Chapter 1

Summary

1.1 Purpose

Seattle's industrial and maritime policies are more than 35-years old, and during that time, the trends and technologies impacting industrial and maritime users have experienced significant change. To reflect those changes as part of a comprehensive strategy to strengthen and grow Seattle's industrial and maritime sectors for the future, the City of Seattle is studying a proposal to update its industrial and maritime policies and industrial zoning. The proposal is informed by recommendations from community input, including an Industrial and Maritime Strategy Council, which resulted in an Industrial and Maritime Strategy Report (**Appendix B**) that the City of Seattle released in June 2021.

This Environmental Impact Statement (EIS) studies four alternatives illustrating different potential futures for the city's industrially-zoned lands. The four alternatives evaluate the effects of potential changes to Comprehensive Plan policies and changes to zoning over a 22-year time horizon (to 2044).

The first alternative is a No Action Alternative that is required by the State Environmental Policy Act (SEPA) and is a basis for comparison. The three Action Alternatives (alternatives 2, 3, and 4) all apply proposed "future of industry" land use concepts that are based on community input and intended to respond to issues, challenges, and opportunities for the maritime and industrial sectors and adjacent communities. Those future of industry land use concepts consist of three proposed new industrial zones:

- **Maritime Manufacturing and Logistics (MML)—**This zone would focus on strengthening land use protections for core and legacy industrial and maritime areas to better prevent the encroachment of development that is incompatible with industrial and maritime uses. This zone is particularly applicable within Seattle's Manufacturing/Industrial Centers (MICs), near the shoreline or deep-water port, rail and freight infrastructure, and around existing clusters of industrial or maritime suppliers and services.
- **Industry / Innovation (II)—**This zone aims to encourage new development in multi-story buildings that accommodate industrial businesses mixed with other dense employment uses such as research, design, offices, and technology. By creating density bonuses for employment uses (i.e., office, R&D, etc.) if coupled with industrial uses in the same project, this type of modern industrial development would support high-density employment near transit stations and near existing industrial-commercial areas.

What is an Alternative?

Alternatives are different ways of achieving objectives that allow decisionmakers to compare the effects of different options. The No Action Alternative is based on current plans, policies, and regulations and is a benchmark against which other alternatives can be measured. Action Alternatives can test a range of ideas, implications, and benefits. The Alternatives in the EIS consider Comprehensive Plan policy amendments and different configurations for possible zoning changes and development standards to achieve the Maritime and Industrial Land Strategy objectives.

- **Urban Industrial (UI)—**This zone is designed to foster increased employment and entrepreneurship opportunities with a vibrant mix of affordable, small-scale places for light industry, makers, and creative arts, as well as industry supporting ancillary retail or housing spaces to create better, integrated, and healthier transitions at the edges between industrial areas and neighboring urban villages, residential, and mixed-use areas.

To implement the future of industry land use concepts in each of the Action Alternatives the City of Seattle would:

- Amend the comprehensive plan to add new text policies describing the intent and vision for how these concepts would be applied, including land use, environment, and transportation;
- Amend the industrial zoning section of the land use code to create a new zone designations and corresponding development standards replacing the existing industrial zones;
- Apply new industrial zone classifications to industrial land; and
- Adopt new subarea plans for both the Ballard Interbay Northend and Greater Duwamish MICs.

However, each of the alternatives evaluated in this EIS pose different percentages of the future land use concepts in industrial and manufacturing lands for the purpose of strengthening and growing Seattle's industrial and maritime sectors in the future. The multi-faceted objectives of the proposal are listed in **Section 1.5.1** below.

The following is a summary of the four alternatives, which are described further in **Section 1.5** below.

- **Alternative 1—No Action:** The SEPA-required alternative that would retain current Comprehensive Plan policies, development standards, or zoning maps.
- **Alternative 2—Future of Industry Limited:** Alternative 2 retains current MIC boundaries. Alternative 2 would implement future of industry land use concepts with a greater emphasis on strengthening protections for core and legacy industrial and maritime activities. The proposed MML zone, would cover approximately 90% of industrial lands. Application of the proposed II and UI zones would be limited in scope, covering approximately 10% of current industrial areas. II zoning would be focused on existing Industrial Commercial (IC) zones and areas within approximately ¼ mile of light rail stations. UI zoning would be focused on existing Industrial Buffer (IB) zones and the existing Stadium Transition Area Overlay. There are no changes to housing allowances in Alternative 2.
- **Alternative 3—Future of Industry Targeted:** Alternative 3 would strengthen protections for core industrial uses in the MML zone on approximately 86% of industrial lands. It applies a mix of the proposed II and UI zones in targeted geographies covering 14% of industrial lands. Compared to Alternative 2, II zoning is expanded to include areas an estimated ½ mile from light rail stations and UI zoning would be applied in additional areas in Ballard and the north shore of Lake Union. Alternative 3 creates limited flexibility for additional industry-supportive housing in the UI zone that would result in an estimated 610 new homes in industrial zones. Alternative 3 removes focused land in Georgetown/South Park from the MIC and converts it to a non-industrial mixed-use zone.

- **Alternative 4—Future of Industry Expanded:** Alternative 4 would also strengthen protections for core industrial uses in the MML zone on approximately 87% of industrial lands. Similar to Alternative 3, Alternative 4 would mainly apply II zoning in existing IC zones and within a ½ mile from light rail stations, though with a greater expansion of the II zone in areas in Ballard and SODO. Compared to Alternative 3, the UI zone would be applied to a larger area in SODO, but to fewer areas in Ballard. This alternative includes additional flexibility for industry-supportive housing that could result in an estimated 2,195 new homes in industrial zones. Just like Alternative 3, Alternative 4 removes focused land in Georgetown/South Park from MICs and convert it to a non-industrial mixed-use zone.

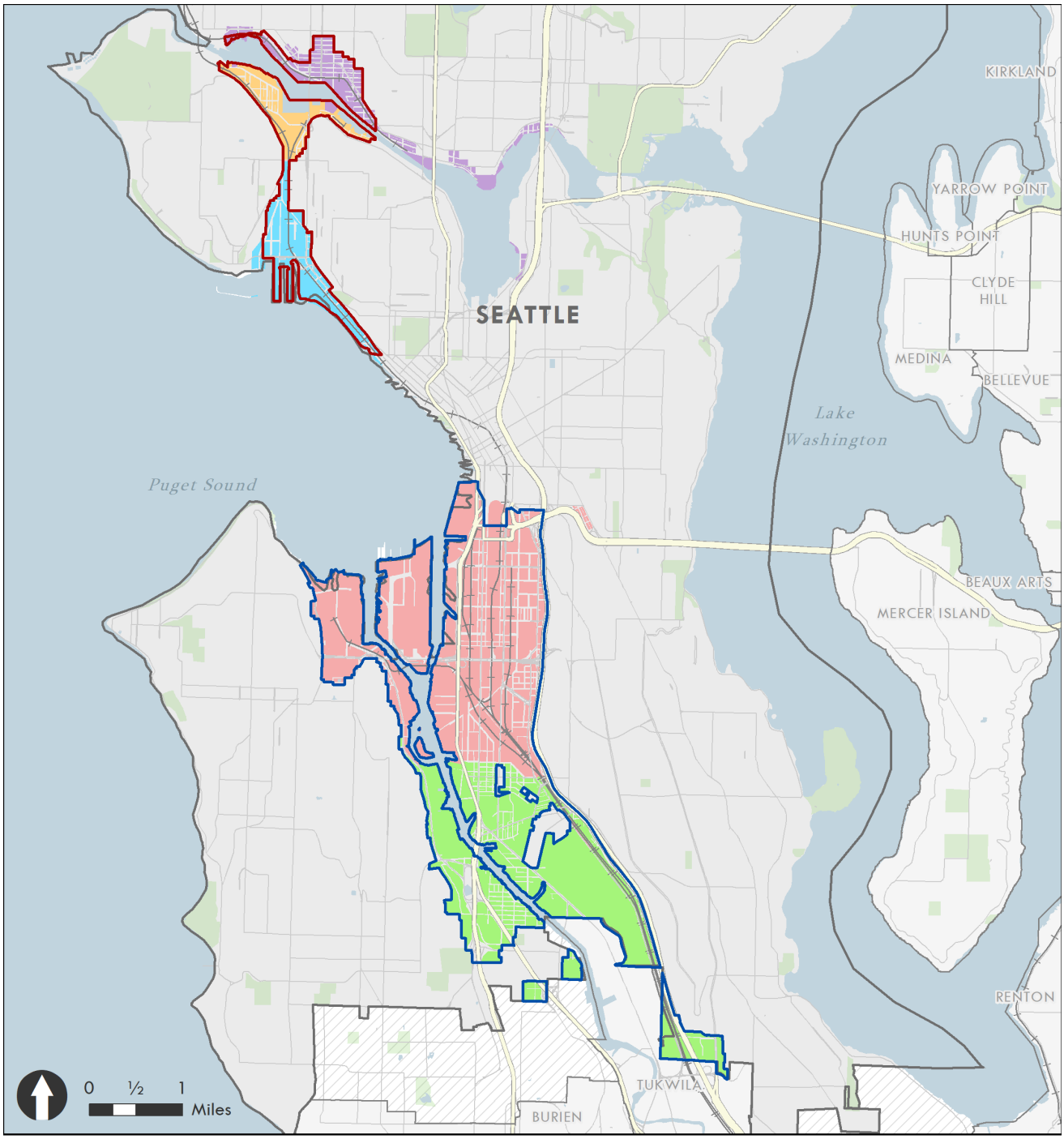
This Chapter is the first of a series of chapters contained in the Draft EIS that provide a summary and more in-depth environmental review of the proposal and alternatives. The Draft EIS is organized as follows:

- **Chapter 1** Summary
- **Chapter 2** Proposal & Alternatives
- **Chapter 3** Environment, Impacts, & Mitigation Measures
- **Chapter 4** Acronyms & References
- **Chapter 5** Appendices

1.2 Study Area

Most industrial land in Seattle is located within two Manufacturing Industrial Centers (MIC): Seattle's Greater Duwamish Manufacturing and Industrial Center (Greater Duwamish MIC) and Ballard Interbay North Manufacturing Industrial Center (BINMIC). Within the MICs, subareas are defined—Ballard, Interbay Dravus, Interbay Smith Cove, SODO/Stadium, and Georgetown/South Park. The Greater Duwamish MIC and BINMIC contain 12% of Seattle's total land area. Other industrially zoned land that is outside a MIC is included in the study area, most of which is on shorelines of Lake Union and by Judkins Park. See **Exhibit 1.2-1**.

Exhibit 1.2-1 Study Area



Source: BERK, 2021.

1.3 Planning Context & Outreach

1.3.1 Emerging Factors Affecting Seattle's MICs

MICs are regional designations and are defined in the City's Comprehensive Plan as home to the city's thriving industrial businesses. Like urban centers, they are important regional resources for retaining and attracting jobs and for maintaining a diversified economy. Seattle's manufacturing and maritime sectors generate middle-wage jobs that are cornerstones of a thriving and livable city. There are currently around 98,500 industrial jobs (2018) or about 15% of total jobs in the city—about two-thirds of these jobs are available with only a high school diploma, and over half of the jobs in the maritime sector are available to persons with no formal educational training. Average earnings per worker are over 70% of the Area Median Income (AMI) in the construction, aerospace/aviation, and logistics sectors, and a high number of jobs in logistics, maritime, and manufacturing sectors remain unionized and provide high quality benefits.

Since MICs were established in 1994 there have not been largescale alterations to their geographic boundaries. Today, zoning within MICs must be one of four industrial zones in the Seattle Municipal Code (SMC). Those zones regulate the uses and activities that can take place in industrial areas, limiting them to prioritize manufacturing and industrial activities envisioned by the comprehensive plan. While manufacturing and maritime sectors today are strong, emerging factors affecting them include those listed below. See **Chapter 2** for a description of each of the emerging factors:

- Pressures to convert Industrial lands
- Emerging technologies and processes
- Unintended development
- Pending port, transportation, and new industrial building typology
- Environment and climate change
- Equity and accessibility

1.3.2 Equity & Environmental Justice

The study area includes territories of indigenous tribes; Euro-American settlement and industrial development altered the natural character of this area and impacted tribal treaty rights. Since settlement the study area has had a growing industrial and maritime economy connected to the Puget Sound Region and West Coast.

Current conditions information indicates that the study area contains few housing units but is bordered by residential areas and nearby schools; the study area also contains parks that visitors use. These residents and users of the study area have a higher relative exposure to air emissions, noise, and light and glare. Some lands in the study area contain hazardous waste or

cleanup sites. These environmental conditions also affect the large numbers of workers that come every day to the study area and then commute to homes either elsewhere in Seattle or in King County and beyond.

Equity and environmental justice are considered throughout the EIS. **Chapter 2** describes existing environmental justice principles and actions that are under consideration as the alternatives are reviewed.

Section 1.7 addresses findings of the alternatives and relationship to environmental justice and equity. **Chapter 3, Section 3.8** addressing land use includes an overview of past land use policies and other actions that had inequitable outcomes.

1.3.3 Mayor's Industrial & Maritime Strategy

In 2019 Mayor Durkan convened an Industrial and Maritime Strategy Advisory Council to chart a blueprint for the future of industrial land in Seattle with a focus on providing equitable access to high-quality, family-wage jobs and entrepreneurship opportunities. The Advisory Council included representation from citywide stakeholders and stakeholders from four neighborhood subareas. Stakeholders represented a diverse range of interests including maritime and industrial businesses, labor, residents of adjacent neighborhoods, developers, and industry groups.

In May 2021 the Advisory Council recommended 11 broad strategy statements to guide future actions to support the maritime and industrial sectors, and advance equitable access to family-wage employment, particularly for Black, Indigenous, and people of color (BIPOC) youth. **Chapter 2** describes the Advisory Council process and recommendations, and the Mayor's Industrial and Maritime Strategy Report is at **Appendix B**.

The key land use recommendations of the stakeholders informed the EIS alternatives.

1.4 SEPA Process

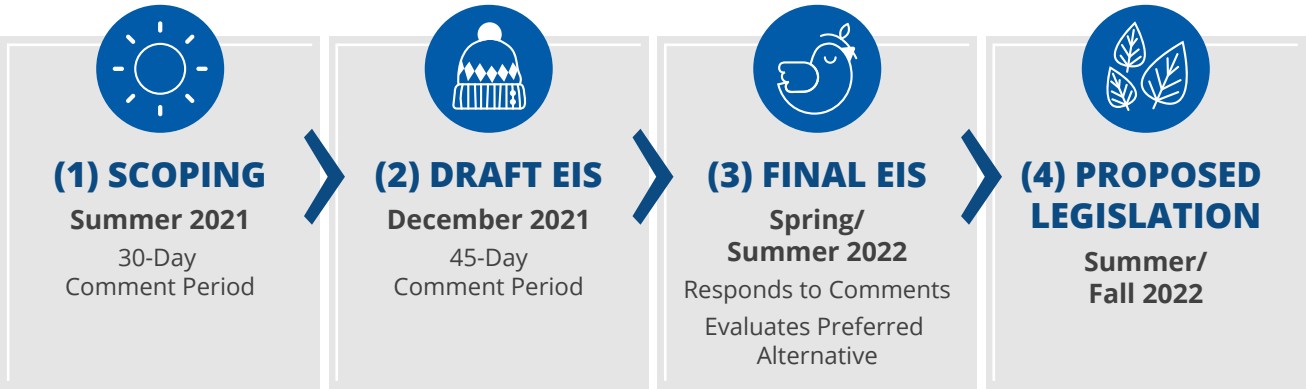
1.4.1 Environmental Review

Process

Under SEPA agencies conduct environmental review of actions that could affect the environment. For actions that have the potential for significant impacts, preparation of an EIS is required. An EIS is a useful tool that provides detailed information to the public, agencies, tribes, and City decision-makers about the environmental effects of a plan or project before a decision is made.

The EIS process involves the following steps: (1) scoping the contents of the EIS with agencies, tribes, and the public; (2) preparing a draft EIS with a comment period; (3) responding to comments and developing a preferred alternative; and (4) developing legislation. With the issuance of the Draft EIS, the EIS process is in phase 2. See **Exhibit 1.4-1**.

Exhibit 1.4-1 EIS Process



Source: BERK, 2021.

Non-Project EIS

This document is a non-project EIS that analyzes the proposals and alternatives broadly across the study area. See **Exhibit 1.4-2** below for features of a non-project EIS. SEPA identifies that a non-project EIS is more flexible and studies a range of alternatives comparatively to support the consideration of plans, policies, or programs (WAC 197-11-442). A non-project EIS does not provide site-specific detailed analysis.

Exhibit 1.4-2 Comparison of Project and Non-Project Environmental Review

Feature	Project Environmental Review	Non-Project Environmental Review (WAC 197-11-442, -774)
Location	Site-specific	Areawide
Analysis Level of Detail	Detailed	Broad / order-of-magnitude
Alternatives	Specific construction proposals	Conceptual based on vision
Mitigation	Specific, alters project, project proponent responsibility	Broader; changes policies, plans, or code. City or future developer responsibility.
Future Environmental Review	No additional SEPA review	Subject to additional SEPA Review

Source: WAC 197-11-442, 2021; BERK, 2021.

1.4.2 Public Comment Opportunities

Scoping

The scoping process is intended to identify the range of potential significant impacts on the built and natural environment that should be considered and evaluated in the EIS. The City issued a Scoping Notice on July 8, 2021 with a 30-day public comment period that ran through August 9, 2021. Virtual scoping meetings were held during the comment period at 9:00 a.m. on July 21 and 6:00 p.m. on July 26, 2021. The City also published an information website and online survey as part of scoping.

The input received during the scoping period included:

- Written Comments: 105 letters and emails by 103 commenters
- Survey: 46 participants
- Public meeting participants: 7 participants

See **Appendix A** for the scoping report.

As part of scoping, the City identified a range of topics to explore in the EIS:

- **Natural and Biological Resources and Resiliency:** Soils/Geology, Air Quality/Greenhouse Gas, Water Resources, Plants and Animals
- **Environmental Health and Compatibility:** Contamination, Noise, Light and Glare
- **Working, Living, and Mobility:** Land and Shoreline Use, Housing, and Transportation
- Cultural and Recreational Resources: Historic, Archaeological & Cultural Resources, Open Space and Recreation
- **Public Services and Utilities:** Police, Fire, Schools, Libraries, Wastewater, Stormwater, and Power

Scoping comments indicated that air quality/greenhouse gas, contamination, transportation, and land and shoreline use were most important to address in the EIS. Commenters also gave input on alternatives to be studied, typically by indicating which of the scoping alternatives fit their views of the area or properties, or requesting adjustments. In response to the scoping comments one alternative was modified to include an evaluation of potentially increasing the size of use limit on indoor recreation facilities from 10,000 square feet to 50,000 square feet. A full response to scoping comments can be found in the Scoping Report.

Draft EIS

This Draft EIS identifies environmental conditions, potential impacts, and measures to reduce or mitigate any unavoidable adverse impacts that could result from an update to policies and zoning for Seattle's maritime and industrial sectors. The Draft EIS alternatives and topics were developed based on a review of scoping comments and prior Industrial and Maritime Strategy engagement results.

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Public and agency comments are invited on this Draft EIS. Written and verbal comments are invited during the 45-day public comment period following issuance of this Draft EIS. The City will hold future public engagement events during or following the 45-day comment period to help refine its preferred alternative. Public comments will be considered and addressed in the Final EIS. Please see the Fact Sheet at the beginning of this Draft EIS for the dates of the public comment period and public meeting. Meetings and comment periods regarding the proposals are described on the City's project webpage: Industrial and Maritime Strategy—OPCD | seattle.gov.

Final EIS & Proposed Legislation

A Final EIS will be issued in 2022 and will include responses to public comments received during the Draft EIS comment period. Following the EIS process, the City will develop specific policy and zoning proposals that will be the subject of public meetings and public hearings by the City Council.

1.5 Objectives, Proposal, & Alternatives

1.5.1 Objectives

The State Environmental Policy Act (SEPA) requires a statement of proposal objectives and the purpose and need to which the proposal is responding. Alternatives are different means of achieving the objectives.

The proposal would update Comprehensive Plan policies concerning industrial land and update the city's industrial zoning. The objectives behind this proposal are multi-faceted and seek to address the City's industrial and maritime sectors holistically. The objectives are informed by the recommendations of an Industrial and Maritime Strategy stakeholder process. Objectives are identified in four overlapping categories of people, place, and production and process. See **Exhibit 1.5-1**.

Exhibit 1.5-1 Objectives of the Proposal

People	
A.	Increase the quantity of living wage jobs generated from activity on Seattle's currently designated industrial lands.
B.	Improve equitable access to the living wage jobs from these lands by increasing the proportion of the jobs held by: racial minorities, women, and persons without traditional 4-year college diplomas.
C.	Improve environmental health for people who live or work in or near industrial areas—especially at transitions to residential areas or urban villages.
Place	
D.	Provide long-term predictability to stakeholders that will support renewed investment in facilities, buildings, and infrastructure.
E.	Promote mutually reinforcing mixes of activities at the transitions between industrial areas and urban villages or residential neighborhoods.
F.	Support industrially compatible employment dense transit oriented development at existing and future high capacity transit stations.
G.	Increase access to workforce and affordable housing for employees in industrial maritime sectors, without creating land use conflicts that displace industrial uses.
Production	
H.	Position Seattle's industrial areas to respond competitively to new industrial and manufacturing processes and practices.
I.	Ensure available and adequate locations for components of regional and statewide supply chains and regional economic clusters.
J.	Increase the amount and accessibility of space for prototyping, entrepreneurship, and business incubation.
K.	Strengthen economic resiliency with the capacity to produce products locally and ensure stable distribution networks.
Process	
L.	Develop Comprehensive Plan policies based on the Industrial and Maritime Strategy.
M.	Develop a subarea plan for the MICs that supports VISION 2050, accommodates growth targets, and the Puget Sound Regional Council Regional Centers Framework for MICs.

Source: City of Seattle, 2021.

1.5.2 Proposal

The proposal considers Comprehensive Plan policy amendments and changes to zoning and development standards that could help meet the objectives defined in **Section 1.5.1**. The EIS includes three future of industry alternatives (alternatives 2, 3, and 4) that would make different geographic combinations of zoning changes and degrees of change to development standards in industrial zones. A No Action Alternative with no changes to policies or zoning is also considered. The EIS addresses land use compatibility, and consistency with City and State plans and regulations.

