-and-ride lot sees the highest level of transit activity observed in the subarea. According to Community Transit, weekday

boardings and alightings at the park-and-ride's three bus bays have increased from approximately 630 combined in fall 2017 to nearly 1,000 in 2019.

**Figure 70. Canyon Park Park-and-Ride Transit Stop Near I-405**



Existing transit routes, stops, and average weekday boardings and alightings are shown in Figure 71. There are several Community Transit lines that serve the Canyon Park Park-and-Ride and nearby business park. Routes 105, 106, 120, and 435 all serve the park-and-ride and stop at 220<sup>th</sup> Street SE and 17<sup>th</sup> Avenue SE on the southwest edge of the business park. Routes 105 and 106 extend north to south from the Mariner Park-and-Ride/Hardeson Road in Everett to UW Bothell and Cascadia College. Route 120 operates east-west from the Edmonds Park-and-Ride in Lynnwood to the Canyon Park Park-and-Ride. Route 435 operates north-south through Canyon Park from Mill Creek to Downtown Seattle. As shown in the following figure, most of these transit routes travel southbound towards the Canyon Park Park-and-Ride through the business park on 20<sup>th</sup> and 17<sup>th</sup> Avenues SE, and then travel northbound on SR 527 away from the business park. Sound Transit Express routes 535 and 532 operate on I-405 from Bellevue to Lynnwood or Everett. Both routes have an I-405 stop at the Canyon Park Park-and-Ride. Existing and planned transit service is summarized in Table 38.

**Table 38. Existing and Planned Canyon Park Transit Service**

Route	Service Area	Peak Headway	Midday Headway
<b>105</b>	Hardeson Road – Bothell	30	30
<b>106</b>	Mariner P&R – Bothell	30	n/a
<b>120</b>	Canyon Park – Edmonds CC	30	30
<b>435*</b>	Mill Creek – Seattle	25	n/a
<b>532</b>	Everett-Bothell-Bellevue	15	n/a
<b>535</b>	Lynnwood – Bothell-Bellevue	30	30
<b>SWIFT Green Line</b> <i>(began March 2019)</i>	Canyon Park - Seaway Transit Center <i>(Future extension to Downtown Bothell/UW-Bothell)</i>	10	10
<i>Future I-405 BRT</i> <i>(starts 2024)</i>	<i>Lynnwood – Bothell – Bellevue</i>	<i>10</i>	<i>15</i>

\*Route 435 operates only during peak hours in the peak direction.

Source: Fehr & Peers, 2019; Community Transit, 2019.



Transit riders arriving at the transit station still need to access office buildings spread across the business park campus. It is an approximately 0.7 mile walk from the park-and-ride to the center of the business park, and over a mile walk to the northeast edge of the business park. Route 120 passes through the center of the business park with half-hour frequency throughout the week. One employer provides a circulating shuttle between the park-and-ride and various buildings in the business park to help solve this first-mile/last-mile problem.

**Figure 72. Community Transit Route within Canyon Park (Left); Internal Circulator Shuttle Stop in Northeast Area of Canyon Park (Right)**



Source: Fehr & Peers, 2019.

### **Facilities for Walking and Biking**

Figure 74 shows existing walking and biking facilities in the study area. There are sidewalks for people to walk on and bicycle lanes on SR 527, which help connect to the North Creek Regional Trail in the study area. Bicycle lanes are also available on the 228<sup>th</sup> Street corridor. While these facilities are available, it can be stressful riding a bike on a state route with five high speed travel lanes. During a site visit, few people were observed walking or biking on SR 527. Signalized crossings are available to access the business park at 220<sup>th</sup> and 214<sup>th</sup> Streets. Wait times and crossing distances can be long given traffic signal cycle lengths and the number of travel lanes at the intersection.

**Figure 73. Bike Lanes on SR 527 Adjacent to Canyon Park Business Park**

Source: Fehr & Peers, 2019.

Once inside the business park, the environment transitions from a heavily travelled auto corridor to a more pleasant atmosphere with landscaped buffers, sidewalks, and tree-lined corridors. Sidewalks (shown in green) generally exist throughout the business park on at least one side of most roads, though there are a few locations lacking sidewalks. The quality of the sidewalks varies depending on how recently adjacent buildings were built or redeveloped. For example, many places do not have accessibility design elements, such as truncated dome pads at curb ramps. As the internal streets are privately owned, expanding walkways requires Owner's Association coordination with individual property owners.

People walking and biking can also use the multi-use North Creek Trail, which traverses the study area (shown in dashed purple). Bike lanes are shown in blue and exist along SR 527, 228<sup>th</sup> Street SE, and on SR 524 west of SR 527. There is one missing connection of the North Creek Trail along 220<sup>th</sup> Street SE within the business park and significant root damage along some portions of the trail.

One of the challenges for people walking and biking through the area is limited wayfinding signage to help direct people to trails or destinations. The combination of the overall extent of the business park, limited signage, larger sized buildings on large parcels, and limited through streets within the business park can make it difficult for people to walk from one place to another.



**Figure 75. Examples of Walking and Biking Facilities in the Study Area**



Top: marked crosswalks; middle: North Creek Trail (with some trail damage from roots shown); bottom: sidewalks with landscaped buffers from vehicle traffic

## **Transportation GHG Emissions**

The transportation related GHG emissions analysis is qualitatively and quantitatively discussed. The future Action Alternatives are compared to the No Action Alternative in the following section.

## 3.5.2 Impacts

### Thresholds of Significance

Table 39 summarizes thresholds of significance for each transportation metric evaluated. The standard used to evaluate auto/freight facilities is a quantitative measure, whereas impacts on transit, pedestrian, and bicycle modes are addressed qualitatively.

There are no standard thresholds for evaluating transportation related greenhouse gas (GHG) emissions. For the purposes of this Draft EIS, transportation related GHG emissions per service population (residents and employees) in Canyon Park are calculated for each alternative, and an increase of 1% or more per person above the No Action Alternative is considered significant. The 1% threshold is chosen to highlight a change per service population under the Action Alternative when compared to the No Action Alternatives.

**Table 39. Transportation Analysis, Threshold of Significant Impacts**

Threshold of Significant Impact for EIS Analysis	
Auto/Freight	Average corridor operations degrade to LOS F, or average corridor delay is expected to be 1 second or more worse than No Action (if No Action is anticipated to operate at LOS F).  Concurrency intersections along SR 527 and SR 524 degrade to LOS F, or increase by 5 seconds of average delay or more than No Action (if No Action is anticipated to operate at LOS F).
<b>Multimodal LOS (for Planning Purposes only)</b>	
Transit	<i>Qualitatively discussed</i> An impact is defined if a project would preclude or fail to implement a City-identified transit improvement.  In the Canyon Park subarea, fewer than 90% of residential units are within ¼ mile of bus stop or 1.5 miles of the Canyon Park Park-and-Ride lot.  A project would preclude maintaining peak and off-peak transit frequencies. Transit service is inconsistent with PSRC transit criteria for regional growth centers.
Bicycle	<i>Qualitatively discussed</i> A project would preclude or fail to implement a City-identified bicycle improvement.
Pedestrian	<i>Qualitatively discussed</i> A project would preclude or fail to implement a City-identified pedestrian improvement.
<b>Transportation Greenhouse Gas (GHG) Emissions</b>	
Greenhouse Gas (GHG) Emissions	An Action Alternative results in a 1% or more increase in transportation GHG emissions per person compared to No Action.

Source: Fehr & Peers, 2019.

This Draft EIS transportation analysis is focused primarily on vehicle use of the surrounding public street system because 1) the public street system is the primary transportation system that moves people to, from, and within the study area, and 2) the City has a measurable level of service standard for comparison purposes. At this point of analysis, the key assessment should be the impacts to the larger public transportation system. Once a preferred alternative has been defined, including the level of proposed land use growth, implications to the business park's private street system can be addressed. Even though the private street system was not evaluated in this Draft EIS, the three main business park access intersections (214<sup>th</sup> Street SE/SR 527, 220<sup>th</sup> Street SE/SR 527, and 29<sup>th</sup> Avenue SE/228<sup>th</sup> Street SE) are evaluated consistent with the City's LOS standards to better understand potential access improvements needed. Because business park trips largely funnel through the three main access points to the corridors under study, it is anticipated that the private street evaluation at the time of the preferred alternative development may show that conversion to public streets better distributes trips along a more complete network; if so, the overall traffic congestion results are likely to be similar to or slightly better than the range of results in the Draft EIS.

Internal roads within the Canyon Park Business Park are currently privately owned by the Canyon Park Business Center Owners Association. A separate conversation between the Owners Association and the City of Bothell is currently underway to identify what is necessary to convert those private roads into public streets. Should that conversion occur, the internal roads would be modified with development to meet city standards for improved capacity and safe crossings.

## **Methodology**

### ***Auto/Freight***

#### ***Trip Generation***

Trip generation for each future year alternative was estimated based on proposed household and employment growth (see Table 40). The trip generation estimates were developed using Fehr & Peers MXD+ mixed-use trip generation tool, which considers multiple land use characteristics that influence travel behavior and better reflect expected vehicle trips generated by mixed-use developments. Factors considered in the analysis include diversity and density of land use, distance to transit, intersection density, and demographics such as vehicle ownership. Based on these inputs, the internal capture of trips (the number of trips that stay within Canyon Park) was estimated. It is important to note that Canyon Park uses are likely to generate fewer vehicle trips on the street network due to the mix and clustering of uses and the multimodal options that are anticipated by 2043.

**Table 40. Assumed New Land Use Growth—All Alternatives**

	No Action	Business Plus	Mitigated Live/Work	Live/Work
<b>New Households</b>	<b>2,240</b>	<b>2,920</b>	<b>3,610</b>	<b>4,730</b>
<b>New Jobs</b>	<b>4,790</b>	<b>17,350</b>	<b>9,810</b>	<b>15,280</b>
Retail	940	2,270	1,960	3,780
Office	2,560	11,200	4,740	7,450
Manufacturing	1,290	3,870	3,100	4,050

Notes: The No Action household growth is based on the 2035 Comprehensive Plan assumptions. The job growth is based on a land capacity analysis for the study area, which results in approximately 4,790 more new jobs compared to the assumed 2035 job growth, since trends appear to show 2035 job growth is largely achieved. Source: MAKERS, 2019; BERK, 2019; Fehr & Peers, 2019.

The study area was divided into three MXD areas where internalized trips were most likely to occur:

- Area 1 is the main Canyon Park Business Park south of SR 524, and north of 228<sup>th</sup> Street SW and the I-405/SR 527 interchange.
- Area 2 is to the south of the I-405 / SR 527 interchange.
- Area 3 is the proposed new addition to the study area located north of SR 524 and covers part of Thrasher’s Corner.

A PSRC-based travel demand model was used to evaluate the various levels of land use growth in the study area. The transportation model network was modified to include the assumed transportation improvement projects shown in Table 41, which were identified in coordination with city staff.

**Table 41. Assumed Transportation Projects Completed by 2043**

Project	Description
9 <sup>th</sup> Ave SE Widening (228 <sup>th</sup> St SE to SR 524)	Upgrade road to collector road standards, including improvements at the 228 <sup>th</sup> and SR 524 intersections
228 <sup>th</sup> St Widening (35 <sup>th</sup> St SE to 39 <sup>th</sup> Ave NE)	Widens 228 <sup>th</sup> St SE to five lanes between 35 <sup>th</sup> Ave SE and 39 <sup>th</sup> Ave SE. Includes adding an eastbound right turn pocket at the 228 <sup>th</sup> St SE and 35 <sup>th</sup> St SE intersection.
SR 527 (211 <sup>th</sup> St SE to north of SR 524)	Adds third northbound through lane. Add southbound left turn lane at SR 524 (2 left). Also known as SR 527/SR 524 Intersection Improvements
228 <sup>th</sup> St SE & Fitzgerald Rd	Adds eastbound right turn pocket
228 <sup>th</sup> St SE & 29 <sup>th</sup> Dr SE	Adds westbound right turn pocket
228 <sup>th</sup> St SE & 31 <sup>st</sup> Ave SE	Adds westbound right turn pocket
220 <sup>th</sup> St SE & SR 527	Adds eastbound left turn lane (2 left)
214 <sup>th</sup> St SE & SR 527	Re-channelizes westbound through/left lane to through/right.

Project	Description
I-405 – SR 522 to SR 527 Capacity Improvements Project	Widens I-405 for dual ETLs in both direction between SR 522 and SR 527. Builds a partial direct access ramp at SR 527 (to east and north) to provide connections to the Canyon Park P&R. Adds direct access ramps at SR 522 interchange.
I-405 Widening & SR 527 Interchange Improvements	Widens I-405 to add a second Express Toll lane from SR 522 to I--5 in Lynnwood. Improves SR 527 and I-405 interchange.
SR 527 Add Southbound Lane from SR 524 to 220 <sup>th</sup> St SE	Prepare plans, specifications, and estimates to add third southbound lane, as well as associated intersection revisions adjacent to the project corridor.
Bothell Way NE Widening (Reder Way to 240 <sup>th</sup> St NE)	Widens Bothell Way NE from 2 lanes to 5 lanes
SWIFT Green Line	Frequent transit connections between Canyon Park P&R to Seaway Transit Center. Future extension south to Downtown Bothell/UW-Bothell. Would intersect existing Swift Blue line on Highway 99
ST3 I-405 BRT Project	Enhanced service connection between Lynnwood TC, Bothell/Canyon Park P&R, Bellevue, Renton, and Burien.
North Creek Trail – Section 4	Complete the missing link along SR 524 between the current trail and Filbert Rd.

Source: Fehr & Peers, 2019.

The travel demand model trip table was factored to match the trip generation from the MXD+ tool for each alternative and was assigned in the travel model. This approach was selected because of the high peak hour trip growth for Canyon Park. This approach to travel modeling accounts for shifts in background traffic due to increased congestion in the vicinity of Canyon Park.

### **Trip Distribution**

Project site trip distribution was developed by reviewing existing counts collected at study intersections and a select zone analysis in the project travel demand model. The assumed trip distribution is shown in Figure 77 and Figure 78. In general, for outbound trips during the PM peak period, it was estimated that approximately:

- 23% travel westbound
- 11% travel northbound via SR 527
- 17% travel eastbound
- 25% travel southbound (14% via SR 527)
- 25% travel on I-405 (12% south and 13% north)

This same methodology was used to estimate inbound trips to the study area:

- 8% are from the north
- 19% are from west

- 19% are from the east
- 23% are from the south (10% via SR 527)
- 31% are assumed to come from I-405 (16% from the north and 15% from the south)

**Figure 76. I-405/SR 527 Direct Access Ramps**

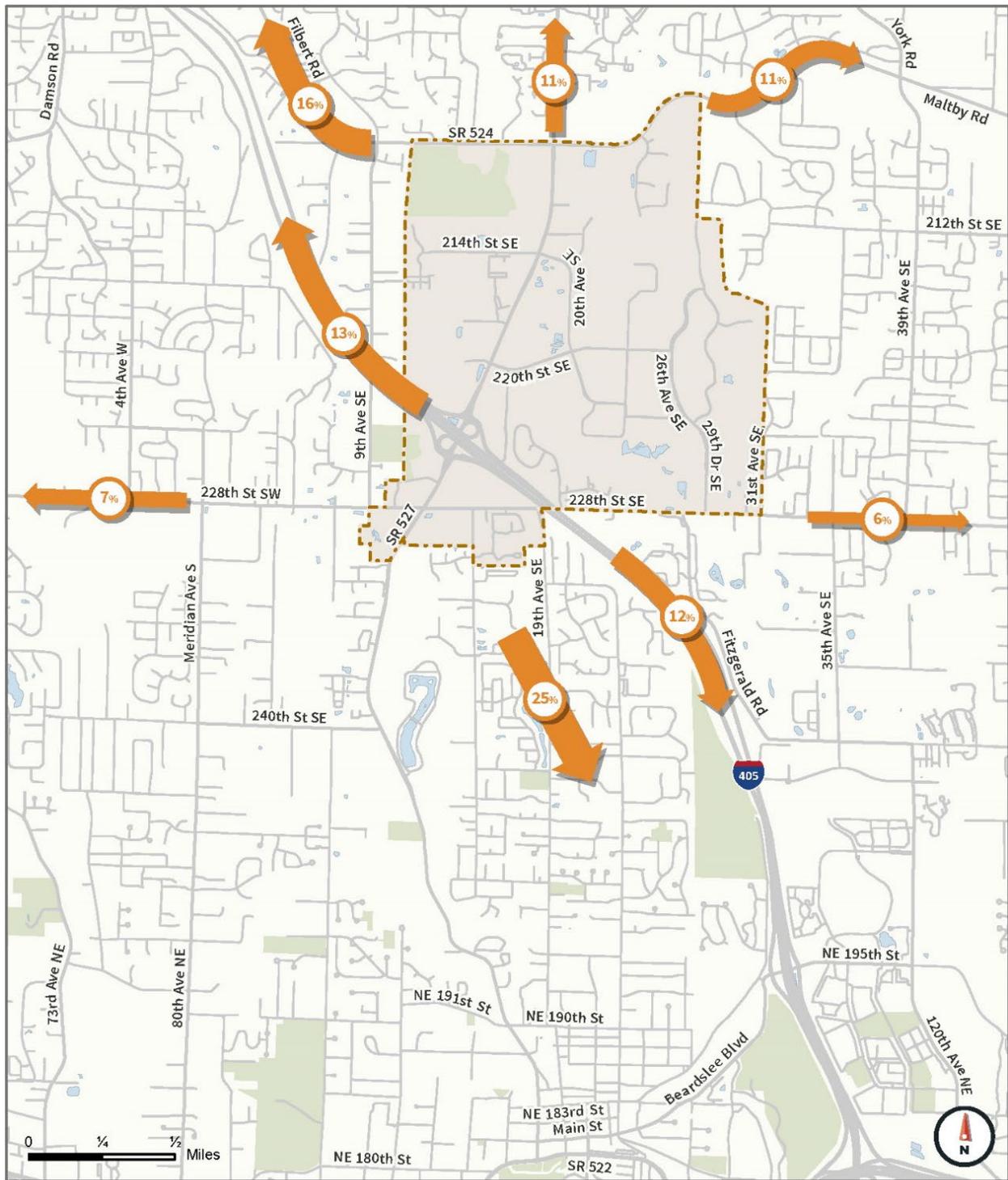


Source: WSDOT, 2019.

The direct access ramps to the express toll lanes are accessed via 17<sup>th</sup> Avenue SE within the business park. The completion of this project was a baseline assumption under all future alternatives as the I-405 toll lane attracts both regional trips outside and inside the study area. For the direct access ramps to I-405, it was assumed that on and off-ramp volumes would be similar to the draft forecasts provided by the WSDOT under the No Action Alternative. Under the Live/Work Alternative, it was assumed the direct access ramps would be near capacity (approximately 850 vehicles per hour per lane) as the alternative generates a much larger number of PM peak hour trips (10,900 under Live/Work versus 3,960 under No Action).

See Appendix D for information from WSDOT on the Express Toll Lanes Improvement Project.

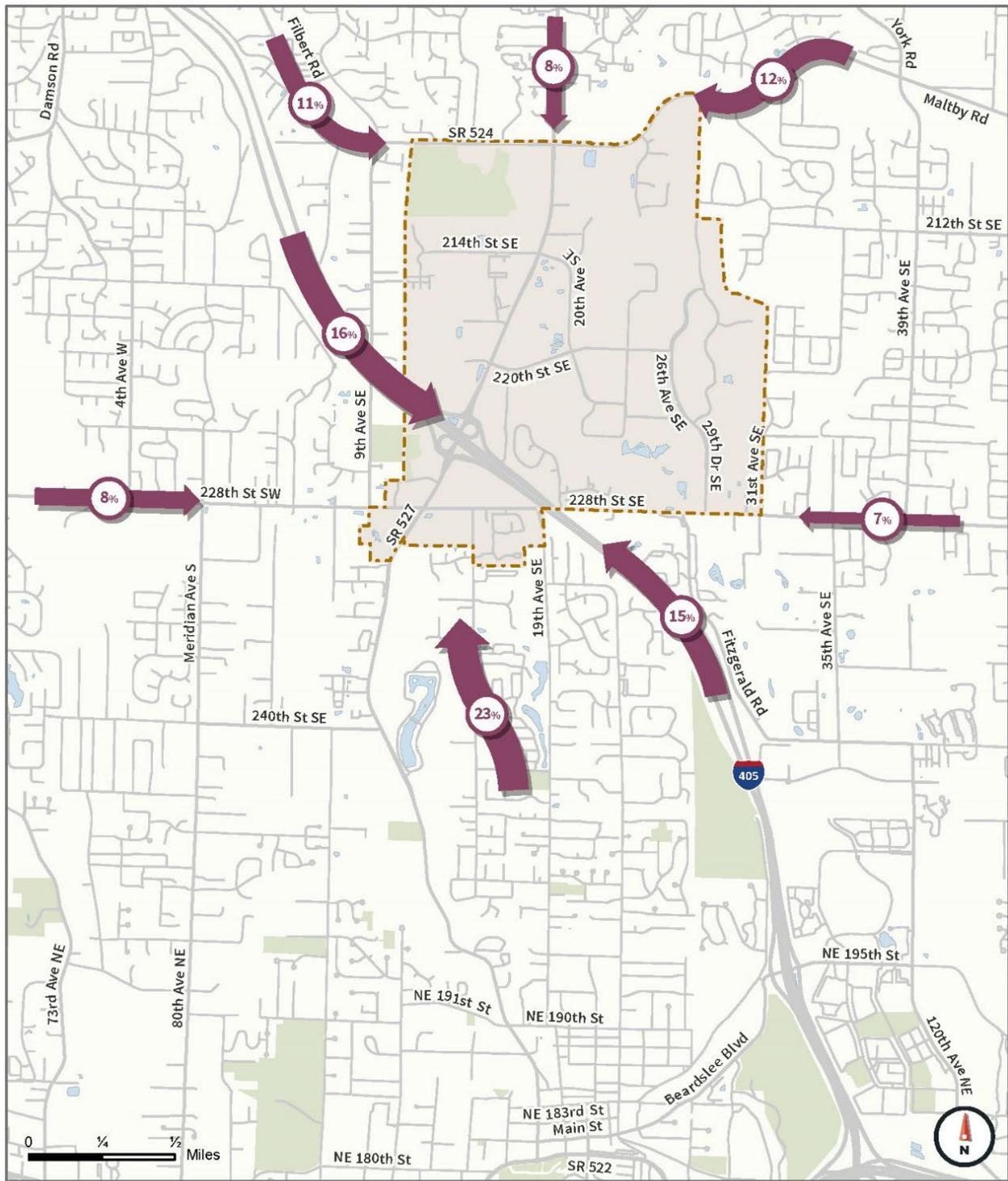
Figure 77. Assumed Outbound Trip Distribution



**Canyon Park  
 Assumed Outbound Trip Distribution**

Source: Fehr & Peers, 2019.

Figure 78. Assumed Inbound Trip Distribution



**Canyon Park  
 Assumed Inbound Trip Distribution**

Source: Fehr & Peers, 2019.

### ***Intersection and Corridor LOS Analysis***

The trip distribution previously described informed the trip assignment process, routing trips to and from various areas of Canyon Park through the street network. New project trips at each study intersection were then added to the background 2043 forecasted volumes and analyzed in Synchro capacity analysis software. Signal timing splits and cycle lengths were optimized, and offsets adjusted accordingly. LOS results were generated from Synchro using methods prescribed in the HCM 6<sup>th</sup> edition for most intersections and applying HCM 2000 methodology for intersections with non-standard geometry or phasing. The signalized intersection delay thresholds applied for the LOS analysis are defined in Table 42.