1.5.3 Land Use Concepts

The future of industry alternatives (alternatives 2, 3, and 4) would apply proposed new land use concepts that are based on community input and intended to respond to issues, challenges, and opportunities for the maritime and industrial sectors and adjacent communities. The application of the concepts in the study area is provided in areawide maps in **Section 1.5.5** through **1.5.8**. Close ups of the land use/zoning maps are in **Appendix C Alternative Future Land Use Zoning Maps**.

Three proposed land use concepts are integrated to different degrees in the future of industry alternatives and include:

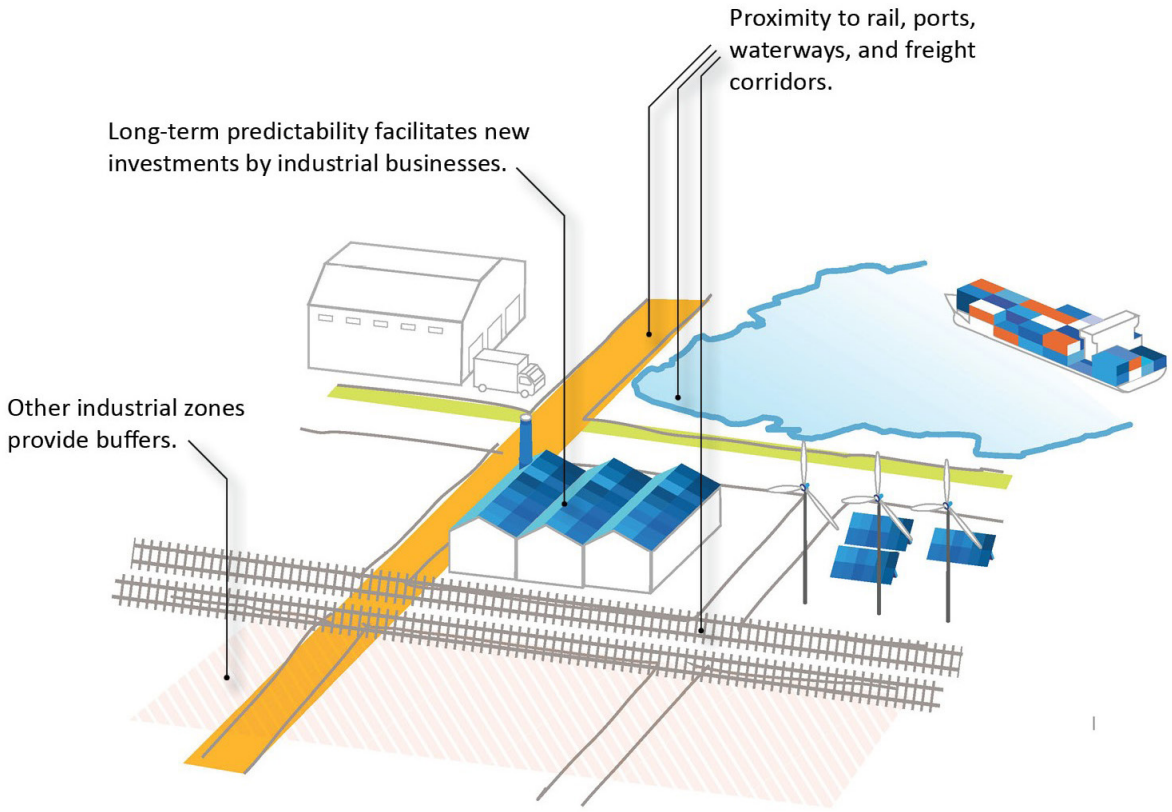
Maritime, Manufacturing, and Logistics (MML)	Industry and Innovation (II)	Urban Industrial (UI)

A description of concept is provided below and following that a full description of each alternative and how it assimilates the land use concepts.

Maritime, Manufacturing, and Logistics (MML)

The Maritime, Manufacturing, and Logistics (MML) land use concept would intend to strengthen established economic clusters and expand equitable access to jobs. Seattle's industrial areas host valuable economic clusters including fishing, logistics, maritime, aerospace, brewing and distilling, and others that depend on access to water or other irreplaceable supporting infrastructure. MML would be applied in locations near such infrastructure and would strengthen the policy and zoning protections for maritime and industrial uses. See **Exhibit 1.5-2**.

Exhibit 1.5-2 Maritime Manufacturing and Logistics Proposed Land Use Concept



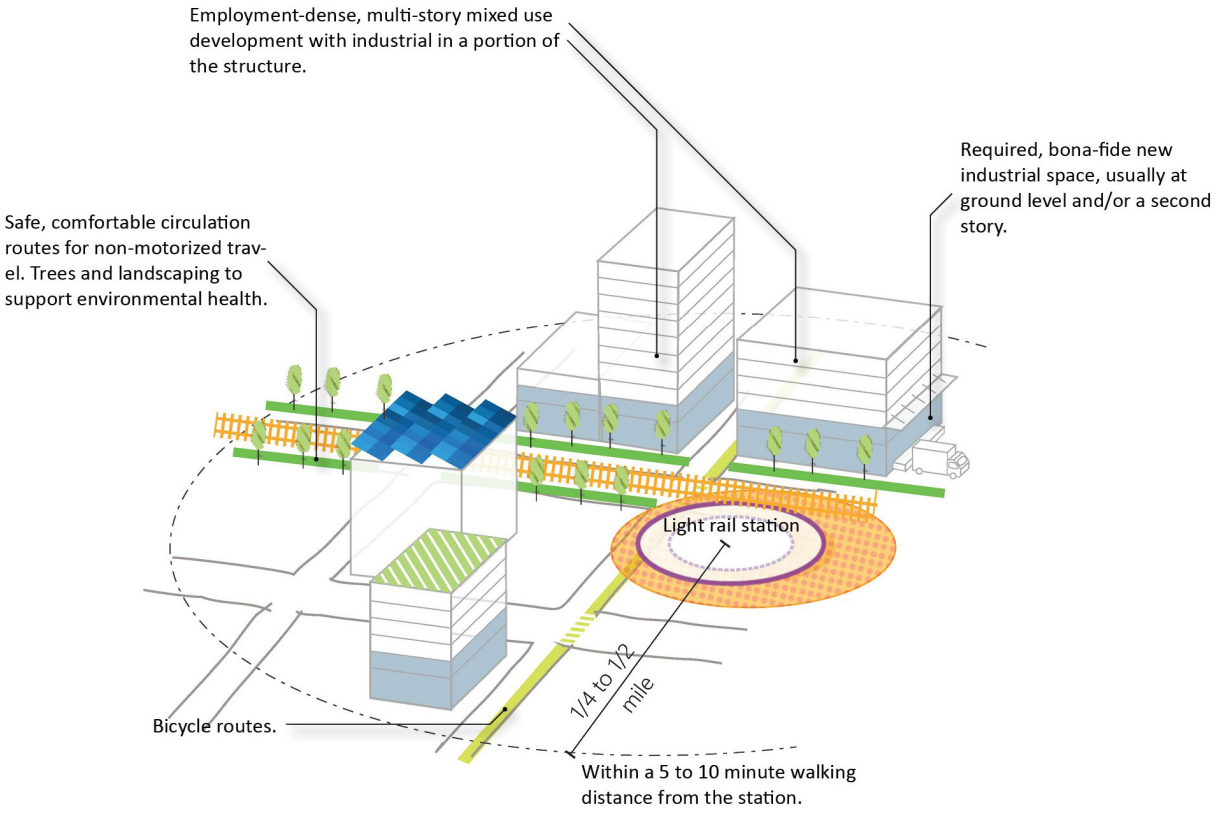
Challenges Addressed	Features/Development Standards
▪ Market pressure for conversion away from industrial land. ▪ Vulnerabilities due to the interdependence of business within clusters. ▪ A pattern of "one off" zoning decisions that have removed industrial land. ▪ Encroachment of non-industrial uses in industrial zones.	▪ Strictly limit allowable uses to industrial, manufacturing, maritime and similar uses. ▪ Do not allow new residential uses. ▪ Strict maximum size of use limits on non-industrial uses such as retail, office, and restaurants.

Source: City of Seattle, 2021.

Industry and Innovation (II)

The Industry and Innovation (II) land use concept would intend to support economic innovation and capitalize on emerging opportunities including expanded or new light rail stations in industrial areas. It would intend to support emerging formats for industrial activity that are more design and research oriented than traditional industrial uses. It would intend to introduce nodes of high-density employment and multi-modal access near transit. Industry and Innovation would also intend to encourage new investment in high quality industrial space. See **Exhibit 1.5-3**.

Exhibit 1.5-3 Industry and Innovation Proposed Land Use Concept



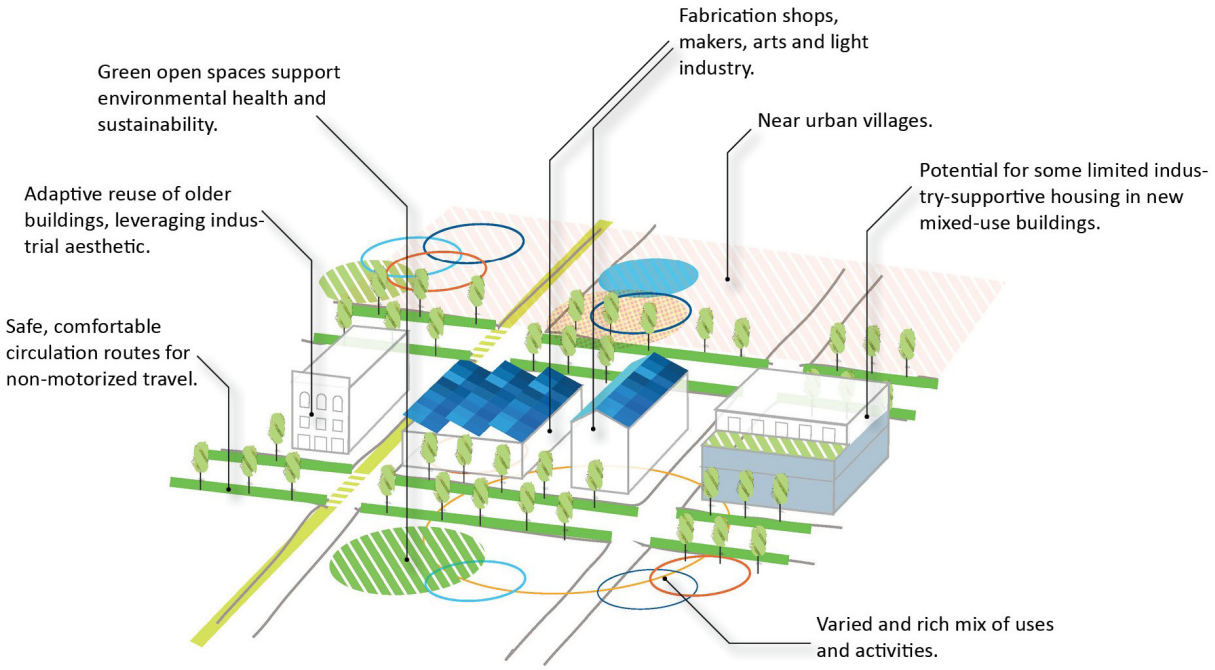
Challenges Addressed	Features/Development Standards
▪ Industrial zoning hasn't been updated to reflect contemporary industrial methods. ▪ Lack of new investment (buildings & infrastructure) in industrial areas. ▪ Integration of high-capacity transit in industrial areas (ST3). ▪ High rent for office and tech uses make it difficult for industrial businesses to find space affordable to them. ▪ Lower density of jobs in distribution / warehouse uses.	▪ An incentive structure allowing some non-industrial office or technology uses if a new bona-fide industrial space is included in the same development. Industrial uses would be likely to locate on the ground floor and/or second floor. ▪ A substantial increase in allowed floor area and height limits compared to existing industrial zones that would allow dense multi-story buildings. ▪ Minimum construction standards for bona-fide industrial space such as freight elevators, minimum clear ceiling heights, and load-bearing floors. ▪ Standards for pedestrian and cyclist-oriented frontage improvements. ▪ Vehicle parking maximums and strong commute trip reduction program requirements.

Source: City of Seattle, 2021.

Urban Industrial (UI)

The Urban Industrial (UI) land use concept would intend to foster vibrant districts that support a mix of local manufacturing, production, arts, and a sense of place. Urban Industrial would be located in areas adjacent to Seattle's designated urban villages. UI would intend to create thoughtful integration between the edges of Seattle's MICs and adjacent neighborhoods. It would seek to improve environmental health, walkability, and comfort in these areas. The UI concept would seek to leverage the industrial aesthetic, including adaptive reuse of buildings. In some alternatives, UI could allow a limited amount of new industry-supportive housing. See **Exhibit 1.5-4**.

Exhibit 1.5-4 Urban Industrial Proposed Land Use Concept



Challenges Addressed	Features/Development Standards
▪ Environmental health impacts that affect residents near industrial areas. ▪ Uncomfortable conditions for pedestrians, cyclists, and transit riders. ▪ Strong demand for worker housing near jobs. ▪ Lack of small or affordable space for makers, creatives, and artists.	▪ Strict maximum size of use limits for stand-alone non-industrial uses. ▪ Flexibility for larger size of use for retail or office space that is combined with a production or making use on-site. ▪ A moderate increase in allowed floor area compared to existing industrial zones. ▪ Development standards such as setbacks and landscaping that are more urban in nature, compared to the existing industrial buffer zones. ▪ Standards for pedestrian and cyclist-oriented frontage improvements. ▪ Expanded allowances for limited industry-supportive housing such as caretakers' quarters and maker studios (alternatives 3 and 4 only).

Source: City of Seattle, 2021.

Comprehensive Plan Policy Amendments

The Action Alternatives include new goals and policies relating to the industrial and maritime sectors that would be adopted into the City's Comprehensive Plan. The proposed amendments would establish a new land use framework to implement the concepts discussed above, and new policies concerning transition to clean fuels.

Below is a summary for how the new policies would be integrated into the existing Comprehensive Plan. Specific draft goal and policy language can be found in **Appendix D**.

- Add two new land use **Goals** in the industrial areas section, in addition to existing Land Use Goal 10:
  - Support employment-dense activities and emerging industries that require greater flexibility in the range of on-site uses and activities.
  - Develop transitions between industrial areas and adjacent neighborhoods that support healthy communities, reduce adverse environmental impacts, and minimize land use conflicts.
- Introduce new land use **Policies** that would support implementation of the new goals. Policy amendments would include a new land use framework for the MML, II, and UI zones, establishing their intent and purpose and locational guidance.
- Introduce a new policy to limit changes in MIC boundaries to major updates of the Comprehensive Plan or following a comprehensive city-led study.
- Establish the city's intent to work with owners or future owners of the Washington Oregon Shippers Cooperative Association (WOSCA) and Interbay Armory sites on a master planning process for future reuse according to the goals and policies for MICs.
- Introduce new or strengthened policies into chapters of the Comprehensive Plan that may include the Transportation, Environment, or Container Port elements encouraging transitions to clean fuels and decarbonization of industrial and maritime activities.

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Manufacturing Industrial Center Subarea Plan

The Puget Sound Regional Council's VISION 2050 and the Regional Centers Framework calls for jurisdictions to adopt subarea plans for regional centers. The City of Seattle anticipates updating existing subarea plans for the two MICs that were prepared in the late 1990s.

The subarea plans should provide or address:

- A Center Plan Concept/Vision and be the product of Regional Collaboration
- Demonstrate Environmental Protection, Climate Change Adaptation and Mitigation, and Vulnerable Community Protection
- Center Size and Boundaries and Land Use / Development Patterns
  - Industrial Employment Centers should have at least 10,000 existing jobs and plan for at least 20,000 jobs.
  - Regional manufacturing/industrial centers must retain a minimum 50% industrial employment.
  - The plan should include policies and identify programs that retain at least 75% of industrially zoned land for core industrial uses (e.g., manufacturing, transportation, warehousing, and freight).
- Economy and Market Potential
- Multimodal and Intermodal Transportation
- Public Services
- Innovation, Engagement, and Racial Equity

More information and evaluation are included in **Section 3.8 Land & Shoreline Use** addressing the relationship of the alternatives to plans and policies.

1.5.4 Regulatory Concepts

In the Action Alternatives, the proposal would implement the land use concepts by applying new Maritime Manufacturing and Logistics (MML), Industry and Innovation (II), and Urban Industrial (UI) zones. The new zones would replace existing industrial zones on the official land use map, and the new zones would be new development standards in the text of the Seattle Municipal Code. The new zones would have the intention of achieving the features of the proposed land use concepts.

Exhibit 1.5-5 is a brief overview of the proposed zones. A more complete description of the zones and how they would work to a level of detail sufficient for assessing environmental impacts is found in **Chapter 2**.

Exhibit 1.5-5 Development Standards by Land Use Concept

Development Standard	Maritime Manufacturing and Logistics (MML)	Industry and Innovation (II)	Urban Industrial (UI)
Locational Criteria	▪ Within a M/IC. ▪ Large parcel sizes. ▪ Proximate to water and port facilities. ▪ Proximate to rail or other freight infrastructure. ▪ Buffered from urban villages and residential zones.	▪ Within ¼–½ mile walkshed of an existing or planned high capacity transit station. ▪ Within a MI/C or land previously in an industrial zone outside a MI/C.	▪ Within a designated M/IC, or an area with existing industrial/manufacturing/maritime uses. ▪ Proximate to an urban village, or an existing agglomeration of residential uses.
Summary	▪ Wide range of light and heavy industrial uses permitted. ▪ Strict size of use and maximum FAR limits for non-industrial uses. ▪ Maximum FAR of 2.5, similar to existing industrial zones.	▪ An incentive bonus system allowing dense non-industrial employment uses contingent on the construction of bona-fide new light industrial space. ▪ Substantially higher height limits and FAR limits than existing industrial zones. ▪ No expansion of housing allowances in any alternative.	▪ Increased allowances for ancillary retail and restaurant spaces with on-site industrial uses. ▪ Higher FAR limits than existing industrial zones, and decreased setback requirements for more urban structures. ▪ Increased multi-modal frontage improvement requirements and urban landscaping requirements. ▪ Expansion of some limited industry-supportive housing allowances in alts. 3 and 4 only.

Source: City of Seattle, 2021.

1.5.5 Alternative 1—No Action

The No Action Alternative is required by SEPA. No change to current Comprehensive Plan policies, development standards, or zoning maps are included under this alternative. The existing zone classifications established in 1987—the Industrial General (IG1 and IG2) zones, the Industrial Commercial (IC) zone, and the Industrial Buffer (IB) zone—would remain. IG is the core industrial zone that prioritizes industrial and maritime uses and covers most of the MICs. IC allows for a mix of industrial and commercial activities, but in recent years has been developed primarily with office and commercial uses. IB offers development standards intended to buffer industrial uses from adjacent neighborhoods and includes a focus on setbacks, limited heights, and landscaping. See **Exhibit 1.5-7**. The No Action Alternative retains the following:

- No change to IG zones that cover 90% of industrially zoned areas.
- No change to IC zone that cover 5% of industrially zoned areas.
- No change to IB zone that cover 5% of industrially zoned areas.
- Residential uses are prohibited with the exception of one caretaker quarters per industrial business, artist studio housing in existing structures, and housing that predates industrial zoning.

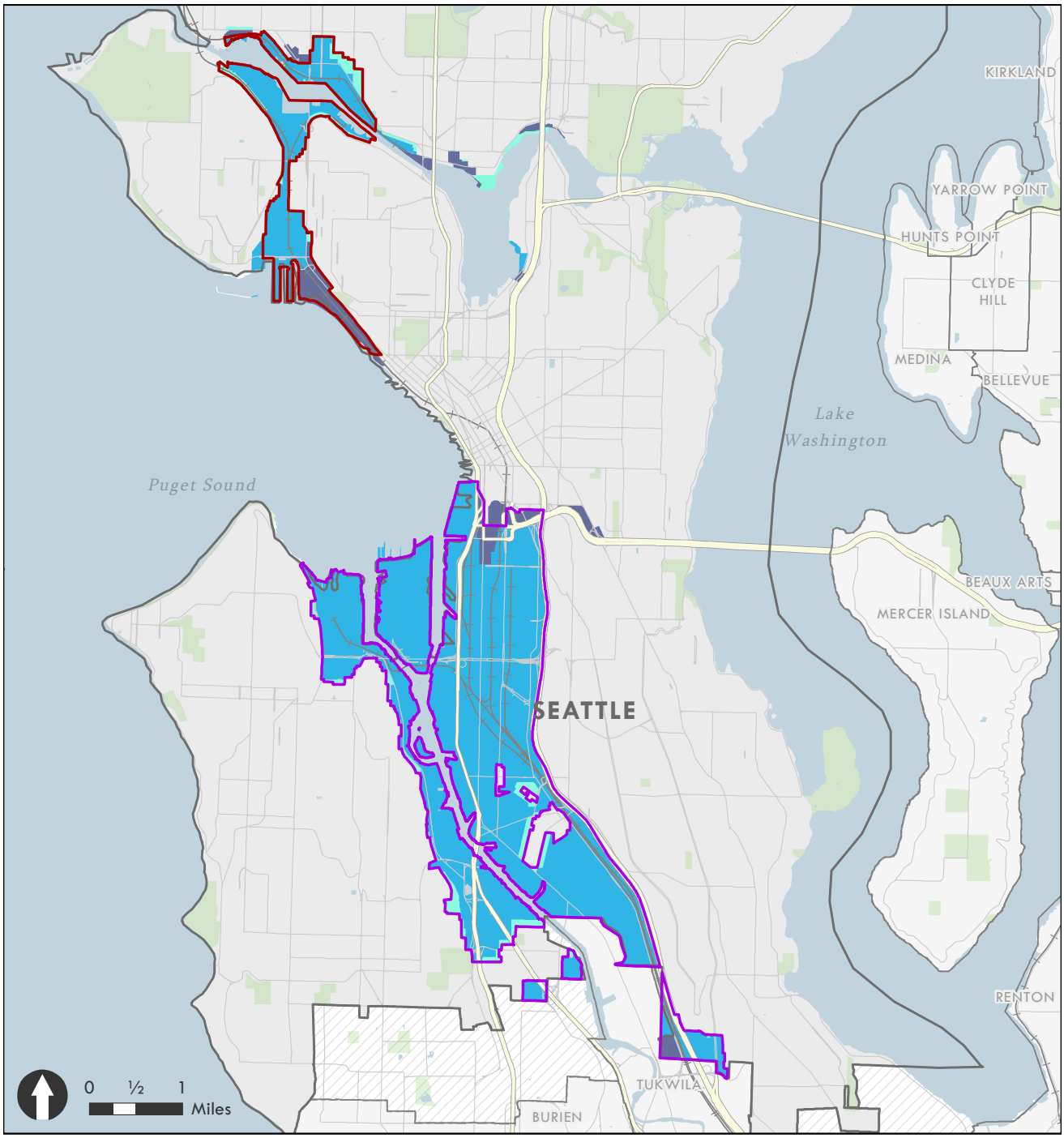
See **Exhibit 1.5-6** with acres and percent of zones.

Exhibit 1.5-6 Alternative 1—No Action Zoning Districts (Acres)

Zoning Districts	Acres	Share
Industrial General (IG1/IG2)	6,273	90.4%
Industrial Buffer (IB)	316	4.6%
Industrial Commercial (IC)	347	5%
Total	**6,936**	**100%**

Source: WAC 197-11-442; BERK, 2021.

Exhibit 1.5-7 Alternative 1—No Action Zoning Map



Sources: City of Seattle, 2021; BERK, 2021.

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The City of Seattle will be planning for total citywide job growth of 169,500 jobs over the 20-year planning horizon. Employment growth of 23,500 projected under Alternative 1 in the study area would represent about 14% of total citywide job growth. The study area contains the MICs and additional industrial zoned areas outside of MICs. The 14% share of total citywide job growth under Alternative 1 is an increase to the share of job growth planned for industrial areas during the previous Seattle 2035 20-year planning horizon, which estimated 8% of the city's job growth in MICs (and not including industrial zoned lands outside of MICs).

Current jobs are majority industrial (55%). The total number of jobs is expected to increase by 23,500 with just over half of that industrial. When added to base jobs, the share of industrial jobs in 2044 would slightly decrease (54%). The current number of dwellings is small and is only projected to increase by 75 units, assumed to be caretakers' units and artist/studio quarters. Detailed summaries of projected employment mix and housing by sub-areas are included in **Chapter 2**.

Under Alternative 1—No Action, most industrial jobs as well as total jobs are located in the SODO/Stadium and Georgetown/South Park subareas, with less in the Ballard, Interbay Dravus, and Interbay Smith Cove subareas.

1.5.6 Alternative 2—Future of Industry Limited

Alternative 2—Future of Industry Limited applies the proposed land use concepts with relatively less Industry and Innovation and Urban Industrial than the other two Action Alternatives. See **Exhibit 1.5-9**.

Alternative 2 proposes the following:

- Updates industrial land use policies to anticipate future innovations and trends.
- Strengthens protections for industrial uses in MML zone covering 90% of industrial lands.
- Applies a mix of II and UI zone concepts in 10% of current MIC areas, including an estimated ¼ mile from light rail stations.
- No expansion of housing allowances.
- Does not remove any land from MICs.

See zoning district acres in **Exhibit 1.5-8**.

Exhibit 1.5-8 Alternative 2—Future of Industry Limited Zoning Districts (Acres)

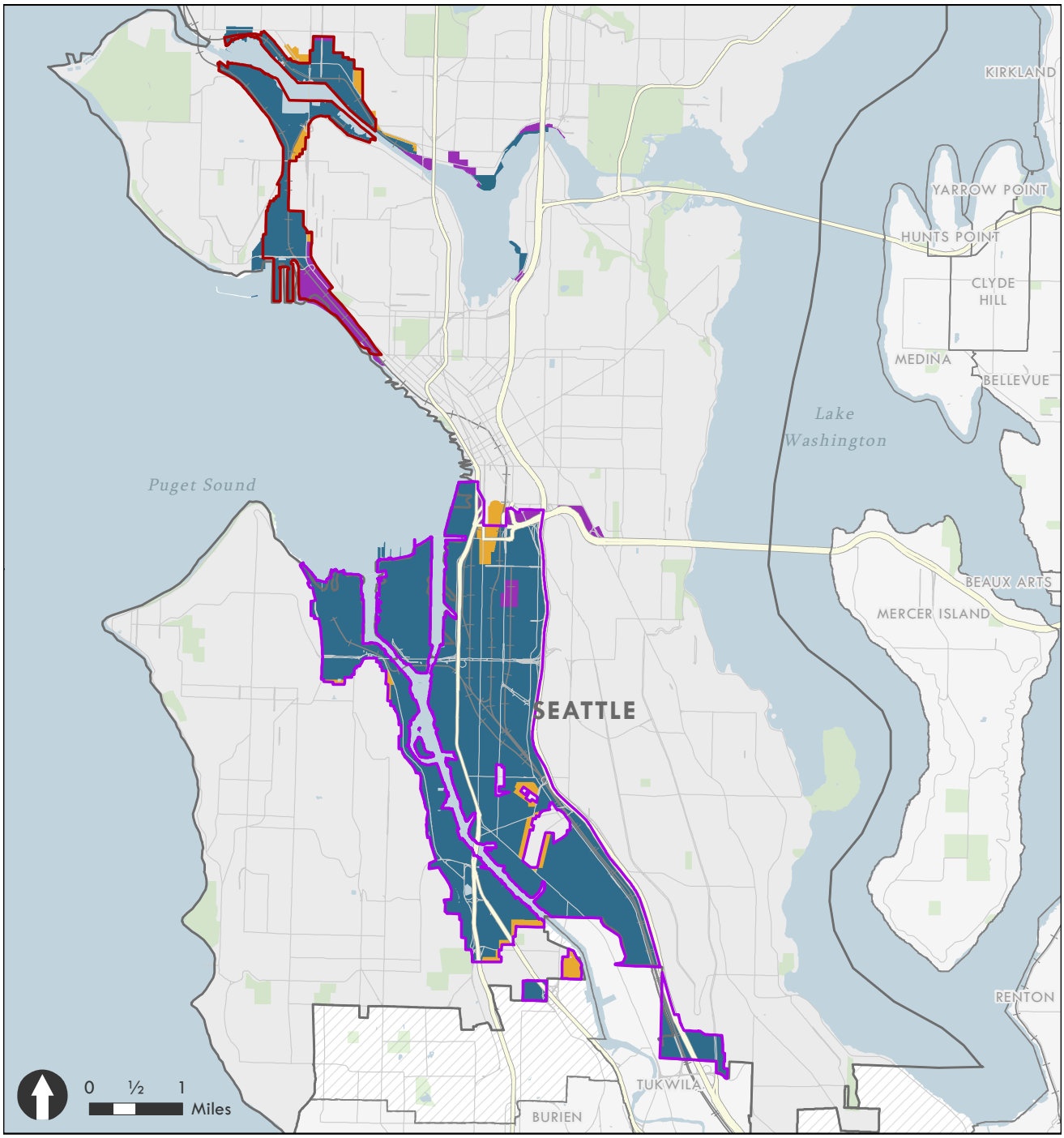
Zoning Districts	Acres	Share
Maritime, Manufacturing, and Logistics (MML)	6,251	90.1%
Urban Industrial (UI)	222	3.2%
Industry and Innovation (II)	463	6.7%
Total	**6,936**	**100%**

Source: WAC 197-11-442; BERK, 2021.

The total number of jobs is expected to increase by 34,400 with 72% of that industrial in nature; the total share of industrial jobs in 2044 would increase from 55% in 2018 to 60% in 2044. Employment growth of 34,400 projected under Alternative 2 in the study area would represent about 20% of total citywide job growth that the City would be planning for during the 20-year planning horizon. This would represent a shift of a moderately greater share of the city's expected employment growth into industrial areas compared to past trends and the previous 20-year Comprehensive Plan planning horizon.

The number of dwellings is projected to increase by 80 units and assumed to be caretakers' quarters and some artist/studios.

Exhibit 1.5-9 Alternative 2—Future of Industry Limited



Sources: City of Seattle, 2021; BERK, 2021.

1.5.7 Alternative 3—Future of Industry Targeted

Alternative 3—Future of Industry Targeted applies the proposed land use concepts with a greater share of Industry and Innovation and Urban Industrial than Alternative 2. See **Exhibit 1.5-11**.

Alternative 3 proposes the following:

- Updates industrial land use policies to anticipate future innovations and trends.
- Strengthens protections for industrial uses in MML zones covering 86% of industrial lands.
- Applies a mix of II and UI zone concepts in 14% of current MIC areas, including an estimated ½ mile from light rail stations.
- Expansion of limited industry-supportive housing in UI zone concept.
- Removes focused land in Georgetown/South Park from MICs.

Acres by zoning are shown in **Exhibit 1.5-10**.

Exhibit 1.5-10 Alternative 3—Future of Industry Targeted Zoning Districts (Acres)

Zoning Districts	Acres	Share
Maritime, Manufacturing, and Logistics (MML)	5,968	86.0%
Urban Industrial (UI)	426	6.1%
Industry and Innovation (II)	516	7.4%
Mixed-Use Commercial	26	0.4%
Total	**6,936**	**100%**

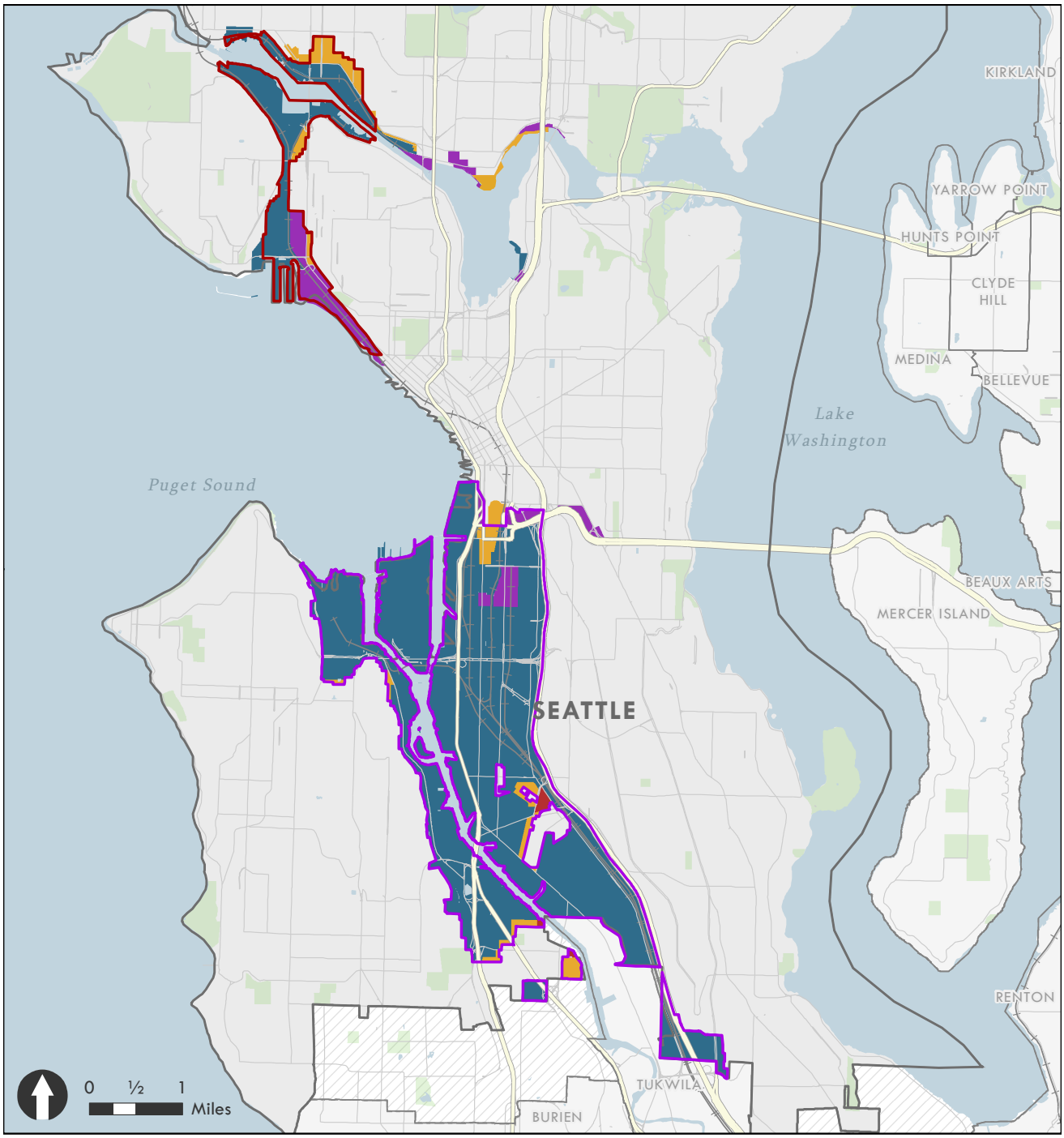
Source: WAC 197-11-442; BERK, 2021.

The total number of jobs would increase by 57,400 with 60% of those industrial jobs; the total share of industrial jobs in 2044 would slightly decrease from 55% in 2018 to 54% in 2044. This level of employment growth would shift a sizeable share of Seattle's total employment growth into MICs compared to historic growth rates in MICs. Employment growth of 57,400 projected under Alternative 3 in the study area would represent about 34% of total citywide job growth that the City is planning for during the 20-year planning horizon. This would represent a substantial shift of the total share of the city's expected employment growth into MICs and industrial areas compared to past trends and the previous 20-year Comprehensive Plan planning horizon.

The number of dwellings is projected to increase by 610 units, with a combination of caretakers' quarters and makers studios under modified allowances for industry-supportive housing in the UI zone.

In addition to the housing in industrial zones, some more new housing would result in focused areas in Georgetown and South Park that would be removed from the MIC and placed in a mixed-use zone. This would result in a total of 1,078 housing units over the study time horizon on land that is removed from industrial zoning under Alternative 3.

Exhibit 1.5-11 Alternative 3—Future of Industry Targeted



Sources: City of Seattle, 2021; BERK, 2021.

1.5.8 Alternative 4—Future of Industry Expanded

Alternative 4—Future of Industry Expanded applies the proposed land use concepts with a greater share of Industry and Innovation and Urban Industrial than Alternative 2. This alternative expands limited housing allowances compared to Alternative 3. See **Exhibit 1.5-13**.

Alternative 4 proposes the following:

- Updates industrial land use policies to anticipate future innovations and trends.
- Strengthens protections for industrial uses in MML zones covering 87% of industrial lands.
- Applies a mix of II and UI zone concepts in 13% of current MIC areas, including an estimated ½ mile from light rail stations.
- Expansion of limited industry-supportive housing in UI zone concept.
- Removes focused land in Georgetown/South Park from the MIC.
- Increases maximum size of use limit for indoor sports and recreation uses.

The zoning districts by acres is listed in **Exhibit 1.5-12**.

Exhibit 1.5-12 Alternative 4—Future of Industry Expanded Zoning Districts (Acres)

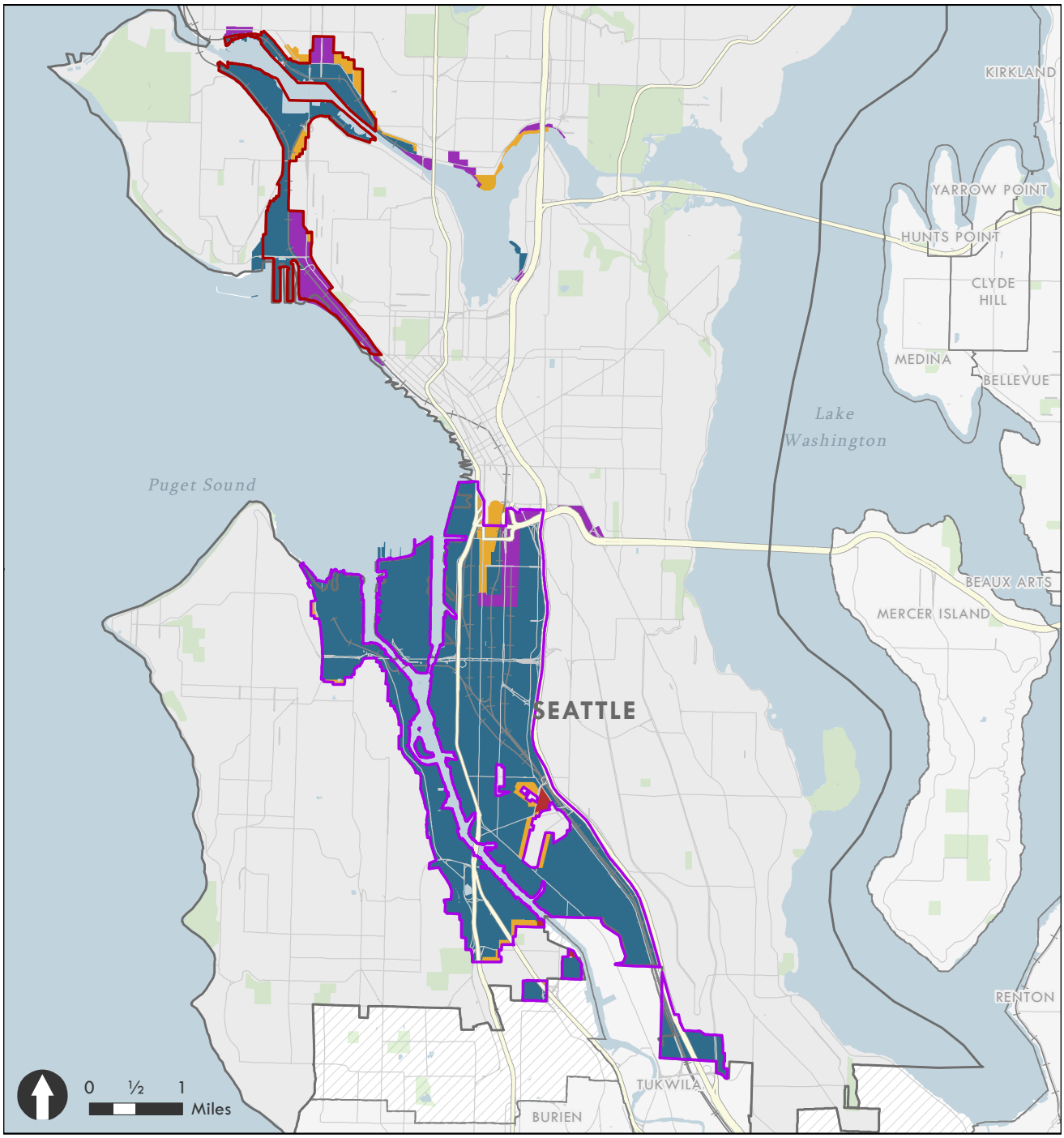
Zoning Districts	Acres	Share
Maritime, Manufacturing, and Logistics (MML)	6,035	87.0%
Urban Industrial (UI)	279	4.0%
Industry and Innovation (II)	600	8.7%
Mixed-Use Commercial	22	0.3%
Total	**6,936**	**100%**

Source: WAC 197-11-442; BERK, 2021.

The total number of jobs would increase by 59,200 with 49% of those industrial jobs; the total share of industrial jobs in 2044 would slightly decrease from 55% in 2018 to 53% in 2044. Like Alternative 3, this level of employment growth would shift a sizeable share of Seattle's total employment growth into MICs compared to historic growth rates in MICs. Employment growth of 59,500 projected under Alternative 4 in the study area would represent about 35% of total citywide job growth that the City would be planning for during the 20-year planning horizon. Similar to Alternative 3, this would represent a substantial shift of the total share of the city's expected employment growth into MICs and industrial areas compared to past trends and the previous 20-year Comprehensive Plan planning horizon.

The number of dwellings is projected to increase by 2,195 units, with a combination of caretakers' quarters and makers studios under modified allowances for industry-supportive housing in the UI zone.

Exhibit 1.5-13 Alternative 4—Future of Industry Expanded



Sources: City of Seattle, 2021; BERK, 2021.

1.5.9 Comparison of Alternatives

Exhibit 1.5-14 below summarizes the four alternatives studied in this EIS. In summary, the alternatives are arranged with an increasing degree of land use change from 1 to 4, with Alternative 4 having the greatest degree of change. Higher number alternatives have larger geographic areas rezoned to the II or UI zone, and greater magnitudes of projected employment growth. A legislative proposal will be developed once the EIS process is complete which will likely be a hybrid of the alternatives described below.

Exhibit 1.5-14 Summary of Land Use Concepts by Alternatives

No Action Alternative	New Land Use Concepts	Alt 2—Future of Industry Limited	Alt 3—Future of Industry Targeted	Alt 4—Future of Industry Expanded
Industrial General Zones: 90% of land area	■ Maritime Manufacturing and Logistics (MML) Zone	90% with stronger protections.	86% with stronger protections.	87% with stronger protections.
Industrial Commercial Zones: 5% of land area	■ Industry and Innovation (II) Zone	7% of land area. Located up to approximately ¼ mile around transit stations and all land currently zoned industrial commercial.	7% of land area. Located approximately up to ½ mile around transit stations and all land currently zoned Industrial Commercial.	9% of land area. Located greater than ½ mile around transit stations and all land currently zoned Industrial Commercial. Includes land near potential Ballard ST3 station and the Stadium ST3 station.
Industrial Buffer Zone: 5% of land area	■ Urban Industrial (UI) Zone	3% of land area. Located generally in transition areas between MML or II zones and nonindustrial areas.	6% of all land area. Expanded transition area in Ballard.	4% of land area. Expanded transition area in Stadium district.
Areas removed from MIC and placed in mixed-use zone		None.	Small nodes in Georgetown/South Park to advance community goals	Small nodes in Georgetown/South Park to advance community goals
Only new caretaker's quarters, artist housing and existing non-conforming: approx. 413 units	Housing in Industrial Zones	No expanded allowances.	Expanded industry-supportive in UI zones: approx. 610 units.	Larger expansion of Industry-supportive in UI zones: approx. 2,195 units.
Lodging Prohibited	Stadium Overlay	No change.	Allow lodging.	All lodging with larger size of use limits.
Size of Use Limits	Non-Industrial uses.	Expanded non-industrial ancillary uses. Reduced stand-alone non-industrial size of use limits.	Expanded non-industrial ancillary uses. Reduced stand-alone non-industrial size of use limits.	Expanded non-industrial ancillary uses. Reduced stand-alone non-industrial size of use limits. Expanded size of use limit for indoor recreational facilities.