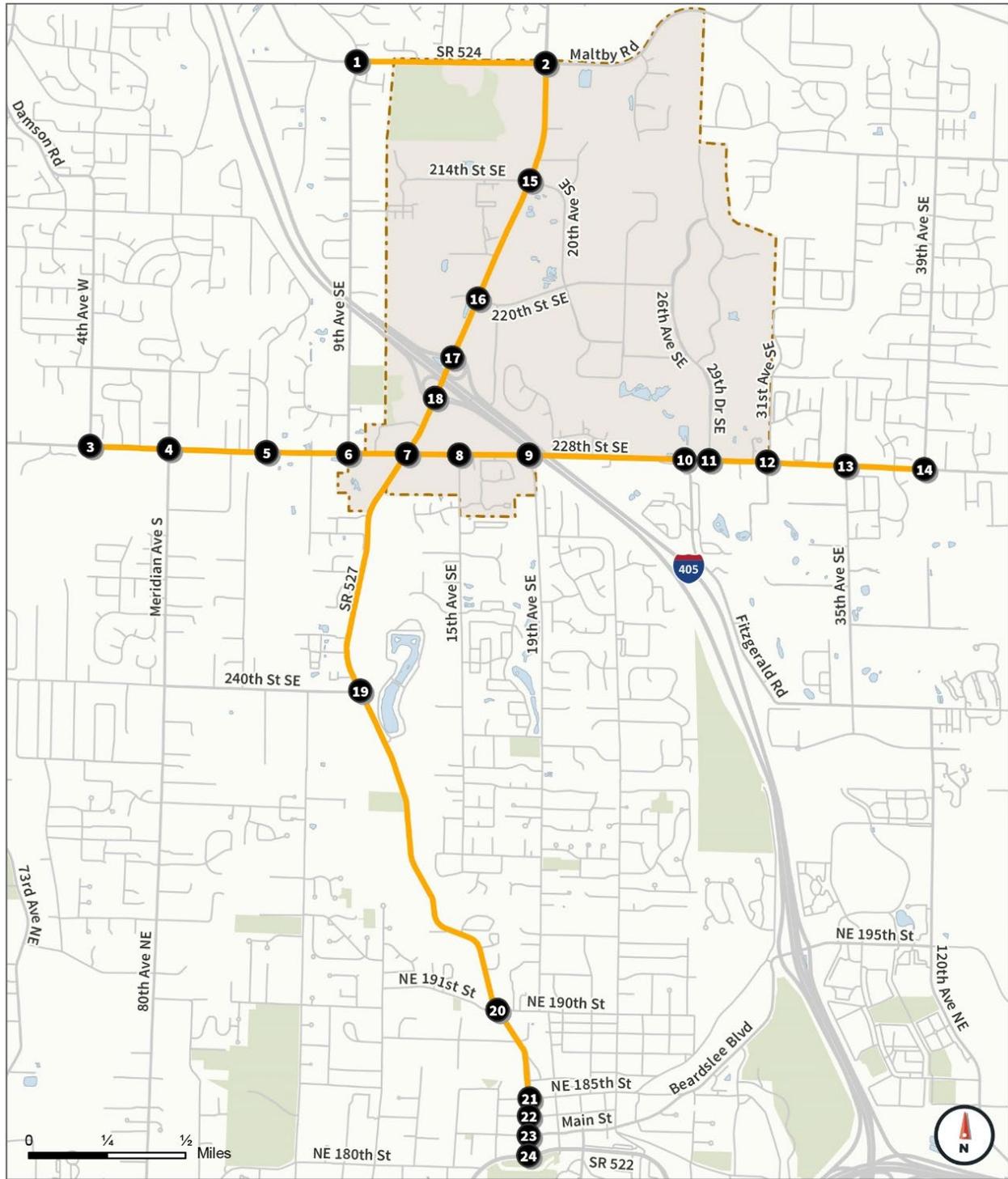
**Table 42. Traffic Operations Level of Service Definition**

Level of Service	Description	Signalized Intersection Delay (seconds/vehicle)
A	Free-flowing Conditions	≤ 10
B	Stable Flow (slight delays)	>10-20
C	Stable Flow (acceptable delays)	>20-35
D	Approaching Unstable Flow (tolerable delay)	>35-55
E	Unstable Flow (intolerable delay)	>55-80
F	Forced Flow (congested and queues fail to clear)	>80

Source: Highway Capacity Manual (HCM) 6th Edition, 2016.

A map of the study intersections and study corridors are shown in Figure 79.

Figure 79. Study Intersections and Concurrency Corridors



● Study Intersection      □ Canyon Park Subarea  
 — Study Corridor

**Canyon Park  
 Study Area**

Source: Fehr & Peers, 2019.

## **Multimodal Evaluation**

Transit, walking, and biking metrics are provided for planning purposes only.

### ***Transit***

Following the methodology in the City's Comprehensive Plan, a quarter-mile buffer was drawn around the existing transit stops, and a 1.5-mile buffer was drawn around the existing Canyon Park Park-and-Ride in GIS. The other transit metrics relate to planned transit service and frequency in the study area.

The PSRC transit criteria for urban regional growth centers is for existing or planned fixed route bus, regional bus, Bus Rapid Transit, or other frequent and all-day bus service. Service quality is defined as either frequent (< 15-minute headways) and all-day (operates at least 16 hours per day on weekdays), or high capacity (PSRC, 2018).

### ***Walking and Biking***

Walking and biking metrics are qualitatively discussed. An impact was only identified if the alternative description includes an element that would preclude improved walking and bicycling facilities to meet City standards.

## **Transportation GHG Emissions**

The study area's total vehicle miles traveled (VMT), stratified by speed, were extracted from the travel demand model for the PM peak period. The VMT and speed data were converted to pounds of CO<sub>2</sub> emissions using year 2040 fuel economy factors from the California Air Resources Board's EMFAC air quality model.<sup>4</sup> The transportation related GHG emissions per person were evaluated for the Action Alternatives to compare against the No Action Alternative.

## **Impacts Common to All Alternatives**

### ***Auto/Freight***

The expected new PM peak hour trips generated overall and by analysis area under each alternative are shown in Table 43. The No Action Alternative is expected to generate approximately 3,960 new PM peak hour trips; the Live/Work Alternative is expected to generate 10,900 new PM peak hour trips; and the Business Plus Alternative is expected to generate 9,060 new peak hour trips, about 17% fewer trips than the Live/Work Alternative. The Mitigated Live/Work Alternative is expected to generate approximately 6,530 trips.

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<sup>4</sup> The more traditional US EPA MOBILE6 air quality model was not used since it does not consider variations in speed when estimating CO<sub>2</sub> emissions. The emissions factors are for year 2040 model for Alameda County. It only considered gas vehicles for a 50/50 split fleet mix of light auto and light duty trucks with no electric vehicle penetration. If electric vehicles were considered, the total emissions for each alternative would be less than what's shown in this analysis.

**Table 43. Estimated New PM Peak Hour Trips (In/Out/Total)—All Alternatives**

Area	No Action	Business Plus	Mitigated Live/Work	Live/Work
1. Canyon Park Main Area	980 / 1,630 / 2,600	1,490 / 4,300 / 5,790	1,670 / 3,120 / 4,790	2,800 / 4,860 / 7,660
2. South of I-405/SR 527 Interchange	560 / 620 / 1,180	1,030 / 1,200 / 2,230	560 / 580 / 1,140	1,080 / 1,130 / 2,210
3. Thrasher's Corner/North of SR 524	90 / 80 / 170	560 / 480 / 1,040	330 / 280 / 610	560 / 480 / 1,040
<b>Total</b>	<b>1,630 / 2,330</b> <b>/ 3,960</b>	<b>3,080 / 5,980</b> <b>/ 9,060</b>	<b>2,560 / 3,970</b> <b>/ 6,530</b>	<b>4,430 / 6,470</b> <b>/ 10,900</b>

Source: Fehr & Peers, 2019.

Based on the trip generation results, a technical analysis was completed for the No Action Alternative and the higher impact Live/Work Action Alternative. Since the Business Plus Alternative's trip generation is expected to be similar to the Live/Work Alternative, the Business Plus Alternative's impacts are assumed to be roughly the same as those disclosed under the Live/Work Alternative.

Corridor LOS results for each alternative are shown in Table 44, with corridors not meeting the City's standard (e.g., operating at LOS F conditions) shaded in pink. The 228<sup>th</sup> Street concurrency corridor is expected to meet the City standard of LOS E or better under the No Action and Mitigated Live/Work alternatives. The SR 527 and SR 524 corridors are expected to operate at LOS F conditions.

The three concurrency corridors are expected to fail with corridor LOS F operations under both the Live/Work Alternative and the Business Plus Alternative. A more detailed discussion of intersection LOS for each alternative is included in the following sections.

**Table 44. Concurrency Corridor LOS—No Action, Live/Work, and Mitigated Live/Work Alternatives**

Average Corridor LOS	2019 Existing		2043 No Action		2043 Mitigated Live/Work		2043 Live/Work <sup>1</sup>	
	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
<b>SR 524 Corridor</b>	51	D	114	F	142	F	>150	F
<b>228<sup>th</sup> Street Corridor</b>	32	C	60	E	56	E	95	F
<b>SR 527 Corridor</b>	46	D	90	F	82	F	>150	F

Note: Corridors not meeting the City's standard (e.g., operating at LOS F conditions) shaded in pink.

<sup>1</sup>Impacts identified under 2043 Live/Work are expected to also represent impacts of the Business Plus Alternative.

Source: Fehr & Peers, 2019.

## **Multimodal Evaluation**

### ***Transit***

All three future alternatives have the same transit assumptions. Figure 81 shows the entire study area is within a quarter-mile of a bus stop or 1.5 mile of the Canyon Park Park-and-Ride; therefore, more than 90% of residential units are within a transit service buffer. In the future, it is assumed the subarea will be served with enhanced transit service including the Community Transit SWIFT Green Line and the Sound Transit I-405 BRT in addition to the existing local transit routes. For all future year alternatives, the subarea is planned to have transit service consistent with the PSRC transit criteria for regional growth centers. The I-405 BRT is considered high-capacity transit with planned service of 10-minute headways in the peak hour and 15-minute headways in the off-peak hour. No transit impacts are expected under the Action Alternatives based on these frequency and service area transit metrics. However, poor traffic operations on the congested study corridors may result in increased transit travel time and transit delays during peak hours.

### ***Walking and Biking***

A large number of new vehicle trips are expected under all alternatives, which may result in an uncomfortable environment for pedestrians and bike riders on high-traffic volume streets. New development would be required to meet City design standards related to pedestrian and bicycle facilities, so no significant pedestrian or bicycle impacts are expected under the Action Alternatives. City design standards apply to public streets only; the internal business park private streets in the business park would instead be governed by Canyon Park Business Center Owners Association standards (which have been applied to previous developments within the business park). Application of the Owners Association standards should result in improvements to walking and biking facilities compared to existing conditions. If the internal private streets become public rights-of-way, walking and biking facilities would be developed in accordance with City standards as redevelopment occurs.

### **Transportation GHG Emissions**

Table 45 shows estimated transportation related greenhouse gas (GHG) emissions for each future alternative during the PM peak period. Transportation GHG emissions per person are estimated to be approximately the same for the Action Alternatives as compared to the No Action Alternative (3.017 pounds of CO<sub>2</sub> under the Action Alternatives compared to 3,021 pounds of CO<sub>2</sub> under the No Action Alternative). Under the Action Alternatives, an overall increase in total VMT and emissions corresponding to the overall increase in number of vehicle trips; however, the associated increase in residents and jobs results in about the same emissions per person under all alternatives, so no transportation GHG emission impacts are identified.

Under the Action Alternatives, the study area's total transportation emissions are expected to increase compared to the No Action Alternative because the Action Alternatives will generate more PM peak period trips. Total transportation emissions are estimated at 119,200 pounds of CO<sub>2</sub> under the Live/Work Alternative. This is almost a 66% increase within the study area when compared to the No Action Alternative (71,900 pounds of CO<sub>2</sub>). However, the projected increase in PM period VMT under the Action Alternatives is very small regionally, representing less than 0.02% of future total VMT travelled in the four-county PSRC region (42,000 out of 23,671,000 VMT in 2040).

Total VMT and GHG emissions under the Mitigated Live/Work Alternative are also higher than the No Action Alternative, but are less than under the Business Plus or Live/Work alternatives as a result of lower proposed growth and assumed TDM strategies.

**Table 45. Estimated PM Period Transportation GHG Emissions**

Alternative	Vehicle Miles Travelled (VMT)	Transportation Emissions (pounds of CO <sub>2</sub> )	Transportation Emissions per Person
No Action	122,200	71,900	3.021
Mitigated Live/Work	141,800	93,200	2.943
Live/Work & Business Plus	163,900	119,200	3.017

Source: Fehr & Peers, 2019.

## Impacts of No Action Alternative

### Auto/Freight

Intersection and corridor LOS results under existing conditions and the No Action Alternative are shown in Table 46 and shown in Figure 80, with locations operating at LOS F conditions shaded in pink. Under existing conditions, the three concurrency corridors are expected to operate with a corridor average vehicle-weighted delay ranging from 32 to 51 seconds and meet the city standard of LOS E or better (equivalent to less than 80 seconds of delay for the corridor).

Increased growth under the No Action Alternative can generally be accommodated along the 228<sup>th</sup> Street corridor, where intersections would operate at LOS E or better (except at Bothell-Everett Highway). The SR 527 and SR 524 corridors are expected to operate at LOS F conditions with peak hour vehicle-weighted average delays of 90 and 114 seconds, respectively. An increase in southbound traffic along the SR 527 corridor results in increased delay near Downtown Bothell (at SR 522), though this intersection is still expected to operate at LOS E conditions. Individual intersections on SR 527 and SR 524 also have an intersection LOS E standard per WSDOT standards. Under the No Action

Alternative, the following individual intersections on SR 527 are expected to operate at LOS F conditions by 2043:

- SR 527/SR 524
- SR 527/214<sup>th</sup> Street SE
- SR 527/220<sup>th</sup> Street SE
- SR 527/I-405 NB Ramps
- Bothell-Everett Highway/228<sup>th</sup> Street SE

Each of these intersections experience growth in vehicle demand by 2043. A large number of trips leave the study area on the 214<sup>th</sup> and 220<sup>th</sup> Street driveways, then make a westbound left-turn towards I-405. This results in added intersection delay because they conflict with the higher volume SR 527 northbound and southbound through traffic. The 214<sup>th</sup> Street intersection experiences high delays for the southbound left turn movement, which also conflicts with the high northbound volume on SR 527. Traffic signal cycle length and splits were optimized, but the vehicle demand likely cannot be served in a single cycle.

The SR 527/SR 524 intersection is expected to have substantial delays for the northbound left turn movement. There is not adequate time to clear the northbound left turn demand at SR 527/SR 527 due to high volumes on the northbound and southbound through approaches. Delay is caused at the SR 527/I-405 intersection because of conflicts between the westbound left turn movement and the high volumes on SR 527 southbound.

The Bothell-Everett Highway/228<sup>th</sup> Street intersection is a major arterial intersection. Eastbound/westbound and northbound/southbound through vehicle volumes at this intersection are substantial during peak hours, and the intersection capacity would need to be increased to serve vehicle demand.

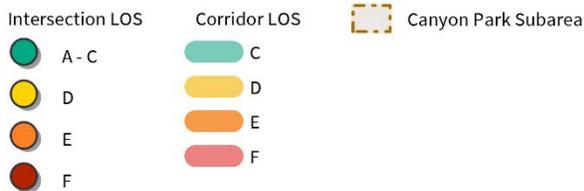
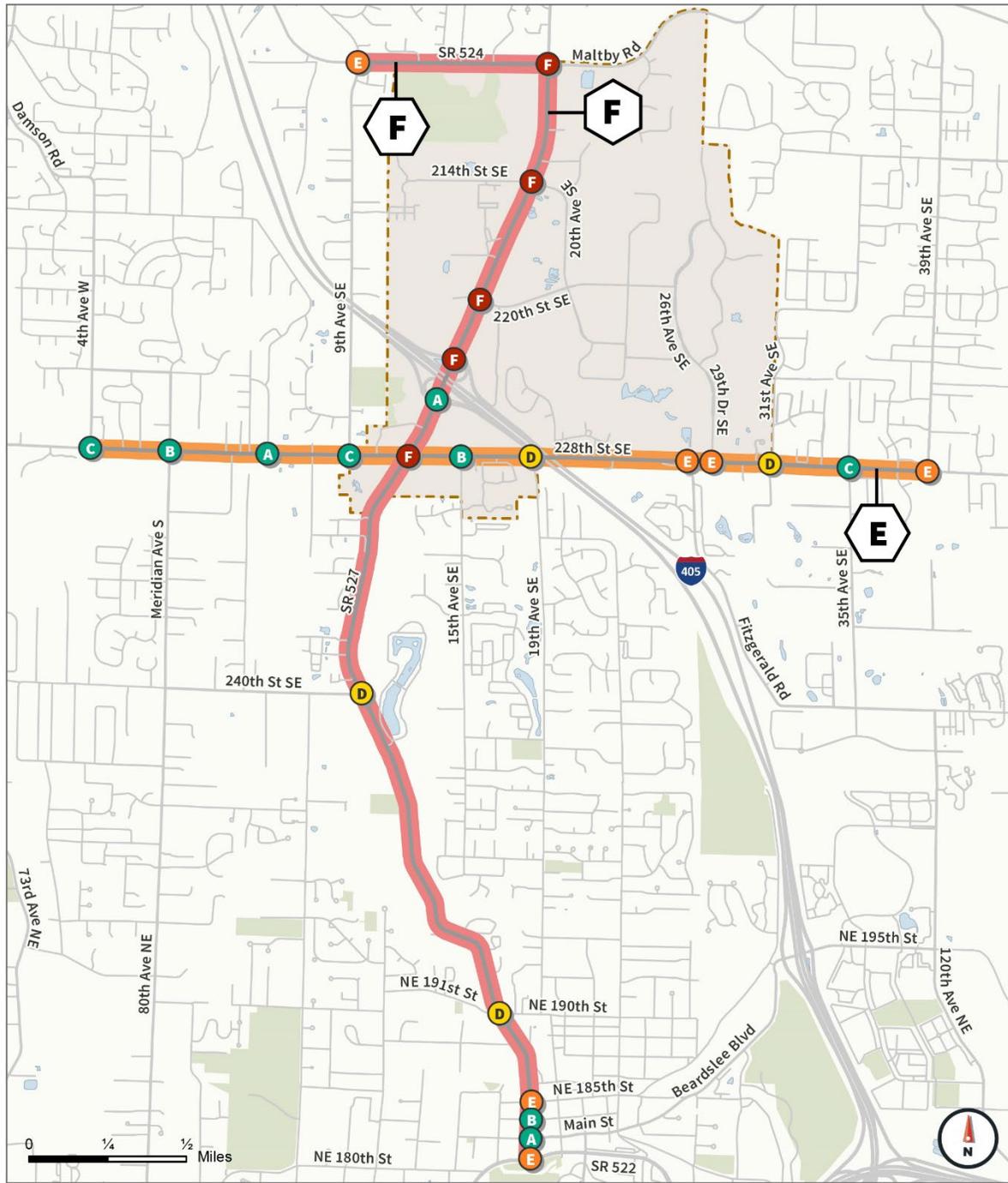
See Appendix C for intersection LOS information.

**Table 46. Intersection and Concurrency Corridor LOS—No Action Alternative**

Map ID	Intersection & Corridor LOS	2019 Existing		2043 No Action	
		Delay (sec)	LOS	Delay (sec)	LOS
1	208 <sup>th</sup> St SE/SR 524 & Filbert Dr	23	C	79	E
2	208 <sup>th</sup> St SE/SR 524 & SR-527	64	E	134	F
<b>SR 524 Corridor Weighted Average</b>		<b>51</b>	<b>D</b>	<b>114</b>	<b>F</b>
3	228 <sup>th</sup> St SE & 4 <sup>th</sup> Ave W	16	B	24	C
4	228 <sup>th</sup> St SE & Meridian Ave	18	B	19	B
5	228 <sup>th</sup> St SE & 4 <sup>th</sup> Ave SE	7	A	8	A
6	228 <sup>th</sup> St SE & 9 <sup>th</sup> Ave SE	33	C	25	C
7	228 <sup>th</sup> St SE & Bothell-Everett Highway	66	E	>150	F
8	228 <sup>th</sup> St SE & 15 <sup>th</sup> Ave SE	27	C	19	B
9	228 <sup>th</sup> St SE & 19 <sup>th</sup> Ave SE	19	B	51	D
10	228 <sup>th</sup> St SE & Fitzgerald Rd	38	D	74	E
11	228 <sup>th</sup> St SE & 29 <sup>th</sup> Dr SE	28	C	62	E
12	228 <sup>th</sup> St SE & 31 <sup>st</sup> Ave SE	12	B	41	D
13	228 <sup>th</sup> St SE & 35 <sup>th</sup> Ave SE	23	C	30	C
14	228 <sup>th</sup> St SE & 39 <sup>th</sup> Ave SE	43	D	58	E
<b>228<sup>th</sup> Street Corridor Weighted Average</b>		<b>32</b>	<b>C</b>	<b>60</b>	<b>E</b>
2	208 <sup>th</sup> St SE/SR 524 & SR 527	64	E	134	F
15	214 <sup>th</sup> St SE & SR 527	49	D	>150	F
16	220 <sup>th</sup> St SE & SR 527	96	F	86	F
17	I-405 NB Ramps & SR 527	59	E	116	F
18	I-405 SB Ramps & SR 527	7	A	7	A
7	228 <sup>th</sup> St SE & Bothell-Everett Highway	66	E	>150	F
19	240 <sup>th</sup> St SE & Bothell-Everett Highway	20	C	47	D
20	NE 191 <sup>st</sup> St & Bothell Way	23	C	47	D
21	NE 185 <sup>th</sup> St & Bothell Way	17	B	58	E
22	NE 183 <sup>rd</sup> St & Bothell Way	15	B	11	B
23	Main St & Bothell Way	4	A	6	A
24	SR-522 & Bothell Way	31	C	60	E
<b>SR 527 Corridor Weighted Average</b>		<b>46</b>	<b>D</b>	<b>90</b>	<b>F</b>

Note: Intersections/corridors not meeting the City's standard (e.g., operating at LOS F conditions) shaded in pink.  
Source: Fehr & Peers, 2019.

Figure 80. Study Intersection and Corridor LOS—No Action Alternative



**Canyon Park  
 No Action Level of Service (LOS)**

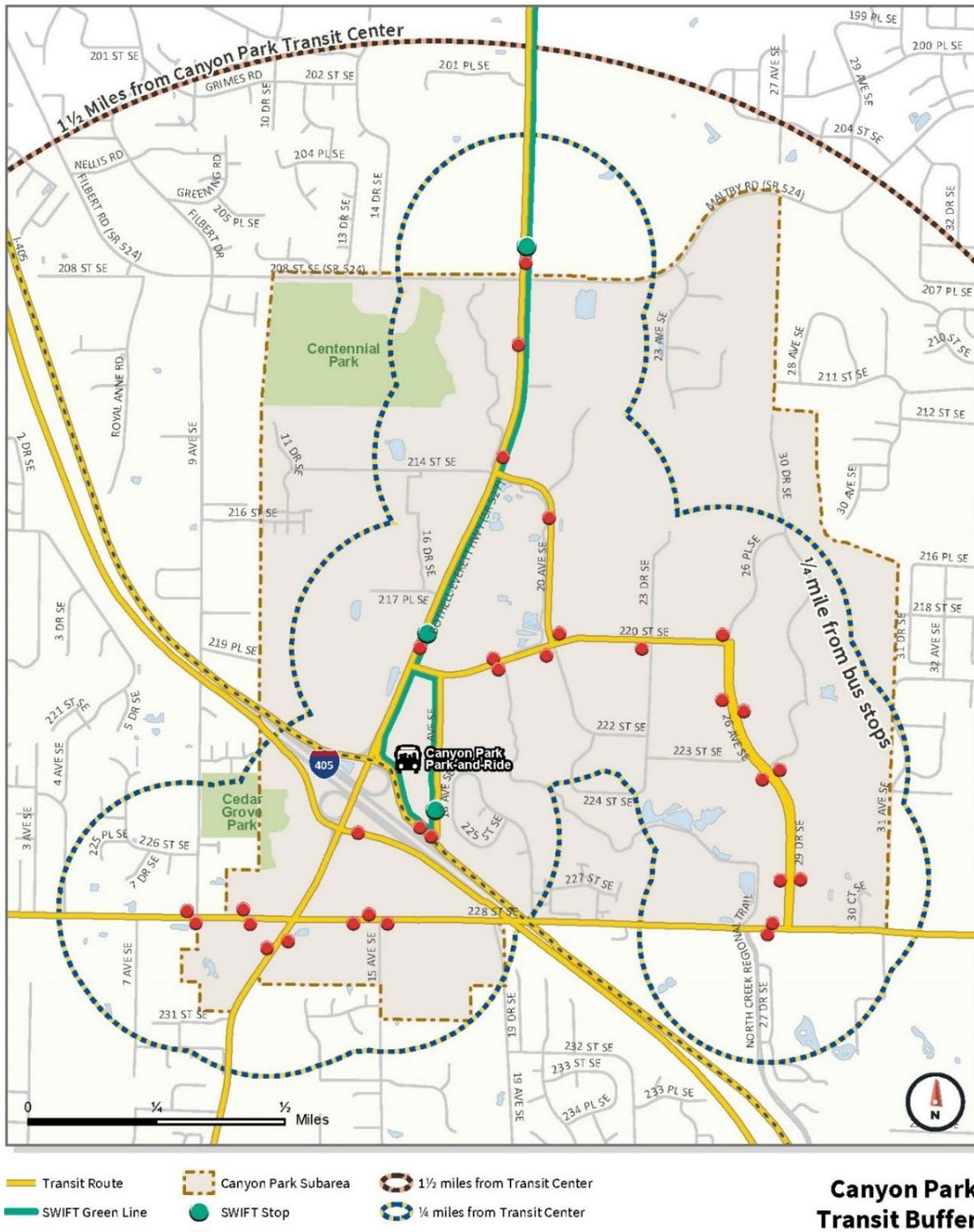
Source: Fehr & Peers, 2019.

## **Multimodal Evaluation**

### ***Transit***

The entire study area is within a quarter-mile of a bus stop or 1.5 mile of the Canyon Park Park-and-Ride (see Figure 81); therefore, more than 90% of residential units are within a transit service buffer. In the future, it is assumed the study area will be served with enhanced transit service, including the Community Transit SWIFT Green Line and Sound Transit I-405 BRT, in addition to the existing local transit routes. Under all future year alternatives, the subarea is planned to have transit service consistent with the PSRC transit criteria for regional growth centers. The SWIFT Green Line and I-405 BRT are considered high-capacity transit with existing and planned service of 10-minute headways in the peak hour and 15-minute headways in the off-peak hour. No transit impacts are expected under the No Action Alternative. However, increased traffic congestion along corridors may result in increased transit travel time and transit delays during peak hours.

Figure 81. Transit Service Areas—¼ Miles Around Transit Stops and 1¼ Miles Around Park-and-Rides



Source: Fehr & Peers, 2019.