No Action Alternative	New Land Use Concepts	Alt 2—Future of Industry Limited	Alt 3—Future of Industry Targeted	Alt 4—Future of Industry Expanded
MIC Subarea Plans	Current Plans	Update MIC Subarea Plans per VISION 2050.	Update MIC Subarea Plans per VISION 2050.	Update MIC Subarea Plans per VISION 2050.
Comprehensive Plan Policies	Current Policies	Amend Comprehensive Plan Policies to establish new land use framework, limit MIC boundary changes to Periodic Update, establish City's intent to work with State of Washington on a masterplan for the Armory and WOSCA Sites.	Amend Comprehensive Plan Policies to establish new land use framework, limit MIC boundary changes to Periodic Update, establish City's intent to work with State of Washington on a masterplan for the Armory and WOSCA Sites.	Amend Comprehensive Plan Policies to establish new land use framework, limit MIC boundary changes to Periodic Update, establish City's intent to work with State of Washington on a masterplan for the Armory and WOSCA Sites.

Source: City of Seattle, 2021; BERK, 2021.

A comparison of zoned acres is listed below. In all alternatives, the majority of the study area would be dedicated for industrial and manufacturing uses (IG or MML). Some areas zoned for industrial and manufacturing uses today would be designated instead for transitional zoning (UI) or dense employment (II) under the Action Alternatives. See **Exhibit 1.5-15**.

Exhibit 1.5-15 Comparison of Alternatives by Land Use/Zoning Acres

Zoning Districts	Alt 1	Land Use Concept	Alt 2	Alt 3	Alt 4
Industrial General (IG1/IG2)	6,035	Maritime, Manufacturing, and Logistics (MML)	6,251	5,968	6,035
Industrial Buffer (IB)	279	Urban Industrial (UI)	222	426	279
Industrial Commercial (IC)	600	Industry and Innovation (II)	463	516	600
Mixed-Use Commercial	22			26	22
Total	**6,936**		**6,936**	**6,936**	**6,936**

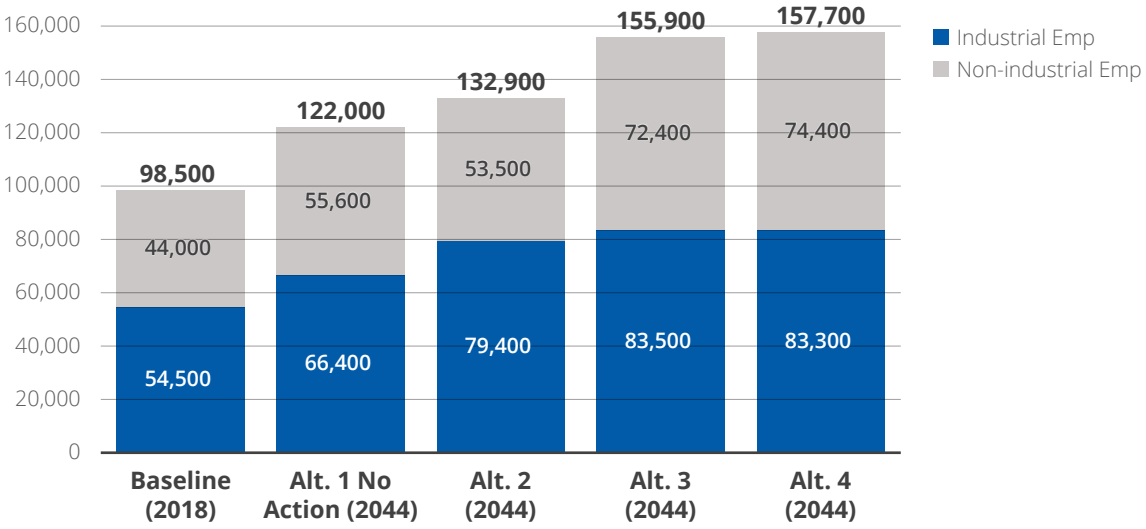
Source: WAC 197-11-442; BERK, 2021

Exhibit 1.5-16 summarizes total projected employment growth in the study area for the base year and by alternative, with a breakout of industrial[1] and non-industrial employment. The No Action Alternative and all three of the Action Alternatives result in employment growth. Overall employment growth is strongest under alternatives 3 and 4, which would result in 58% and 60% employment growth from the base year of 2018 over the time horizon to 2044. This

1 Industrial employment estimated based on the 2019 share of industrial employment by sector based on the 2015 PSRC Industrial Lands Study NAICs-based definition of industrial activities. This uses classification of what counts as an industrial job consistent with Puget Sound Regional Council criteria, including jobs in Information Computer Technology (ICT). Projections show strong job growth in ICT under the Action Alternatives. Consistency with PSRC classifications is appropriate given the need to fit VISION 2050 and Regional Centers Framework. A more conservative classification of which jobs are industrial, especially in ICT would show a steeper decline in the % of industrial jobs under most studied alternatives.

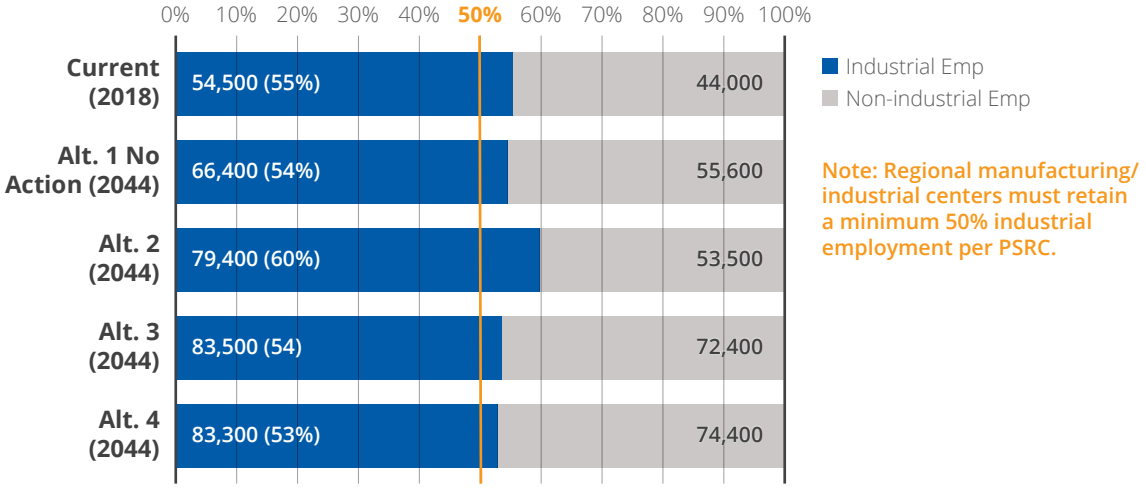
would be substantially more job growth in Seattle's MICs than has occurred in the last 20-year period due to the proposed changes. The overall number of industrial jobs would grow in all of the alternatives—ranging from +11,900 under No Action to +28,800 under Alternative 4. The percentage of the jobs that are industrial however would decrease incrementally from 55% in the base year to 53% under Alternative 4. See **Exhibit 1.5-17**.

Exhibit 1.5-16 Industrial and Non-Industrial Job Share



Source: City of Seattle, 2021; BERK, 2021.

Exhibit 1.5-17 Share of Industrial and Non-Industrial Jobs

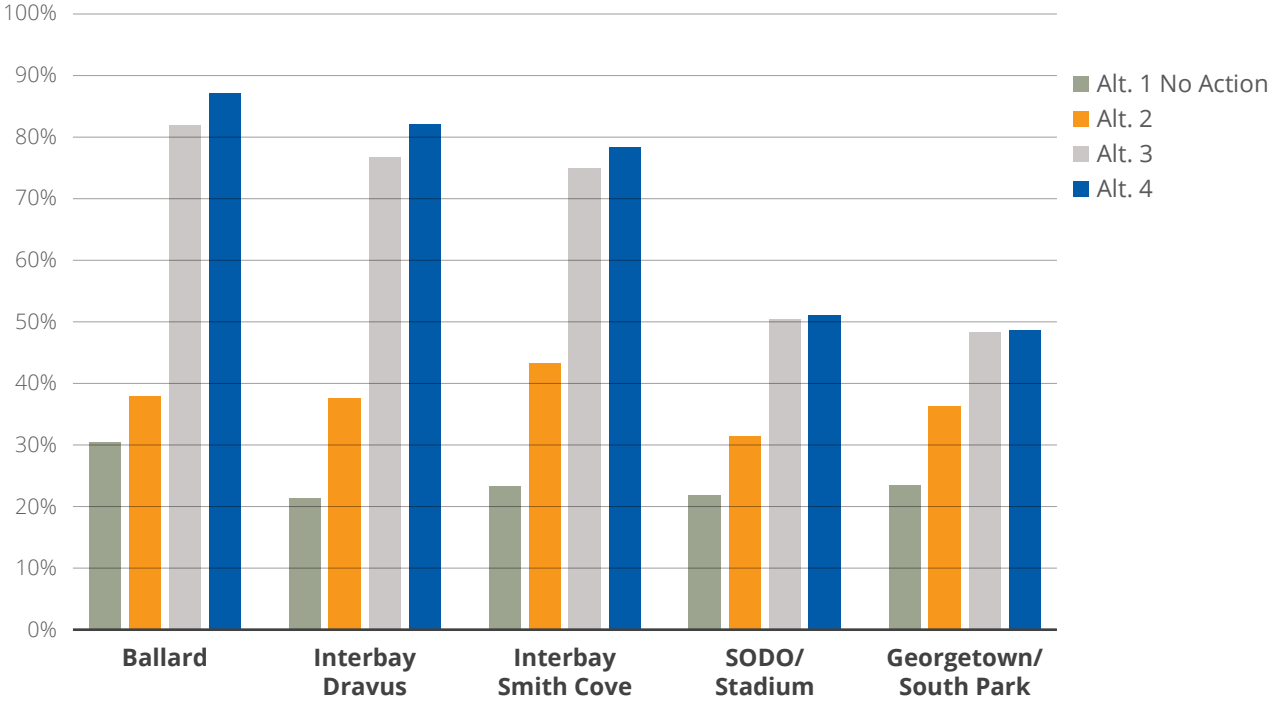


Sources: City of Seattle, 2021; BERK, 2021.

Exhibit 1.5-18 shows percentage of employment growth by subarea to display which subareas would have relatively greater employment growth over the base amount. The north subareas of Ballard, Interbay Dravus, and Interbay Smith Cove would have the highest employment growth on a percentage basis, most notably under alternatives 3 and 4 where employment growth is projected to increase by over 70% for each of these three northern areas.

While the greatest percent change in jobs is in the northern BINMIC subareas, the number of new jobs is greater in the Greater Duwamish MIC southern subareas.

Exhibit 1.5-18 Percent Growth in Employment by Subarea



Sources: CAI, 2021; City of Seattle, 2021; BERK, 2021.

1.5.10 Alternatives Considered & Not Carried Forward

Following scoping, the City made some adjustments to the alternatives (see Appendix A for the scoping report) such as considering the sizing of recreation uses in some zones. Other ideas were considered but not carried forward.

The City considered scoping comments requesting more extensive changes to MIC boundaries, or requests for zoning allowing residential or mixed-uses across the study area at particular sites, and considered an alternative that would have de-designated the BINMIC as a MIC. However, the city determined that these approaches would not be likely to advance towards the proposal's objectives and would not be in keeping with the intent of City decisionmakers and policymakers. Therefore, the City largely retained the focus of alternatives on industrial and maritime purposes.

- The EIS represents an implementation action of the recently completed Industrial and Maritime Strategy and the alternatives are heavily informed by the recommendations of that strategy, including adding no significant new housing in industrial areas, and rather focusing primarily on industrial uses consistent with regional and city plans.
- The proposal includes a policy change calling for collaborative master planning of the Armory site. The site is within the MIC, and the proposal is that updated MIC policies and industrial zone designations will apply to the site. Should the State and partners wish to pursue non-industrial future uses, that would have to be determined in the master plan in partnership with the City and other entities.

The EIS does consider a policy to allow for individual MIC boundary adjustments during the periodic review or during the annual amendment process.

1.6 Key Issues & Options

The key issues facing decision makers are summarized below:

- Adjustments to land use regulation that will affect future industrial job growth, including the amount of growth and mix of job types.
- The extent of industry-supportive housing—such as caretakers' quarters and maker studios—and the best location for such housing.
- Revisions to the MIC boundary in focused areas of Georgetown and South Park.
- Level of investment in transitions between the MICs and adjacent residential neighborhoods or urban villages.
- Level of investment within the MICs to address equity and environmental justice.

1.7 Summary of Impacts & Mitigation Measures

1.7.1 Soils/Geology

How did we analyze Soils/Geology?

We conducted a desktop analysis of existing information sources on soils and geologic conditions and evaluated potential impacts of the various alternatives. Geologists used best professional judgement to determine the impacts on soils and geology that would occur from each alternative within the study area.

What are geologic hazards?

Geologically hazardous areas include areas susceptible to erosion, sliding, earthquake, or other geological events. (WAC 365-190-120(1)) In order to promote safe, stable, and compatible development, Seattle regulates liquefaction-prone areas, landslide-prone areas, peat settlement-prone areas, seismic hazards areas, and volcanic hazard areas. Landslide areas include steep slope erosion hazard areas. (SMC 25.09.012)

What impacts did we identify?

The study area is located within the Puget Sound Region, an area susceptible to moderately high seismic activity. During a seismic event, the study area might be subjected to high-level ground motions and areas with steep slopes might experience seismic slope stability problems.

Portions of the Ballard and Interbay Dravus subareas, and all of the Interbay Smith Cove, SODO/Stadium, and Georgetown/South Park subareas are susceptible to liquefaction. During an earthquake, vertical and lateral displacements of structures, embankments, and paved areas might occur due to seismic liquefaction hazard.

A peat settlement-prone area in the southwest portion of the Georgetown/South Park Subarea could limit the possibility of development and maintenance of existing structures with any of the alternatives. In this area, compressible soils might need to be excavated and replaced, or planned structures, embankments, and pathways might need to be supported on deep foundations. All alternatives would allow development that could disturb soils.

Development on or adjacent to any of the five historical landfills located within the study areas would require special planning and design. This could include assuring the integrity of any existing landfill cap, installing methane barriers or appropriate ventilation and designing structures to account for poor or unpredictable soil characteristics that could cause settling, preventing water from entering the historic landfills (capping with an engineered or bentonite cap barrier), and/or managing any leachate as water percolates through the historical landfill areas.

What is different between the alternatives?

Under Alternative 1 No Action, humans and animals could potentially feel the greatest impacts from geologic hazards in all subareas because fewer aging buildings and infrastructure

would be upgraded to modern building codes to withstand geologic conditions including seismic events compared to Action Alternatives.

Alternative 2 would rezone about 10% of the MICs to an UI or II zone, increasing the likelihood that development there would upgrade structures to modern building codes, resulting in less potential damage from geologic conditions or seismic events.

Alternatives 3 and 4 would rezone greater portions of the MICs (14% and 13%, respectively) to the II or UI zones. This would result in the most development and the most benefit from structures built to modern building codes and least potential damage from geologic conditions or seismic events.

Duwamish River

What are some solutions or mitigation for impacts?

Although the proposal would allow development at sites in areas prone to landslides, liquefaction, settlement, or similar geologic hazards, modern building codes mitigate the risk of injury or economic losses. Erosion control measures per suggested best management practices (BMPs) would be prescribed in Construction Stormwater Pollution Prevention Plans prepared for each development project. Development on or adjacent to landfills within the study areas would include special controls and design as needed to mitigate for methane gas or account for poor or unpredictable soil characteristics that could cause settling and manage any leachate.

With mitigation, what is the ultimate outcome?

The Action Alternatives would generally have positive long-term benefits. The greatest benefits would be associated with alternatives 3 and 4 because they would result in the most sites developed to modern building codes.

Development in the study area, as with most locations in Central Puget Sound, would expose population and structures to geologic hazards, and would disturb soils. These impacts can be mitigated to a less than significant level by designing development to the City's adopted construction codes and applying any site-specific conditions (e.g., methane mitigation systems for buildings built near historic landfills) required by the City during permit review.

1.7.2 Air Quality & GHG

How did we analyze Air Quality & GHG?

Eight sites within the BINMIC and Greater Duwamish MIC were monitored directly to provide site-specific baseline data on ambient air quality conditions for this EIS. Criteria pollutant emissions and greenhouse gas (GHG) emissions were estimated under the Alternatives for future industrial, non-industrial, and housing development, changes in vehicle miles traveled by residents and employees, natural gas usage in buildings, maritime activities, and solid waste generation. Estimated increases in vehicle miles travelled (VMT) were predicted in the transportation analysis (**Section 3.10 Transportation**) and based on emission factors reflecting future improvements to the vehicle fleet using the AFLEET tool (2020 version) and data from the EPA MOVES2014b model.

Evaluating Air Quality and Greenhouse Gas (GHG)

The air quality evaluation considers air quality standards and conditions, with a focus on carbon monoxide (CO), particulate matter (PM) emissions, ozone precursors, and Toxic Air Pollutants (TAPs). The evaluation considers potential sensitive populations in and near the industrial and maritime areas of Seattle.

At a planning level the analysis indicates increases in greenhouse gases (GHGs) in comparison to local or regional goals or targets for GHG reductions and identifies mitigation to reduce impacts.

The growth in square footage and number of households was used to forecast 2040 GHG emissions using the City of Seattle's Energy Benchmarking data, and CO2 emission coefficients from the U.S. Energy Information Administration (EIA) and the EPA. These emissions were then adjusted to account for use of natural gas only, as electricity supplied by Seattle City Light is carbon neutral. The increase in residents and employees under each alternative was used to estimate emissions from the increase in solid waste generation using emission factors from the EPA's WARM model and the most recent (2018) waste generation rates from Seattle Public Utilities.

What impacts did we identify?

The analysis found that ambient air concentrations of monitored pollutants in the study area met the national ambient air quality standards under existing conditions, when excluding wildfire smoke. Air pollutants related to land uses changes, transportation, building uses, and maritime activities would all likely decrease in the future compared to existing conditions. This is due to the combination of existing requirements for industrial operating permits from Puget Sound Clean Air Agency (PSCAA), and ongoing requirements for improvements in vehicle emissions control, fuel economy, and technology improvements, and overall changes in fleet and fuel mix toward electrification and cleaner fuels, respectively. The Action Alternatives would be slightly higher in criteria air emissions than No Action due to increases in jobs and residents anticipated under each.

GHG emissions would all likely decrease in the future compared to existing conditions; the Action Alternatives would be slightly higher in GHG emissions than No Action due to increases

West Seattle Bridge

in jobs and residents anticipated under each. These emissions would combine with emissions across the city, state, country, and planet to cumulatively contribute to global climate change. Transportation systems contribute to climate change primarily through the emissions of carbon dioxide (CO2) and nitrous oxide (N2O) from gasoline and diesel fuels used to operate passenger cars, trucks, buses, and construction equipment. Land use changes contribute to climate change through construction and operational use of natural gas and waste production.

The proposal and alternatives would support more efficient growth patterns, consistent with regional planning as well as the long-term planning goals of the City's Comprehensive Plan, 2013 CAP, and 2018 Climate Action Strategy which are expected to assist in controlling GHG emissions (and which would have a similar effect on criteria air pollutants). The alternatives would help Seattle achieve its goals for accommodating industrial and maritime growth in areas that are well served by transit and within walking distance to a broad range of services and employment opportunities. However, because the proposal and alternatives would result in a net increase in GHG emissions generated in MICs compared to No Action, mitigation measures are warranted to maintain consistency with the long-term planning goals.

What is different between the alternatives?

The Action Alternatives would reduce air pollutant and GHG emissions below current conditions, while each Action Alternative adds additional emissions compared to No Action though not significantly. The relative difference in the magnitude of these increases is directly attributable to the level of industrial and non-industrial growth, housing growth, and vehicle miles traveled. For example, alternatives 3 and 4 would provide more industrial and non-industrial space and housing units in the study area, and hence accommodate more employees and people.

Therefore, the operational criteria pollutant and GHG emissions resulting from those alternatives would be incrementally greater than those of Alternative 1 No Action and Alternative 2.

Not considered in the quantification of GHG emissions is the fact that if growth accommodated in the proposal and alternatives were to be developed in other peripheral areas of the city or region with fewer transit options, overall transportation related GHG emissions would likely be far greater.

What are some solutions or mitigation for impacts?

Future development under the alternatives would be implemented while benefitting from ongoing improvements in vehicle emissions control, fuel economy, and technology improvements, and likely, enhancements to the Seattle Energy Code and updated actions under the 2013 Seattle CAP and 2018 Strategy. These codes and policies regulate and guide the energy-use features of new and remodeled buildings, including requirements with respect to building envelopes for roofs, walls, and windows; heating, ventilation and air conditioning efficiency mandates; and water heating equipment efficiency. Other mitigation measures related to waste diversion, green building standards, and building demolition waste reduction are recommended to ensure consistency with Clean Air Act standards, PSCAA requirements, Washington's GHG emissions reduction policies, and the City's Comprehensive Plan and 2013 CAP.

To further mitigate the impact of emissions from trucks, the City, Port of Seattle, and partners could adopt regulations for the study area that support the placement of infrastructure for charging of electric vehicles (including commercial and industrial vehicles) and explore the creation of a city-owned electrical vehicle charging facilities in intended for drayage trucks. To further mitigate the impact of emissions from marine vessels, the City, Port of Seattle, and private partners could accelerate the extension of shore power to terminals and docks throughout the Seattle waterfront.

Potential for exposure of existing and new employees, residents, and visitors to potential air emissions in areas around arterials, along industrial buffers, and near port operations should be considered in future planning. Policy measures could include separating residences and other sensitive land uses (i.e., schools, day care) be separated from freeways, railways, and port facilities, and new MML, II, and UI zones by a buffer area (e.g., 500 feet+), include enhanced air filtering and circulation, add landscaping and tree canopy, etc.