### *Walking and Biking*

The walking and biking metrics are qualitatively discussed. The No Action Alternative anticipates an increase in new vehicle trips which could cause people walking or biking to be uncomfortable using high-traffic facilities. However, because new development is expected to meet City design standards related to pedestrian and bicycle facility accommodation, no significant pedestrian or bicycle impacts are expected under this alternative. City design standards apply to public streets only; private streets in the business park would instead be governed by Canyon Park Business Center Owners Association standards (which have been applied to previous developments within the business park). Application of the Owners Association standards should result in improvements compared to existing conditions. Should the internal private streets become public rights-of-way, walking and biking facilities would be developed in accordance with City standards as redevelopment occurs.

### *Transportation GHG Emissions*

The transportation related GHG emissions under No Action was estimated from the VMT and travel speeds extracted from the travel model for the Canyon Park subarea (excluding I-405). During the PM peak period, an estimated 71,900 pounds of CO<sub>2</sub> will be generated for the study area. This equates to approximately 3.021 pounds of CO<sub>2</sub> per person (residents and employees) during the three-hour PM peak period of travel. The No Action Alternative result serves as a baseline for comparison against the Action Alternatives.

## **Impacts of Action Alternatives**

### *Auto/Freight*

The Live/Work Alternative includes approximately 4,730 new households and 15,280 new jobs, which will generate a substantial amount of vehicle trips to the project site (10,900 new PM peak hour trips, including 4,430 inbound trips and 6,470 outbound trips). This equates to approximately 1,500 new northbound trips on SR 527, and approximately 2,100 new southbound trips on SR 527, which would exceed the capacity of these already congested corridors during peak hours.

A traffic impact is expected on the SR 527, SR 524, and 228<sup>th</sup> Street concurrency corridors which are expected to all operate at LOS F conditions with vehicle-weighted average delays of 200, 205, and 95 seconds, respectively. While the SR 524 and SR 527 corridors are also expected to operate at LOS F conditions under the No Action Alternative, a traffic impact is expected under the Live Work/Alternative because the average delay on these corridors is greater than No Action.

Individual intersections on SR 527 and SR 524 also have an intersection LOS E standard per WSDOT. New trips under the Live/Work Alternative would result in intersections failing

along the concurrency corridors, including at the I-405 ramps. The following individual intersections on SR 527 and SR 524 are expected to operate at LOS F by 2043 under the Live/Work Alternative:

- SR 524/Filbert Drive/9<sup>th</sup> Avenue
- SR 527/SR 524
- SR 527/214<sup>th</sup> Street SE
- SR 527/220<sup>th</sup> Street SE
- SR 527/I-405 NB Ramps
- SR 527/I-405 SB Ramps
- Bothell-Everett Highway/228<sup>th</sup> Street SE
- Bothell-Everett Highway/240<sup>th</sup> Street SE

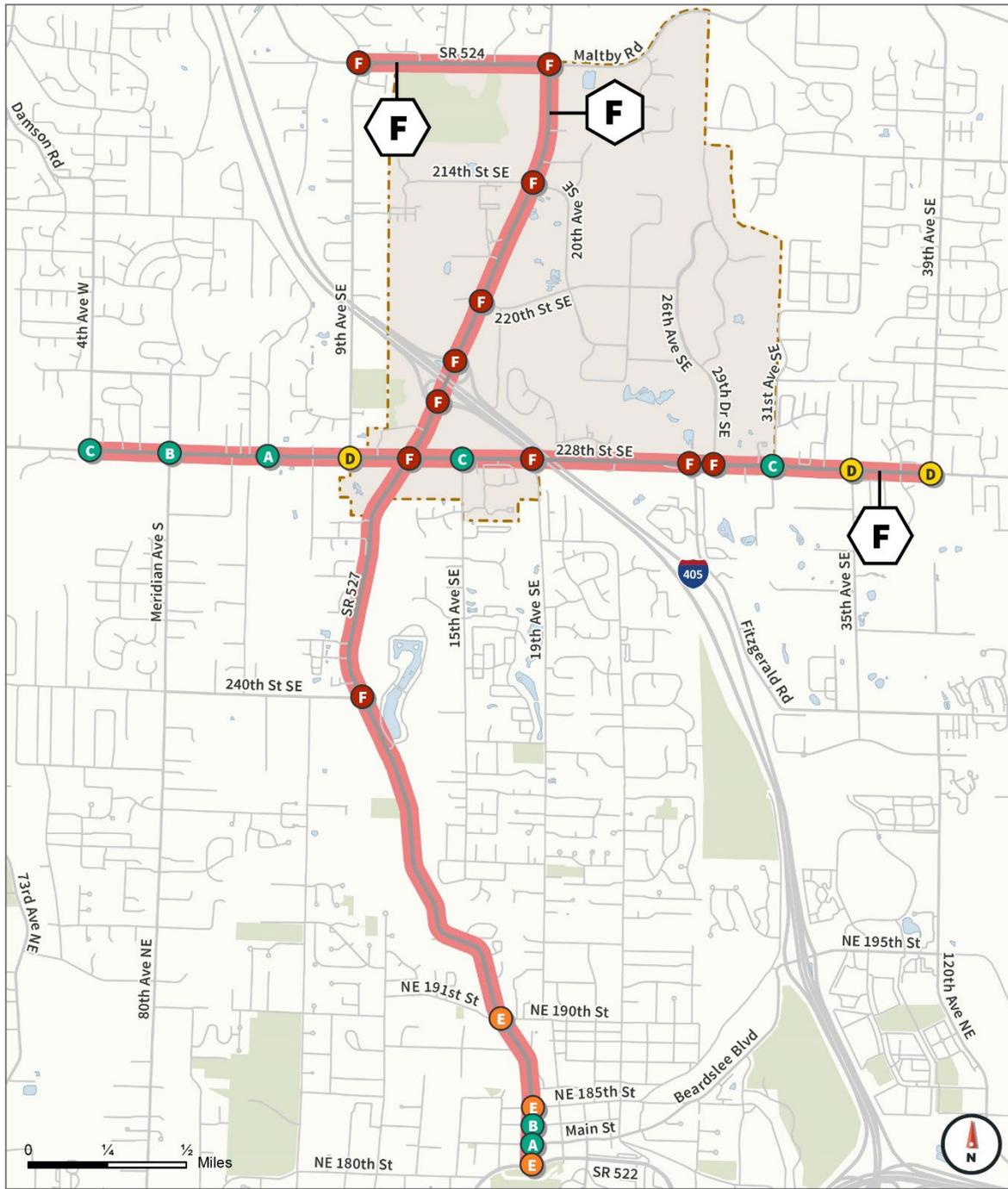
Intersection and corridor LOS results under the Live/Work Alternative are shown in Table 47, with locations operating at LOS F shaded in pink. Study intersection and concurrency corridor results are also mapped in Figure 82. In general, the existing roadway network cannot accommodate this increase in vehicle trips on the SR 524, 228<sup>th</sup> Street, or SR 527 corridors. Additionally, the three main access points to Canyon Park (SR 527/214<sup>th</sup> Street, SR 527/220<sup>th</sup> Street, and 228<sup>th</sup> Street SE/29<sup>th</sup> Drive) are all expected to operate at LOS F conditions, worse than under the No Action Alternative.

**Table 47. Intersection and Concurrency Corridor LOS—Live/Work Alternative**

Map ID	Intersection & Corridor LOS	2043 No Action		2043 Live/Work	
		Delay (sec)	LOS	Delay (sec)	LOS
1	208 <sup>th</sup> St SE/SR 524 & Filbert Dr	79	E	146	F
2	208 <sup>th</sup> St SE/SR 524 & SR-527	134	F	>150	F
<b>SR 524 Corridor Weighted Average</b>		<b>114</b>	<b>F</b>	<b>&gt;150</b>	<b>F</b>
3	228 <sup>th</sup> St SE & 4 <sup>th</sup> Ave W	24	C	22	C
4	228 <sup>th</sup> St SE & Meridian Ave	19	B	17	B
5	228 <sup>th</sup> St SE & 4 <sup>th</sup> Ave SE	8	A	8	A
6	228 <sup>th</sup> St SE & 9 <sup>th</sup> Ave SE	25	C	47	D
7	228 <sup>th</sup> St SE & Bothell-Everett Highway	>150	F	>150	F
8	228 <sup>th</sup> St SE & 15 <sup>th</sup> Ave SE	19	B	32	C
9	228 <sup>th</sup> St SE & 19 <sup>th</sup> Ave SE	51	D	137	F
10	228 <sup>th</sup> St SE & Fitzgerald Rd	74	E	107	F
11	228 <sup>th</sup> St SE & 29 <sup>th</sup> Dr SE	62	E	143	F
12	228 <sup>th</sup> St SE & 31 <sup>st</sup> Ave SE	41	D	34	C
13	228 <sup>th</sup> St SE & 35 <sup>th</sup> Ave SE	30	C	51	D
14	228 <sup>th</sup> St SE & 39 <sup>th</sup> Ave SE	58	E	53	D
<b>228<sup>th</sup> Street Corridor Weighted Average</b>		<b>60</b>	<b>E</b>	<b>95</b>	<b>F</b>
2	208 <sup>th</sup> St SE/SR 524 & SR-527	134	F	>150	F
15	214 <sup>th</sup> St SE & SR-527	>150	F	>150	F
16	220 <sup>th</sup> St SE & SR-527	86	F	>150	F
17	I-405 NB Ramps & SR-527	116	F	>150	F
18	I-405 SB Ramps & SR-527	7	A	140	F
7	228 <sup>th</sup> St SE & Bothell-Everett Highway	>150	F	>150	F
19	240 <sup>th</sup> St SE & Bothell-Everett Highway	47	D	94	F
20	NE 191 <sup>st</sup> St & Bothell Way	47	D	68	E
21	NE 185 <sup>th</sup> St & Bothell Way	58	E	61	E
22	NE 183 <sup>rd</sup> St & Bothell Way	11	B	10	B
23	Main St & Bothell Way	6	A	5	A
24	SR-522 & Bothell Way	58	E	74	E
<b>SR 527 Corridor Weighted Average</b>		<b>90</b>	<b>F</b>	<b>&gt;150</b>	<b>F</b>

Note: Intersections/corridors not meeting the City's standard (e.g., operating at LOS F conditions) shaded in pink.  
Source: Fehr & Peers, 2019.

Figure 82. Study Intersection and Corridor LOS—Live/Work Alternative



Intersection LOS	Corridor LOS	Canyon Park Subarea
A - C	C	Canyon Park Subarea
D	D	
E	E	
F	F	

**Canyon Park  
 Live/Work Level of Service (LOS)**

Source: Fehr & Peers, 2019.

The Business Plus Alternative is expected to generate approximately 9,060 new PM peak hour trips (3,080 inbound trips and 5,980 outbound trips). This is approximately 17% fewer new vehicle trips than the Live/Work Alternative. Traffic impacts identified under the Live/Work Alternative are also expected to apply under the Business Plus Alternative, although likely to a lesser degree. The three concurrency corridors adjacent to the study area and individual study intersections on SR 527 and SR 524 are expected to operate at LOS F conditions and are not expected to meet the City's LOS E corridor standard.

The Mitigated Live/Work Alternative assumes lower growth in the study area, in addition to other strategies for improved traffic operations, compared to the other Action Alternatives. See Table 49 for more information.

### ***Multimodal Evaluation***

#### ***Transit***

The Business Plus and Live/Work Alternatives have the same transit assumptions as No Action. Figure 81 shows the entire study area is within a quarter-mile of a bus stop or 1.5 mile of the Canyon Park Park-and-Ride, therefore more than 90% of residential units are within a transit service buffer. In the future, it is assumed the subarea will be served with enhanced transit service including the Community Transit SWIFT Green Line and the Sound Transit I-405 BRT in addition to the existing local transit routes. Under all future alternatives, the subarea is planned to have transit service consistent with the PSRC transit criteria for regional growth centers. The SWIFT Green Line and I-405 BRT are considered high-capacity transit with existing and planned service of 10-minute headways in the peak hour and 15-minute headways in the off-peak hour. No transit impacts are expected under the Business Plus or Live/Work Alternatives. However, poor traffic operations on the congested study corridors may result in increased transit travel time and transit delays during peak hours.

#### ***Walking and Biking***

A large number of new vehicle trips are expected in the both action alternatives, which could cause people walking or biking to be uncomfortable using high-traffic facilities. However, because new development is expected to meet City design standards related to pedestrian and bicycle facility accommodation, no significant pedestrian or bicycle impacts are expected under the Business Plus or Live/Work Alternatives. City design standards apply to public streets only; private streets in the business park would instead be governed by Canyon Park Business Center Owners Association standards (which have been applied to previous developments within the business park). Application of the Owners Association standards should result in improvements compared to existing conditions. Should the internal private streets become public rights-of-way, walking and biking facilities would be developed in accordance with City standards as redevelopment occurs.

### ***Transportation GHG Emissions***

The estimated transportation GHG emissions under the Live/Work Alternative is approximately 119,200 pounds of CO<sub>2</sub> during the PM peak period. This equates to a 66% increase compared to No Action. This increase in emissions is expected as this Live/Work scenario will generate an increase in vehicle trips in the study area compared to the No Action Alternative. However, with the proposed increased density, the estimated 3.017 pounds of CO<sub>2</sub> generated per person (residents and employees) is approximately the same as under the No Action Alternative (3.021 pounds of CO<sub>2</sub>). This is a large increase within the study area, but is very small regionally as the projected increase in PM period VMT under the Action Alternatives (42,000) represents less than 0.02% of future total VMT travelled in the four-county PSRC region (42,000 out of 23,671,000 VMT in 2040).

### **3.5.3 Mitigation Measures**

The Action Alternatives will generate more new PM peak hour vehicle trips compared to the No Action Alternative (9,000-11,000 vehicle trips versus 3,960 trips under No Action). This increase in PM peak hour trips will not likely be accommodated with the existing street network—particularly as the main business park is limited to three main access points. All three study corridors are expected to operate at LOS F conditions, with multiple individual intersections expected to operate at LOS F conditions. Potential mitigations to address these impacts could take the form of the following:

- Reduce the amount of land use growth assumed through ‘mitigated’ alternatives including RGC acreage reductions. Land use density would still need to meet the RGC required 45 activity units per acre.
- Require transportation demand management (TDM) strategies and program to encourage travel by modes other than single-occupant vehicles.
- Alter transportation LOS policy to accept higher vehicle delays or change the method by which LOS is measured (such as shift from average vehicle delay to average person delay).
- Implement capital improvement projects to the transportation network (e.g., new roadway connections and intersection improvements).
- Increase transit service.
- Improve transit hub.
- Evaluate park-and-ride capacity needs.
- A combination of all or any of the above.

## Mitigated Live/Work Alternative

### *Lower Land Use Growth*

The proposed Mitigated Live/Work Alternative reduces growth to meet the minimum 45 activity unit planning requirements: 45.1 activity units per acre. The Live/Work Alternative, as defined, accommodates closer to 55.1 activity units per acre and the Business Plus Alternative accommodates approximately 54.0 activity units per acre.

### *Required TDM Program*

It is reasonable that a RGC with a large proportion of employment would implement a transportation demand management program to discourage single-occupant vehicle travel and encourage shift of modes to transit, carpool, walk, and/or bike. Based on available research and studies, the following example strategies could result in a 14% reduction in vehicle travel:

- Develop a Commute Marketing Program to coordinate and maintain TDM strategies in the subarea.
- Fully subsidized transit passes for employees and residents.
- Operate a first-mile/last-mile circulator shuttle available to all employees and residents between the park-and-ride and various major sites across the study area. This encourages more travel by transit as the distance between the park-and-ride and the final employer destination may be too far to walk for some people.
- Increase costs of driving by implementing paid parking strategies for both on and off-street parking. Reducing the parking supply will also deter driving to/from the subarea.

### *Change the Transportation LOS Policy*

The transportation LOS policy could be changed from a corridor LOS E standard to LOS F standard. Lowering the LOS policy acknowledges that travel during peak hours may be congested, however roadway widening projects may not be feasible (from a cost, limited right-of-way, or pedestrian/bicycle connection perspective). In addition, there may be limited opportunities to improve traffic flow during peak hours because of the land use density and the adjacency to state routes and interstate facilities. This change in policy means that communities are accepting congestion for the economic benefit of new household and job growth.

An example of another regional growth centers with a LOS F corridor policy for specific corridors in a PSRC regional growth center is Southcenter in Tukwila. The policy allows for LOS F corridor operations (not to exceed an average of 120 seconds of delay) along Strander Boulevard and Andover Park E corridors.

The City of Bellevue has designated Mobility Management Areas (MMAs), which allow for individual intersection LOS F operations as long as the area's overall vehicle-weighted average volume-to-capacity ratio (an alternative method to measuring traffic operations but comparable to measuring seconds of delay) is less than 0.95 of the total capacity.

Another potential policy change could be to measure delay in terms of average seconds of delay per person as opposed to average delay per vehicle. This policy change would better recognize the benefits of investments in transit speed and reliability (such as transit signal priority, queue jumps, or transit-only lanes) since transit often carries 60 or more people per vehicle as opposed to 1 to 2 persons per private vehicle.

### ***Transportation Improvement Projects***

Given the number of trips generated to and from the study area under the Live/Work and Business Plus Alternatives, new access points and streets could provide a more connected system and help distribute trips during peak commute hours. Potential new road connections considered turning movement volumes on the SR 527 corridor and proximity to nearby signalized intersections. Additionally, a local connection between 219<sup>th</sup> Place SE to the Philips/Juno parking lot and 9<sup>th</sup> Avenue SE could help alleviate demand on SR 527. This connection may carry about 200 PM peak hour trips but could have potential wetland impacts.

For the Mitigated Live/Work Alternative, two new roadway connections were assumed and evaluated:

- Extending 214<sup>th</sup> Street west from SR 527 to 9<sup>th</sup> Avenue SE
- Extending 20<sup>th</sup> Avenue SE north to SR 524

The new east-west connection to 9<sup>th</sup> Avenue SE would make 9<sup>th</sup> Avenue SE a viable north-south alternative for some vehicle trips traveling to/from the study area. This connection could help alleviate vehicle demand on SR 527, though numerous new trips are still expected to use SR 527. Similarly, the new connection north to SR 524 will provide another outlet for vehicles traveling east or west. Other connections to the north, such as 23<sup>rd</sup> or 30<sup>th</sup> Avenue connections to SR 524, would generally serve the same purpose but may result in increased impacts to neighborhoods and wetlands.

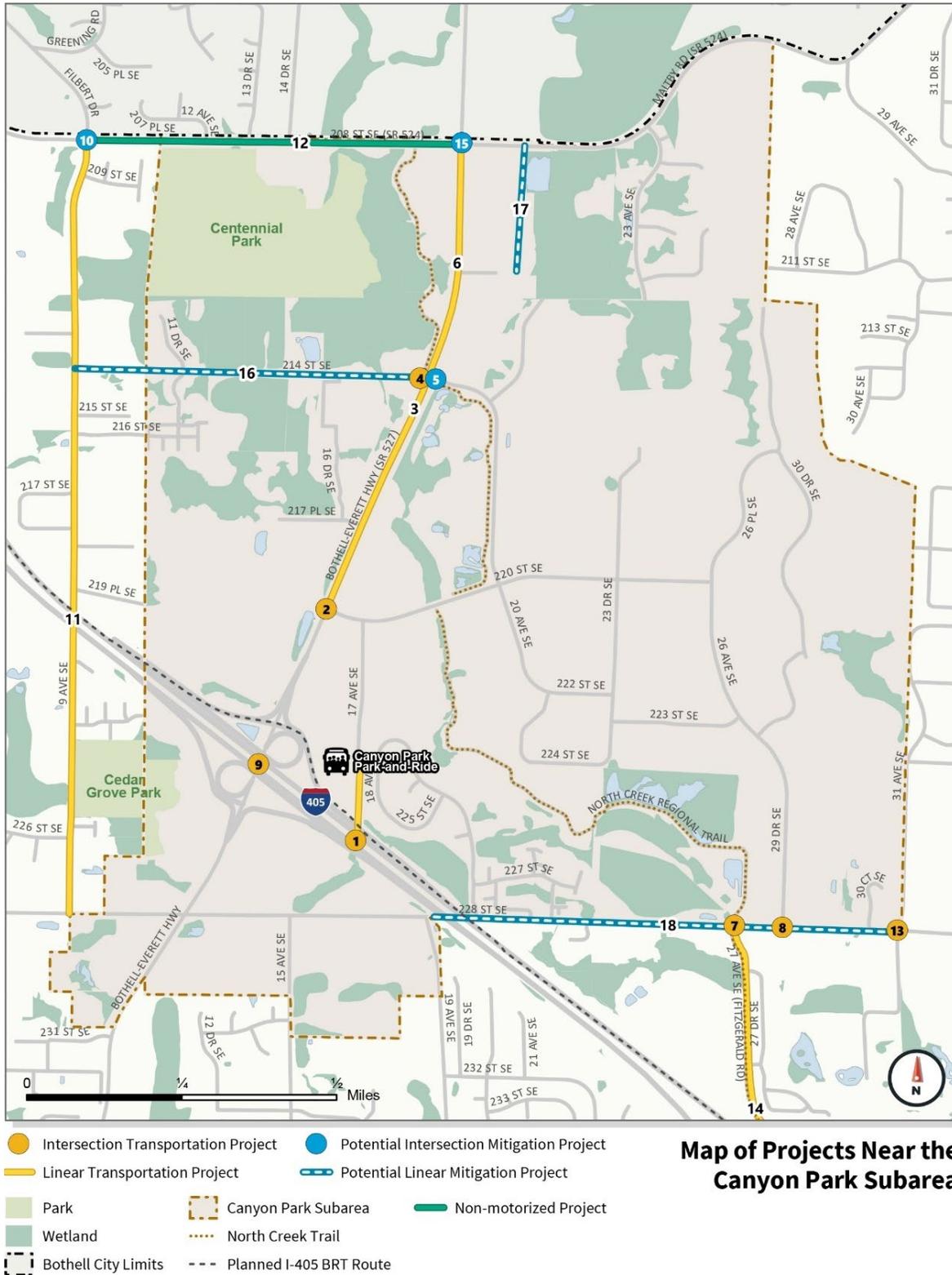
Widening 228<sup>th</sup> Street SE to five lanes would also provide more capacity to serve the vehicle demand expected to use 29<sup>th</sup> Drive access point to travel east, west, or south from the study area. However, this widening project could be physically constrained where it crosses under I-405 due to the placement of existing I-405 columns and may have impacts to 19<sup>th</sup> Avenue SE.

After redistributing trips across these new access points, new LOS calculations were completed for the study intersections. Additional potential intersection capacity improvements include:

- SR 527/SR 524 – add dual WB through lanes, dual WB left turn lanes, and channelized WB right turn. Average delay at the intersection would decrease from 146 seconds to 93 seconds, however it would still have LOS F operations.
- SR 527/214<sup>th</sup> Street – add channelized WB right turn lane, dual WB left turn lanes. Average delay at the intersection would decrease from 150 seconds to 95 seconds
- SR 524/9<sup>th</sup> Avenue – add dual NB left turn lanes. Average delay at the intersection would decrease from 146 seconds to 69 seconds and would operate at LOS E operations. This is needed to serve the added trips on 9<sup>th</sup> Avenue SE accessed from the new 214<sup>th</sup> Street SE connection.

A map of the planned transportation improvement projects (yellow) and proposed mitigation projects (blue) proposed in this Draft EIS are shown in Figure 83 and described in Table 48. Some of the benefits and disadvantages of these projects are summarized in Table 3 on page 1-20.

**Figure 83. Planned and Potential New Transportation Improvement Projects—Mitigated Live/Work Alternative**



Source: Fehr & Peers, 2019.

**Table 48. Project Map Descriptions**

No.	Project	Description
1	WSDOT I-405 Direct Express Toll Lane Access Ramps	Direct access ramps from ETL to Canyon Park at 17 <sup>th</sup> Ave SE and Transit connections. Includes improvements to 17 <sup>th</sup> Ave SE and intersections at 220 <sup>th</sup> St SE / 17 <sup>th</sup> Ave SE and 220 <sup>th</sup> St SE / SR-527.
2	220 <sup>th</sup> St SE and SR 527 Intersection	Add another eastbound left turn lane (2 total left turn lanes).
3	SR 527: Add a southbound lane between SR 524 and 220 <sup>th</sup> St SE	Add a third southbound lane, and associated intersection revisions.
4	214 <sup>th</sup> St SE & SR 527	Re-channelize the westbound through/left lane to a through/right lane.
5*	214 <sup>th</sup> St SE & SR 527	Add channelized westbound right turn lane and dual westbound left turn lane.
6	SR 527 (211 <sup>th</sup> St SE to north of SR 524)	Add a third northbound through lane. Add a southbound left turn lane at SR 524 (2 left). Also known as SR 527/SR524 Intersection Improvements.
7	228 <sup>th</sup> St SE & Fitzgerald Rd intersection	Adds eastbound right turn pocket.
8	228 <sup>th</sup> St SE & 29 <sup>th</sup> Dr SE intersection	Adds westbound right turn pocket.
9	I-405 Widening & SR 527 Interchange Improvements	Widening I-405 to add a second Express Toll lane from SR 522 to I-5 in Lynnwood. Improvements to the SR 527 and I-405 Interchange/ramps.
10*	9 <sup>th</sup> Ave SE & SR 524	Dual northbound left turn lanes.
11	9 <sup>th</sup> Ave SE Widening: 228 <sup>th</sup> St SE to SR 524	Upgrade road to a Collector road standard (3-lanes) with improved pedestrian/bike facilities and improvements to the 228 and SR 524 intersections.
12	North Creek Trail – Section 4	Complete the missing link along SR 524 between current trail and Filbert Rd.
13	229 <sup>th</sup> St SE / 31 <sup>st</sup> Ave SE Intersection	Add a westbound dedicated right turn lane.
14	Fitzgerald Rd: 240 <sup>th</sup> St SE to 228 <sup>th</sup> St SE	Widen road and add curb, gutter, and sidewalks.
15*	SR 527 / SR 524	Modify intersection to include two westbound left turn lanes and two westbound through lanes.
16*	214 <sup>th</sup> St SE Roadway Extension	Extend 214 <sup>th</sup> St SE west to the Canyon Park Subarea boundary.
17*	20 <sup>th</sup> Ave SE	Add new connection from 20 <sup>th</sup> Ave SE to SR 524.
18*	228 <sup>th</sup> St SE	Widen to five lanes from 19 <sup>th</sup> Ave SE to 31 <sup>st</sup> Ave SE. This widening project could be physically constrained where it crosses under I-405 due to the placement of existing I-405 columns and may have impacts to 19 <sup>th</sup> Ave SE.

\*Potential new proposed in this study.  
Source: Fehr & Peers, 2019.

Intersection and corridor LOS under the Mitigated Live/Work Alternative with the lower land use growth, required TDM strategies, and transportation improvement projects is shown in Table 49. Improvement projects on 228<sup>th</sup> Street SE, such as the 228<sup>th</sup> Street roadway widening, would improve the corridor operations to LOS E and meet City standards. Intersection LOS under the Action Alternatives would improve with mitigation projects, but intersections along SR 524 and SR 527 are still expected to operate at LOS F.

The purpose of the street connections is to help provide more routing options for people entering and leaving the study area. While a new 214<sup>th</sup> Street connection could reduce some of the new demand on SR 527, it would increase vehicle trips on 9<sup>th</sup> Avenue SE, resulting in increased delays at the 228<sup>th</sup> Street SE/9<sup>th</sup> Avenue SE intersection.

**Table 49. Intersection and Concurrency Corridor LOS—Mitigated Live/Work Alternative**

Map ID	Intersection & Corridor LOS	2043 No Action		2043 Live/Work		2043 Mitigated Live/Work	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	208 <sup>th</sup> St SE/SR 524 & Filbert Dr	79	E	146	F	69	E
2	208 <sup>th</sup> St SE/SR 524 & SR-527	134	F	>150	F	93	F
<b>SR 524 Corridor Weighted Average</b>		<b>114</b>	<b>F</b>	<b>&gt;150</b>	<b>F</b>	<b>83</b>	<b>F</b>
3	228 <sup>th</sup> St SE & 4 <sup>th</sup> Ave W	24	C	22	C	27	C
4	228 <sup>th</sup> St SE & Meridian Ave	19	B	17	B	39	D
5	228 <sup>th</sup> St SE & 4 <sup>th</sup> Ave SE	8	A	8	A	19	B
6	228 <sup>th</sup> St SE & 9 <sup>th</sup> Ave SE	25	C	47	D	84	F
7	228 <sup>th</sup> St SE & Bothell-Everett Highway	>150	F	>150	F	139	F
8	228 <sup>th</sup> St SE & 15 <sup>th</sup> Ave SE	19	B	32	C	17	B
9	228 <sup>th</sup> St SE & 19 <sup>th</sup> Ave SE	51	D	137	F	63	E
10	228 <sup>th</sup> St SE & Fitzgerald Rd	74	E	107	F	37	D
11	228 <sup>th</sup> St SE & 29 <sup>th</sup> Dr SE	62	E	143	F	24	C
12	228 <sup>th</sup> St SE & 31 <sup>st</sup> Ave SE	41	D	34	C	32	C
13	228 <sup>th</sup> St SE & 35 <sup>th</sup> Ave SE	30	C	51	D	34	C
14	228 <sup>th</sup> St SE & 39 <sup>th</sup> Ave SE	58	E	53	D	30	C
<b>228<sup>th</sup> Street Corridor Weighted Average</b>		<b>60</b>	<b>E</b>	<b>95</b>	<b>F</b>	<b>56</b>	<b>E</b>
2	208 <sup>th</sup> St SE/SR 524 & SR-527	134	F	>150	F	93	F
15	214 <sup>th</sup> St SE & SR-527	>150	F	>150	F	95	F
16	220 <sup>th</sup> St SE & SR-527	86	F	>150	F	96	F
17	I-405 NB Ramps & SR-527	116	F	>150	F	148	F
18	I-405 SB Ramps & SR-527	7	A	140	F	20	B
7	228 <sup>th</sup> St SE & Bothell-Everett Highway	>150	F	>150	F	139	F
19	240 <sup>th</sup> St SE & Bothell-Everett Highway	47	D	94	F	61	E
20	NE 191 <sup>st</sup> St & Bothell Way	47	D	68	E	59	E
21	NE 185 <sup>th</sup> St & Bothell Way	58	E	61	E	60	E
22	NE 183 <sup>rd</sup> St & Bothell Way	11	B	10	B	16	B
23	Main St & Bothell Way	6	A	5	A	5	A
24	SR-522 & Bothell Way	58	E	74	E	68	E
<b>SR 527 Corridor Weighted Average</b>		<b>90</b>	<b>F</b>	<b>&gt;150</b>	<b>F</b>	<b>82</b>	<b>F</b>

Note: Intersections/corridors not meeting the City's standard (e.g., operating at LOS F conditions) shaded in pink.  
Source: Fehr & Peers, 2019.

Additionally, a mitigation project considered but not included in this more detailed mitigation analysis was an alternative intersection design at 228th Street/Bothell-Everett Highway which would feature displaced left turns to reduce conflicting movements and allow for more efficient signal phasing. This intersection modification would likely require additional right-of-way along 228th Street directly east and west of the intersection and traffic signal modifications. This concept could increase intersection capacity, however widening of 228th Street would also degrade the pedestrian environment by lengthening crossings. This concept could not be evaluated using the tools that are being applied for this EIS analysis, however research from the FHWA have stated that intersection delay could be reduced by up to 30%. (FHWA, 2014) Even with a 30% decrease in delay, this intersection is still likely to see LOS F operations, but delay would be reduced compared to if no changes were made at this location.

Lastly, a potential transit project to consider is BAT lanes on SR 527 to improve transit service operations in the subarea. Widening of SR 527 to add a new dedicated transit lane could improve transit speed and reliability along the corridor and encourage transit ridership. Adding a BAT lane however would require substantial funding for right-of-way acquisition and traffic signal modifications. A conversion of a general purpose lane to a BAT lane would also prioritize and improve transit operations in the area, however it would negatively affect private vehicles, since they would lose one lane of roadway capacity.

### ***Transportation GHG Emissions***

The estimated transportation GHG emissions under the Mitigated Live/Work Alternative is approximately 93,300 pounds of CO<sub>2</sub> during the PM peak period. This equates to roughly 2.94 pounds of CO<sub>2</sub> per person, about 2% lower than under the No Action Alternative (3.021 pounds of CO<sub>2</sub> per person). This decrease is attributed to assumed TDM mitigation strategies. No impact is expected as the per capita emissions is lower than No Action.

### **Incorporated Plan Features**

The Mitigated Live/Work Alternative includes many built-in mitigation features, such as reduced land use growth, implementation of TDM programs, and new transportation improvement projects, that help reduce PM peak hour vehicle trip generation and distribute those trips in a less impactful way. In addition, fewer transportation GHG emissions per population would be generated under this alternative than any of the other alternatives, including the No Action Alternative.

### **Regulations and Commitments**

- Develop a transportation demand management program for the subarea. Require all employers and residents to participate. The example TDM strategies previously described result in an expected 14% reduction in vehicle travel during the peak hour. This program could coordinate with state Commute Trip Reduction Program, which

requires employers with 100 or more employees traveling during the typical commute period to adopt mode share or VMT goals and implement travel demand strategies. Participants report commute mode share and VMT every other year.

- Construct the proposed potential transportation improvement projects listed in Figure 83. These transportation projects in combination with the lower growth scenario and described TDM strategies would result in a traffic corridor LOS impact, but could be mitigated to a less than significant impact. SR 524 and SR 527 corridor delay under the Mitigated Live/Work Alternative is still expected to be LOS F (82 and 83 seconds), but with average corridor delay less than under the No Action Alternative (both over >150 seconds).

### Other Proposed Mitigation Measures

The Action Alternatives would result in substantial increased demand on the transportation network within the study area. Additional strategies to those previously described to reduce impacts to the auto network include eliminating trips, shifting drive alone trips to other modes, or shifting the time when trips are made.

Strategies that could be incorporated into either proposal include:

- **Reducing trips:** Encourage employers to offer employees incentives to telework.
- **Temporal shifts:** Encourage or employers to offer employees incentives to start and leave work outside of peak commute hours.
- **Off-hours freight delivery:** Establish delivery windows for freight to minimize truck trips occurring during peak congestion hours.
- **Parking strategies:** Change development standards to reduce parking requirements as sites redevelop, (particularly for development within a ¼ mile walk of transit stops or the park-and-ride), require employers to charge for parking, and/or provide dedicated parking spots to carpool/vanpool.
- **Transit first/last mile:** Provide a circulator shuttle for all residents and tenants between the park-and-ride and various key points throughout the study area. This can help address the first/last mile connection between transit stops and final destinations. Incorporate a bikeshare or scooter-share system as an option to address the first/last mile connection.
- **Increase transit service:** increase local transit service to the area, which can be supplemented by the circulator shuttle described above.
- **Improvements of transit hub at Canyon Park Park-and-Ride:** provide better wayfinding signage and improved walkways to and from the park-and-ride.
- **Evaluate park-and-ride capacity needs:** Increased park-and-ride vehicle parking capacity is not planned at this time. Allocating a portion of parking stalls only for carpool or vanpool could help reduce vehicle trips. Increased secure bike parking will also encourage shifting to other modes.

Additionally, Table 50 includes a full list of transportation improvement projects in the study area identified in this Draft EIS as well as unfunded transportation projects near the study area that were assumed to be complete by 2043. The table provides planning level cost estimates, if available, as well as project source references to City plans.

**Table 50. Canyon Park Subarea Planned Transportation Project List**

Project	Description	Source	Planning Level Cost Estimate
<b>Identified in this Subarea Analysis</b>			
20 <sup>th</sup> St Extension	Street extension north to SR 524		\$17.8 M
214 <sup>th</sup> St Extension	Street extension west to 9 <sup>th</sup> Ave		\$17.6 M
228 <sup>th</sup> St Widening	Widen 228 <sup>th</sup> St to 5 lanes between 19 <sup>th</sup> Ave and 39 <sup>th</sup> Ave		TBD
SR 524/9 <sup>th</sup> Ave SE intersection	Add dual northbound left turn		TBD
Intersection capacity improvements at SR 527/214 <sup>th</sup> St	Add channelized WB right turn lane, dual WB left turn lanes.		TBD
<b>Identified Through Previous Studies</b>			
WSDOT I-405 Direct Express Toll Lane Access Ramps	I-405 ETL direct access ramps from 17 <sup>th</sup> Ave		\$625 M (Funded)
9 <sup>th</sup> Ave SE Widening (228 <sup>th</sup> St SE to SR 524)	Widen to 3-lane cross-section	TNL #7	\$7.9 M
35 <sup>th</sup> Ave SE (240 <sup>th</sup> St SE to 228 <sup>th</sup> St SE)	Widens to 3 lanes. Includes curb/gutter and sidewalk improvements. Shared bike facilities or bike lane	TNL #14	\$33.5 M
228 <sup>th</sup> St SE & Fitzgerald Rd intersection	Adds eastbound right turn pocket	TNL #18	\$0.9 M
228 <sup>th</sup> St SE & 29 <sup>th</sup> Dr SE	Adds westbound right turn pocket	TNL #19	\$0.9 M
228 <sup>th</sup> St SE/31 <sup>st</sup> Ave SE Intersection	Adds westbound right turn pocket	TNL #20	\$0.9 M
SR 527 (SR 524 & 220 <sup>th</sup> St SE)	Widen road for new SB lane		\$14.1 M
220 <sup>th</sup> St SE & SR 527	Adds eastbound left turn lane (2 left)	TNL #21	\$0.7 M
214 <sup>th</sup> St SE & SR 527	Re-channelizes westbound through/left lane to through/right	TNL #22	TBD
SR 527 (211 <sup>th</sup> St SE to north of SR 524)	Add northbound through lane Add southbound left turn lane at SR 524	TNL #15	\$5.7 M
SR 524 & 9 <sup>th</sup> Ave SE	Add northbound left turn lane (2 left)	TNL #23	\$0.9 M

Project	Description	Source	Planning Level Cost Estimate
228 <sup>th</sup> St (35 <sup>th</sup> St SE to 39 <sup>th</sup> Ave Widening)	Widen road to 4/5 lanes	2019–2024 TIP	\$6.7 M
9 <sup>th</sup> Ave SE Widening (228 <sup>th</sup> St SE to SR 524)	Build road to collector road standards	TNL #7	\$7.9 M
North Creek Trail, Section 4	Build missing link on south side of SR 524	2019–2024 TIP	\$6.6 M
Fitzgerald Road (240 <sup>th</sup> St SE to 228 <sup>th</sup> St SE)	Minor roadway widening including curb/gutter and sidewalks along east side of roadway to meet City standards	TNL #6	TBD
SR 524 Safety & Access Improvements (SR 527 to 39 <sup>th</sup> Ave SE) <i>Also known as SR 524 Corridor Improvements</i>	Addresses the safety and access concerns on SR 524 between SR 527 and 39 <sup>th</sup> Ave SE. Access improvements will be limited to roadway widening to provide for left turn pockets and improve sight distances	TNL #8	TBD
Adaptive Signal Control (228 <sup>th</sup> )	Install an adaptive signal control system along 228 <sup>th</sup> St SE	TNL #26	TBD
I-405 Widening & SR 527 Interchange Improvements	Widening I-405 to add a second Express Toll lane from SR 522 to I-5 in Lynnwood. Improve SR 527 and I-405 Interchange	PSRC Transportation 2040	Financially constrained, \$399.4 M
SR 527/228 <sup>th</sup> St to I-405	Intersection improvements to be coordinated with I-405/SR 527 Interchange improvement project described above	PSRC Transportation 2040	Unfunded

Notes: TNL = City of Bothell Transportation Needs List.

2019-2024 TIP = City of Bothell Transportation Improvement Program Project List.

Source: Fehr & Peers, 2019; City of Bothell, 2019.

### 3.5.4 Significant Unavoidable Adverse Impacts

Under the No Action Alternative, the SR 527 and SR 524 corridors are expected to exceed the City's LOS E standard for concurrency corridors. This is due to both growth expected in the subarea, as well as growth in the region. Because the Live/Work and Business Plus alternatives anticipate more growth in the subarea than is expected under the No Action Alternative, significant traffic impacts are expected along all three adjacent concurrency corridors (SR 524, SR 527, and 228<sup>th</sup> Street) which are expected to operate at LOS F conditions. Additionally, individual intersections on SR 527 and SR 524 are expected to operate at LOS F conditions:

- SR 524 and Filbert Drive
- SR 524 and SR 527

- 214<sup>th</sup> Street SE and SR 527
- 220<sup>th</sup> Street SE and SR 527
- I-405 NB Ramps and SR 527
- I-405 SB Ramps and SR-527
- 228<sup>th</sup> Street SE and Bothell-Everett Highway
- 240<sup>th</sup> Street SE and Bothell-Everett Highway

Implementation of the Live/Work or Business Plus alternatives would result in increased traffic in the study area compared to the No Action Alternative. Although the effects of additional vehicles on traffic congestion can be mitigated to varying degrees through the proposed transportation improvements as evaluated in the Mitigated Live/Work Alternative, the actual increase in traffic under the Action Alternatives is considered a significant unavoidable adverse impact.

Proposed street connectivity and intersection capacity improvements shown in Figure 83 would help support mobility throughout the study area under the Live/Work and Business Plus alternatives. Intersections on SR 527 and SR 524 are still expected to operate at LOS F conditions during peak commute hours (although this would result in improved operations compared to without these mitigations).

The Mitigated Live/Work Alternative includes new roadway connections, reduced land use growth, and implementation of TDM strategies, as well as potential LOS policy changes. Even with these mitigation strategies in place, the SR 524 and SR 527 concurrency corridors are still expected to operate at LOS F conditions, but the impact would be reduced to less than significant as the average corridor delay would be less than what is expected under the No Action Alternative.

A significant adverse impact could also result if one or more mitigation measures identified to address expected impacts are not implemented. The combination of recommended roadway improvements the City selects during the entire environmental review and subarea planning process will reflect a balance between desired improvement in traffic operations, policy decisions, and available revenue.

## 3.6 Public Services

This section addresses public services provided in the Canyon Park study area in terms of fire protection and emergency services, police protection, parks, and schools; service provider levels of service (LOS) are also described.

See also Section 3.3 for a discussion of civic facilities and the public realm that contribute to the area's character and urban design.

### 3.6.1 Affected Environment

The location of emergency service facilities, parks, and schools is illustrated in Figure 84. There is one fire station, two public parks and a range of public and private open spaces, and several trails. There are no schools inside the subarea but several on the periphery that serve the study area.

#### Fire Protection and Emergency Services

##### *Current Conditions*

There is one City of Bothell Fire Department station in the study area, Canyon Park Fire Station #45, located at 1608 217<sup>th</sup> Place SE, housing the following apparatus:

- 1—Fire Engine
- 1—Aid Unit
- 1—Reserve Fire Engine

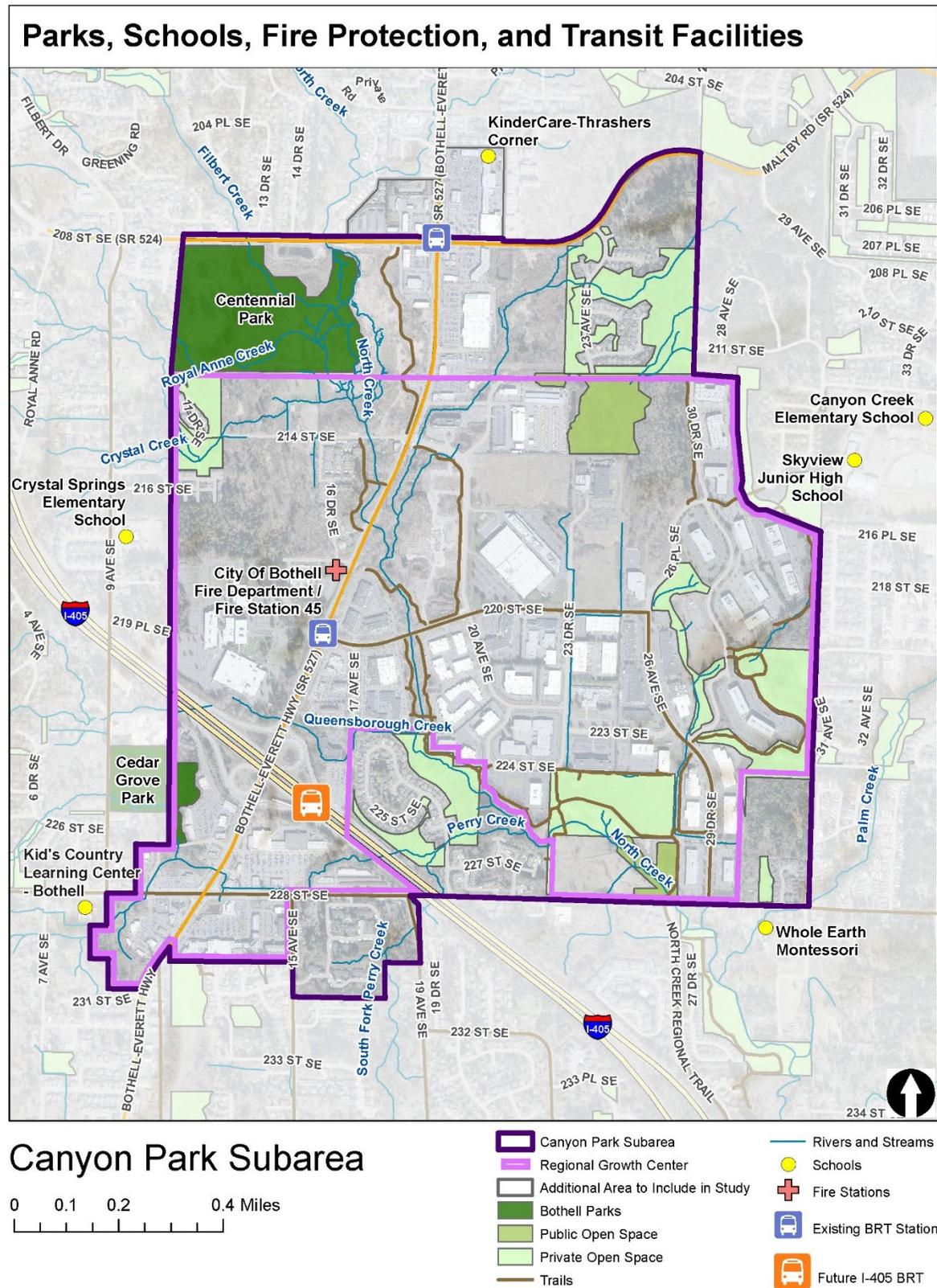
The Canyon Park station is staffed with a minimum of three personnel and is routinely staffed with five depending on scheduled time off. When the Station is staffed with five, the aid unit is placed in service at a full time, non-crossed staffed station.

The portion of the study area north of SR 524 in unincorporated Snohomish County is served by Fire District 10. Fire District 10 is served by the Bothell Fire Department, including the City's Canyon Park Fire Station above, and the Queensborough Fire Station, Station 44 at 330 228<sup>th</sup> Street SW. The Queensborough Fire Station also houses one fire engine, one aid unit, and one reserve fire engine and a hazardous materials decontamination trailer. The Queensborough Station is staffed with a minimum of three personnel.

In 2018, the Bothell Fire Department responded to 6,350 incidents, approximately 80% of which were medical in nature. This was the highest call volume in the Department's history, though the number of incidents has increased moderately between 2015-2018 following three years of growth. The Department employs 71 personnel, including 7 administration, 6 fire prevention and community risk reduction, and 58 response operations personnel.

The City of Bothell and Fire District 10 are currently negotiating a new contract for services.

Figure 84. Public Facilities



Source: City of Bothell, 2019; BERK, 2019.

### Levels of Service

The City has adopted a response time based level of service (LOS) standard of 7 minutes and 15 seconds 90% of the time (CF-P3 in *Imagine Bothell... Comprehensive Plan*; see the Canyon Park Existing Conditions Report, April 2019) available at: <http://www.ci.bothell.wa.us/1193/Canyon-Park-Background>. Per the Bothell Fire Department's 2018 Annual Report, the total average response time in 2018 for fire and emergency medical incidents was 8 minutes and 11 seconds 90% of the time, or 56 seconds above the adopted LOS. The response time of the first fire engine at a fire incident was 8 minutes and 52 seconds 90% of the time (1 minutes and 37 seconds above the adopted LOS), and the response time of an emergency medical technician to an emergency medical incident was 8 minutes and 9 seconds 90% of the time (54 seconds above the adopted LOS).

Another common means to review demand for fire protection/EMS resources is to look at fire response personnel per 1,000 residents (the City currently does not have an adopted per capita LOS for fire response personnel). This helps compare service capabilities over-time and across jurisdictions. Fire suppression personnel are often trained in emergency medical services and are all Washington State Emergency Medical Technicians also trained in Defibrillation. There is overlap in the number of full-time equivalents for each activity. The Bothell Fire Department currently has 65 firefighters on staff with 58 of them serving in operations as firefighters, or 1.2 firefighters per 1,000 residents.<sup>5</sup> Bothell residents approved the Safe and Secure Levy and Bond in fall 2018. The funding is meant to add six new firefighters and a new aid car to ensure full-time emergency medical services at Station #45 (Canyon Park) to respond to growing calls for services in North Bothell. As of fall 2019, four of six firefighter positions were filled. When the remaining firefighters are added, the number of firefighters in operations will total 60 and lead to a rate of 1.3 per 1,000 persons.

### Capital Funding Plans

With capital funding from the Safe and Secure Levy and Bond, the City of Bothell is starting a multi-year project to demolish and replace the Downtown Fire Station #42 and Canyon Park Fire Station #45 that are several decades old – new stations will be built on the existing sites. The projects will provide safety upgrades, technical modernization, and energy efficiency accommodating current and long-term emergency fire, medical, and rescue response needs and will address the emerging issue of Firefighter Cancer and its prevention. Design requirements include accommodations housing eight firefighters and providing four apparatus bays, including two that are large enough for a ladder truck, among others. The new Fire Station #45 at Canyon Park would include a Police Department satellite office to serve residents of north Bothell.

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<sup>5</sup> Based on the State of Washington OFM population estimate of 46,750 for the City of Bothell.