With mitigation, what is the ultimate outcome?

With identified mitigation, the proposal and alternatives would be consistent with air pollution and GHG reduction and climate change planning in the City of Seattle, reducing the severity of the identified cumulative impact. While the residual impact of all alternatives would still be a net increase in GHG emissions generated from growth and development in the MICs, the regional benefit of capturing development that might otherwise occur in other areas of the city or region would serve to offset these impacts. No significant unavoidable adverse impacts related to air quality and greenhouse gas emissions are anticipated.

1.7.3 Water Resources


Duwamish River

How did we analyze Water Resources?

We conducted a desktop analysis of existing information sources to characterize existing surface water, groundwater, and sea level rise conditions and analyzed impacts for all alternatives and impacts for each subarea. Mitigation measures were determined based upon city, state and federal regulations, codes, plans and policies. Water resources scientists used best professional judgement to determine how each alternative would affect water resources.

What impacts did we identify?

Short-term impacts could result from redevelopment including discharge of sediment or spills during construction. These construction projects would need to comply with the Seattle Stormwater Code, which requires temporary erosion and sediment controls.

Longer-term impacts may result from increased stormwater contamination from metals, organics and other pollutants related to industrial activities and traffic. However, higher levels of redevelopment would result in more stormwater control, such as onsite stormwater management, flow control, and water quality treatment, relative to existing conditions. Therefore, all Alternatives are expected to improve water resources.

Low lying areas adjacent to tidally-influenced water bodies (Puget Sound, Elliott Bay, the Duwamish River, and the mouths of Longfellow Creek and Puget Creek) have the potential to be affected by sea level rise. All alternatives may increase vulnerability to sea level rise more than No Action by bringing more people into vulnerable areas. Redevelopment that complies with SMP and frequently flooded areas requirements, and where adaptation measures are implemented, may decrease vulnerability to sea level rise relative to existing conditions.

What is different between the alternatives?

The alternatives differ in the amount of area that would be subject to stormwater mitigation during redevelopment. Alternatives with greater redevelopment, whether it is expansion of an existing industrial site or additional dense employment, would result in greater improvements to water quality and/or increased flow control.

Alternatives 3 and 4 create more housing than alternatives 1 and 2. The housing is concentrated in the Ballard and SODO/Stadium subareas. The increased housing will bring more permanent residents. Impacts include increased pets and pet waste with the potential

to contribute fecal coliform bacteria to adjacent surface waters. New residents in caretakers' quarters and makers studios, as well as areas removed from the MIC in Georgetown/South Park for mixed-use residential would also be exposed to potential sea level rise.

What are some solutions or mitigation for impacts?

As redevelopment occurs, most projects would be required to implement onsite stormwater management, water quality treatment, and flow control, which would improve stormwater management relative to existing conditions. Compliance with these regulations is anticipated to result in a net benefit to water resources under all Alternatives, with the greatest benefits occurring for Alternatives with the most redevelopment.

During construction, stormwater control BMPs would prevent sediment and contaminants from coming in contact with drainage water or being discharged to the drainage system, public combined sewer, or directly into receiving waters.

Surface and groundwater quality at industrial and business sites are protected through ongoing inspection programs, which also applies to new development. Industrial permits issued and managed by the Washington State Department of Ecology and held by individual properties are inspected and required to implement source control BMPs.

An increased emphasis on pet waste management through education and outreach and increased pet waste disposal stations should be implemented in areas surrounding housing developments to prevent impacts on water quality.

Under all Alternatives, proposed development in areas that are near the shoreline or in known flooding areas would be required to comply with critical areas regulations for frequently flooded areas, which is regulated through the City's Environmentally Critical Areas (ECA) Code and the requirements of the Shoreline Master Program (SMP; Seattle Municipal Code 23.60A). Compliance with these codes would likely reduce vulnerability of those developments to sea level rise impacts relative to existing conditions. Additional reduction in vulnerability will be achieved upon implementation of planning and programmatic adaptation strategies specified in the City of Seattle 2017 Preparing for Climate Change including conducting a detailed coastal study of the Duwamish River to better assess the flood risk and identify mitigation strategies The City should also evaluate vulnerability of underground infrastructure to higher groundwater levels.

With mitigation, what is the ultimate outcome?

Redevelopment of previously developed areas would lead to improvement of stormwater management relative to existing conditions. If all minimization and mitigation measures are implemented, no significant unavoidable adverse impacts to water resources are anticipated.

Shorelines in the Study Area

1.7.4 Plants & Animals

How did we analyze Plants & Animals?

We conducted a desktop analysis of existing information sources to characterize plants and animals in the study area and analyze potential impacts of the various alternatives. We looked at city, state and federal GIS data, aerial photos, studies and reports on environmental conditions, and peer-reviewed literature. Biologists used best professional judgement to determine how each alternative would affect habitats and species within the study area.

What impacts did we identify?

Short-term impacts could occur during construction that stems from rezoning that encourages redevelopment. Noise and disturbance from construction activities could disturb wildlife nearby, causing minor disruptions of normal behaviors. Species in the study area are already adapted to high levels of human disturbance and are unlikely to be adversely affected by additional construction.

Stormwater runoff from active construction sites can mobilize sediments that have the potential to degrade water quality in receiving water bodies. Best management practices (BMPs) implemented during construction, such as erosion control, would minimize potential impacts.

Impacts to special status habitats, such as wetland and riparian areas, are expected to be minimal, as these habitats are protected, and mitigation measures would be implemented to offset those impacts. Conversion of undeveloped sites to residences or other buildings could reduce wildlife habitat. Because the study area is highly urbanized, impacts to unprotected habitat types (such as landscaped areas and undeveloped parcels) would be minor, and existing habitat is already degraded. Redevelopment of developed parcels could increase the creation of landscaped areas and other green spaces, resulting in a slight increase of habitat for urban-adapted species.

Stormwater runoff from developed land contains various pollutants that have the potential to degrade aquatic habitat and adversely affect aquatic species. Increasing residential or other development in the study area could increase those pollutants. Construction of green spaces, as well as redevelopment of developed parcels, provides opportunities to implement stormwater treatment where none currently exists, which would improve water quality in the study area.

What is different between the alternatives?

The alternatives differ in the amount of area that would be rezoned as well as the number of residential units that would be constructed. The No Action Alternative would not change existing zoning and would have fewer impacts to terrestrial habitat provided by existing landscaped and undeveloped parcels. However, there would also be less habitat created by increasing landscaping and green spaces. Less development would reduce the potential for increased pollutant loading to receiving water bodies, but also would not present new opportunities for providing increased stormwater treatment that would improve water quality.

Alternative 2 would rezone a portion (10%) of the MICs to allow denser development in the UI or II zones, increasing some development as well as landscaped and green areas. New development could result in minor increases to degraded wildlife habitat provided by undeveloped parcels, but this impact would likely be offset by new landscaping and green spaces. Stormwater infrastructure and treatment BMPs could also be implemented during redevelopment, potentially improving water quality in the study area. There would be less residential development than under alternatives 3 and 4, reducing pollution stemming from that type of development.

Alternatives 3 and 4 would also rezone a portion of the MICs to allow denser development in the UI or II zones (14% and 13%, respectively), which could increase the amount of landscaped and green spaces within the MICs, potentially increasing minor amounts of wildlife habitat and providing opportunities for reducing stormwater runoff and improving stormwater quality.

What are some solutions or mitigation for impacts?

Mitigation would be provided by incorporating green spaces into the II and UI zones for all of the Action Alternatives. Impacts would be avoided and minimized per existing city, state, and federal regulations, and compensatory mitigation would be provided for all protected areas. Water quality treatment would be provided for redeveloped areas.

With mitigation, what is the ultimate outcome?

If all minimization and mitigation measures are implemented, no significant unavoidable adverse impacts to plants and animals are anticipated. The study area is already highly urbanized and existing habitat is degraded. Terrestrial species are tolerant of disturbance and are not likely to be adversely affected by additional development.

Redevelopment of previously developed areas provides opportunities to create additional landscaped and green spaces that provide wildlife habitat, as well as reduce urban runoff and pollutant loading to aquatic habitat, potentially contributing to improved water quality in the study area. Improved water quality would benefit aquatic species habitat.

1.7.5 Contamination

How did we analyze Contamination?

We conducted a desktop analysis of existing information sources to identify sites with confirmed or suspected contamination in soil, sediment, and groundwater, sites where hazardous materials are used or stored, and sites with historical landfills. Environmental scientists used best professional judgement to determine the impacts on human health and the environment that would occur from each alternative within the study area.

What impacts did we identify?

Development under any of the alternatives may encounter hazardous materials such as contaminated soil, groundwater, or surface water. The greatest potential for impacts associated with contamination would occur during construction when sites are disturbed. Construction activities could release hazardous materials due to ground disturbing, dewatering, and demolition activities. Development within the study area, especially where known hazardous material sites are located, would address the removal of hazardous materials, which could include contaminated soils, groundwater, surface water, and, in older structures, the potential for lead-based paints and asbestos-containing materials (ACMs).

A semi truck accident and fire resulted in a spill to the Duwamish Waterway. SPU deployed a water and land crew to mitigate the spill.

Contaminated soils excavated during construction activities would require special handling, transport, storage, and off-site disposal. Depending on groundwater depth and the type of hazardous materials, it is possible that contaminants from historic spills or releases may have infiltrated into groundwater becoming leachate and migrated, requiring additional cleanup. Short-term exposures to hazardous materials could occur during cleanup actions at contaminated sites. Because documented contamination requiring cleanup would be removed or contained prior to new development, it is assumed there would be no significant health and safety impacts on those living, working, or visiting the area, or impacts on the intended uses of properties within the study area.

As growth occurs in the study area, there is potential for hazardous material spills associated with petroleum products to increase as traffic and the potential for accidents increases. With growth there is also the potential for increased risk of spills from industrial activities, industrial processes, or use of industrial chemicals.

What is different between the alternatives?

The alternatives differ in the amount of area that would be rezoned as well as the number of residential units that would be constructed. The No Action Alternative would not change existing zoning and would have fewer impacts on contaminated sites that are redeveloped or cleaned up.

Alternative 2 would rezone a portion (10%) of the MICs to allow denser development in the UI or II zones. Increased development would increase the short-term risk of exposure to contaminants as sites are cleaned up but result in a long-term benefit of lower concentrations of chemicals after sites are cleaned up. With the increases in industrial jobs and industrial space added there would be an increased risk of chemical exposures and industrial spills related to industrial processes.

Alternatives 3 and 4 would also rezone a portion of the MICs to allow denser development in the UI or II zones (14% and 13%, respectively). This would result in the most development and short-term risk of exposure to contaminants as sites are cleaned. However, under these alternatives, there would be the most long-term benefits of lower concentrations of chemicals in soils, groundwater, and surface water after sites are cleaned up. With the most industrial jobs added and industrial space created there would be an increased risk of chemical exposures and industrial spills related to industrial processes.

What are some solutions or mitigation for impacts?

All site development projects would be required to comply with applicable federal, state, and local regulations. Existing regulations establish standards for site characterization, cleanup of hazardous materials, and disposal of hazardous waste, as well as mitigation measures for development on or adjacent to historic landfills. Development of known or suspected contaminated sites would require a Phase I Environmental Site Assessment and potentially a Phase II Environmental Site Assessment (with soil, sediment, and/or groundwater sampling) prior to construction-related activities, including demolition. Prior to renovation or demolition of structures, hazardous building material surveys (HBMS) would be conducted, and abatement of lead-based paints and asbestos, if present, would be required by the Puget Sound Clean Air Agency (PSCAA) and other agencies and laws. To the extent possible, the amount of contamination at a site with known contamination would be verified prior to construction, to minimize exposure to hazardous materials.

In Washington State, strict cleanup standards to ensure human health and the environment are not compromised, and stringent regulations ensure that non-hazardous and hazardous solid wastes are properly managed from cradle to grave at industrial sites and other properties

to prevent impacts to human health and the environment. Compliance with the regulations results in low levels of contamination after site cleanup and redevelopment.

Hazardous materials are regulated through the International Building Code and the International Fire Code and new development would need to meet requirements prior to permits being issued for construction. Development and implementation of Construction Stormwater Pollution Prevention Plans would be required by the City to minimize the potential for release of hazardous materials to soil, groundwater, or surface water during construction.

During construction, contingency plans would be required to help manage hazardous substances, protect worker health and safety, prevent spills, and prevent stormwater pollution.

With mitigation, what is the ultimate outcome?

The risk of release of contaminants or of hazardous chemicals being used or causing conditions that result in health or safety impacts or impede future development is considered significant for all alternatives but avoidable with mitigation.

1.7.6 Noise

How did we analyze Noise?

A desktop survey using aerial photography, Google Earth, ArcGIS, and existing and proposed City of Seattle Comprehensive Plan land use designations and zoning was used to determine locations of noise sensitive land uses in the Study Area. Eight sites within the BINMIC and Greater Duwamish MIC were monitored directly to provide site-specific baseline data on existing noise levels for the analysis. Noise levels were modeled using the Federal Highway Administration (FHWA)/Federal Transit Administration (FTA) Noise Impact Assessment spreadsheet model under the alternatives for future increased traffic volumes at roadways adjacent to monitoring sites. After describing existing noise levels and the methods used for the impact analysis, each alternative was analyzed to determine the effects on noise sensitive land uses within the Study Area. This includes primarily increased noise levels associated with increases in traffic, but also addresses potential noise associate with construction, and stationary industrial activities.

What impacts did we identify?

Existing data show that ambient noise levels in maritime and industrial areas of the city can be higher than other developed areas of the city. Noise monitoring of existing conditions within two of the subareas, Georgetown and SODO/Lander, was found to exceed a 24-hour day night average of 65dba—a Department of Housing and Urban Development standard for acceptable exterior noise levels for residential areas. Under all alternatives there would be temporary

Trucks and Containers on SR 519

impacts in noise during construction. Construction activities would be temporary in nature, and it is anticipated the majority of the activities would occur during daytime working hours.

Future industrial and non-industrial developments could use stationary mechanical equipment that, unless properly designed or controlled, could exceed the allowable City noise ordinance limits intermittently. Depending on the location, this could impact new residential uses within and adjacent to some areas of the MICs.

Under all alternatives, traffic volumes on roads, including truck traffic, are expected to continue to be a primary source of noise in and near the MICs are expected to increase due to expected development and associated population increase. These increased volumes would lead to very slight increases in roadway noise in some areas, but insufficient (less than 3 dBA) to generate noticeable increases in roadway noise compared to the existing condition or No Action.

What is different between the alternatives?

Traffic could increase roadway noise very slightly. The existing noise levels range from 51 to 69 dBA, and the increases over existing conditions in the alternatives range from zero to 2 dBA, with most of the increase zero dBA. In specific areas, Alternative 2 has greater impacts than Alternative 1 No Action, and alternatives 3 and 4 have greater impacts than alternatives 1 and 2. See **Exhibit 1.7-1**. However, an increase of 1-2 dBA is not perceptible to the average person and a 3 dBA increase is barely perceptible. Thus, impacts under any alternative would not be significant.

Exhibit 1.7-1 Increase in dBA Over Existing Conditions, All Alternatives

Geographic Area	Existing 24-Hour Day-Night Ldn	Increase in dBA—PM Peak Hour Volume									
		2019 Existing		2042 No Action		2044 Alt. 2		2044 Alt. 3		2044 Alt. 4	
		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Ballard	62.5	—	—	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
Interbay/Dravus	59	—	—	0.0	0.0	1.0	0.0	2.0	0.0	2.0	0.0
Interbay/Armory	59	—	—	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stadium	69	—	—	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Georgetown	68.1	—	—	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
South Park 1	60.5	—	—	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
SODO/Lander	67.8	—	—	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
South Park 2	59.5	—	—	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Sources: Fehr and Peers, 2021; Herrera, 2021.

What are some solutions or mitigation for impacts?

Current regulations and commitments include:

- SMC Chapter 25.08.410 provides specific noise controls and allowable community noise limits (expressed as dBA levels) for EDNA receivers.
- SMC Chapter 25.08.490 includes nuisance provisions.
- SMC Chapter 25.08.425 limits hours of construction to daytime periods.
- The SEPA review process allows the City to consider potential noise impacts. A noise impact study may be required to forecast future noise levels for some developments and identify mitigation measures.
- WSDOT Traffic Noise Abatement Protocol sets requirements to evaluate and abate traffic noise impacts, for roadway improvement projects that use state or federal funding. Construction noise measures include requiring a noise control plan where the contractor will be required to comply with all federal, state, and local regulations relating to construction noise.

The City could require each industrial facility proposed for construction within 500 feet of residentially zoned parcels to conduct a project-specific noise impact assessment to demonstrate compliance with the community noise limits set by the City's noise ordinance (SMC Chapter 25.08).

Zoning land use criteria or boundaries could be established, while meeting other planning goals, to limit the proximity of new residential development to known or anticipated sources of high noise levels.

Under alternatives 3 and 4, which would allow the development of new residential, the City could impose greater noise reduction standards in residential buildings (e.g., acoustically rated windows and doors, wall and roof insulation, dampers on vents, etc.) where exterior noise levels greater than 65 dBA are likely to occur or where other uses occupying the same structure would likely contribute to excessive noise levels (above 45 dBA) within residences.

Noise from tire-pavement interactions is the dominant contributor to roadway noise. A long-term mitigation program to reduce noise in noise-sensitive areas within the study area would be to install noise reducing pavement on major arterials and roadways that experience relatively high traffic volumes and speeds.

With mitigation, what is the ultimate outcome?

The potential increases in noise are not expected to increase 10 dBA over existing conditions nor would they be the cause of a failure to comply with SMC maximum allowable sound levels for receivers and based upon the modeling would increase by no more than 3 dBA. Considering the level of noise change as well as mitigation measures, no significant, unavoidable adverse impacts are anticipated.

1.7.7 Light & Glare

How did we analyze Light & Glare?

The EIS documents light and glare patterns in the study area, including a summary of existing development patterns and major sources of light emissions. The analysis uses digital topographic data maintained by the City of Seattle to calculate a potential viewshed area for the existing zoning pattern and each of the proposed alternatives to assess visibility of future development, based on allowed maximum building heights. The EIS also identifies sensitive locations and resources within these viewsheds that could potentially be impacted by additional light and glare emissions associated with future development, such as residential neighborhoods, parks and trails, or scenic views.

Nighttime Lights at the Port

What impacts did we identify?

Urban development, including development of a non-industrial nature, generates light and glare emissions associated with occupation and operation, and the precise nature of these emissions and impacts vary based on building design, location, and shielding/screening measures employed, but future growth under any of the alternatives will generate at least some increase in light and glare. These increased light emissions are most likely to affect residential areas north of the BINMIC, residential areas in Beacon Hill (east of the Greater Duwamish MIC), and the South Park neighborhood, which is adjacent to the southern end of the Greater Duwamish MIC. Lesser impacts may occur on the south slope of Queen Anne, southeast Magnolia, and eastern portions of West Seattle.

Additionally, some of these areas may experience increased visibility of development in industrial areas due to taller building heights under the Action Alternatives. However, the development typologies employed in these locations would typically employ less extensive outdoor lighting than existing industrial uses, which may result in reduced light and glare emissions at these locations.

What is different between the alternatives?

The No Action Alternative would preserve existing zoning and development regulations, resulting in future industrial development patterns similar to existing conditions. Future light

and glare impacts under the No Action Alternative would effectively be an intensification of existing conditions as additional development occurs in the study area.

The Action Alternatives create new land use concepts with new development standards:

- The **MML land use concept** is focused on traditional industrial and manufacturing uses, as well as shipping, logistics, and port facilities. Similar to the IG zone, major sources of light and glare would include outdoor illumination at storage yards and cargo staging areas. Manufacturing facilities that use exterior lights for operations and safety during nighttime hours would also be sources of light and glare. The MML land use concept would include zoning requirements for streetscape improvements, but on-site vegetation is anticipated to be sparse due to the intensive nature of development and the operational needs of shipping and logistics facilities, which are the primary anticipated uses. This lack of on-site vegetation would result in minimal screening of light sources.
- The **II land use concept** promotes higher-density industrial uses, including mixed-use development. The II land use concept is focused on a mix of uses that incorporates contemporary industrial methods and creates opportunities for combining light industrial and technology-oriented uses with associated office space. Compared to existing industrial areas, the II concept would exhibit taller building heights (up to 160 feet, including bonuses) and greater development density with fewer outdoor storage and/or staging areas. The integration of transit and bicycle/pedestrian connections would also result in fewer large parking areas. Without extensive outdoor areas requiring night-time lighting, exterior building illumination would be less intense, though taller allowable building heights could make buildings visible from farther away.
- The **UI land use concept** focuses on a mix of smaller-scale industrial uses (such as fabrication shops, artist and maker spaces, and light industry) and limited non-industrial uses, such as retail, offices, or industry-supportive housing. These areas would also include bicycle and pedestrian transportation facilities. Development in UI areas is anticipated to generate relatively lower light emissions compared to existing industrial typologies and the proposed MML and II land use concepts, due to the smaller scale of development and a greater emphasis on vegetation and green space. The UI land use concept would allow building heights up to 75 feet, which would represent a height increase in some industrial areas. Though less pronounced than potential height increases under the II land use concept, taller building heights may result in development being visible from farther away than current conditions.

By subarea, the anticipated light and glare impacts are noted for the Action Alternatives:

- **Ballard:** Compared to other Action Alternatives, Alternative 2 locates greater MML along the waterfront and near Ballard Avenue Landmark District. MML zoning standards would allow larger buildings and less vegetation similar to the Alternative 1 IG zone. The increase in MML zoning along the waterfront could increase the potential for light emissions there. Alternatives 3 and 4 would have more UI zoned acres than Alternative 2. The UI zone standards would allow smaller footprints and greater screening through landscaping and design concepts and less impacts than MML type zoning. Compared to the IB zone under

Alternative 1, the UI zone allows for improved transitions to residential areas such as in the northeast Ballard and Gas Works Park area. The II zone would have taller buildings more visible to surrounding areas. Alternatives 2, 3, and 4 would result in more II zoned areas, particularly Alternative 4.