## Police Services

### *Current Conditions*

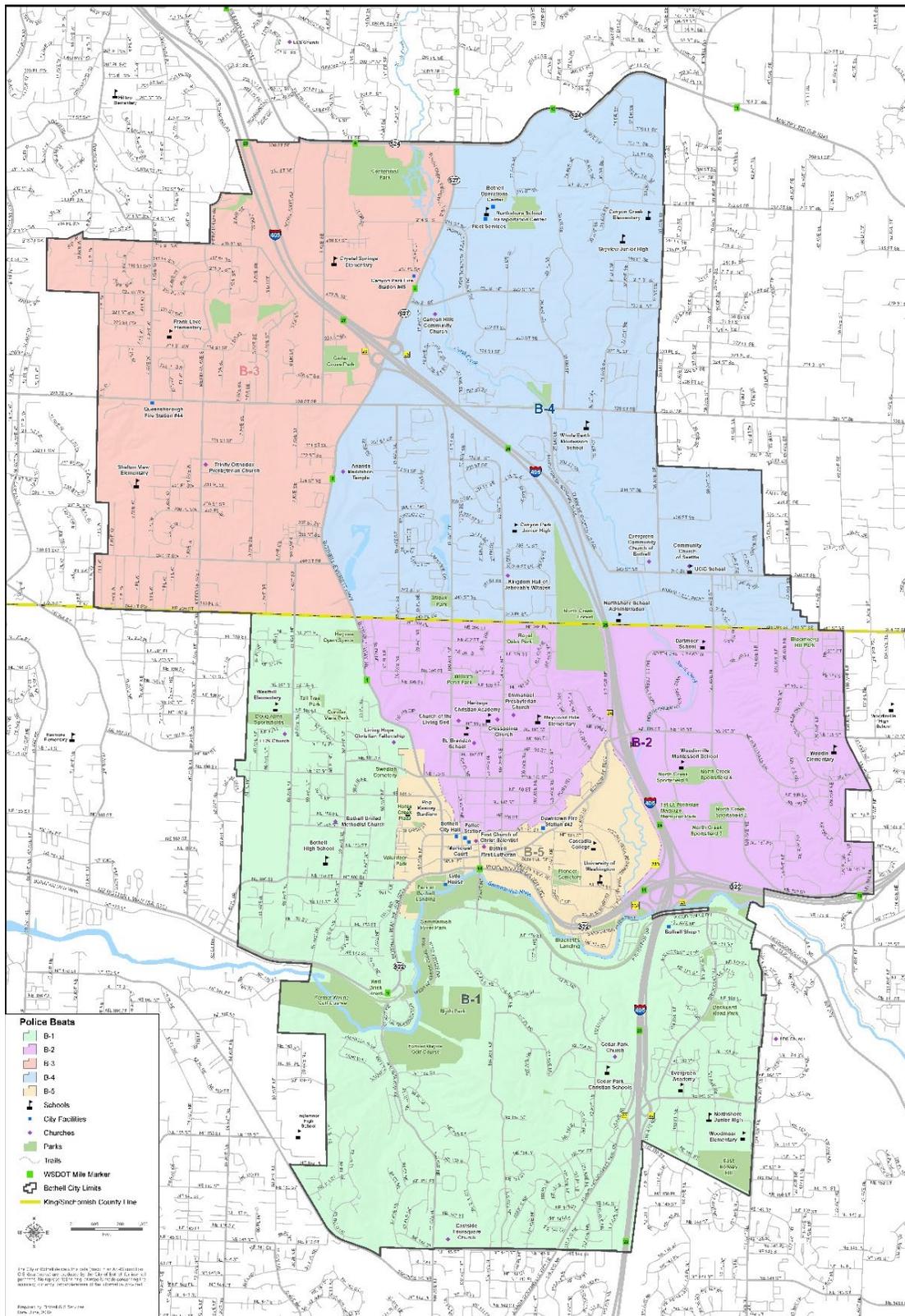
The City of Bothell provides police services with 61 commissioned officers as of 2018. The Police Department is located at 18410 101st Avenue NE Bothell, WA 98011; the Police Department also uses the Public Works Bothell Operations Center in the Canyon Park Area (21233 20<sup>th</sup> Ave SE) as a base of operations.

Based on the 2018 population of the entire city in both counties (45,260 residents), and the number of commissioned officers reported to the state in 2018 (61), the rate of commissioned officers was 1.35 commissioned officers per 1,000 population. Considering other Washington cities with populations of 25,000-50,000, the City's rate is above the average of 1.2. It is a lower rate than Lynnwood's rate of 1.83 per 1,000 population (38,260 residents), and higher than the City of Edmond's rate of 1.22 per 1,000 population (41,820 residents). (Washington Association of Sheriffs and Police Chiefs (WASPC), 2018)

The number of officers depends on local needs and community resources. To address emerging challenges including traffic enforcement and pedestrian safety, drug use, mental illness, homelessness, property crimes, and school safety issues, Bothell residents passed a Safe and Secure Bothell Levy and Bond. With it, in 2019 the City has been able to hire nine police officers and two police civilians as well as one probation lead. As of fall 2019 present officers equal 70 and there are four more hires in progress for 74 officers. The current population as of 2019 is 46,750. When fully staffed, the rate of officers per 1,000 population would equal 1.58.

Bothell's five patrol districts are illustrated in Figure 85. The study area falls primarily in patrol district 4. The UGA is served by the Snohomish County Sheriff.

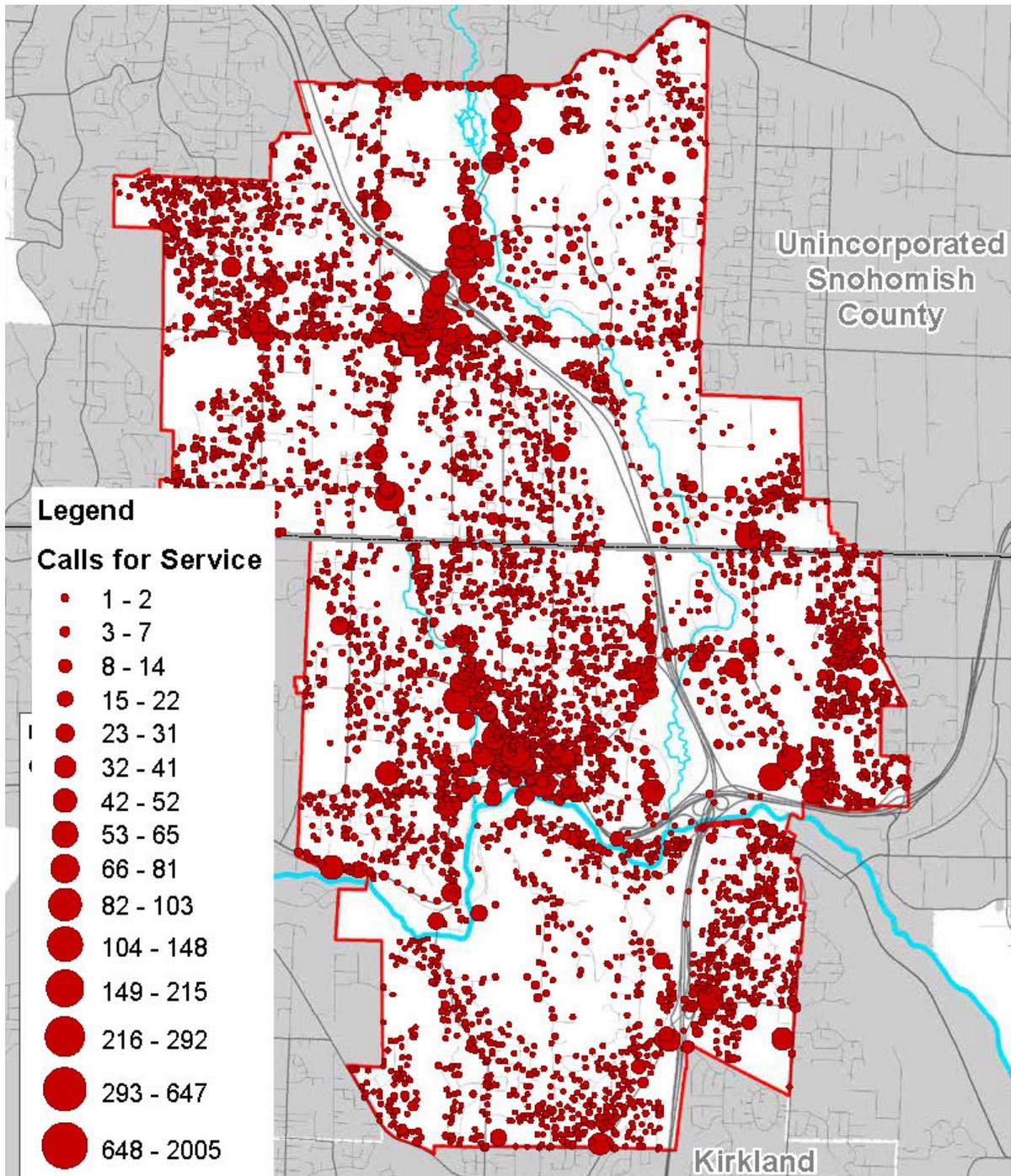
Figure 85. Bothell Police Patrol Districts (Beats)



Source: City of Bothell Police Department, 2016.

Uniformed patrol responded to 29,739 calls for service within the City's six districts, resulting in approximately 32,600 hours of investigation. Across the city, employment and retail centers have higher calls for service, including in the study area.

**Figure 86. Bothell Police Calls for Service, 2017**



Source: City of Bothell Police Department, 2017.

### Level of Service

Bothell does not have a police LOS that drives capital facility needs, but has a guideline:

*CF-P4 Police level of service guideline. At the writing of the 2015 Plan Update, the Public Safety Building and the North Bothell Satellite Office, located in the Public Works Operation Center (PWOC),<sup>6</sup> are collectively sized and located to accommodate staff necessary to meet Bothell's service delivery needs well beyond the 2035 horizon of the Plan. Accordingly, a quantifiable level of service guideline is not warranted for this update, as no significant expanded or new city police facilities are anticipated over the 20-year period. Future periodic Plan updates should revisit the adequacy of police facilities when those updates are performed, to determine whether a specific level of service guideline is warranted to provide direction for future police capital investments.*

### Existing Plans

The Police Department produces annual reports, including in 2017, which stated four operational goals:

- Reduce crime and the fear of crime.
- Provide professional, courteous, and proactive response to our residents needs requests.
- Maintain/improve community trust through proactive partnerships and communication.
- Maintain and adhere to our core values: Service, Honesty, Integrity, Excellence, Loyalty, Duty.

### Parks

#### Current Conditions

The City owns Centennial Park, Cedar Grove Park, and other open space in the Canyon Park study area.

Centennial Park is 54 acres in size and is addressed at 1130 208<sup>th</sup> Street SE, Bothell, WA 98021. The features onsite include the Historical North Creek Schoolhouse rental space, a small picnic shelter and BBQ, a restroom, open green space, wetlands and trails, and parking. As of the time of this writing, Centennial Park is considered a Regional Facility. Regional Facilities are recommended for 0.2 acres per 1,000 population. The City is preparing an update of its Parks, Recreation and Open Space (PROS) Plan in 2020, and park classifications may change. See Table 51.

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<sup>6</sup> Now known as the Bothell Operations Center (BOC).

Cedar Grove Park is 13.75 acres straddling the western study area and is considered a Community/Open Space recommended for 1.1 acres per 1,000 population. See Table 51.

The park contains:

- Large Picnic Shelter
- Restrooms
- BBQ/Grill
- Picnic Tables
- Children's Playground
- Basketball Court
- Sports Field
- Wetland Boardwalk
- Parking

### ***Level of Service***

The City has an adopted acres-based level of service (LOS) standard of 4.5 acres of developed, operational, and functional parkland per 1,000 population. The City is updating its plans in 2020 which may alter the LOS.

Core parkland includes mini parks, neighborhood parks, community parks and athletic fields as defined in the 2015 Comprehensive Plan; other park and recreation lands include open space and regional parks. Existing LOS is 6.7 acres of developed, operational, and functional parkland per 1,000 population, with an overall surplus of 86.88 acres of core and other park and recreation lands. However, there is a deficit of 27.43 acres of core parkland—including a surplus of mini and community parks, and a deficit of neighborhood parks and athletic fields—and a surplus of 144.31 acres of other park and recreation lands—including open space and regional parks.

**Table 51. City of Bothell Parks Level of Service**

Park Facilities	Rec. Std. Acres Per 1,000 Pop.	Existing Inventory 2014 (Ac.)	Demand/ Goal 2014 (Ac.)	Surplus/ (Deficit) 2014 (Ac.)	Demand/ Goal 2025 (Ac.)	Surplus/ (Deficit) 2025 (Ac.)
<b>Core Parkland</b>						
Mini	0.1	10.42	4.05	6.37	4.45	5.97
Neighborhood	1.1	13.65	44.59	(30.94)	48.95	(35.3)
Community	1.2	53.92	48.65	5.24	53.4	0.52
Athletic Fields	0.8	24.30	32.43	(8.13)	35.6	(11.3)
Total Core Parkland	3.2	102.29	129.72	(27.43)	142.4	(40.11)
<b>Other Park and Recreation Lands</b>						
Open Space	1.2	157.93	48.1	109.83	53.4	104.53
Regional	0.2	12.5	8.02	4.48	8.9	3.6
Total Other Park and Recreation Lands <sup>1</sup>	1.4	170.43	56.12	114.31	62.3	108.13
<b>Total</b>	<b>4.5</b>	<b>272.72</b>	<b>185.84</b>	<b>86.88</b>	<b>204.7</b>	<b>68.02</b>

Notes: 2014 City of Bothell population = 40,540. <sup>1</sup>Does not include the former Wayne Golf Course which was not part of the inventory in 2015 when the Comprehensive Plan was put together.

Source: *Imagine Bothell...* Comprehensive Plan (Table 8 on p. PR-22, Table 10 on p. PR-28), 2015; BERK, 2019.

### Existing Plans and Funding

Development is required to pay impact fees to address system improvements needed to serve new growth. City plans show a deficit in some park types based on planned levels of growth and the City's levels of service. Per the *Imagine Bothell...* Comprehensive Plan, acquisitions of land for neighborhood parks is the City's highest priority for park projects. The City is actively pursuing neighborhood park sites in several neighborhoods, including the Thrasher's Corner/Red Hawk neighborhood. This priority may change with the update of the PROS Plan in 2020 as the City recently acquired over 100 acres of park land.

The City also received federal grants to complete the design and right-of-way acquisition phases of the North Creek Trail Section 4 project. This project is the last missing segment of North Creek Trail within the City of Bothell and is to be built on a separated path from SR 524 between the intersection of SR 524 (Filbert Road)/9<sup>th</sup> Avenue SE and the north terminus of the newly built North Creek Trail Section 3. When complete, this trail will connect the designed Snohomish County North Creek Regional Trail with the existing North Creek Trail system in Bothell.

## **Schools**

### ***Current Conditions***

At the time of this writing, there are no standard schools inside the study area, but Northshore School District facilities are located nearby, including:

- Canyon Creek Elementary School/Skyview Middle School
- Crystal Springs Elementary School

Northshore School District purchased a nearly 6-acre property at 2000 and 2020 224<sup>th</sup> Street SE with existing structures. Based on a pre-application to the City, the City anticipates a specialty high school with a combination of student instruction and work at nearby businesses.

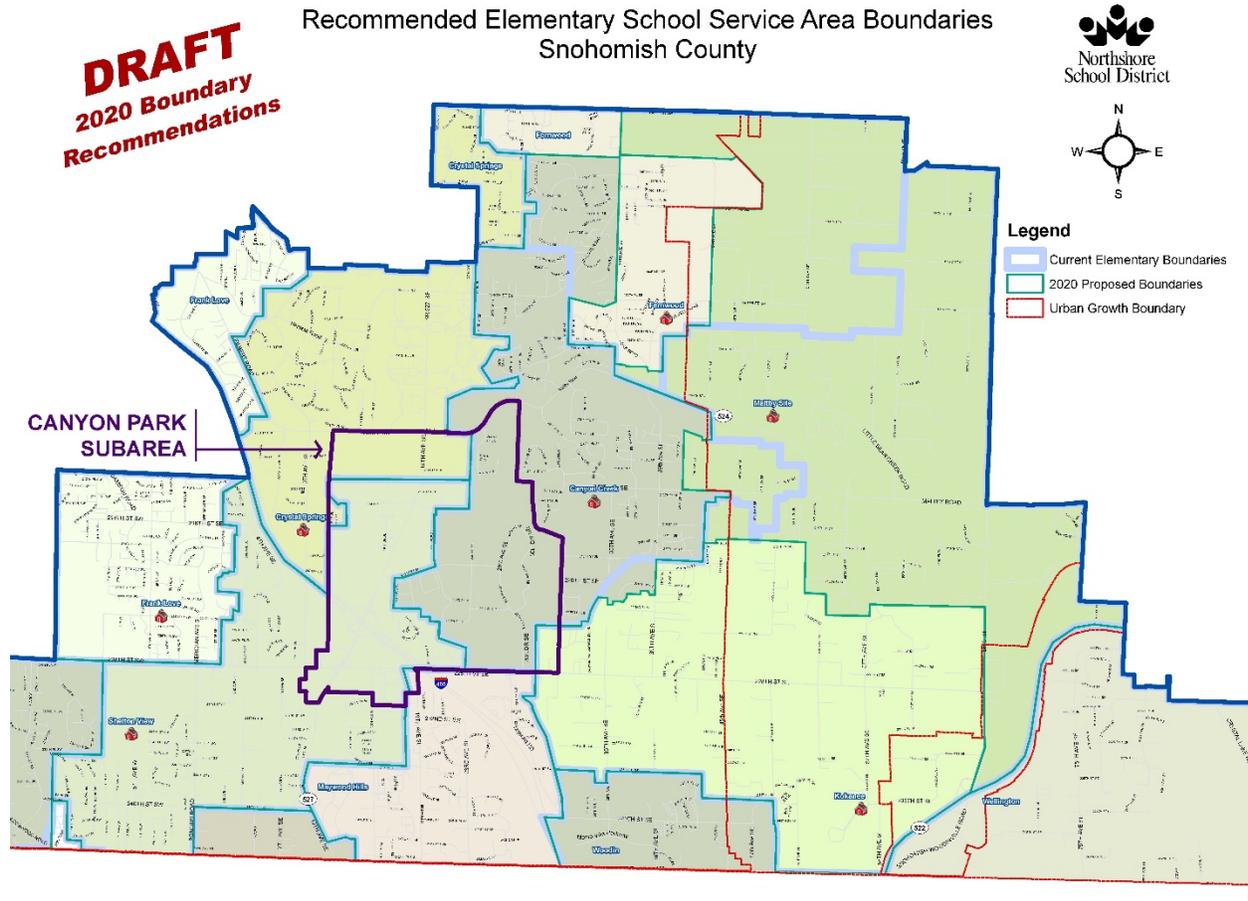
Most of the study area is within the service areas of Canyon Creek, Shelton View, or Crystal Springs Elementary schools, with a small portion in the south within the Maywood Hills service area. The western portion of the study is within the Canyon Park Middle School service area and the eastern portion is within the Skyview Middle School service area—a small portion of the southwest corner of the study area is within the Leota Middle School service area. Starting in fall 2019, students within the study area who attend Skyview or Leota Middle School will feed into North Creek High School, and those who attend Canyon Park Middle School will feed into Bothell High School.<sup>7</sup> See Figure 87 through Figure 89.

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<sup>7</sup> The District is currently reviewing 2020 boundary adjustments for Canyon Creek, Fernwood, Kokanee, Leota, and Skyview. None of the elementary or middle school boundary adjustments are within the study area.

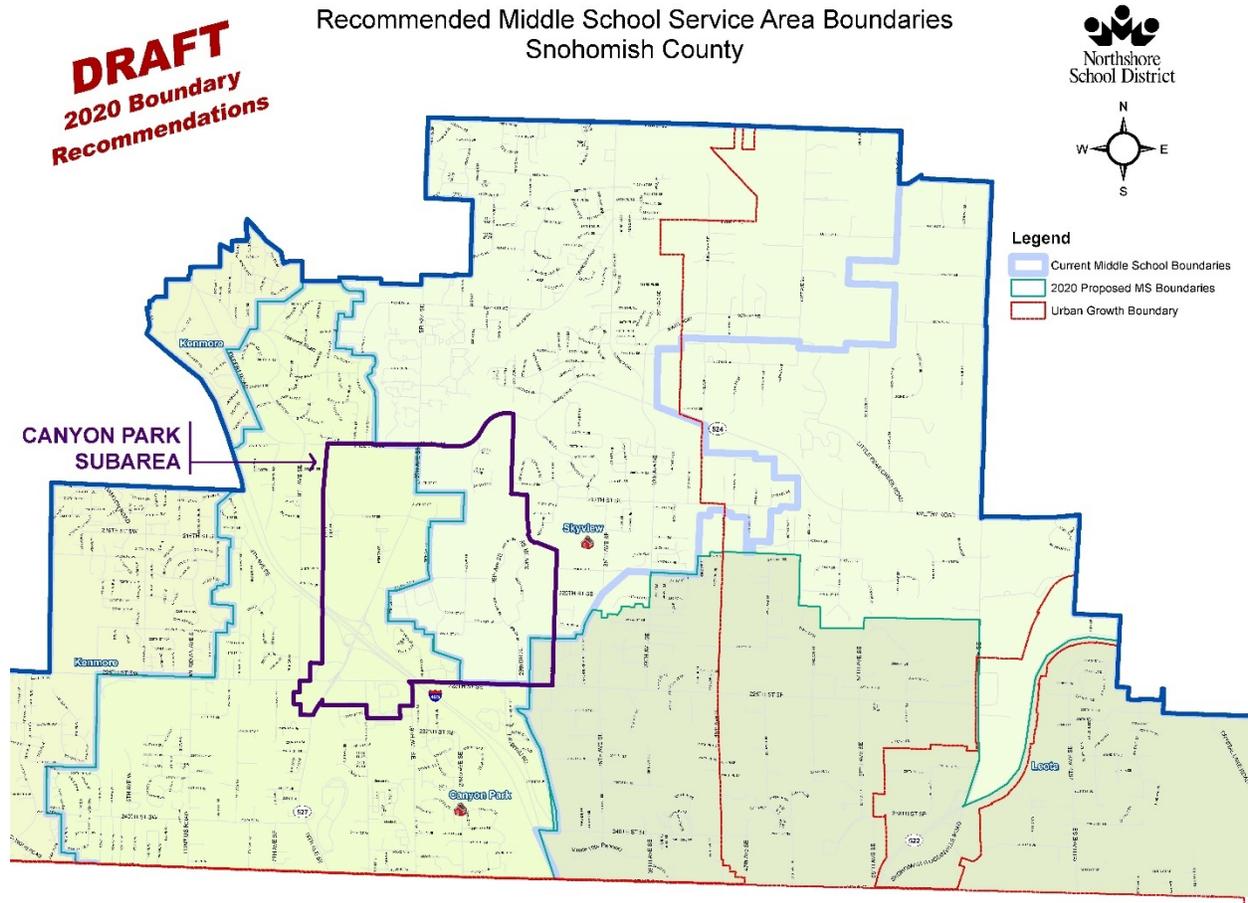
Starting in fall 2019, there is a boundary adjustment to better balance the enrollment numbers at Bothell and North Creek High Schools—a portion of the northern study area will be affected by the recommended boundary adjustment. In fall 2019, incoming 9th grade students in the affected area will be assigned to Bothell High, but will be allowed to waiver to North Creek. Any siblings entering high school after the 2019 school year will attend Bothell High School and will not be able to waiver into North Creek High School. Any student new to the affected area, either new to the District or having moved there from within the District, will be assigned to Bothell High School and will not be able to waiver into North Creek High School. For the 2020-21 school year and beyond, all incoming 9th grade students, including siblings of North Creek High School students in the affected area, and any new student regardless of high school grade moving into these pockets, would be assigned to Bothell High School. Non-mandatory waivers to North Creek High School will not be allowed.

Figure 87. Current and Draft Proposed Elementary School Service Area Boundaries, Northshore School District



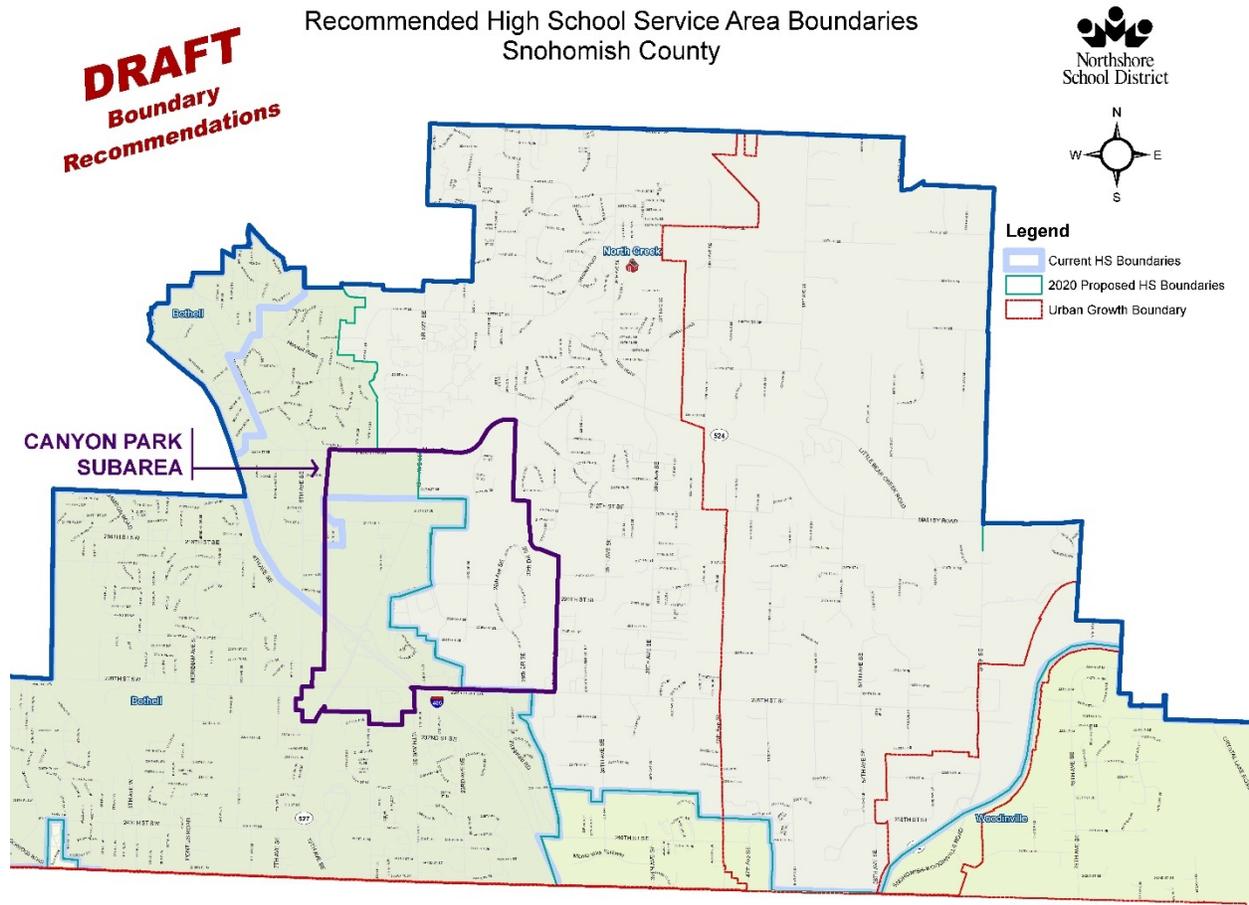
Source: Northshore School District, 2019; BERK, 2019.

Figure 88. Current and Draft Proposed Middle School Service Area Boundaries, Northshore School District



Source: Northshore School District, 2019; BERK, 2019.

Figure 89. Current and Draft Proposed High School Service Area Boundaries, Northshore School District



Source: Northshore School District, 2019; BERK, 2019.

In the fall of 2017, the District implemented a reconfiguration of its instructional model to a four-year (9-12) high school, a 6-8 middle school, and a K-5 elementary school model. By the 2018-19 school year, all schools (including the new North Creek High School) housed students according to these grade spans.

According to the District's 2018-2024 Capital Facilities Plan, continued increases in enrollment over the past six years have fully exhausted capacity increases from relocating building programs, portable additions, and boundary changes. Districtwide, enrollment during the 2017-18 school year was 1,214 over permanent capacity and 1,792 under total capacity (total capacity includes permanent classroom capacity and temporary/interim portable classroom capacity). While some elementary capacity relief occurred from grade reconfiguration in the fall of 2017, growth continues to outpace school capacity. Enrollment in elementary schools was 1,709 over permanent capacity and 654 under total capacity

during the 2017-18 school year. Middle and high school enrollment during the 2017-18 school year were both under capacity.

Existing and planned capacity, as well as 2017-18 and 2018-19 enrollment for each of the schools with service areas overlapping the study area are shown in Table 52.

**Table 52. Capacity and Enrollment by School, 2017-18 and 2018-19**

Study Area Schools by Grade Level <sup>1</sup>	Permanent Classroom Capacity	Interim Portable Capacity	Total Capacity	2017-18			2018-19		
				Enrollment <sup>2</sup>	Over or (Short) Permanent Capacity	Surplus or (Deficit) Total Capacity	Enrollments	Over or (Short) Permanent Capacity	Surplus or (Deficit) Total Capacity
<b>Elementary (K-5)</b>									
Canyon Creek	505	227	<b>732</b>	695	(190)	<b>37</b>	707	(202)	<b>25</b>
Crystal Springs	404	241	<b>645</b>	600	(196)	<b>45</b>	596	(192)	<b>49</b>
Maywood Hills	422	200	<b>622</b>	320	102	<b>302</b>	630	(208)	<b>(8)</b>
Shelton View	416	46	<b>462</b>	776	(360)	<b>(314)</b>	455	(39)	<b>7</b>
Elementary Total	1,747	714	<b>2,461</b>	2,391	(644)	<b>70</b>	2,388	(641)	<b>73</b>
<b>Middle (6-8)</b>									
Canyon Park	959	49	<b>1,008</b>	909	50	<b>99</b>	945	14	<b>63</b>
Leota	851	157	<b>1,008</b>	885	(34)	<b>123</b>	910	(59)	<b>98</b>
Skyview	873	146	<b>1,019</b>	954	(81)	<b>65</b>	977	(104)	<b>42</b>
Middle Total	2,683	352	<b>3,035</b>	2,748	(65)	<b>287</b>	2,832	(149)	<b>203</b>
<b>High School (9-12)</b>									
Bothell	1,637	0	<b>1,637</b>	1,578	59	<b>59</b>	1,460	177	<b>177</b>
North Creek	1,529	0	<b>1,529</b>	1,280	249	<b>249</b>	1,642	(113)	<b>(113)</b>
High School Total	3,166	0	<b>3,166</b>	2,858	308	<b>308</b>	3,102	64	<b>64</b>
<b>Districtwide Total</b>	<b>20,807</b>	<b>3,006</b>	<b>23,813</b>	<b>22,021</b>	<b>(1,214)</b>	<b>1,792</b>	<b>22,485</b>	<b>(1,678)</b>	<b>1,328</b>

Notes: <sup>1</sup>Capacity and enrollment totals by grade level are for listed schools with service areas overlapping the study area only and are not districtwide.

<sup>2</sup>Enrollment data is published by the Office of Superintendent of Public Instruction (OSPI) at the school level for October 1 of the specified school year (e.g., October 1, 2017 for the 2017-18 school year).

Source: Northshore School District Capital Facilities Plan 2018-2024, 2018; OSPI, 2017-18 Enrollment by School Level, January 2018; OSPI, 2018-19 Enrollment by School Level, February 2019; BERK, 2019.

### Level of Service

The Northshore School District has a LOS based on the number of students per classroom at different grade levels. Based on the enrollment presented in Table 52, existing LOS for the 2018-19 school year is 24.6 for grades K-6, 22.1 for grades 7-9, and 22.0 for grades 10-12. The

District is currently meeting its districtwide adopted LOS, or maximum average students per scheduled teaching station, for grades 7-9 and 10-12 and exceeding its adopted LOS for grades K-6. See Table 53.

**Table 53. Level of Service—Northshore School District**

Grade Level <sup>1</sup>	# of Scheduled Teaching Stations	Minimum Level of Service <sup>2</sup>	2017-18 Enrollment <sup>3</sup>	2017-18 LOS	2018-19 Enrollment <sup>3</sup>	2018-19 LOS
K – 6	513	24	12,321	24.0	12,599	24.6
7 – 9	237	27	5,108	21.6	5,245	22.1
10 – 12	231	27	4,856	21.0	5,085	22.0
<b>Total</b>	<b>981</b>					

Notes: <sup>1</sup>The Northshore School District Capital Facilities Plan discusses student generation rates, enrollment, and capacity at the elementary (K-5), middle (6-8), and high school (9-12) levels per the District's current instructional model. The District's LOS standards, however, are based on the K-6, 7-9, and 10-12 grade spans.

<sup>2</sup>Minimum LOS is the maximum average students per scheduled teaching station (e.g., class size).

<sup>3</sup>Enrollment data is based on OSPI's October Enrollment Reports of the specified school year and varies slightly from the 2017-18 enrollment in Northshore School District's Capital Facilities Plan. Enrollment totals are shown here for grades K-6, 7-9, and 10-12 for comparison to the District's LOS standards. Elementary, middle, and high school counts reported in the District's Capital Facilities Plan, however, sometimes consider elementary as grades K-5, middle as grades 6-8, and high school as grades 9-12.

Source: Northshore School District Capital Facilities Plan 2018-2024, 2018; OSPI, 2017-18 Enrollment by School Level, January 2018; OSPI, 2018-19 Enrollment by School Level, February 2019; BERK, 2019.

Student generation rates vary by dwelling unit type, with greater student generation for single family units than for multifamily units.

**Table 54. Student Generation Rates—Northshore School District**

Grade Level	Student Generation Factors – Single Family	Student Generation Factors – Multifamily (>1 bedroom)
Elementary (K-5)	.359	.062
Middle (6-9)	.120	.031
High School (10-12)	.094	.042
<b>Total</b>	<b>.573</b>	<b>.135</b>

Source: Northshore School District Capital Facilities Plan 2018-2024, 2018.

### **Existing Plans and Funding**

Based on expected demand and levels of service, the School District's capital plans include an expansion of Canyon Creek Elementary School/Skyview Middle School of 200 students in K-5 and 200 students in 6-8 grade levels. This is scheduled for completion in summer

2020, with the new building expected to be ready for full occupancy during the 2020-21 school year. The District is also constructing a new elementary school, Elementary #21, at 4709 Maltby Rd that is approximately 76,000 square feet in size with 34 instructional spaces and a capacity of 500 students. The new elementary school is scheduled to be ready for full occupancy during the 2020-2021 school year.

Northshore School District expects enrollment to outpace permanent capacity at all grade levels by the 2021-22 school year, despite added capacity from the expansion of Canyon Creek Elementary School/Skyview Middle School and the new elementary school. Table 55 shows the District's projected long-term (2027) enrollment and capacity.

**Table 55. Long-term Projection of Enrollment and Capacity, 2027—Northshore School District**

Grade Level	2027 Enrollment	Permanent Capacity <sup>1</sup>	Total Capacity <sup>1</sup>	Permanent Surplus or (Deficit)	Total Surplus or (Deficit)
Elementary (K-5)	11,042	9,531	11,894	(1,511)	852
Middle (6-9)	5,556	5,439	5,936	(117)	380
High School (10-12)	7,619	6,737	6,883	(882)	(736)
<b>Total</b>	<b>24,217</b>	<b>21,707</b>	<b>24,713</b>	<b>(2,510)</b>	<b>496</b>

Note: <sup>1</sup>Includes added capacity in 2020 from the expansion of Canyon Creek Elementary School/Skyview Middle School and the new elementary school.

Source: Northshore School District Capital Facilities Plan 2018-2024 (Table 5-2 on p. 25), 2018.

Residential development contributes impact fees to address the cost to construct new or expanded facilities. Snohomish County and the City of Bothell currently collect school impact fees on behalf of the District.

## 3.6.2 Impacts

### Thresholds of Significance

The impact analysis for each alternative applies City or District adopted LOS to the projected growth:

- **Fire Protection and Emergency Services:** Response time objectives are addressed qualitatively considering the location and type of growth in each alternative and congestion per Section 3.5 Transportation and Greenhouse Gas Emissions. For the purposes of this EIS, to address a potential increase in demand, firefighters per 1,000 capita is quantified.
- **Police Services:** There is no LOS policy. For the purposes of this EIS, the observed commissioned officers per 1,000 residents and the pattern of crime in employment areas are reference points for the impact analysis.

- Parks: The City's acres per 1,000 residents LOS is applied to each alternative to address increased demand on recreation.
- Schools: The District's anticipated students per dwelling unit is applied to each alternative.

As discussed in Chapter 2, the No Action Alternative could accommodate an increase of 4,484 residents in 2,242 dwelling units and 4,787 jobs. The Business Plus Alternative has capacity for about the same number of residents (4,468) but in 2,915 dwelling units and a much higher number of jobs at 17,350. The Live/Work Alternative has capacity for a greater residential population increase of 7,188 in 4,726 dwelling units and a high job count at 15,284. Nearly all growth would be in the Regional Growth Center (RGC). See Table 8 on 2-19.

Impacts specific to each of the alternatives are described in the following sections.

### Impacts Common to All Alternatives

Under all alternatives, increased population and employment growth in the study area would generate additional demand for fire and emergency services, parks, and schools.

#### Fire and Emergency Services

Under all alternatives, growth and development in the study area would create more demand for fire and emergency medical services, and place additional pressure on the Bothell Fire Department to meet response time standards. Emergency medical services typically generate the highest demand for the Department. The Department would attempt to maintain response times consistent with or better than current performance levels as the demand for service increases. Over time, additional staffing and equipment may be required in order to maintain or improve performance levels. See Table 56.

**Table 56. Effective Demand for Firefighter Positions—All Alternatives**

Alternative	New Population	Demand for New Fire Fighters
<i>Additional Firefighters at 1.2 per 1,000</i>		
<b>No Action</b>	4,484	5.8
<b>Business Plus</b>	4,468	5.7
<b>Mitigated Live/Work</b>	5,496	7.1
<b>Live/Work</b>	7,188	9.2

Source: BERK, 2019.

Growth and development are expected to occur incrementally as individual development projects are constructed and the associated impacts are expected to occur incrementally as well. This would allow time for the Bothell Fire Department and Fire District 10 to address

future needs for fire and emergency medical services in the study area through planned personnel, apparatus, and facility improvements. In addition, property values in the study area would likely increase as growth and development occur. Increased tax revenues from greater retail activity and increases in property values could offset some of the additional costs for improvements needed to meet additional service needs.

Construction activities under all alternatives would also have the potential to temporarily affect emergency vehicle response times, as would any long-term increase in vehicular traffic in the study area. Existing personnel and equipment are anticipated to be sufficient to handle increased service needed for construction activities. The Fire Prevention and Community Risk Reduction group reviews proposed street improvements on a project-by-project basis to identify potential negative impacts on response times and ensure street improvements are consistent with the City's Fire Code.

### Police

All Alternatives would increase the demand for police service. See Table 57. Considering population growth and the current rate of commissioned officers per 1,000 residents, there would be demand for about 7 officers under the No Action Alternative and Business Plus Alternative, which have nearly the same population capacity. The Live/Work Alternative would generate demand for over 11 officers, and growth under the Mitigated Live/Work Alternative would generate demand for about 9 officers.

**Table 57. Potential Demand for Police Services, Full Study Area—All Alternatives**

Alternative	New Population Capacity	Demand for New Officers
<i>2019: Commissioned Officers per 1,000: 1.58</i>		
<b>No Action</b>	4,484	7.10
<b>Business Plus</b>	4,468	7.07
<b>Mitigated Live/Work</b>	5,496	8.70
<b>Live/Work</b>	7,188	11.38

Source: BERK, 2019.

Based on employment centers and calls for service illustrated in Figure 86, employment increases would likely be a focal point for calls for service (e.g., retail areas). All Alternatives increase jobs, particularly the Action Alternatives, and would likely see calls for service increase. The Business Plus Alternative has the most total jobs and the Live/Work Alternative has the most retail and manufacturing jobs. Retail areas may see more theft and other employment types may see other types of crime, (e.g., vandalism, white collar crimes).

**Parks**

Expected growth and development in the study area under all alternatives would likely result in increased demand for additional access to park and recreation facilities. Based on the City’s adopted LOS standards, under all alternatives there would be an overall surplus of parklands. However, some sub-categories of park classifications would have different results. See Table 58.

- The existing surplus of mini parks, open space, and regional parks would remain (though the surplus acreages would decrease for each).
- Existing deficits in neighborhood parks and athletic fields would be further exacerbated.
- Community parks would switch from having an existing surplus to deficit acreage.

**Table 58. Estimated Additional Park Demand by Type of Facility—All Alternatives**

Park Facilities	Rec. Std. Acres Per 1,000 Pop.	2014 Existing Inventory (Ac.)	Existing (2014)		No Action		Business Plus		Mitigated Live/Work		Live/Work	
			Demand/Goal (Ac.)	Surplus/(Deficit) (Ac.)	Demand/Goal (Ac.)	Surplus/(Deficit) (Ac.)	Demand/Goal (Ac.)	Surplus/(Deficit) (Ac.)	Demand/Goal (Ac.)	Surplus/(Deficit) (Ac.)	Demand/Goal (Ac.)	Surplus/(Deficit) (Ac.)
<b>Core Parkland</b>												
Mini	0.1	10.42	4.05	6.37	4.50	5.92	4.50	5.92	4.60	5.82	4.77	5.65
Neighborhood	1.1	13.65	44.59	(30.94)	49.53	(35.88)	49.51	(35.86)	50.64	(37.0)	52.50	(38.85)
Community	1.2	53.92	48.65	5.24	54.03	(0.11)	54.01	(0.09)	55.24	(1.32)	57.27	(3.35)
Athletic Fields	0.8	24.30	32.43	(8.13)	36.02	(11.72)	36.01	(11.71)	36.83	(12.5)	38.18	(13.88)
Total Core Parkland	3.2	102.29	129.72	(27.43)	144.08	(41.79)	144.03	(41.74)	147.3	(45.0)	152.73	(50.44)
<b>Other Park and Recreation Lands</b>												
Open Space	1.2	157.93	48.10	109.83	54.03	103.90	54.01	103.92	55.24	102.69	57.27	100.66
Regional	0.2	12.5	8.02	4.48	9.00	3.50	9.00	3.50	9.21	3.29	9.55	2.95
Total Other Parks and Recreation Lands <sup>1</sup>	1.4	170.43	56.12	114.31	63.03	107.40	63.01	107.42	64.45	105.98	66.82	103.61
<b>Total</b>	<b>4.5</b>	<b>272.7</b>	<b>185.8</b>	<b>86.88</b>	<b>207.1</b>	<b>65.61</b>	<b>207.0</b>	<b>65.68</b>	<b>211.8</b>	<b>60.95</b>	<b>219.6</b>	<b>53.2</b>

Note: 2014 City of Bothell population = 40,540. <sup>1</sup>Does not include Wayne Golf Course purchased after the City’s Comprehensive Plan Update in 2015.

Source: *Imagine Bothell...* Comprehensive Plan (Table 8 on p. PR-22, Table 10 on p. PR-28), 2015; BERK, 2019.

Under all alternatives, the study area is assumed to redevelop with a mix of uses. Residential growth would result in additional demand for parks and recreational facilities during the weekday and weekend periods. While not considered as part of the City’s adopted LOS standards, employment growth could also result in greater demand for park

facilities, particularly before and after work and during the lunch hour. This demand would be more pronounced under the Business Plus and Live/Work alternatives because of the higher number of jobs associated with each.

### Schools

As discussed above, Northshore School District expects enrollment to outpace permanent capacity at all grade levels by the 2021-22 school year despite added capacity from the expansion of Canyon Creek Elementary School/Skyview Middle School and the new elementary school (see Table 55). In addition, per the District's long-term projection of enrollment and capacity, districtwide total high school capacity will not accommodate projected enrollment by 2027.

While the location and overall mix of uses in the study area would vary under each alternative, all new residential growth is assumed to be multifamily. Estimated additional demand based on Northshore School District's multifamily student generation rate at each grade level and estimated dwelling units for each alternative (see Table 8) is shown in Table 59. Based on the estimated demand in Table 59 and the District's minimum LOS standards, Table 60 shows the additional teaching stations needed under each alternative.

**Table 59. Estimated Additional Students by Grade Level—All Alternatives**

Grade Level	Student Generation Factors – Multifamily (>1 bedroom)	Additional Teaching Stations Needed			
		No Action	Business Plus	Mitigated Live/Work	Live/Work
Elementary (K-5)	.062	139	181	224	293
Middle (6-8)	.031	70	90	112	147
High School (9-12)	.042	94	122	152	198
<b>Total</b>	<b>.135</b>	<b>303</b>	<b>393</b>	<b>488</b>	<b>638</b>

Source: Northshore School District Capital Facilities Plan, 2018-2024; BERK, 2019.

**Table 60. Estimated Level of Service by Grade Level—All Alternatives**

Grade Level <sup>1</sup>	Minimum Level of Service (LOS) <sup>2</sup>	Additional Teaching Stations Needed			
		No Action	Business Plus	Mitigated Live/Work	Live/Work
K – 6	24	5.8	7.5	9.3	12.2
7 – 9	27	2.6	3.3	4.1	5.4
10 – 12	27	3.5	4.5	5.6	7.4

Notes: <sup>1</sup>The Northshore School District Capital Facilities Plan discusses student generation rates, enrollment, and capacity at the elementary (K-5), middle (6-8), and high school (9-12) levels per the District's current instructional model. The District's LOS standards, however, are based on the K-6, 7-9, and 10-12 grade spans. <sup>2</sup>Minimum LOS is the maximum average students per scheduled teaching station (e.g., class size).

Source: Northshore School District Capital Facilities Plan 2018-2024, 2018; OSPI, February 2019; BERK, 2019.

As discussed above, the District is currently meeting its districtwide adopted LOS, or maximum average students per scheduled teaching station, for grades 7-9 and 10-12 and exceeding its adopted LOS for grades K-6 (see Table 53). However, as of the 2018-19 school year, all existing elementary and middle schools with service areas overlapping the study area are already near or over permanent and total capacity. Despite added capacity starting fall 2020 from the expansion of Canyon Creek Elementary School/Skyview Middle School, the elementary, middle, and high schools serving the study area do not have enough permanent capacity to accommodate additional demand at any grade level under all alternatives. Taking portables into account, the middle schools have enough total capacity while the high schools do not. Elementary schools have enough total capacity except under the Live/Work Alternative. See Table 61.

**Table 61. Estimated Permanent and Total Capacity of Schools Serving the Study Area—All Alternatives**

Study Area Schools by Grade Level <sup>1</sup>	Existing Permanent Classroom Capacity	Existing Total Capacity	Surplus or (Deficit) Permanent Capacity				Surplus or (Deficit) Total Capacity					
			2018-19 (Existing)	No Action <sup>2</sup>	Business Plus <sup>2</sup>	Mitigated Live/Work	Live/Work <sup>2</sup>	2018-19 (Existing)	No Action <sup>2</sup>	Business Plus <sup>2</sup>	Mitigated Live/Work	Live/Work <sup>2</sup>
<b>Elementary (K-5)</b>	1,747	2,461	(641)	(580)	(622)	(665)	(734)	73	134	92	49	(20)
<b>Middle (6-8)</b>	2,683	3,035	(149)	(19)	(39)	(61)	(96)	203	333	313	291	256
<b>High School (9-12)</b>	3,166	3,166	64	(30)	(58)	(88)	(134)	64	(30)	(58)	(88)	(134)

Notes: <sup>1</sup>Capacity by grade level is for schools with service areas overlapping the study area only and is not districtwide – includes Canyon Creek, Crystal Springs, Maywood Hills, and Shelton View elementary schools; Canyon Park, Leota, and Skyview middle schools; and Bothell and North Creek high schools.

<sup>2</sup>Starting fall 2020, permanent and total capacity increase by 200 for elementary and 200 for middle schools with service areas overlapping the study area from the expansion of Canyon Creek Elementary School/Skyview Middle School.

Source: Northshore School District Capital Facilities Plan 2018-2024, 2018; OSPI, 2017-18 Enrollment by School Level, January 2018; OSPI, 2018-19 Enrollment by School Level, February 2019; BERK, 2019.

As the District has already fully exhausted capacity increases from relocating building programs, portable additions, and boundary changes, additional facilities would be needed to accommodate student growth and the associated additional teaching stations at all grade levels under all alternatives. However, growth and development and the associated growth in student population are expected to occur incrementally as individual development projects are constructed.

## Impacts of No Action Alternative

### *Fire and Emergency Services*

The City's LOS is determined based on response time. Staffing as well as location of stations, transportation facilities and congestion and other factors affect response times. For purposes of this Draft EIS, firefighters per 1,000 persons is used as a measure of demand for a relative level of demand.

The Bothell Fire Department currently has 1.3 firefighters per 1,000 residents serving the City of Bothell. Under the No Action Alternative, an additional 5.8 firefighters would be needed to continue to provide the LOS under projected population growth in the study area.

### *Police*

Based on the No Action Alternative's residential capacity, there is a need for about 7.1 new officers, per Table 57. The No Action Alternative would also increase employment (see Table 25) that is a draw for crime based on patterns of calls for service (see Figure 86). The increase in employment is less than other with Action Alternatives, and the resulting added calls for service more incremental over current conditions.

### *Parks*

Based on the adopted LOS in Table 51, growth under the No Action Alternative would generate demand for an additional 20.63 acres of parkland. Depending on park classifications and levels of service there would be a deficit of available parkland. Results are similar to the Business Plus Alternative, but there is lower demand than under the Live/Work Alternative. See Table 58.

The No Action Alternative includes the smallest amount of employment growth. Potential increased demand on parklands from workers would thus be the lowest of the three alternatives.

### *Schools*

The No Action Alternative would add 303 students, including 139 elementary, 70 middle, and 94 high school students. Based on Northshore School District's minimum LOS standards, this would require an additional 5.8 elementary, 2.6 middle, and 3.5 high school teaching stations. See Table 59, Table 60, and the associated discussion under Impacts Common to All Alternatives.

## Impacts of Business Plus Alternative

Population growth under the Business Plus Alternative is marginally lower than the No Action Alternative (4,468 versus 4,484, respectively). Increased demand for fire and emergency services, parkland, and schools would thus be similar to the No Action Alternative.

### *Fire and Emergency Services*

The Bothell Fire Department currently has 1.3 firefighters per 1,000 capita serving the City of Bothell. Similar to the No Action Alternative, an additional 5.7 firefighters would be needed to continue to provide the LOS under projected population growth in the study area under the Business Plus Alternative.