- **Interbay Dravus:** Alternatives 2, 3, and 4 provide for MML along the Ballard Locks similar to the IG zone under Alternative 1. There could be light and glare impacts without mitigation. Under alternatives 2, 3, and 4 have a small area of UI which could reduce light and glare emissions and better address transitions to residential areas on northwest Queen Anne.
- **Interbay Smith Cove:** Alternatives 2, 3, and 4 replace IC with II and could reduce light emissions compared to Alternative 1, but taller building heights would increase visibility in Southeast Magnolia and South Queen Anne. Alternative 3 has a slightly smaller footprint of II than alternatives 2 and 4 and may affect a smaller viewshed.
- **SODO/Stadium:** MML zone would replace IG zone in most areas, and development style and light emissions similar in nature, with Alternative 2 having a higher share of MML zone than alternatives 3 and 4 which have reduced footprints of MML. The II zone would bring taller building heights and visibility from Beacon Hill and surrounding areas with all Action Alternatives; alternatives 3 and 4 have greater II zoned areas and greater visibility than Alternative 2. For alternatives 2 and 3, the UI zone would reduce light emissions and create transition areas in targeted locations near the stadium district/downtown. Alternative 4 has a greater area of UI south and west of stadiums. South of stadiums, Alternative 4 applies UI which would slightly increase heights and visibility but would reduce light emissions.
- **Georgetown/South Park:** Alternative 2 applies MML in place of IG with light emissions similar in nature and location as Alternative 1. Under alternatives 3 and 4 increased light emissions in the area between Corson Ave and Ellis Ave due to conversion of current IB zoning to MML. Compared to Alternative 2 and No Action, alternatives 3 and 4 would have increased visibility of MML and UI areas removed from MIC due to taller building heights under SM zoning.

What are some solutions or mitigation for impacts?

Existing City of Seattle development regulations include design standards that govern the placement of exterior illumination and requirements for shielding of light sources. The City also maintains SEPA policies that would require evaluation of light and glare impacts on sensitive resources for any site-specific development in the study area undergoing SEPA review. The land use concepts proposed under the Action Alternatives also include provisions for landscaping and greenspace that would help screen light sources from surrounding areas.

Additional mitigation to be considered could include additional design standards to regulate placement, light output, direction, and shielding of any exterior illumination above a given height to reduce light and glare emissions to adjacent non-industrial areas.

With mitigation, what is the ultimate outcome?

Any future growth in the study area, regardless of the specific uses or building design, will generate at least some increase in light and glare. Though unavoidable, these effects can be minimized and reduced to less than significant levels through application of design standards and the mitigation measures described in this EIS.

1.7.8 Land & Shoreline Use

How did we analyze Land & Shoreline Use?

The EIS uses an inventory of existing land uses based on parcel level GIS data that was updated with manual scans by City staff and consultants and input from stakeholders. We reviewed existing and projected employment information from a 2021 CAI Inc. study. We reviewed applicable state, regional and local land use policies. We anticipated the type and character of development that would be likely under existing and proposed zoning and analyzed potential impacts of the expected land use composition under each of the studied alternatives in four broad categories: inconsistencies with land use policies, conflicts resulting from incompatible land uses within industrial areas, employment mix impacts, and impacts resulting from inadequate transitions from industrial to nonindustrial areas. Impacts were analyzed for the study area as a whole and within the five subareas where appropriate—Ballard, Interbay Dravus, Interbay Smith Cove, SODO/Stadium, and Georgetown/South Park.

W Galer St Overpass and the Magnolia Brdige

What impacts did we identify?

We identified some land use impacts under all alternatives and found that land use impact would vary by subarea, but none of the impacts would be significant adverse impacts. We characterized the severity of impact as minor or moderate in the categories described above.

What is different between the alternatives?

The alternatives differ in the geographic pattern of zoning changes and development standard allowances for industry supportive housing. The alternatives would result in differing amounts and patterns of future employment and housing growth, and the future type and character of

expected development. The analysis showed no significant adverse impacts but did identify different levels of potential minor and moderate land use impacts resulting from the expected future land use pattern, including the potential locations of dense employment, and increased industry-supportive housing.

Inconsistency with Plans and Policies: Some degree of inconsistency between the expected land use pattern and plans and policies was found for all the alternatives. Since consistency of land use patterns with plans and policies requires interpretation and balancing with many policies, it is common for some inconsistency to exist, while maintaining an overall predominant level of consistency. Alternative 1—No Action would have moderate inconsistencies due to the likely continuing trend of stand-alone retail and office development and mini-storage locating in industrial zones and MICs under existing zoning. This is inconsistent with certain policies prioritizing industrial and maritime uses in these areas. Moderate inconsistencies would be present under alternatives 3 and 4 due to the introduction of increased amount of industry-supportive housing, which can be viewed as inconsistent with some regional and local policies limiting residential uses in MICs. Alternative 2 would have the fewest, and only minor, inconsistencies because Alternative 2 would reduce the prevalence of non-industrial uses in industrial areas through new standards in the proposed MML zone in larger areas than alternatives 3 and 4, and Alternative 2 does not include expanded allowances for housing.

Incompatible Land Uses: Moderate incompatible use impacts are expected in all subareas under Alternative 1 due to the potential for stand-alone retail and office developments and mini-storage to locate in industrial areas causing potential incompatibility with industrial uses. Alternatives 3 and 4 would see moderate incompatible use impacts in some subareas—most notably Ballard, SODO/Stadium, and Georgetown/South Park—where introduction of new buildings with dense employment in the II zone and industry-supportive housing in the UI zone could create incompatibilities between new activity patterns and adjacent areas of continued industrial uses. Alternative 2 would have the fewest, and only minor, land use incompatibilities since the application of the II and UI zones would be more limited in scale.

Inadequate Transitions: Potential for inadequate transitions from industrial to nonindustrial areas is highest for the Ballard and Interbay Dravus subareas. Moderate impacts at transitions would be expected in Interbay Dravus under all the alternatives, and in Ballard under alternatives 1, 2, and 3. In general, portions of the study area that abut residential and urban village locations without strong physical edge features such as greenbelts, major roadways or topographical changes have greater potential for inadequate transition. Future land use under the UI zone is expected to assuage potentially inadequate transitions to residential and urban village areas, thus Alternative 4, which includes more UI zoning in the Ballard subarea would have moderate transition impacts. Minor transition impacts are identified for the Georgetown/South Park subareas under all the alternatives, and for the SODO/Stadium subarea under alternatives 1, 2, and 3. No transition impacts are expected for Interbay Smith Cove under any alternative primarily because of the strong physical edges around the subarea.

Employment Mix Impacts: With one exception, no employment mix impacts are expected. In all subareas and under all alternatives, the projected employment mix would remain 50% or more

Prototyping Space

industrial—one of the threshold criteria for regional designation as a MIC. A minor employment mix impact was identified in Alternative 4 for the Ballard subarea, where the percentage of industrial employment is projected to fall to a level approaching the 50% threshold.

What are some solutions or mitigation for impacts?

Numerous mitigation measures are incorporated plan features of the proposal including adoption of the proposed Comprehensive Plan policies and adoption of zoning regulations that reduce the size of use limits for non-industrial uses and that prohibit new mini-storage facilities in industrial zones. For alternatives 3 and 4, the proposed requirement for new housing occupants to have a connection to industrial activity in the area mitigates the potential impact. Proposed development regulations in the UI zone including application of frontage improvement standards, green factor landscaping requirements and setback standards to encourage urban character buildings would mitigate potential transition impacts where industrial areas abut residential areas or urban villages.

Existing regulatory commitments provide mitigation. Shoreline Master Program regulations would continue to apply to areas within 200' of shorelines providing additional guidance and regulation for appropriate shoreline uses. Future development under all alternatives would be subject to project level SEPA review.

Additional mitigation measures that could be considered to reduce the identified land use impacts include:

- Apply the maximum size of use limits and mini-storage prohibition of the proposed MML zone, to the existing Industrial General zones of Alternative 1, should a No Action Alternative be selected.
- Limit the geography of industry-supportive housing allowances to a pilot area of the proposed Urban Industrial zone locations, and closely monitor the production and impact of resultant housing.
- Update zoning at edge areas outside of the study area in the future, including the potential application of the Urban Industrial zone to locations outside of MICs and current industrially-zoned areas.
- Expand contributions by public agencies and private partners towards equitable development especially in locations historically impacted by industrial activities.

With mitigation, what is the ultimate outcome?

Land use impacts are expected under all alternatives to varying degrees but none of the impacts are expected to be significant adverse impacts. Numerous mitigation measures are included as an integrated part of the proposed zoning, development standards, and comprehensive plan amendments under alternatives 2, 3, and 4. Identified land use impacts could be further mitigated to an even lower level if a pilot approach to industry-supportive housing in the UI zone under alternatives 3 or 4 were adopted, and with future actions supporting equitable development and future adjustments to zoning at edge areas outside of the study area.

1.7.9 Housing

How did we analyze Housing?

This EIS considers housing inventory, production trends, and challenges and needs (including public health, access to opportunity and displacement risk) based on U.S. Census American Community Survey, City of Seattle, and King County Assessor data. Projected levels of residential and employment growth under each of the alternatives are compared to existing conditions. Impacts of redevelopment are considered significant if they would:

- Result in a loss of housing due to redevelopment and insufficient development capacity, tools, or programs to address displacement of dwellings and population,
- Increase households' exposure to air pollution, noise pollution, or environmental hazards in census tracts identified as having high environmental health disparities (e.g., exposure to diesel emissions and ozone or proximity to hazardous waste sites) and with sensitive populations (e.g., poverty, cardiovascular disease) based on the Washington Department of Health Environmental Health Disparities Index, or
- Create a demand for housing that cannot be accommodated within the city in adjacent districts or areas where housing is planned.

What impacts did we identify?

There is limited housing of 413 dwellings in the nearly 11 square mile study area. The City of Seattle Displacement Risk Index identifies areas of Seattle where displacement of marginalized populations may be more likely. It combines data about demographics, economic conditions, and the built environment into a composite index of displacement risk. Overall, parcels within the study area are at low or moderate risk for displacement. Under all alternatives additional growth and development will occur in the study area, with small changes to housing patterns. No significant loss of existing housing due to redevelopment is anticipated under any of the alternatives.

The Action Alternatives limit new housing in industrial zones to formats that are supportive of industrial uses (caretaker's quarters, live/work units, etc.). Alternatives 3 and 4 also add mixed-use housing opportunities near the Georgetown/South Park Subarea. Given the health impacts of housing proximity to industrial areas, especially the Duwamish area based on exposure of sensitive populations to air emissions and hazardous materials per the Washington Environmental Health Disparities Map, it is important to limit housing in these areas. Increases in housing under the alternatives, especially alternatives 3 and 4, will place residential uses in proximity to air quality and noise emissions. The Action Alternatives include new zoning standards that will provide amenities for residents of the study area. UI zoning is intended to create thoughtful integration between the edges of these industrial areas and adjacent neighborhoods. UI zoning would seek to improve environmental health, walkability, and comfort in these areas.

Increases in employment growth in the study area could shift some of the overall expected citywide employment growth into industrial areas. This could have an impact on housing, especially if additional new employment were added to industrial areas not subject to the Mandatory Housing Affordability (MHA) regulations. There may be shifts in housing demand in areas adjacent to or within easy access to the industrial employment centers. However, the increment of employment growth in all alternatives is within the citywide amount that the City will plan for in the 2024 Major Comprehensive Plan update.

What is different between the alternatives?

Each of the alternatives is consistent with City and regional policy that limits housing in industrial areas. None of the alternatives allow significant new housing growth on industrial lands. Alternative 2 would not change housing allowances and would only add 80 units to increase the total housing units to 493 units. Alternative 3 changes caretakers' and makers studio allowances and would add 610 units for a total of 1,023 dwelling units. Likewise, with greater zoning allowances, Alternative 4 adds 2,195 caretakers' and makers studio units for a total of 2,608 dwelling units. Both alternatives 3 and 4 also add mixed-use housing opportunities (an estimated 1,078 units) near the Georgetown/South Park Subarea in land to be removed from the MIC.

What are some solutions or mitigation for impacts?

- Increases in housing units under alternatives 2, 3, and 4 will be subject to the development standards developed under the UI zone. These include pedestrian and cyclist-oriented frontage improvements, development of green public spaces, access to planned transit and

non-motorized transportation connections that support new development. The integration of public green open spaces, pedestrian-oriented amenities, and the access to transit helps to soften potential impacts of locating housing in areas of intensive industrial activity and employment growth.

- Seattle's Plans and City Code help to address and avoid potential displacement. Examples include Seattle's Tenant Relocation Assistance Ordinance, Notice of Intent to Sell Ordinance, and Rental Registration and Inspection Ordinance.
- The City could consider applying MHA regulations to the to the proposed new II zone. Applying MHA to the proposed new II zone can mitigate shifts in demand related to employment growth in the industrial areas.
- See the **Air Quality & GHG** and **Noise** sections for mitigation meant to address housing compatibility and health.

The City will plan for the citywide amount of housing growth in the Comprehensive Plan EIS on a citywide scale. As part of this ongoing commitment, the City could consider

- Adding additional capacity for housing in urban villages and residential areas in locations that will have fast access to the new II zones to help address the shifts in demand for housing in response to employment growth in industrial areas. The II zones are in the closest locations to light rail (¼–½ mile), and light rail will provide good access to these areas.
- Adding additional capacity for housing in urban village and residential areas in locations adjacent to new UI zones to address the shifts in demand for housing in response to employment growth in the industrial areas.

The Bemis Building in SODO with Artist Studios

With mitigation, what is the ultimate outcome?

Each of the alternatives allows for additional growth and development, including modest numbers of housing units. Under all alternatives additional growth and development will occur in the study area, with the potential for small changes in housing patterns. This change is unavoidable but is not considered significant or adverse within a changing urban area designated as an employment center in the Comprehensive Plan. However, with existing and new development regulations, and anti-displacement programs currently in place, no significant adverse impacts are anticipated.

Residential uses will be in proximity to air quality and noise emissions, particularly alternatives 3 and 4. With the application of air quality and noise mitigation measures, no significant unavoidable adverse housing impacts would occur under any of the alternatives.

Increases in employment growth in the study area could shift some of the overall expected citywide employment growth into industrial areas. This could shift some demand for housing into areas adjacent to or within easy access of the industrial areas. With the application of mitigation measures, including the application of MHA regulations to the II zone, and citywide planning for housing capacity through the Comprehensive Plan, no significant unavoidable impacts would occur under any of the alternatives.

1.7.10 Transportation

How did we analyze Transportation?

Existing transportation conditions are documented throughout the study area and present findings related to current transportation and circulation. This includes travel time data along study corridors, passenger load data on existing buses and light rail trains, peak period volumes, and collision data. GIS files maintained by the City were used to map and describe existing pedestrian and bicycle facilities.

A version of the PSRC model developed for the West Seattle and Ballard Link Extension (WSBLE) project and the Ballard-Interbay Regional Transportation (BIRT) System project was used to estimate future year volumes. This version of the PSRC model is consistent with the growth and transportation network anticipated through 2042. While the No Action Alternative reflects land uses anticipated through 2042, the potential land use changes under the Action Alternatives extend slightly farther to a 2044 horizon year. This provides a conservative basis to evaluate potential impacts of the Action Alternatives compared to Alternative 1 No Action.

What impacts did we identify?

By 2044, traffic volumes and travel times would increase due to the land use growth within the Study Area and in other parts of the city as well as regional growth. There would be more people walking, biking, and riding transit, resulting in some impacts to those modes due to incomplete networks and potentially crowded buses. The Study Area is not expected to meet its SOV mode share target. Impacts to travel time, parking, and safety were also identified.

What is different between the alternatives?

Exhibit 1.7-2 summarizes the impacts among the alternatives. The impacts of the Action Alternatives are assessed against Alternative 1 No Action. Impacts identified under Alternative 1 No Action would remain throughout the Action Alternatives even if those alternatives would not result in additional impacts.

Exhibit 1.7-2 Summary of Significant Transportation Impacts

Type of Impact	Alternative 1 No Action	Alternative 2	Alternative 3	Alternative 4
Active Transportation	Yes	Yes	Yes	Yes
Auto & Freight				
Travel Time	10 LOS F corridors	1 impacted corridor	3 impacted corridors	3 impacted corridors
Mode Share	3 sectors	No	1 impacted sector	1 impacted sector
Screenline	No	No	No	No
Transit	1 screenline	No	No	No
Parking	Yes	Yes	Yes	Yes
Safety	Yes	Yes	Yes	Yes

Source: Fehr & Peers, 2021.

In summary, Alternative 1 No Action is expected to have significant impacts to active transportation, auto, and freight in terms of travel time, mode share, transit, parking, and safety. Alternative 2 is expected to result in additional significant impacts to autos and freight on one corridor as well as impacts to active transportation, parking, and safety. Alternatives 3 and 4 are expected to result in additional significant impacts to auto and freight on three corridors and one mode share sector as well as impacts to active transportation, parking, and safety. The locations of the corridors impacted by the Action Alternatives are mapped in **Exhibit 1.7-3** and **Exhibit 1.7-4**.

Exhibit 1.7-3 Impacted Study Corridors—Ballard Interbay Northend MIC, 2044

Source: Fehr & Peers, 2021.

Exhibit 1.7-4 Impacted Study Corridors—Greater Duwamish MIC, 2044

Source: Fehr & Peers, 2021.

What are some solutions or mitigation for impacts?

Under all alternatives, the City could implement solutions related to Transportation Systems Management and Operations (TSMO), travel demand management (TDM), pedestrian and bicycle system improvements, and parking management strategies. In combination, these measures could help reduce the SOV mode share for non-freight types of trips which is key to limiting the potential severity of transportation impacts. Lowering SOV mode share when possible would not only reduce travel time, mode share, and parking demand impacts, but is consistent with numerous other goals and policies in the Comprehensive Plan.

Location-specific mitigation measures were identified for the travel time impacts along 15th Avenue W (between Magnolia Bridge and NW Leary Way) and W Dravus Street (between 15th Avenue W and 20th Avenue W). For 15th Avenue West, the measures include intersection operations refinements, adaptive signal system installation, transit and freight only lanes, and replacement of the Ballard Bridge. For W Dravus Street, the measures include signal operations improvements, roadway striping/channelization modifications, access management enhancements, and replacement and/or widening of the W Dravus Street bridges. No location-specific mitigation measures addressing the travel time impact along I-5 between Madison Street and SR 599 have been identified.

Regarding land use mix and trips, under alternatives 3 and 4, the City could consider the balance of employment uses and plan for greater industrial jobs, and a smaller share of non-industrial jobs (e.g., retail, services, office) in the Greater Duwamish MIC to reduce trips. The City could consider a preferred alternative that has less of the employment dense Industry and Innovation zone than is found in alternatives 3 and 4 but more than Alternative 2 but that still avoids significant adverse impacts on I-5.

With mitigation, what is the ultimate outcome?

If mitigation measures are implemented, it is expected that the travel time impacts on 15th Avenue W and W Dravus Street could be brought to a less-than-significant level in relation to Alternative 1 No Action. Because no location-specific capital facility-based mitigation measures along I-5 are expected to fully mitigate the travel time impact to autos, freight, and buses, a significant travel time impact is expected under alternatives 3 and 4 on I-5. Modifications to alternatives 3 and 4 that reduce the total amount of future employment in the SODO/Stadium subarea could potentially mitigate the impact to I-5 if the reduction in trips is below the threshold of significance.

Some combination of the TDM strategies could be implemented to reduce the magnitude of SOV travel. Given the small magnitude of difference projected between Alternative 1 No Action and alternatives 3 and 4, it is expected that the mode share impact could be reduced to a less-than-significant level.

Parking impacts are also anticipated to be brought to a less-than significant level by implementing a range of possible mitigation strategies. While there may be short-term impacts as individual developments are completed (causing on-street parking demand to exceed

supply), it is expected that with mitigation, the on-street parking situation would reach a new equilibrium as residents, employees, and visitors adjust to the new context. Therefore, no significant unavoidable adverse impacts to parking are expected.

Significant impacts were identified to both active transportation and safety due to the projected increase in people walking and biking in areas with network gaps and the increased potential for vehicle conflicts (particularly trucks) with vulnerable users. While the City can pursue a variety of mitigation measures to improve facilities for people walking and biking and pursue supplemental funding through federal or state programs, it is not expected that all network gaps can be addressed given the number of locations needing improvement and the limited funding available. Therefore, it is expected that the Action Alternatives could have significant unavoidable adverse impacts to active transportation and safety.

1.7.11 Historic, Archaeological, & Cultural Resources

How did we analyze Historic, Archaeological, & Cultural Resources?

To analyze historic, archaeological, and cultural resources in the study areas for the purposes of this report, we used a wide variety of sources to obtain information on the environmental, archaeological, and historical backgrounds of the project vicinity, and developed useful contexts for analysis. We gathered data from the King County Assessor's website, the Department of Archaeology and Historic Preservation's (DAHP's) online database, the Washington Information System for Architectural and Archaeological Records Data (WISAARD), and the City of Seattle's Landmarks List.

Using this data, our GIS Specialist created maps indicating parcels that contained historic-period architectural resources (buildings, structures, objects, sites, and districts), had a historic property inventory form (HPI) in WISAARD, were eligible for or listed in the National Register of Historic Places (NRHP), or listed in the Washington Heritage Register (WHR), Washington Heritage Barn Register (WHBR), or was a designated Seattle Landmark (SL).

Additionally, the GIS Specialist gathered data on cultural resource survey reports, archaeological site records, and cemetery records in the MICs/project subareas, and created maps that plotted recorded archaeological and cultural resources. These maps were analyzed by an archaeologist, who also reviewed the environmental characteristics, ethnographic data, and the distribution of known cultural resources within the MICs, reviewed DAHP's predictive model, and formulated expectations about the probability of impacts to known and as-yet unknown archaeological and cultural resources.

What impacts did we identify?

All the alternatives have the potential to affect districts, sites, buildings, structures, or objects (BSOs) that have been listed in the NRHP and other historic registers (Washington Heritage Register [WHR], and Seattle Landmarks [SL]), and those determined eligible for listing in the

NRHP. Additionally, the alternatives could potentially affect the numerous BSOs and undiscovered archaeological sites that have yet to be surveyed and assessed for eligibility to the NRHP.