### *Police*

The Business Plus Alternative has a potential for police demand that is similar to the No Action Alternative given similar residential capacity (see Table 57), and would have a demand for 7.1 new officers. The Business Plus Alternative has the highest expected total employment (see Table 25), and could be a greater focal point for crime (see current crime patterns in Figure 86).

### *Parks*

Based on the adopted LOS in Table 51, growth under the Business Plus Alternative would generate demand for an additional 20.55 acres of parkland, which is similar to the No Action Alternative. At a similar level as the No Action Alternative, but less than the Live/Work Alternative, there would be an increased demand on the existing inventory of parkland, and a need for parkland that exceeds the available parkland supply depending on park classifications and levels of service. See Table 58. The LOS will likely change with the forthcoming PROS Plan update in 2020.

The Business Plus Alternative includes the highest amount of employment growth at 17,350 jobs. Potential increased demand on parklands from workers would thus be the highest of the three alternatives.

### *Schools*

Although residential growth under the Business Plus Alternative is similar to that under the No Action Alternative, the number of dwelling units is greater (4,484 residents in 2,242 dwelling units and 4,468 residents in 2,915 dwelling units, respectively; see Table 8). The Business Plus Alternative would add 393 students, including 181 elementary, 90 middle, and 122 high school students. Based on Northshore School District's minimum LOS standards, this would require an additional 7.5 elementary, 3.3 middle, and 4.5 high school teaching stations, approximately 2, 1, and 1 teaching stations more than the No Action

Alternative, respectively. See Table 59, Table 60, and the associated discussion under Impacts Common to All Alternatives.

### **Impacts of Live/Work and Mitigated Live/Work Alternatives**

Population growth under the Live/Work Alternative is the highest of the three alternatives at 7,188 residents. Increased demand for fire and emergency services, parkland, and schools would thus be highest under this alternative. The level of employment is less than the Business Plus Alternative but would more than double the capacity for employment compared to the No Action Alternative.

The Mitigated Live/Work option is within the range of results of the Business Plus and Live/Work Alternative and further discussed under Mitigation Measures below.

#### ***Fire and Emergency Services***

The Bothell Fire Department currently has 1.3 firefighters per 1,000 capita serving the City of Bothell. Under the Live/Work Alternative, an additional 9.2 firefighters would be needed to continue to provide the LOS under projected population growth in the study area.

#### ***Police***

The Live/Work Alternative would create a demand for up to 12 officers based on the greatest amount of population capacity. See Table 57. The Live/Work Alternative would have the greatest share of retail and manufacturing jobs as listed in Table 36, and the types of crimes could be different than the Business Plus Alternative in Table 35, which has increases in all job types but especially office jobs.

#### ***Parks1***

Based on the adopted LOS in Table 51, growth under the Live/Work Alternative would generate demand for an additional 33.06 acres of parkland, resulting in an overall surplus of 53.17 acres of park lands. Additionally, under some park classifications there are increases in demand and insufficient supply of particular park types. Results show a greater demand under Live/Work Alternative compared to other studied alternatives. The LOS will likely change with the forthcoming PROS Plan update in 2020. See Table 58.

The Live/Work Alternative includes more employment growth than the No Action Alternative but less than the Business Plus Alternative. Increased demand on parklands from workers would be similar to but slightly less than the Business Plus Alternative.

#### ***Schools***

The Live/Work Alternative would add 638 students, including 293 elementary, 147 middle, and 198 high school students. Based on Northshore School District's minimum LOS standards, this would require an additional 12.2 elementary, 5.4 middle, and 7.4 high

school teaching stations, approximately 7, 3, and 4 teaching stations more than the No Action Alternative, respectively. See Table 59, Table 60, and the associated discussion under Impacts Common to All Alternatives.

### 3.6.3 Mitigation Measures

#### Incorporated Plan Features

- Under the subarea plan, proposed conversion of some private roads to public roads and additional public road connections would be considered and may assist with traffic distribution and access, and thus increase the ability of fire and emergency medical services to meet response time standards.
- The subarea plan includes additional on-site open space, completing trail connections to the North Creek Trail system, and improved trail connections throughout the business park. Added investment in bicycle and pedestrian facilities would also improve non-motorized access to existing park and recreation facilities.

#### Mitigated Live/Work Alternative

As described in Chapter 2, a Mitigated Live/Work Alternative was developed to reduce the RGC boundary and accomplish greater mixed uses in the study area to a lesser degree than the Live/Work Alternative. The resulting moderated growth would have less impacts on public services; results in this section show the demand for public services under the Mitigated Live/Work Alternative would be nearly 25% lower than the Live/Work Alternative in full:

- Additional firefighters to meet current rate of 1.3 firefighters per 1,000 population: 7.1 instead of 9.2
- Additional police officers to meet current rate of 1.58 per 1,000 population: 8.7 instead of 11.4
- Additional park acres per 2015 rates of parkland per 1,000 population: 25.3 acres needed instead of 33.1 acres
- Additional students requiring accommodation in classrooms: 488 students instead of 638 students

This would mean an active employment center that meets city and regional goals with less investment in services.

#### Regulations and Commitments

The City of Bothell addresses public service levels or service in its Capital Facilities Plan Element. The element is updated periodically to ensure that proposed growth and change can be served.

In addition, all new development in the study area will be required to comply with the provisions of the Bothell Municipal Code (BMC), including specific sections as outlined below. For the area around Thrasher's Corner located in unincorporated Snohomish County, new development will be required to comply with the provisions of the Snohomish County Code (SCC).

### ***Fire and Emergency Services***

- The City of Bothell collects fire impact fees to help fund system improvements needed to serve new growth (see BMC Chapter 21.16).
- Ongoing capital facilities improvements, budgeting, and operational planning by the Bothell Fire Department and Fire District 10 are anticipated to address incremental increases and other changes in demand for fire services, including the need for additional personnel, additional apparatus, and facility improvements.
- The City of Bothell is starting a multi-year project to demolish and build a new Canyon Park Fire Station #45. The project will provide safety upgrades, technical modernization, and energy efficiency accommodating current and long-term emergency fire, medical, and rescue response needs. The new Fire Station #45 at Canyon Park will include a Police Department satellite office to serve residents of north Bothell.
- The City of Bothell has adopted the 2015 International Fire Code (IFC) as amended by State of Washington and Bothell Municipal Code. Standards referenced in 2015 IFC, Bothell Design and Construction Standards, and Bothell Engineering Standards are also adopted as part of the City's code.
- A portion of the tax revenue generated from potential redevelopment in the study area would accrue to the City and Fire District 10 to help fund additional fire and emergency medical services.

### ***Police***

- The Bothell Police Department promotes 'Crime Prevention Through Environmental Design' (CPTED) to provide tips to residents, businesses, and developers on how to manage their properties and create designs in landscaping, access, and buildings to promote natural surveillance, create natural access control, and manage territorial behavior. (City of Bothell Police Department, Undated)

### ***Parks***

- The City of Bothell collects park impact fees to help fund system improvements needed to serve new growth (see BMC Chapter 21.08).
- Per the *Imagine Bothell...* Comprehensive Plan, acquisition of land for neighborhood parks is the City's highest priority park project. With the 2020 update to the PROS Plan, this priority may change. The City was previously pursuing neighborhood park sites in

several neighborhoods, including the Thrasher's Corner/Red Hawk neighborhood to address an existing deficit of neighborhood parks.

- The City requires private open space and recreation for new development within an R 5,400a, R 4,000, R 2,800 or R-AC zoning district (see BMC Chapter 12.20 Recreation Area).
- The City has received federal grants to complete the design and right-of-way acquisition phases of the North Creek Trail Section 4 project and is currently seeking funding for construction of the trail. When complete, this trail will connect the Snohomish County North Creek Regional Trail with the existing North Creek Trail system in Bothell.

### **Schools**

- The City of Bothell and Snohomish County collect school impact fees on behalf of Northshore School District (see BMC Chapter 21.12 and SCC Chapter 30.66C). Future residential development in the study area contributes impact fees to help fund the cost to construct new or expanded facilities needed for growth.
- Ongoing capital facilities improvements, budgeting, and operational planning by Northshore School District, in conjunction with the City of Bothell and Snohomish County, will be needed to accommodate projected student enrollment at acceptable levels of service and to meet capacity needs at schools serving the study area (including Canyon Creek, Crystal Springs, Maywood Hills, and Shelton View elementary schools; Canyon Park, Leota, and Skyview middle schools; and Bothell and North Creek high schools).
- The School District will continue with the expansion of Canyon Creek Elementary School/Skyview Middle School and construction of a new elementary school, Elementary School #21.

### **Other Proposed Mitigation Measures**

#### ***Fire and Emergency Services***

The City will monitor growth and demand for fire and emergency medical services in the study area in order to determine if/when additional personnel, equipment, or facilities are needed and will regularly review trends to ensure the City and Fire District 10 have enough advance time to address the needs. In addition, the County and City should provide opportunities for the fire district to review proposed development plans and consider any anticipated specialized needs from the uses proposed.

#### ***Police***

The City of Bothell could require on-site private security agreements for new employment centers to reduce calls for service.

The City of Bothell could formalize CPTED principles in the municipal code regulations applicable to the study area.

### ***Parks***

LOS standards and provision are determined based on resident population citywide. However, the study area will also have non-residential users generating demand for parks and recreation. The City of Bothell could consider the anticipated impacts of new visitors, residents, and employees working in the study area to determine what additional or future amenities and improvements are needed. The LOS will likely change with the forthcoming PROS Plan update in 2019.

In addition, the City could encourage and promote dedicated public spaces through public/private partnerships where possible.

Existing recreational programs may see increased enrollment and increased revenue as people living or working in the study area enroll in more programs.

Connecting public parks and open spaces and trails to private ones can increase amenities in the study area.

### ***Schools***

Northshore School District tracks information on growth in enrollment and demand for educational program offerings across all grade spans in the region, including the study area, as part of its determination about if/when additional personnel or facilities are needed. The City will periodically review trends and information from the Northshore School District, to ensure the City and the District have enough advance time to address the needs, including grade configuration, optimum facility size, educational program offerings, classroom utilization, scheduling requirements, and the use of temporary classroom facilities.

## **3.6.4 Significant Unavoidable Adverse Impacts**

Future growth in the Canyon Park study area will increase the demand for fire and emergency services, police, parks, and schools. Advanced planning for facilities consistent with the Capital Facilities Element can help ensure services and facilities are adequate at the time of development and reduce impacts to a less than significant level.

## 3.7 Utilities and Stormwater

### 3.7.1 Affected Environment

#### Current Water and Sewer Service Area

The Canyon Park Subarea currently receives water and sewer services from Alderwood Water and Wastewater District (District/AWWD; see Figure 90 and Figure 91). The District is a special purpose district that serves 34,710 retail and 167,500 residential customers in Snohomish County. The service areas for water and sewer service cover approximately 39 and 44 square miles, respectively. The District also sells water to adjacent municipal agencies and has a corporate boundary of 51 square miles, which includes water wholesale. AWWD's service area is divided into five basins, with the Canyon Park Subarea located within the North Creek Basin.

#### Sanitary Sewer

AWWD collects wastewater from most of the area of Bothell located within Snohomish County, except for a small subarea that is served by the City of Bothell. The entire Canyon Park Subarea is served by AWWD and is located within the District's North Creek Drainage Basin service area. This basin drains through a series of collector pipes, ranging from 10" diameter to 18" diameter, into the North Creek Interceptor owned by King County Department of Natural Resources and Parks (KCDNRP) Wastewater Treatment Division (WTD). The North Creek Interceptor is approximately 6.6 miles long and flows into King County's North Creek Trunk line. From the North Creek Trunk, flows are conveyed for treatment by KCDNRP and WTD to the Brightwater Wastewater Treatment Plant.

King County's WTD acquired ownership of the trunk mains within AWWD in 2001. The North Creek Trunk Mains and Interceptor are managed through their Conveyance System Improvement Program, which is a component of the overarching King County's Regional Wastewater Services Plan.

#### King County Wastewater Treatment Division

King County has an ongoing sewage disposal agreement with AWWD and Wastewater District which renews in 2056. There are no upper flow limits for sewage disposal.

In 2015, King County performed a Regional Needs Assessment as a precursor to their regular Conveyance System Improvement Plan Update process from 2007. Based on the County's Regional Wastewater Service Plan (RWSP) 20-year peak-flow design standard, the assessment identified several short-term capacity improvements to the North Creek Interceptor and Trunk Main needed to meet projected growth and service demands over a 30-year period through 2030. Based on a review of the Regional Wastewater Services Plan

2017 Annual Report, and the North Creek Interceptor Project [home page](#), the project has reached substantial completion at the time of this Draft EIS. These improvements have been completed through the Canyon Park Subarea and have added sufficient capacity for King County to meet its sewage disposal agreement terms for AWWD's service area for King County's 30-year planning period.

### ***Alderwood Water and Wastewater District***

AWWD constructs, maintains, operates, replaces, repairs, and manages the portions of the water and wastewater infrastructure located within the North Creek Basin, not otherwise owned by King County, by way of an Interlocal Agreement with Bothell. The wastewater system map is attached as Figure 90. There are three major District trunk lines within the basin—the Queensborough Interceptor, Olympus Meadows Trunk, and Penny Creek Trunk—as well as miles of collection and conveyance within the service area. There is one pump station located in the basin, lift station 11 located at McCollum Park on 128<sup>th</sup> Street SE in Everett. All flows conveyed through collection, conveyance, pump station 11, and the trunk mains located within the basin flow into the North Creek Interceptor owned by King County.

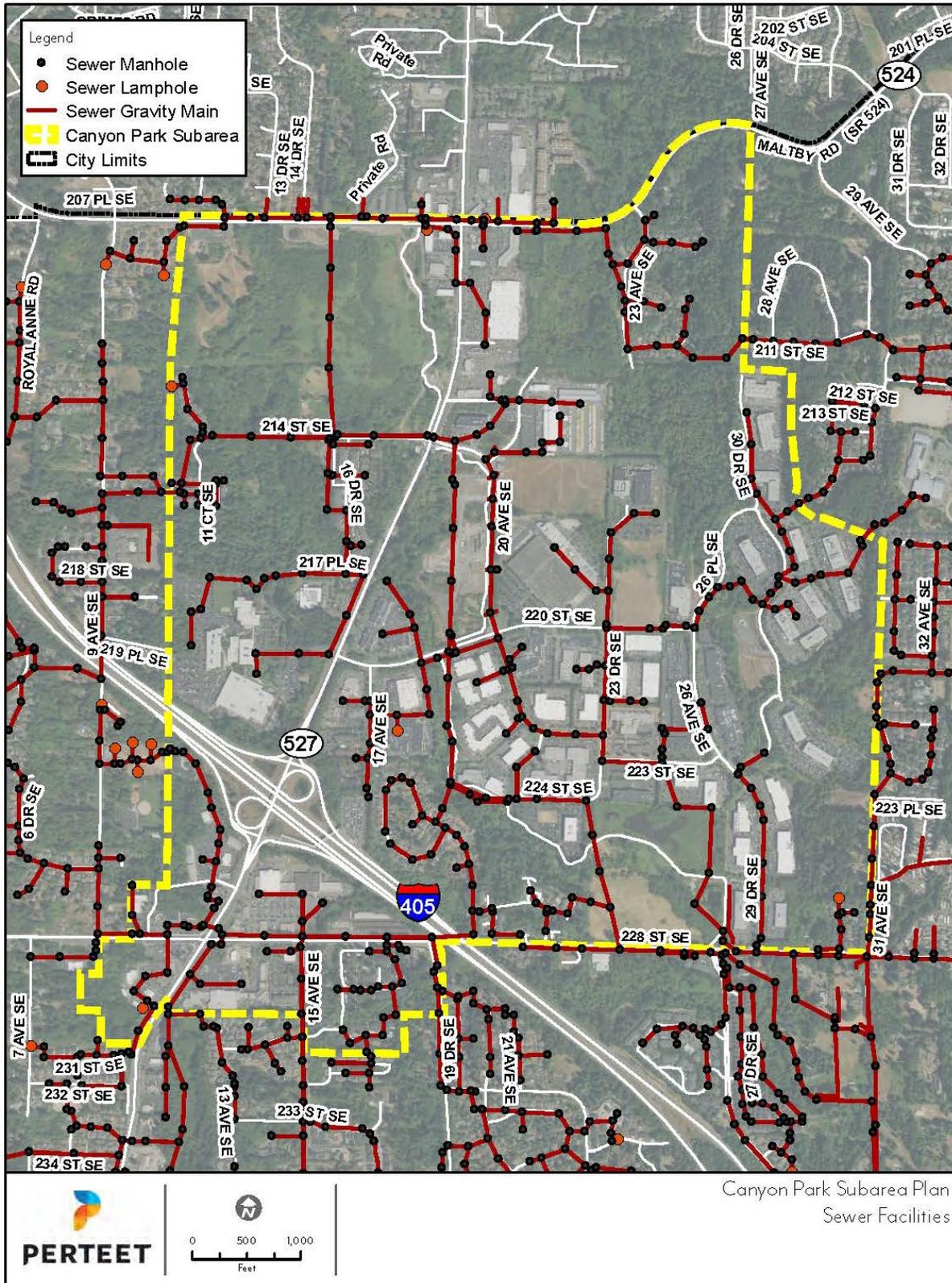
In accordance with State Law, the District prepares and updates its comprehensive plan to ensure their water and sewer systems will meet future needs of the communities within their service area. The last update of AWWD's Comprehensive Plan was adopted in 2017. To plan for growth, the District develops water and sewer demand projections based on development activity, historic water use records by customer class, water use trends, demographic projections, and other factors. These projections of water demand, typically stated in equivalent residential units (ERU), are forecast through the 20-year planning period as required by law. In the District's 2017 plan, the maximum day demand use is currently planning for a growth rate of approximately 4,000 (+/-) ERU's/year for the service area. Based on the District's estimated residential unit use of 164 gallons per day (gpd), this equates to an annual increase in demand of approximately 650,000 gallons/day. These ERU and volumetric forecasts are used for both water and sewer system capital improvement planning.

The District Comprehensive plan identified 12 separate Conveyance system deficiencies and 33 collection system deficiencies within the North Creek Drainage Basin. Of these projects, four of the conveyance system deficiencies were under construction by King County and two of the collection system deficiencies were constructed since the 2009 Comprehensive Plan. Most of the conveyance system improvements (three) were related to the construction of the King County North Creek Interceptor and one was related to the Olympus Meadows Trunk Sewer.

There are nine AWWD capital projects (either collection or conveyance) and three King County capital projects (all related to the North Creek Trunk or North Creek Interceptor) within the boundaries of the study area.

It should be noted that as of the 2017 Comprehensive Plan Update, the District is implementing flow monitoring to assess whether the assumptions made when evaluating conveyance capacity were potentially overstated. The results of this flow rate monitoring may be used to re-evaluate system capacity and demand calculations, which can directly correlate to the number of identified deficiencies. Until such a time when the flow monitoring results can be analyzed, and additional modeling based on the results can be performed, the findings in the 2017 Comprehensive Plan should be considered the best available information.

Figure 90. Sewer Facilities



Source: City of Bothell, 2018; Alderwood Water and Wastewater District, 2018; King County, 2018.

## Water

### *Source and Infrastructure*

The Canyon Park Subarea is served by AWWD. The District's water supply is purchased from the City of Everett, which provides water to the majority of southwest Snohomish County. Everett's water supply is pumped from Spada Lake, located about 25 miles east of Everett, to the Chaplain Reservoir. Everett's water filtration plant provides filtering, chlorination, and fluoridation. Once the water is treated, it is pumped through transmission lines to Everett's Reservoir No. 3, which supplies water to AWWD pump stations #1 and #2. These pumps deliver the water to the District storage facilities.

The District purchases over half of the water produced and treated by Everett to service retail and wholesale customers. In order to provide service, the District owns, operates, and maintains the infrastructure needed for storage, transmission, and distribution to their retail and wholesale customers. This infrastructure includes storage facilities (tanks, reservoirs, and standpipes), pumping stations, disinfection facilities, wells, pressure reducing valve (PRV) stations, interties, meters, and a network of transmission, distribution, and service lines. See Figure 91 for the water system map.

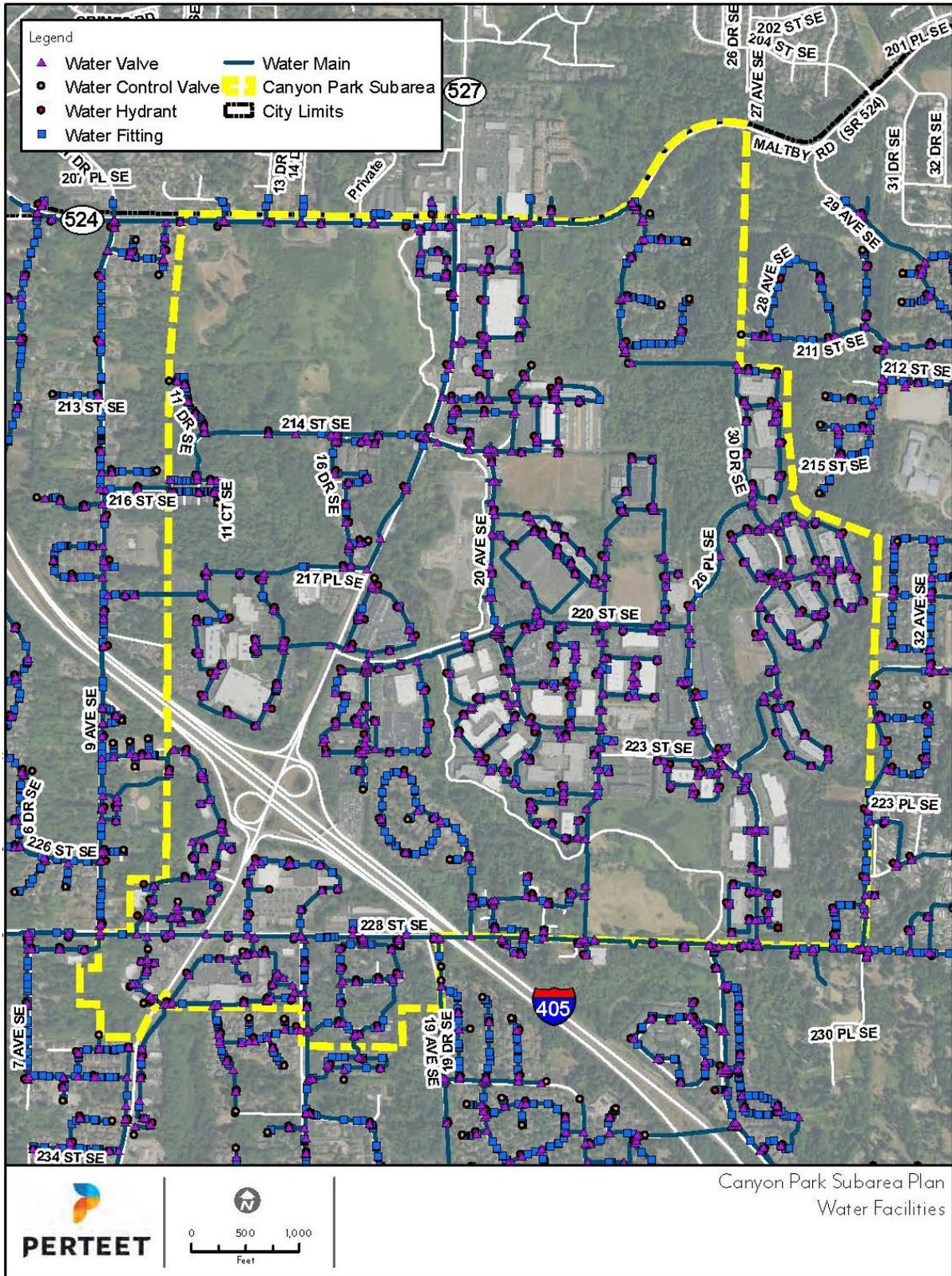
### *Service Areas*

The District's system is broken into service areas roughly by pressure zone (designated by elevation above sea level). The majority of the Canyon Park Subarea is primarily located in the District's 520 pressure zone, with a portion in the northwest corner of the Subarea being served by the 635-pressure zone. Water is primarily supplied to the 520-pressure zone via the 635-pressure zone through pressure reduction valve (PRV) stations, with backup storage provided by Reservoirs No. 1, 2, and 3 and the Clearview Reservoir. Within the 520-pressure zone, there are also three additional storage facilities, Nike Tanks 1 and 2 and the Canyon Park Standpipe Tank. Both the Nike and Canyon Park tank sites have disinfection facilities. PRV stations located within the 520 zone include 49<sup>th</sup> Ave SE, 196<sup>th</sup> St SE, 228<sup>th</sup> St SW, Richmond/Filbert Road, and Lockwood Road/Locust Way sites. In addition to the facilities located within these zones, the District has a variety of buildings and maintenance facilities needed to provide services and operations.

### *Supply Agreement*

To assure adequate supply of water, the District has a wholesale agreement for the purchase of water from Everett. The supply agreement was established in 1960, with the latest amendment in 2005. This agreement currently has an expiration date of 2055 and has a peak volume of 106 million gallons/day. The District, in turn, has several Interlocal Water Supply Agreements with Bothell, Cross-Valley, Mukilteo and Silver Lake. It also maintains Franchise Agreements for direct service to Brier, Bothell, Mill Creek, Mukilteo, and Snohomish County, and an additional pending agreement with Lynnwood. There are also separate agreements related to water services emergency and incident response.

Figure 91. Water Facilities



Source: City of Bothell, 2018; Alderwood Water and Wastewater District, 2018; King County, 2018.