Impacts to historic, archaeological, and cultural resources in the study areas from the No Action and three Action Alternatives were identified by assessing potential for both above- and below-ground changes. Such impacts generally include physical alteration, damage, or destruction of all or part of a resource that would affect its eligibility to qualify for inclusion in the NRHP.

Ballard Bridge

What is different between the alternatives?

Alternative 1—No Action maintains the status quo within the existing industrial zones, with no changes to current Comprehensive Plan policies, development standards, or zoning. Impacts would be similar to those described above—physical alteration, damage, or destruction—due to no additional protections or improvements in planning for consideration of impacts to historic, archaeological, and cultural resources.

Under Action Alternatives, changes to zoning that allows a wider range of industrial or non-industrial uses could spur redevelopment in those locations. Even where there are no formally designated historic landmarks, there are numerous properties with historic period buildings, or a very high or high risk of archaeological resources.

Alternatives 2, 3, and 4 would impact historic, archaeological, and cultural resources similar to Alternative 1, but would also increase the probability of inadvertent discovery of archaeological and cultural resources due to the need for substantial foundation work needed for multi-story buildings. Alternatives 2, 3, and 4 feature different amounts of land rezoned to the proposed new UI and II zones that would allow denser development—with alternatives 3 and 4 having more land rezoned to II or UI. In general, areas would experience relatively greater pressure for redevelopment, which could impact historic resources. Additionally, without design guidelines or review, allowed adaptive reuse projects could impact historic-period architectural resources.

Under alternatives 3 and 4, focused areas in Georgetown/South Park would be removed from the MIC to allow for mixed-use development including some areas where few surveys have been done. This may add to demolitions of historic-period architectural resources.

What are some solutions or mitigation for impacts?

Examples of solutions to avoid impacts to historic and cultural resources would be:

- Upon completion of the management plan (scheduled for 2022), Washington's designated National Maritime Heritage Area (NMHA) may help raise awareness of the importance of

local history and historic resources, increase heritage tourism, strengthen relationships between heritage groups, and may allow for the receipt of grants and other federal funds, should funding be available.

- Implementation of a cultural resources survey and inventory (historic-period architectural, archaeological, and cultural resources) within the study area for the proposed project. Such surveys are recommended to take place during project development planning, so impacts to historic properties can be eliminated, minimized, or avoided, should historic properties be found within the survey area.
- An archaeological resources monitoring and inadvertent discovery plan (MIDP) should be developed for each project that includes ground disturbing activities, based on DAHP's archaeological predictive model.
- When elimination, minimization, or avoidance of impacts to cultural resources is impossible, mitigation should be developed in accordance with DAHP Mitigation Options and Documentation Standards and in coordination with the area's Tribes, the lead agency, and all other consulting parties.

Some examples of mitigation for impacts are:

- Archaeological excavation and/or collection of artifacts for conservation.
- DAHP Level I (Historic American Building Survey/Historic American Engineering Record [HABS/HAER]) Documentation.
- DAHP Level II Documentation.

Other potential mitigation measures include:

- Funding City-initiated proactive landmark nominations for properties and potential historic districts identified in new neighborhood surveys.
- Prioritizing City funding for retrofitting Unreinforced Masonry (URM) buildings to those properties that meet eligibility requirements for designation as a landmark or for listing in the National Register of Historic Places. Development of cultural landscape contexts, including within historically marginalized communities.
- Developing histories of the study area including Indigenous perspectives. The City could work with tribes and others to develop context statements. A context statement focused on Historical Planning and Land Use Decisions is drafted in **Section 3.8 Land & Shoreline Use**.
- Funding City-led thematic historic context inventories that focus on marginalized or underrepresented immigrant communities and preparing thematic context statements relating to those resources.
- Supporting neighborhood survey and inventory projects within underrepresented or marginalized communities
- Considering potential impacts to historic resources during development review specifically that are associated with marginalized or underrepresented immigrant communities as part of project level SEPA review, or during the design review process.

- Including a development incentive for preservation of architectural resources including adaptive reuse projects in the proposed Urban Industrial zone, such as an exemption from the floor area ration calculation, or flexibility for allowable uses within the structure. Such adaptive reuse projects could follow the Secretary of the Interior Standards for Rehabilitation or the City could develop new rehabilitation guidelines for adaptive reuse.
- For alternatives 3 and 4, exploring or studying the possible addition of a new Seattle Landmark District for the mixed-use area of Georgetown.
- Adding regulatory authority to identify resource-specific mitigation before demolition occurs.
- Requiring project proponents to nominate buildings for landmark review when demolition of properties that are over 50 years old is proposed, regardless of City permitting requirements, by modifying the SEPA exemptions thresholds in the Seattle Municipal Code at Table A for section 25.05.800, and Table B for section 25.05.800.

With mitigation, what is the ultimate outcome?

Advanced planning to eliminate, minimize, or avoid impacts to cultural resources is key. There is potential for significant adverse impact under all alternatives but with appropriate and meaningful mitigation significant impacts are avoidable. The ultimate outcome with mitigation is to moderate the adverse impacts of historic, archaeological, or cultural resources before they are lost or significantly altered. With mitigation, significant adverse impacts to historic, archaeological, and cultural resources can be avoided.

1.7.12 Open Space & Recreation

How did we analyze Open Space & Recreation?

Impacts to open space and recreation were assessed based on the City of Seattle's adopted Level of Service (LOS) standard of 8 acres of open space for every 1,000 residents. Additional parkland required under each alternative to meet the LOS standards was then assessed in relation to the City's existing plans, policies, and regulations.

The thresholds of significance utilized in the impact analysis include:

- Insufficient parks, open space, and trail capacity to serve expected population or employment based on levels of service.
- Inconsistencies with shoreline public access policies.
- Have the potential to decrease public access to parks and open space or shoreline access in census tracts identified as high disadvantage in the Seattle Racial and Social Equity Composite Index. See **Exhibit 1.7-7** later in this chapter.

Smith Cove Park

What impacts did we identify?

Anticipated impacts on open space and recreation as a result of the alternatives include increased demand on existing parks, demand for new park land, and potential changes to the transportation network and/or transportation behavior.

What is different between the alternatives?

The difference between the alternatives for open space and recreation is the number of acres required to meet the LOS standard: 1.22 additional acres are required under Alternative 1, 1.30 additional acres under Alternative 2, 27.68 additional acres under Alternative 3, and 53.68 additional acres under Alternative 4 (see **Exhibit 1.7-5**). Alternative 1 No Action and Alternative 2 require the least amount of land to meet the City's adopted LOS standard while Alternative 4 requires the most acres of land. The net park acres required under Alternative 4 would exceed the number of acres expected in the City's 2017 Parks, Recreation, and Open Space Plan.

Exhibit 1.7-5 Net Open Space and Recreation Acres to Meet LOS Standards, All Alternatives

Alternative	Net Population Growth	Net Open Space to Meet LOS Standard (Acres)
Alternative 1 No Action	153	1.22
Alternative 2	163	1.30
Alternative 3	3,460	27.68
Alternative 4	6,710	53.68

Source: BERK, 2021.

Alternatives 3 and 4 includes the removal of portions of two blocks of land adjacent to Duwamish Waterway Park and two blocks of land adjacent to Terminal 117/Duwamish River

People's Park from the MIC designation and industrial zoning, and would apply a mixed-use zone. The higher housing and population growth anticipated under alternatives 3 and 4 would likely also require additional connectivity to/from open spaces for residents living in the area. Future development in the mixed-use zone has a higher potential for increasing integration with and access to the two open spaces from the South Park residential community. The change will increase the amount of required open space in new development near the parks and will increase the likelihood of future visual and/or physical access to river front land from privately owned parcels.

What are some solutions or mitigation for impacts?

The new land use concepts proposed under the Action Alternatives features design principles that would help mitigate impacts to open space and recreation, including standards for frontage improvements (sidewalks, pedestrian lighting, etc.), trees and landscaping, maximum limits on vehicle parking areas, and circulation routes that could be used as trails.

The City of Seattle regularly identifies and plans for open space and recreation needs. Relevant plans include Seattle Parks and Recreation's Recreation Demand Study, Community Center Strategic Plan, 2017 Parks, Recreation, and Open Space Plan, and 2020-2032 Strategic Plan. Additional open space and recreation needs and commitments are identified in annual reports from the Seattle Park District Annual Reports, the Seattle Comprehensive Plan, and the Duwamish Valley Action Plan. In addition to these plans, the Seattle Land Use Code (Seattle Municipal Code Title 23) contains development regulations related to open space and recreation, including standards governing the design and placement of exterior site and building illumination. Future development in the study area will be required to comply with the standards established for industrial zones in SMC Chapter 23.50 and 23.49 as it pertains to open space.

While parks are a great source of open space, the combination of existing uses and new land use concepts within the alternatives may present challenges that may not be resolved with new parks. Other potential mitigation measures the City could explore outside of creating new parks include creating linear parks and trails, increasing frequency of maintenance to offset an increase in park usage, and building resilient parks. The City could also explore improving transportation to and from parks and potentially increase connectivity between existing and future parks. Finally, the City might explore the use of community gardens (permitted on some rooftops in individual zones) as a way to provide open space and an urban agricultural use.

With mitigation, what is the ultimate outcome?

While population and employment growth would occur under all studied alternatives, there are opportunities to meet the City's level of service for parkland through implementation of the Seattle plans and current and proposed development regulations. No significant unavoidable adverse impacts to open space and recreation are anticipated as a result of the alternatives.

1.7.13 Public Services

How did we analyze Public Services?

The public service evaluation considers the effect of the alternatives on fire/emergency medical services, police, school, and library services. Data from service providers is compiled for the study area. A focus is on the ability to meet levels of service or effects on capacity to provide services.

What impacts did we identify?

Growth in worker and residential populations in the study area is expected to lead to an increased number of calls for emergency services. Existing ladder trucks at stations in and near the study area are equipped to provide services to buildings of the heights proposed under all alternatives. Additional industrial development under all the alternatives could increase the amount or prevalence of hazardous materials in the study area. All new development would be required to meet the Seattle Fire Code which includes provisions for hazardous materials. Additional growth would increase traffic volumes which may in turn increase the response time of emergency vehicles.

Relative changes in population density by police beat and sector may generate more workload in some areas of the city but are not anticipated to impact police service or response times under any of the alternatives. Potential construction activities under all the alternatives could result in an increase in demand for police services. Existing Departmental resources are anticipated to be sufficient to handle such an increase. Future traffic volumes or changes to the transportation network in the study area could impact first responders' ability to respond rapidly to emergency calls. SPD's staffing model factors in response time to determine appropriate staffing levels in each precinct. The Department would likely adjust staffing levels to improve response times if future increased traffic volumes or changes to the street network negatively impact police services.

Regular planning by SFD and SPD are anticipated to address incremental increased demand for fire, emergency medical, and police services. Any potential future facility, staffing, or equipment needs as a result of increased demand for services, traffic volumes, or changes to the transportation network could be included as part of the City's annual Budget and Capital Improvement Program process.

All alternatives to a lesser or greater degree may generate students that will attend schools, and residents of all ages that need library services.

What is different between the alternatives?

The demand for schools and libraries will be in proportion to the increase in housing under each alternative, which shows less growth in alternatives 1 and 2 and more under alternatives 3 and 4. Based on the net change in dwellings and population, and a conservative assumption

that 7.1% of the population are students, the number of potential students is shown in **Exhibit 1.7-6**. Since proposed housing in industrial zones would be limited to industry supportive types of live/work units and caretakers' units, the proportion of households with children could be lower. Most housing units and associated population are anticipated under Alternative 4 and the least under Alternative 1. The students would have more effect on schools in Ballard, SODO/Stadium and Georgetown/South Park.

Exhibit 1.7-6 Student Generation by Subarea based on Net Change in Population

Subarea	Alt. 1	Alt. 2	Alt. 3	Alt. 4
Ballard	1	1	38	115
Interbay Dravus	1	1	11	25
Interbay Smith Cove	1	1	2	-
SODO/Stadium	4	5	29	144
Georgetown/South Park	3	3	9	35
Total: Ind Zone Housing (Caretaker/Artist)	**11**	**12**	**89**	**319**
With MIC Adjustments—Seattle Mixed-Use Zone Housing	—	—	157	157
Grand Total Students in Study Area	**11**	**12**	**245**	**476**

Source: BERK, 2021.

Alternative 3 would affect demand at the South Park Library, and particularly schools like Wing Luke (capacity 351) and Concord (capacity 333) schools. This number of students would be about 45% of an elementary school capacity. However, the plan is a 20-year plan, and it is likely that not all housing would be developed at one time, and students would not start all at once and would be spread across grades.

Impacts under Alternative 4 are similar to Alternative 3 except that there would be substantially more caretakers' quarters/makers' studios, with most units and potential students in SODO/Stadium and Ballard subareas. Like Alternative 3 there would be growth in the Georgetown/South Park Subarea in mixed-use zones. All together there would be an increase in population of 6,710 including 476 students. Local libraries in Ballard and South Park would likely see an increase in demand for services. Schools serving Ballard, SODO/Stadium, and Georgetown/South Park could have increased demand at 33-45% of a typical elementary school capacity (~350).

What are some solutions or mitigation for impacts?

- Compact growth in proximity to SFD and SPD services could result in more efficient service delivery and ability to meet LOS objectives.
- City fire codes govern inspection and operation of businesses and new construction (Title 22 Subtitle VI Fire Code of the Seattle Municipal Code, which has local amendments to the International Fire Code (IFC) with state adopted amendments).

- The Seattle Police Department enforces and is subject to various City of Seattle regulations such as Title 10 Healthy and Safety and Title 11 Vehicles and Traffic.
- Ongoing City of Seattle capital improvement planning and budgeting efforts are anticipated to address fire and police facility needs, including potential needs for future improvements.
- Ongoing Seattle School District capital facilities management planning is anticipated to be sufficient to address increases in student population. The Seattle School District prepares capital plans and projects are funded by levies.
- SDOT provides a Safe Routes to School program. In addition to education, there are walkway projects to make routes safer.
- The Seattle Public Library has a strategic plan and operations plan that guide the provisions of library services.
- The II and UI zones include potential changes to streetscape standards and could enhance walking routes to schools in areas with added housing.

With mitigation, what is the ultimate outcome?

All studied alternatives would increase the demand for public services in the study area with alternatives 2, 3, and 4 increasing jobs above No Action. The increase in industrial jobs could result in a greater need for fire and emergency services in the study area. Increased non-industrial jobs would require apparatus for taller structures in the case of fire or rescue.

All alternatives, particularly alternatives 3 and 4 would increase housing and increase demand for school and library services.

No significant unavoidable adverse impacts to fire and emergency medical services, police, or schools and libraries are anticipated with application of mitigation measures and regular capital planning.

1.7.14 Utilities

How did we analyze Utilities?

Utilities were analyzed by considering how the proposed alternatives, including changes in population, dwelling units, and jobs would affect wastewater generation (including CSOs), the quantity of stormwater runoff, and electrical demand. Stormwater quality is discussed in the Water Resources section.

What impacts did we identify?

The growth in population and employment may result in changes to the amount of wastewater flows and stormwater runoff generated as well as CSO frequency. Electrical demand could also increase due to an increase in population and employment.

What is different between the alternatives?

Seattle Public Utilities

Generation of wastewater is scalable with population and employment. As a result, Alternative 4 would have the greatest increase in wastewater generation because it would cause the largest increase in employment and housing compared to the other alternatives. Conversely, with more development, stormwater management increases due to the implementation of stormwater management at development sites. For this reason, Alternative 4 would have the greatest reduction in the rate of stormwater runoff during the planning period and Alternative 1 No Action would have the least reduction in stormwater runoff amongst all alternatives. Alternative 4 would also have the greatest reduction in CSO frequency during the planning period due to greater reduction in the rate of stormwater runoff to the combined system and the greatest increase in electrical demand due to increased population and employment.

What are some solutions or mitigation for impacts?

Seattle Public Utilities (SPU) manages the public wastewater and stormwater drainage in the City of Seattle. King County Wastewater Treatment Division (WTD) manages all the wastewater treatment plants and wet weather treatment facilities within the City of Seattle and surrounding King County. Together, SPU and WTD manage the combined sewer system. Seattle City Light (SCL) manages the electric power generation, transmission, and distribution services in the City of Seattle. Each utility plans, manages, and delivers capital projects that could mitigate the impact of all alternatives. The Seattle Stormwater Code also requires on-site management of stormwater, which could help mitigate the impact of stormwater runoff from all alternatives.

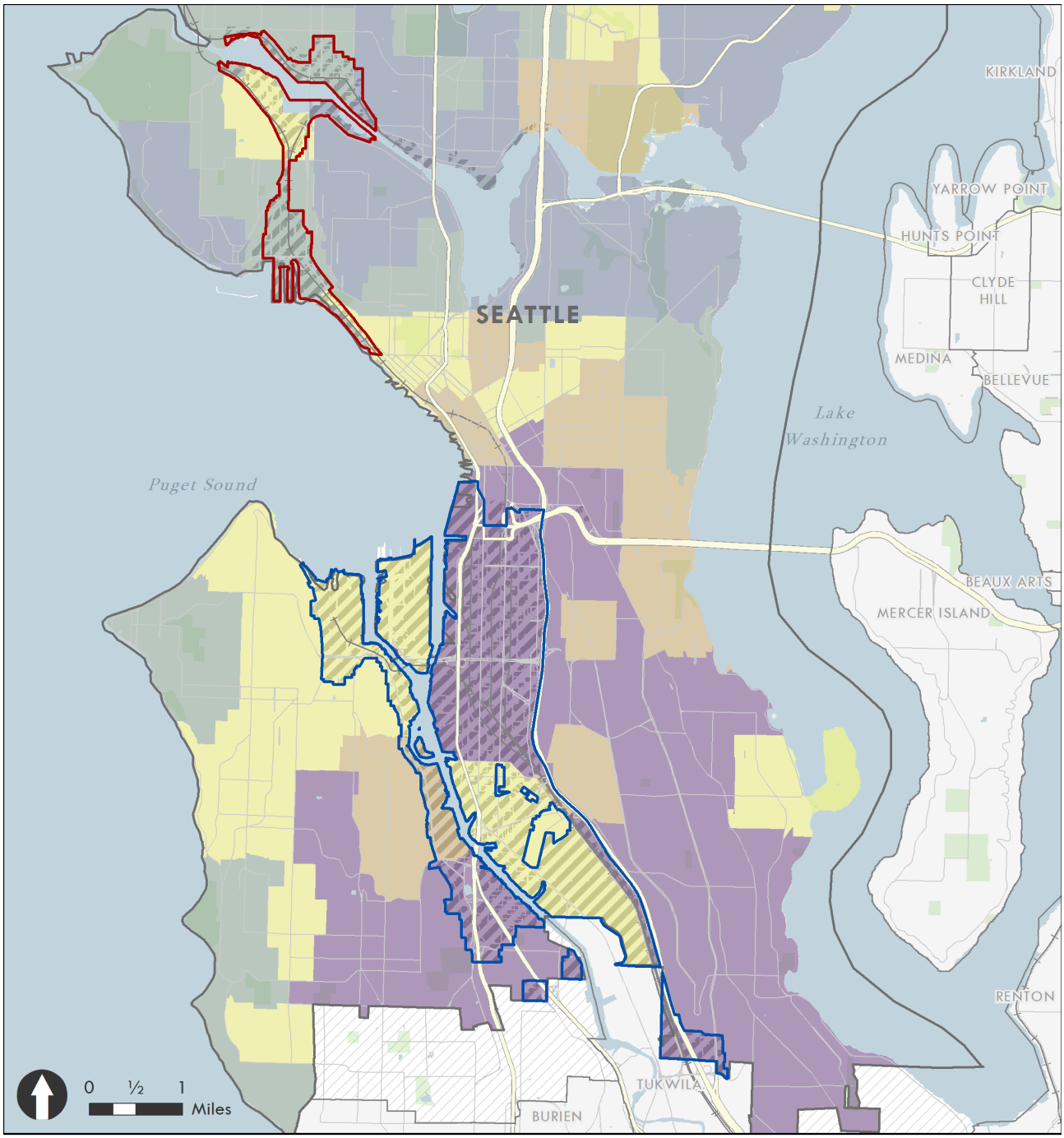
With mitigation, what is the ultimate outcome?

No significant unavoidable adverse impacts are anticipated for the wastewater, stormwater, CSOs, or electrical utilities under any of the alternatives. The levels of development proposed under all alternatives will be managed by existing, ongoing processes such as capital improvement planning and code requirements.

1.7.15 Equity & Environmental Justice Considerations

The City of Seattle has developed a Racial and Social Equity Index (posted January 2020) representing 5-year American Community Survey data, which provides information on race, ethnicity, and related demographics to consider areas where socioeconomic and health disadvantages. The index has three sub-indices: race/language/origins, socioeconomic, and health disadvantage. The Study Area boundaries and results of the index are shown in **Exhibit 1.7-7**.

Exhibit 1.7-7 Seattle Racial and Social Equity Index



Source: City of Seattle, 2020.

Although the study area has a relatively low residential population density with only 413 existing residential homes, the results show where populations have higher or lower levels of disadvantages. Consideration is also given to where the study area abuts residential districts. More populations with higher disadvantages reside in the Greater Duwamish MIC than in the BINMIC. Within the Greater Duwamish MIC, the SODO/Stadium Subarea, and a portion of the Georgetown/South Park Subarea west of the Duwamish Waterway have the highest disadvantage. Other areas have middle or low disadvantage. Similar results are found within the Washington Environmental Health Disparities Map (see **Section 3.9 Housing** for selected maps). Both sources of socioeconomic and health data are considered in this EIS.

The EIS also considers how the alternatives advance the City's Equity and Environment Agenda and the City's Duwamish Valley Program and Action Plan described in **Section 1.3.2**. The alternatives are screened by whether they would increase, exacerbate, or impede mitigation of:

- Adverse impacts to air and water quality, soil contamination, noise pollution, and climate change, exacerbating **residents' and workers' exposures to environmental hazards**.
- Adverse impacts to achieve a **safe, connected, and accessible neighborhood**. Consider community conditions (transit, housing, food access/ insecurity, parks, sidewalks, cultural hubs, etc.).
- Adverse impacts regarding **displacement risk of EEI Populations**.
- Adverse impacts regarding **access to education or pathways out of poverty through jobs** and careers.

These screening criteria are addressed under EIS topics below. **Exhibit 1.7-8** at the end of this section summarizes the equity and environmental justice topics addressed in this EIS.

Natural & Biological Resources & Resiliency

Screening Criteria: *Adverse impacts exacerbating residents' and workers' exposures to environmental hazards.*

Summary of Impacts: The alternatives have the potential to allow for industrial and non-industrial uses in areas of high disadvantage which may expose existing or new populations to air emissions. Current and new populations could be exposed to damage from sea level rise. Current and new populations would be exposed to risk of geologic hazards. Alternative 1 would have the lowest employment growth and least industry-related housing, and Alternative 4 would have the most with other alternatives in between. While greater development could result in more impacts, it can also result in more redevelopment meeting modern building and flood codes and improving conditions in the area (e.g., tree canopy, climate adaptation measures).

Mitigation and Investment: Mitigation measures include application of federal and state air emission standards (e.g., for vehicles), buffers between air emission sources and sensitive uses, interior air filtration, added tree canopy, and application of building and flood hazard

codes. Investment in climate adaptation measures could benefit current populations at risk of sea level rise as well as allow new development. Planting tree canopy in existing areas and redeveloping areas would benefit both existing and new populations and employees.

Topic-specific Summaries

Soils/Geology: Under any of the Action Alternatives, the primary equity and environmental justice concern for the proposal would be if development on lands subject to geologic hazards carries the risk of injury or damage to structures due to seismic activity. Although the proposal would allow development at sites in areas prone to landslides, liquefaction, or similar geologic hazards, modern building codes mitigate the risk of injury or economic losses for vulnerable communities.

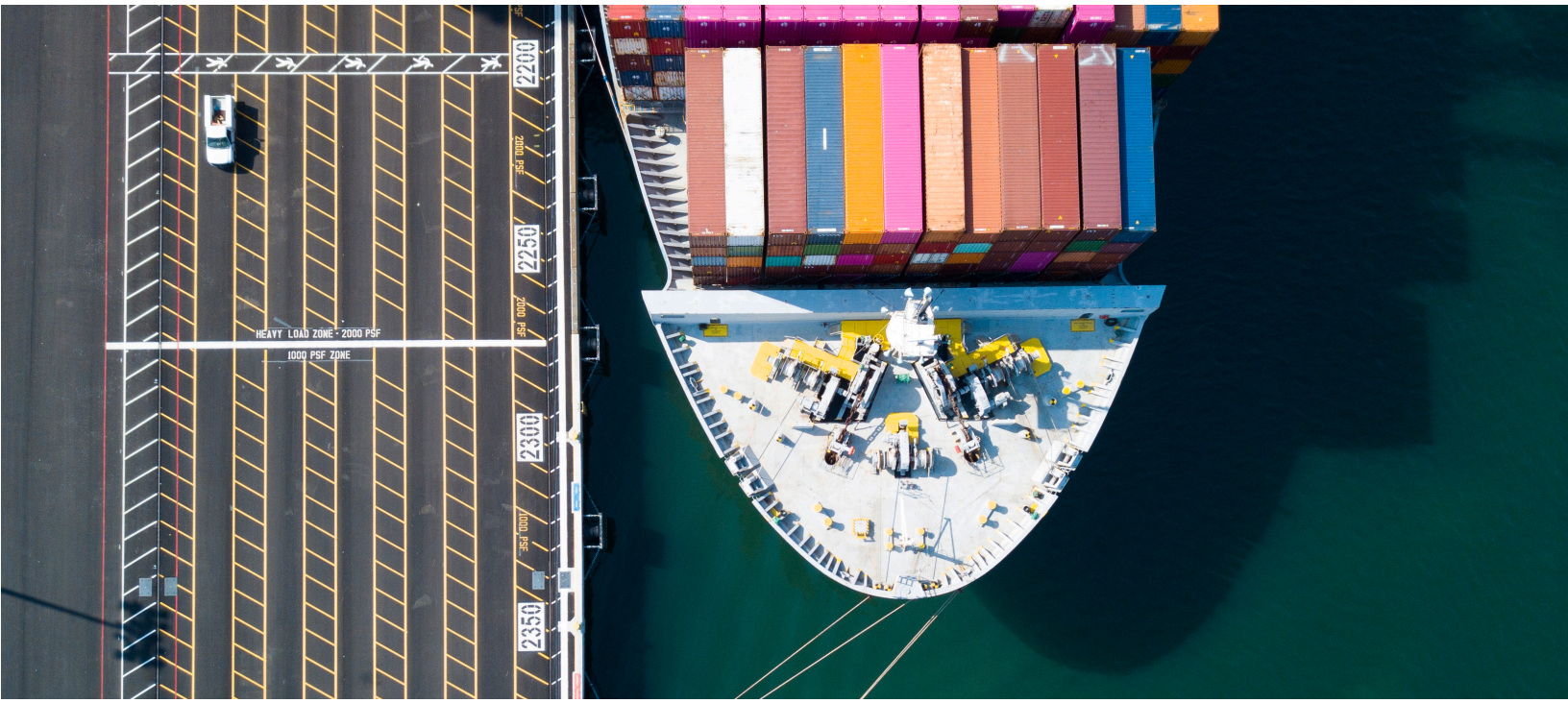
Air Quality/Greenhouse Gas: While air quality impacts under all alternatives are expected to be less than significant, the primary equity and environmental justice concern for the proposal would be the emissions associated with industrial activities and road transportation emissions on vulnerable communities in the study area, on the periphery of industrial zones, and alongside higher-volume transportation routes. Populations with preexisting conditions that make them more sensitive to air pollution could be at greater risk from the activities associated with the alternatives. Potential mitigation measures consider buffers of sensitive land uses from emission sources, enhanced air filtration systems, and dense tree canopies.

The incremental traffic-related emissions of the proposed alternatives would represent a minor portion of all traffic emissions on any transportation route near vulnerable communities. In addition, due to EPA emission standards for motor vehicles and clean fuel standards, the total emissions from road transportation are expected to drop even as traffic levels increase in the study area. Thus, exposures to air pollution in the study area are expected to continue trending downward.

Water Resources—Water Quality: Increases in impervious surface can negatively affect surface water quality, which can disproportionately affect populations with a higher reliance on water resources for sustenance, such as subsistence fishers or Tribes. Poor water quality also poses health risks for populations that come in physical contact with surface water bodies. The Seattle Stormwater Code (SMC Title 22, Subtitle VIII) requires redevelopment projects in the Study Area to implement on-site stormwater management to infiltrate, disperse, and retain stormwater runoff to the maximum extent feasible. All Alternatives are expected to result in a net improvement in water quality and therefore reduce negative impacts on these populations as they relate to water resources.

Water Resources—Sea Level Rise: The Seattle Mapping Inventory of Changing Coastal Flood Risk provides a screening level picture of the impacts of sea level rise on Seattle. The analysis reveals that the communities most impacted by flooding are also disproportionately characterized by high levels of social vulnerability, most notably in the Georgetown/South Park Subarea. Under all Alternatives, proposed development in areas that are susceptible to impacts from extreme high tides would be required to comply with critical areas regulations

Ocean Carrier



for frequently flooded areas. Compliance with these codes and implementation of adaptation measures may reduce vulnerability of those developments to sea level rise impacts relative to existing conditions.

Plants and Animals: New zones promote new streetscape and green space standards; the adaptation of impervious areas to increased tree canopy and green factor can increase shade and modestly improve habitat such as for birds and urban-adapted wildlife as well as for humans. Improvements to water quality and flow control would benefit fish and aquatic invertebrate species, many of which are harvested for human consumption.

Environmental Health & Compatibility

> ***Screening Criteria:*** *Adverse impacts exacerbating residents' and workers' exposures to environmental hazards.*

Summary of Impacts: Cleanup of contaminated sites could cause temporary adverse effects from potential exposure of workers, nearby residents, and animals to contaminated soil, groundwater, surface water, fugitive dust, or spilled hazardous materials. Construction and increased activity under any of the alternatives has the potential to exacerbate residents' and workers' exposure to increased noise. Increased light and glare emissions would be particularly visible in South Park, an area of high disadvantage. There is more likelihood of construction activity in the Action Alternatives with high amounts of new jobs and with alternatives 3 and 4

that have the most residential uses. Opportunities include greater long-term health with more sites cleaned and with extended tree canopy.

Mitigation and Investment: Mitigation measures include detailed construction health and safety plans, noise reduction measures during construction, and construction standards to reduce noise. Additional landscaping, screening, setback, and lighting standards could reduce impacts both for existing residents and new workers.

Topic-specific Summaries

Contamination: Under any of the Action Alternatives, the primary equity and environmental justice concern for the proposal would be that cleanup of contaminated sites could cause temporary adverse effects from potential exposure of workers, nearby residents, and animals to contaminated soil, groundwater, surface water, fugitive dust, or spilled hazardous materials if mitigation measures are not fully implemented. Although all alternatives would likely result in short-term adverse effects on this determinant of equity and social justice, the Action Alternatives would generally have positive long-term benefits. In order to mitigate potential exposure to contaminants, all workers would be issued personal protective equipment and protected by measures implemented under the contractor's site-specific health and safety plan. Other mitigation measures include preparing a comprehensive contingency and hazardous substances management plan, a worker health and safety plan, a spill prevention control and countermeasures plan, and a Construction Stormwater Pollution Prevention Plan.

Noise: Construction and increased activity under any of the alternatives has the potential to exacerbate residents' and workers' exposure to increased noise. Limiting proximity of new residential and associated development to high noise sources would limit exposure to excessive noise. In addition, noise reduction measures can be mandated for construction activities and adequate noise reduction measures also mandated for new residential construction, in high noise environments within industrial areas. The City could impose greater noise reduction standards in residential buildings where exterior noise levels greater than US HUD standards.

Light and Glare: Exposure to light and glare emissions, are location-dependent and not equally distributed throughout the city. Due to market forces, historical practices regarding siting of industrial facilities, and historical restrictions on housing for people of color, residential areas near industrial centers are often home to communities of color and lower-income populations. Increased light and glare emissions would be particularly visible in South Park, an area of high disadvantage. Mitigation measures could include: additional landscaping, screening, and setback requirements in locations adjacent to residential zones, public lands, park and recreation facilities, and areas outside the BINMIC or Greater Duwamish MIC, and additional development standards to address maximum height of exterior illumination.

Working, Living, & Mobility

Screening Criteria: *Adverse impacts to achieve a safe, connected, and accessible neighborhood (transit, housing, food access, parks, sidewalks, cultural hubs, etc.).*

Displacement risk of EEI Populations.

Access to education or pathways out of poverty through jobs and careers.

Summary of Impacts: The risk of housing displacement is low due to the limited quantity of housing in the study area. The limited housing added under Action Alternatives could marginally assist with housing costs including rent due to expanded supply of housing and commuting costs if the additional homes are available to workers in the area. The Action Alternatives improve transitional standards for compatibility. Growth can bring impacts of traffic and delays in the study area including in areas with disadvantaged populations, but increased development can improve multimodal investments to create safe, connected, and accessible neighborhoods.

Each of the Action Alternatives includes an increase in projected employment in the study area, with substantially higher quantities of new employment under alternatives 3 and 4. An employment mix of greater than 50% industrial jobs is projected under all alternatives. A high proportion of industrial jobs are accessible without traditional four-year college degrees, and many industrial jobs remain unionized with high quality benefits.

Mitigation and Investment: Disadvantaged communities are disproportionately burdened by displacement. Given this, the City may be able to strengthen its anti-displacement efforts, and existing programs and enhancements are referenced.

The City's current plans and the Action Alternatives would provide improved transit, bicycle, pedestrian, and freight connections, as well as transportation demand management. However, city streets will remain congested during peak periods as growth continues to occur, and mitigation measures have been identified to improve particular corridors.

Topic-specific Summaries

Land and Shoreline Use: While shoreline and land use impacts are expected to be less than significant under all alternatives, some of the identified impacts could have equity and environmental justice considerations. Land use transition impacts would raise environmental justice concerns where residents of nonindustrial areas in or adjacent to the study area could be adversely affected by inadequate transitions at the edges of industrial areas. In areas of inadequate transitions, impacts from noise, odors and truck access and circulation associated with industrial land uses could affect communities of color and economically disadvantaged people. Impacts of increased building height, bulk and scale at transitions could also affect vulnerable populations. The neighborhoods of Georgetown, SODO, and South Park are vulnerable because there are land use transition impacts, and they have populations with higher levels of disadvantage. There is potential for new employees or residents in the rezoned

Fisherman's Terminal

areas to be vulnerable populations at a relatively higher rate. Adverse localized impacts on these community members could result from increased exposure to freight traffic and other challenges of working or living in the area. In general, it is expected that the proposal will have positive equity affects related to the employment mix, with greater levels of jobs having accessible education requirements and higher wages as noted above. While impacts on vulnerable communities are identified, a range of existing regulations and commitments and potential mitigation strategies will reduce the harmful impacts of the proposal related to land and shoreline use.

Housing: Key elements of housing displacement, supply, cost, health, and compatibility are addressed.

Displacement: There is limited existing housing in the study area, and therefore no potential for large amounts of displacement, although displacement risk is present for those living in existing homes. Displacement risk for smaller areas within these larger neighborhoods is hard to predict. Housing production trends show that, citywide, older single-family units are the most likely type of housing to be demolished to make way for new development. The industrial zoned areas in Ballard and South Park currently have very small proportions of the older single-family units most likely to be redeveloped. Some communities, and demographic groups, including low-income households, people of color, renters, seniors, and low and moderate-income families with children, are disproportionately burdened by displacement. Given this, the City may be able to strengthen its anti-displacement efforts.

Supply and Costs: Increases in supply can moderate home prices and rents so that housing is more affordable for households with lower incomes. However, the housing growth envisioned in the study area is not significant compared to city construction trends. The continued support for housing and the slight increases in housing envisioned in alternatives 3 and 4 will add to the housing supply and will allow some workers to live close to where they work. This can reduce the costs of commuting.

Housing and Health: The Action Alternatives limit new housing in industrial zones to caretakers' quarters and live/work studios and focus primarily on industrial uses. Alternatives 3 and 4 also add mixed-use housing opportunities near Georgetown/South Park. Given the health impacts of housing proximity to industrial areas, especially the Duwamish area, limiting the amount of housing in these areas has positive impacts on health equity.

Compatibility and Livability: Action Alternatives promote new zoning standards. UI zoning is intended to create thoughtful integration between the edges of these industrial areas and adjacent neighborhoods. UI zoning would seek to improve environmental health, walkability, and comfort in these areas. These changes tied to zoning are likely to ensure that the limited amount of housing allowed within the UI zone is accompanied by changes that add amenities to the area.

Transportation: The Action Alternatives—particularly alternatives 3 and 4—would result in more land use growth compared to Alternative 1 No Action particularly in the SODO/Stadium and South Park neighborhoods. With respect to transportation, this growth could provide both beneficial and adverse impacts to equity and environmental justice. Additional growth would bring increased traffic volumes, which in turn may bring impacts to the safety of people walking and biking, parking availability, and travel time delays to areas with high proportions of priority populations. At the same time, increased development could also bring improved infrastructure to neighborhoods with histories of long-term underinvestment. This is particularly the case for areas that would be rezoned as Industry & Innovation and Urban Industrial because those land use concepts would have development standards requiring frontage improvements such as sidewalks, pedestrian lighting, and street trees—all of which could be beneficial in progress toward more safe, connected, and accessible neighborhoods.

SODO Light Rail (Left) and Rail Tracks at Lander (Right)

Cultural & Recreational Resources

Screening Criteria: *Adverse impacts to achieve a safe, connected, and accessible neighborhood (transit, housing, food access, parks, sidewalks, cultural hubs, etc.).*

Summary of Impacts: Development has the potential to affect historic and cultural resources in historically marginalized neighborhoods. Added growth from the alternatives, particularly alternatives 3 and 4 could allow for more park demand and need in marginalized neighborhoods, which could prompt new park investments.

Mitigation and Investment: Applying state and federal standards, and engaging EEI populations in equitable development and redevelopment would limit impacts to historic and cultural resources. Regarding parks, the City could create linear parks and trails, increase frequency of maintenance to offset an increase in park usage, and build resilient parks. The City could explore improving transportation to and from parks to increase connectivity between parks. Community gardens (permitted on some rooftops in individual zones) could provide open space and urban agriculture.

Duwamish Tribal Longhouse and Cultural Center

Topic-specific Summaries

Historic, Archaeological & Cultural Resources: In the study areas, the alternatives have the potential to affect historic and cultural resources in historically marginalized neighborhoods. If impact minimization, or avoidance of impacts to historic, archaeological, and cultural resources is impossible, appropriate and meaningful mitigation should be developed in accordance with DAHP Mitigation Options and Documentation Standards and in coordination with the area's Tribes, the lead agency, and all other consulting parties. Equitable development and redevelopment should include the voices of the EEI populations to share in the decision-making process.

Open Space and Recreation: The Greater Duwamish MIC vicinity has higher levels of heat. Adding trees in streetscapes, private properties, and parklands can help


Kayaker on the North Shore of the Ship Canal

reduce the heat island effect Implementing a "pathway to equity" in the Seattle Parks and Recreation could address historical racial inequities in parks and open space. In Georgetown/South Park, the neighborhoods have nearby parks, but the total acreage per capita is half the citywide average and there may be park congestion caused by added population. Meeting the City's level of service policy would mean adding parkland in appropriate areas. In the Study Area, most demand would be in Georgetown/South Park as well as the Ballard and SODO/Stadium subareas.

Public Services & Utilities

Screening Criteria: *Adverse impacts to achieve a safe, connected, and accessible neighborhood (transit, housing, food access, parks, sidewalks, cultural hubs, etc.).*

Summary of Impacts: Additional growth could affect emergency vehicles response times including in underserved neighborhoods. Additional growth could add substantial new students at local schools including in Georgetown/South Park.

Mitigation and Investment: Compact growth, Water conservation, local power generation, and energy conservation measures are proposed.

Topic-specific Summaries

Public Services: Additional growth would increase traffic volumes which may in turn increase the response time of emergency vehicles in areas with high proportions of priority populations. However, increased development in areas with histories of long-term underinvestment could bring improved infrastructure to those neighborhoods. The increase in housing could generate students attending local schools in the Georgetown/South Park Subarea, particularly under alternatives 3 and 4, which has a higher proportion of disadvantaged households. Ensuring access to schools with safe travel routes would help all local students in these areas.

Emergency Personnel at a Drill at Terminal 5

Utilities: Under all alternatives, minor impacts to utility services could occur during construction of individual development projects. All alternatives are likely to lead to utility improvements in the study area. There is no indication that the improvements are likely to cause adverse impacts to low income and other underserved populations in the study area as long as the utility improvements avoid displacement of these populations. Utility improvements could potentially benefit low income and other underserved populations in the study area, such as in portions of the SODO/Stadium and Georgetown/South Park subareas.

Exhibit 1.7-8 Equity and Environmental Justice Matrix of Topics

Equity and Environmental Justice Element	Natural and Biological Resources and Resiliency	Environmental Health and Compatibility	Working, Living, and Mobility	Cultural and Recreational Resources	Public Services and Utilities
Adverse impacts exacerbating residents' and workers' exposures to environmental hazards.	Potential exposure to environmental hazards (air quality, water quality) and risk of exposure to geologic hazards and sea level rise. Mitigation measures and investments can avoid impacts and improve conditions.	Temporary exposure to contamination and noise during construction. Longer-term exposure to light and glare from development, e.g., in South Park. Mitigation can address worker and resident safety and design standards can address light and glare.	New employees or residents could be exposed to environmental hazards. Mitigation measures address design and buffering of residential uses, addition of landscaping and tree canopy, implementation of sea level rise adaptation measures, and application of federal, state, and local laws regarding air quality, noise, hazardous materials handling, etc.	Residents, workers, and visitors may use parks and recreation facilities in the study area. Recreation areas are sensitive receptors for noise, and noise mitigation may be needed. Parks along shorelines may be affected by sea level rise and adaptation may be needed. Parks are potential locations for improvement of vegetation and canopy benefiting air quality.	Not applicable.
Adverse impacts to achieve a safe, connected, and accessible neighborhood (transit, housing, food access, parks, sidewalks, cultural hubs, etc.).	See above.	See above.	Growth can bring impacts of traffic and delays in the study area including in areas with disadvantaged populations, but increased development can improve multimodal investments to create safe, connected, and accessible neighborhoods.	Development may affect historic and cultural resources in historically marginalized neighborhoods. Applying state and federal standards, and engaging EEI populations in equitable development would limit impacts to resources. Added growth, particularly alternatives 3 and 4, could increase park demand and need in marginalized neighborhoods, and could prompt new investments (parks, linear trails, community gardens, etc.).	Additional growth could affect emergency vehicles response times including in underserved neighborhoods. However, increased development in areas with histories of long-term underinvestment could bring improved infrastructure to those neighborhoods.

Equity and Environmental Justice Element	Natural and Biological Resources and Resiliency	Environmental Health and Compatibility	Working, Living, and Mobility	Cultural and Recreational Resources	Public Services and Utilities
Displacement risk of EEI Populations*	See above.	See above.	The risk of housing displacement is low due to the limited housing in the study area. The limited housing added under Action Alternatives could marginally assist with housing costs including rent and commuting. The Action Alternatives improve transitional standards for compatibility.	See above.	Not applicable.
Access to education or pathways out of poverty through jobs and careers	Not applicable.	Not applicable.	Increase in projected employment in the study area, with substantially higher quantities of new employment under alternatives 3 and 4. Proportion of industrial jobs are accessible without traditional four-year college degrees, and many industrial jobs remain unionized with high quality benefits. EEI populations could benefit from increased employment in industrial and nonindustrial sectors.	Not applicable.	Additional growth could add substantial new students at local schools including in Georgetown/South Park. Coordinated district capital and service planning should ensure capacity. Ensuring access to schools with safe travel routes would help all local students in these areas.

Note: Based on the Seattle Equity and Environment Agenda and Duwamish Valley Program & Action Plan.

* Equity & Environment Initiative (EEI) Populations: Communities of color, immigrants and refugees, people with low incomes and limited English-proficiency individuals. Youth from these communities are also a priority.