### ***Demand Forecast***

Based on the planning data and demand forecasting performed by the District in the preparation of the 2017 Comprehensive Plan, the maximum daily demand forecast for the planning horizon date of 2035 was 74 million gallons per day (mgd), including contracted supply and considering connection point restrictions. While this number is well below the 106 md peak volume outlined in the District's supply agreement with Everett, there are limitations on availability of supply through connection point restrictions. Considering these source capacity connection point limitations, as well as anticipated annual growth in water demand in the service area, the District is still forecasting a surplus of approximately 8.8 mgd in 2035. As such, the supply of water exceeds both supply limitations and future demand projections through the planning period. The focus of the District, as outlined in the demand analysis conclusions, is that "the emphasis of the CIP should shift from capacity projects to infrastructure repair and replacement until at least 2035."

The District also provided projected demand versus source capacity analysis within the 520-pressure zone, the primary pressure zone supplying water to the Canyon Park Subarea, in their Comprehensive Plan (see Table 54 Supply Analysis for the 520 Zone). For the planning year horizon of 2035, the maximum daily demand projected was 5.38 mgd. The total available supply for the same year was estimated at 24.57 mgd, leaving a surplus supply of approximately 19 mgd.

From a review of the District's system analysis related to pumping supply, transmission, storage, distribution, and fire flows pertaining to Zone 520, the following conditions and/or needs were noted:

- System-wide transmission capacity evaluations found that the current infrastructure is adequate over the planning period to meet forecasted demand (2030).
- Storage Capacity within Zone 520 (see Table 5.10, AWWD WCP) is adequate to meet needs through 2035 with 1.94 mgd surplus.
- Additional PRV Stations are needed in pressure zones 635 and 520 due to high customer elevations vs. reservoir elevations.
- Creation of a 340 zone within the 520 zone may be necessary to avoid high pressures (exceeding 120psi) in areas within the Canyon Park Area (Figure 5.1, AWWD WCP).
- Additional analysis, planning and capital improvements may be needed if the City of Bothell wishes to secure wholesale water for the portion of Bothell in King County from Zone 520.
- Fire flow standards are flow rates available to fight fires while maintaining a minimum operating pressure (typically 30 psi) within the system. The flow rate standards are set by the municipal agency. Currently, the City of Bothell has a 1,500 gpm standard. This standard is generally 500 gpm higher than surrounding jurisdictions (1,000 gpm in all other District Zones) and 1,000 gpm higher (3 times) than the Snohomish County standard of 500 gpm that existed when the District's service area was initially developed.

District's water capital project lists only two distribution projects in the Canyon Park Subarea, primarily located along 228<sup>th</sup> Street, the southern edge of the subarea.

### **Stormwater**

The Canyon Park Subarea is located within the Lake Washington/Cedar/Sammamish Watershed, also known as Watershed Resource Inventory Area (WRIA) 8. WRIA 8 is considered to be the most densely populated, developed and degraded watershed within the Puget Sound Basin. The City of Bothell represents less than 2% of the total area within WRIA 8. The entire Canyon Park Subarea is also located within the North Creek drainage basin. North Creek begins in highly urbanized south Everett and flows south through unincorporated Snohomish County and Mill Creek before reaching the Canyon Park Subarea. North Creek runs from north to south through the Canyon Park Subarea. Drainage sub-basins present within the Canyon Park Subarea include North Creek, Filbert Creek, Royal Anne Creek, Crystal/Queensborough Creek, Perry Creek, Middle Creek, Junco Creek, and Maltby Hill Creek. See Figure 92 for a delineation of the sub-basins, creeks, and locations of flow control facilities throughout the Canyon Park Subarea. A variety of both till and outwash soils of alluvium, along with compressible poorly unconsolidated, are present throughout the study area resulting in varying level of stormwater infiltration and runoff throughout the study area.

### **Management**

The existing stormwater management system within the Canyon Park Subarea consists of catch basins, storm drainpipe, culverts and ditches. The stormwater management system also consists of both public and privately-owned flow control and water quality facilities, which regulate the release of stormwater runoff from mostly commercial and some residential developments. Flow control facilities throughout the subarea consist of detention ponds, detention vaults and detention pipe. Both controlled and uncontrolled runoff within the subarea is conveyed to various wetlands and creeks that flow through the subarea and eventually discharge into North Creek. Large wetland complexes exist in the northwest corner (Centennial Park), northeast corner, and the south end of the subarea. Crystal Creek, Royal Anne Creek, and Filbert Creek all flow into the large wetland complex at Centennial Park and merge with North Creek. Maltby Hill Creek flows through a large wetland complex near the northeast corner of the subarea and merges with North Creek

near the center of the subarea. Queensborough Creek, Perry Creek, Middle Creek and Junco Creek all merge with North Creek near the south end of the subarea.<sup>8</sup>

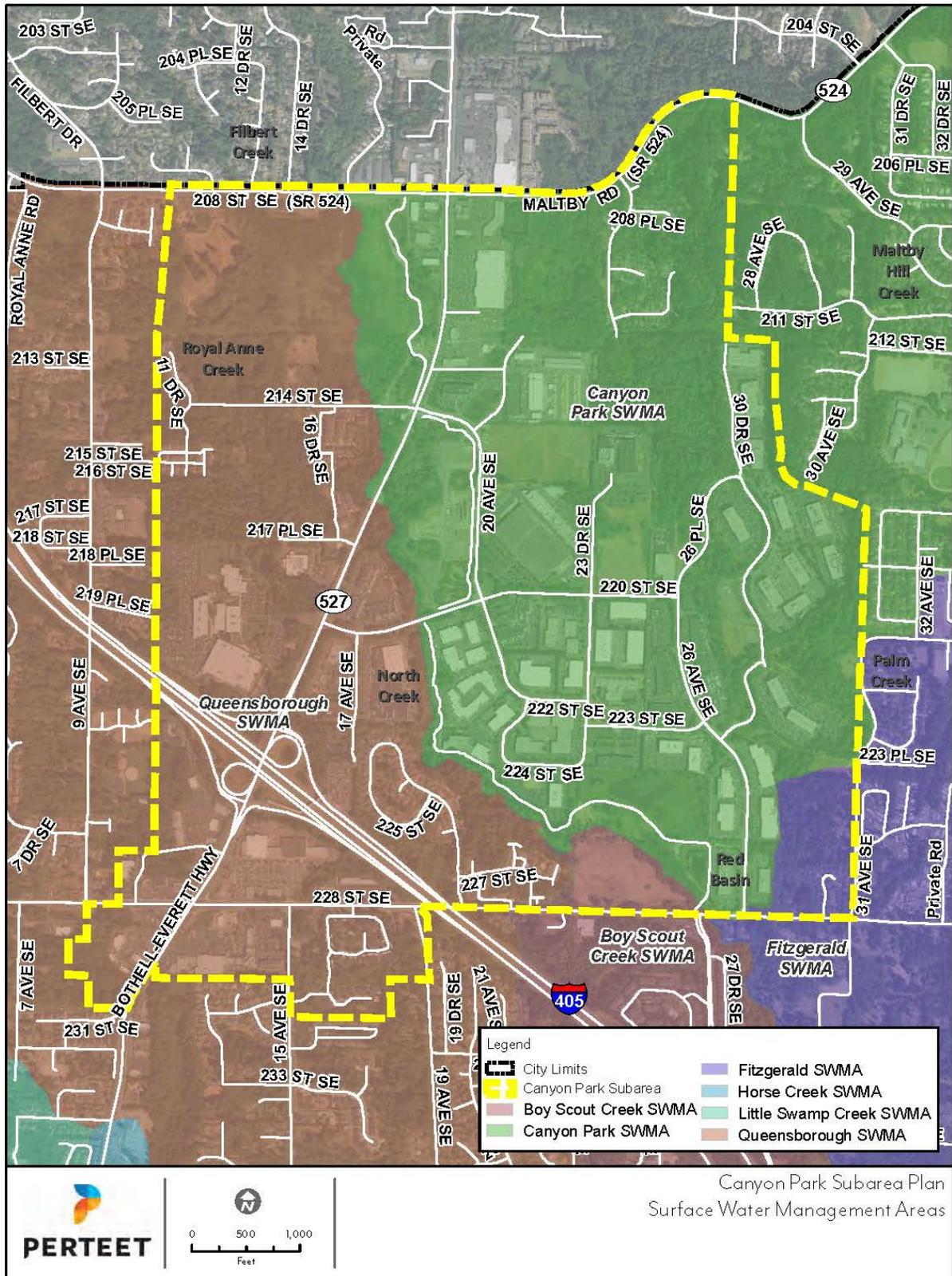
The City of Bothell has developed an area approach to stormwater management throughout the city. Their approach includes dividing the city into Surface Water Management Areas (SWMAs). Each SWMA was delineated based on similar characteristics, needs, strategies, and actions.<sup>9</sup> This allows for better customization and prioritization of many stormwater management efforts based on the needs and conditions within each SWMA. The Canyon Park Subarea lies primarily within the Queensborough and Canyon Park SWMAs. There is a very small area at the south end of the Subarea which also extends into the Boy Scout Creek SWMA. See Figure 92.

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<sup>8</sup> City of Bothell interactive GIS map, 2018 Stormwater Management Plan and 2015 Storm and Surface Water Master Plan Update.

<sup>9</sup> 2015 Storm and Surface Water Master Plan Update.

Figure 92. Surface Water Management Areas



Source: City of Bothell, 2018; Alderwood Water and Wastewater District, 2018; King County, 2018.

## Improvements

One stormwater improvement project listed in the 2015 Storm and Surface Water Master Plan Update is located within the Canyon Park Subarea. This project is briefly explained below, and the location is shown in Figure 92.

### Perry Creek improvements

*Queensborough SWMA, north end of 19<sup>th</sup> Avenue SE*

Flooding problems near the 19<sup>th</sup> Avenue SE and 228<sup>th</sup> Street SE intersection have warranted an improvement project in this area. Improvements associated with this project include adding new curb and gutter and storm drainpipe along a 480-foot section of 19<sup>th</sup> Avenue SE. Total project cost is estimated at \$550,000.

## Water Quality

North Creek is the dividing line between the Canyon Park SWMA and the Queensborough SWMA. North Creek has been placed on Washington State's 303d list for fecal coliform, pH, temperature, dissolved oxygen, and bio-assessment.<sup>10</sup> A TMDL (Total Maximum Daily Load) has been established for North Creek for fecal coliform. The North Creek Fecal Coliform TMDL was established to address impairments to contact recreation and domestic water supply caused by excessive levels of fecal coliform bacteria and to help protect fish, which are affected by the low oxygen levels. North Creek's pollution comes from thousands of small sources, including a variety of pollutants from failing septic tanks, animal wastes, at-home car washing, lawn and garden care, and other daily activities. See Section 3.1 Natural Environment.

## 3.7.2 Impacts

### Thresholds of Significance

The threshold of significance for utilities and stormwater include:

- Inconsistency with utility system planned growth and capital plans.

### Impacts Common to All Alternatives

Much of the sewer and water infrastructure is in place to support growth in the near-term within the study area. As development occurs, some new extensions and some upgrades of existing infrastructure will naturally need to occur. Growth should be closely coordinated

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<sup>10</sup> Ecology Website 303d listing.

with both AWWD and the City of Bothell so that demand and growth can be managed within the study area and any system deficiencies can be communicated between agencies.

### ***Sanitary Sewer***

The results of the AWWD's flow monitoring program for wastewater may help redefine system needs and reduce the number of capital projects needed within the North Creek Basin. This assessment will take time and should not be relied upon in the near term.

Given the large number of separate conveyance and collection system upgrades needed within the basin as identified in the AWWD Comprehensive Plan (45 in total were noted), it may be necessary to review the planned incremental improvements and determine if any major sewer capital improvements projects will need to be done in the short-term to support growth within the Canyon Park Subarea. These capital improvement needs will need to be closely coordinated with AWWD.

Recent improvements made by King County Wastewater Treatment Division (WTD) to the North Creek Interceptor and Trunk line provided capacity for projected growth and service demands beyond 2030, the end of the 30-year planning period for the Region Wastewater Service Plan (RWSP). In addition, the King County WTD Brightwater Treatment Facility has capacity through 2060. Regional sanitary sewer treatment capacity and conveyance appear to be enough to support the planned growth for all alternatives.

### ***Water***

The outlook for water supply, as defined in 2017 Comprehensive Plan for both the District's service area and to the Canyon Park Subarea, specifically Zone 520, is strong and has capacity to support growth in the area. Storage capacity in Zone 520 has more capacity than needed to meet projected growth. System-wide water transmission capacity and improvements appear sufficient to support the planned growth for all alternatives.

While the water supply is sufficient, it is expected that additional water pressure will be required with continued growth within the Canyon Park Subarea. This will likely require the addition of pressure zones and the creation of a lower pressure zone within Zone 520. Additional investment in these improvements should be planned concurrent with development.

### ***Stormwater***

Since all three alternatives result in land development to some degree, normally there would be changes to the hydraulic system in the form of rates, volumes, and flow patterns. However, the study area is already mostly developed with a high density of impervious surface area. There are currently only a few undeveloped parcels north of 220<sup>th</sup> Street SE and east of 20<sup>th</sup> Avenue SE with a potential for approximately 650,000 sq. ft. of new impervious surface area. However, this area is very small relative to the overall subarea. All

other parts of the study area are either already developed with mostly impervious surface or are occupied by streams, wetlands, and their associated buffers. Additionally, since the study area was originally developed, the governing stormwater regulations in the region have become significantly more stringent. Any new development or redevelopment in the study area would be subject to these regulations and therefore likely improve the overall health of the hydraulic system and streams by decreasing volumes and flow rates and improving water quality. All alternatives will be subject to the City of Bothell's stormwater regulations, which include the most recent version of the City's Surface Water Design Manual, Chapter 4 of the Bothell Design and Construction Standards and Specifications, and BMC Title 18.04.

## **Impacts of No Action Alternative**

### ***Sanitary Sewer and Water***

The appropriate water and sewer agencies have been staying up to date on their respective comprehensive plans and appropriately preparing for potential growth based on current zoning. There are no additional water and sewer impacts above what has been discussed under Impacts Common to All Alternatives above.

### ***Stormwater***

Under the No Action Alternative, the amount of stormwater runoff and stormwater pollution is expected to decrease. This is because the study area is already mostly built out with impervious surface, and more stringent stormwater regulations are now in place which will further restrict the release of flow rates and polluted water into the downstream system.

## **Impacts of Business Plus Alternative**

### ***Sanitary Sewer and Water***

The Business Plus Alternative is expected to add approximately 12,847 combined jobs and population (with a focus on jobs) above the No Action Alternative. While AWWD has stayed up to date on their comprehensive plan and capital improvements program to support forecasted growth within their service area for the 30 year planning period future updates of the comprehensive plan and system modeling will need to be re-evaluated should zoning in the Canyon Park Subarea change.

Under the Business Plus Alternative, the water system would require improvements to provide additional pressure and meet local fire flow and system capacity requirements. Any additional water system infrastructure or improvements will be determined and further quantified pursuant to AWWD's requirements when development is proposed.

AWWD's system requirements will be determined and conveyed during the process of obtaining water and sewer availability certificate applications, development permit review, and developer extension agreement applications.

### ***Stormwater***

Under the Business Plus Alternative, the amount of stormwater runoff and stormwater pollution from new development and redevelopment is likely to decrease. This is because the study area is already mostly built out with impervious surface area, and more stringent stormwater regulations are now in place which will further restrict the release of flow rates and polluted water into the downstream system. This alternative will likely result in even less stormwater runoff than the No Action Alternative because the Business Plus Alternative involves redevelopment at higher densities. This results in a reduction of impervious surfaces since new landscaping and open space areas would be incorporated into the redevelopment. This is especially evident in areas where there is currently a large surface parking lot that would be developed into a higher density mixed-use development. The higher density mixed-use development will typically result in a decrease in impervious surface, resulting in less runoff and improved water quality. In addition, given the more diverse possibilities for development under this alternative, developers will have more incentive to develop or re-develop the area, further increasing the likelihood that stormwater runoff and stormwater pollution would be improved in the study area.

## **Impacts of Live/Work and Mitigated Live/Work Alternatives**

### ***Sanitary Sewer and Water***

The Live/Work Alternative is expected to add approximately 13,501 combined jobs and population (with a focus on a balanced job and population growth) above the No Action Alternative. Impacts of this alternative are the same as under the Business Plus Alternative. While AWWD has stayed up to date on their comprehensive plan and capital improvements program to support forecasted growth within their service area, future updates of the comprehensive plan and system modeling will need to be re-evaluated should zoning in the Canyon Park Subarea change.

Under the Live/Work Alternative, the water system would require system to provide additional pressure and meet local fire flow and system capacity requirements. Any additional water system infrastructure or improvements will be determined and further quantified pursuant to AWWD's requirements when development is proposed. AWWD's system requirements will be determined and conveyed during the process of obtaining water and sewer availability certificate applications, development permit review, and developer extension agreement applications.

The Mitigated Live/Work Alternative would increase demand for service to a lesser degree than the full Live/Work Alternative and also to a lesser degree than the Business Plus

Alternative. The increase above No Action Alternative is a combined 6,331 residents and jobs. For additional discussion see Mitigation Measures.

### **Stormwater**

Under the Live/Work Alternative, the amount of stormwater runoff and stormwater pollution from new development and redevelopment is expected to decrease. This is because the study area is already mostly built out with impervious surface area, and more stringent stormwater regulations are now in place which will further restrict the release of flow rates and polluted water into the downstream system. This alternative will likely result in even less stormwater runoff than the No Action Alternative or Business Plus Alternative because the Live/Work Alternative involves redevelopment at higher densities with an even greater focus on residential development and pedestrian amenities. This results in a reduction of impervious surfaces since new landscaping and open space areas would be incorporated into the redevelopment. This is especially evident in areas where there is currently a large surface parking lot that would be developed into a higher density mixed-use development. The higher density mixed-use development will typically result in a decrease in impervious surface, resulting in less runoff and improved water quality. In addition, given the more diverse possibilities for development under this alternative, developers will have more incentive to develop or re-develop the area, further increasing the likelihood that stormwater runoff and stormwater pollution would be improved in the study area.

The footprint of potential development and redevelopment is similar with the Mitigated Live/Work Alternative compared to the full Live/Work Alternative and the above results are anticipated to be similar. For additional discussion see Mitigation Measures.

## **3.7.3 Mitigation Measures**

### **Incorporated Plan Features**

There are no water, sewer, or stormwater incorporated plan features.

### **Mitigated Live/Work Alternative**

The lower-growth Mitigated Live/Work Alternative would create less demand for water supply and sewer treatment services. The need to extend or upgrade utilities would be similar to the Live/Work Alternative. The Mitigated Live/Work Alternative adds transportation mitigation including extensions along wetlands and crossing streams, and would result in natural environment impacts relevant to stormwater that are described in Section 3.1 Natural Environment.

## Regulations and Commitments

Plans and regulations adopted at the time development permits are submitted will be applicable, such as:

- Bothell Municipal Code Title 18, Utilities Infrastructure
- *Imagine Bothell...* Comprehensive Plan, July 7, 2015
- Alderwood Water and Wastewater District Code
- *Alderwood Water and Wastewater District, Comprehensive Wastewater Plan (WWCP)*, September 2017
- *Alderwood Water and Wastewater District, Comprehensive Water Plan (WCP)*, September 2017
- King County Code
  - King County Wastewater Treatment Division
  - *2013 Regional Wastewater Services Plan Comprehensive Review*
  - *Wastewater Services Plan 2017 Annual Report*
  - *Regional Needs Assessment, Conveyance System Improvement Program*, May 2015
  - 2017 Conveyance System Improvements (CSI) Program Update
- Most recent version of the City of Bothell's *Surface Water Design Manual*
- Chapter 4 of the Bothell Design and Construction Standards and Specifications

## Sanitary Sewer and Water

Ongoing capital facilities improvement, budgeting, and operational planning by AWWD and the King County WTD are anticipated to address incremental increases and other changes in demand for wastewater and water services, including the need for improvements to local collection systems and facilities:

- Planning efforts by AWWD and the King County WTD, coupled with recently completed improvements to critical facilities such as the North Creek Interceptor and Brightwater Wastewater Treatment Facility, represent significant improvements to the critical wastewater facilities that directly serve the subarea. These improvements are anticipated to be enough to accommodate planned growth within their respective service areas throughout their 30-year planning periods.
- Planned improvements required to local sewer collection systems have been identified in AWWD's Comprehensive Plan. Replacement and/or upgrading of local sewer facilities within the subarea as development occurs would upgrade the utility capacity and serviceable life.
- AWWD will continue to monitor the need for new water system infrastructure or improvements to provide additional pressure and meet local fire flow and system capacity requirements as development is proposed. AWWD's system requirements will be determined and conveyed during the process of obtaining water and sewer

availability certificate applications, development permit review, and developer extension agreement applications.

In addition, any redevelopment or new development in the study area would be subject to Bothell Municipal Code Title 18, Utilities Infrastructure, including Chapter 18.04, Sanitary Sewer and Chapter 18.06, Bothell Water.

### **Stormwater**

Ongoing capital facilities improvement, budgeting, and operational planning by the City of Bothell is anticipated to address incremental increases and other changes in demand for stormwater facilities. Any redevelopment or new development in the study area would be subject to today's stricter regulations governing stormwater. Green design and construction methods should be employed in buildings, streetscapes, and drainage features to detain and treat stormwater.

The most recent version of the *City's Surface Water Design Manual* will guide infrastructure improvements. Specific elements of the stormwater improvements will be defined by the requirements of the State-mandated *NPDES Western Washington Phase II Municipal Stormwater Permit*. Under this set of regulations, the City maintains measures to protect and improve runoff conditions in relation to the receiving waters. The City of Bothell's stormwater management requirements are also included in Bothell Municipal Code Chapter 18.04, Stormwater and Drainage Control Code.

Thorough and frequent maintenance of stormwater infrastructure in the study area (catch basins, pipes, flow control, and water quality facilities) will help prevent flooding during large storm events.

### **Other Proposed Mitigation Measures**

#### **Sanitary Sewer and Water**

- AWWD and King County WTD track information on growth and demand for sanitary sewer and water services in the region, including the study area, as part of their determination about if or when additional facilities are needed. The City will periodically review trends and information from AWWD and King County WTD to ensure all parties have enough advance time to address future needs.
- AWWD has identified large growth targets within their service area that address the type of growth that a change in the zoning of the subarea would represent; however, this growth could impact the local wastewater collection systems over time. If the zoning changes, the City and AWWD should coordinate and adjust their plans accordingly. In the next update to the District's comprehensive plan, which should be initiated in the next 2-3 years, any changes in zoning to the subarea will need to be considered. A model of the collection system within the subarea that considers build-

out conditions should be able to identify any additional system improvements beyond what is already accounted for under the current plan. These new improvements would then need to be added to AWWD's Capital Improvement program.

- Due to the concentrated growth that a rezoning of the subarea would represent, local water system improvements will be necessary to increase system pressures and to provide for additional system transmission capacity. During the next comprehensive plan update, any changes to the zoning within the subarea will trigger the need for additional analysis of local infrastructure within the subarea zone. This analysis should identify system deficiencies and identify local system capital improvements needed to meet the subarea demands and system requirements. These local improvements should be considered normal as the Snohomish County Regional Growth Areas, which this subarea is a part of, continues to densify in meeting growth targets.

### **Stormwater**

- There may be opportunities within older neighborhoods in the study area that currently have no flow control or water quality treatment systems to implement retrofit systems to detain and/or treat runoff before it is released into creeks. These systems could be located within planter areas or unimproved roadside shoulders and ditches, and could include shallow bioretention cells, infiltration trenches, or proprietary treatment BMPs for water pollution, such as Filterras or Modular Wetlands. The City could consider applying for retrofit project grants offered by the Washington State Department of Ecology to partially fund these upgrades.
- The City could consider trenchless technologies, such as Cured in Place Pipe (CIPP), slip line, and slip line spot repair, to more cost effectively extend the life of existing, deteriorating storm pipe infrastructure.
- Flow control and water quality facilities meeting the most recent version of the Bothell *Surface Water Design Manual* will be required for new development and redevelopment. To protect water quality and reduce impacts, the City could enforce more stringent requirements in this area and require that higher flow control and water quality facilities be installed. Higher flow control measures in this area would lessen the demand on existing downstream stormwater infrastructure and North Creek.
- A system-wide hydrologic and hydraulic analysis of the existing storm drain system could help pinpoint areas in the system that are currently over capacity or that would become capacity-constrained due to new development. This analysis could help the City prioritize which stormwater infrastructure improvements should occur first.
- There may be opportunities to complete reconstruction or retrofit of existing stormwater facilities to provide improved flow control and water quality for both existing uses and future development or redevelopment. There are significant opportunities for improved flow control and water quality associated with the large stormwater pond located southeast of the intersection of 244<sup>th</sup> Street SE and 23<sup>rd</sup> Drive SE.

### **3.7.4 Significant Unavoidable Adverse Impacts**

While all alternatives will generate additional demand for water and sanitary sewer facilities, no significant unavoidable adverse impacts are anticipated. The water supply and sanitary sewer impacts are anticipated by both AWWD and the King County WTD and will be addressed as development occurs incrementally and in updated capital facilities programs updated every six years or sooner.

No significant unavoidable adverse impacts to stormwater are anticipated. Although demand for stormwater services would increase, the application of existing plans and codes or other mitigation measures can reduce impacts associated with future growth under all alternatives.



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