



Livable City Year 2018–2019
in partnership with
City of Bellevue



CITY OF BELLEVUE

In Partnership with the
University of Washington

HEALTH IMPACT ASSESSMENT OF THE BELRED NEIGHBORHOOD SUBAREA PLAN

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Students from multiple UW schools and departments, including public health and urban planning, collaborated on this health impact assessment for the City of Bellevue. Professor Andrew L. Dannenberg stands far right. CHLOE THOMPSON

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ABOUT LIVABLE CITY YEAR

The University of Washington's Livable City Year (LCY) initiative is a partnership between the university and one local government for one academic year. The program engages UW faculty and students across a broad range of disciplines to work on city-defined projects that promote local sustainability and livability goals. Each year hundreds of students work on high-priority projects, creating momentum on real-world challenges while serving and learning from communities. Partner cities benefit directly from bold and applied ideas that propel fresh thinking, improve livability for residents, and invigorate city staff. Focus areas include environmental sustainability; economic viability; population health; and social equity, inclusion and access. The program's 2018–2019 partner is the City of Bellevue; this follows partnerships with the City of Tacoma (2017–2018) and the City of Auburn (2016–2017).

LCY is modeled after the University of Oregon's Sustainable City Year Program, and is a member of the Educational Partnerships for Innovation in Communities Network (EPIC-N), an international network of institutions that have successfully adopted this new model for community innovation and change. For more information, contact the program at uwlcyl@uw.edu.



ABOUT CITY OF BELLEVUE

Bellevue is the fifth largest city in Washington, with a population of more than 145,000. It's the high-tech and retail center of King County's Eastside, with more than 150,000 jobs and a skyline of gleaming high-rises. While business booms downtown, much of Bellevue retains a small-town feel, with thriving, woodsy neighborhoods and a vast network of green spaces, miles and miles of nature trails, public parks, and swim beaches. The community is known for its beautiful parks, top schools, and a vibrant economy. Bellevue is routinely ranked among the best mid-sized cities in the country.

The city spans more than 33 square miles between Lake Washington and Lake Sammamish and is a short drive from the Cascade Mountains. Bellevue prides itself on its diversity. Thirty-nine percent of its residents were born outside of the US and more than 50 percent of residents are people of color, making the city one of the most diverse in Washington state.

Bellevue is an emerging global city, home to some of the world's most innovative technology companies. It attracts top talent makers such as the University of Washington-Tsinghua University Global Innovation Exchange. Retail options abound in Bellevue and artists from around the country enter striking new works in the Bellwether arts festival. Bellevue's agrarian traditions are celebrated at popular seasonal fairs at the Kelsey Creek Farm Park.

Bellevue 2035, the City Council's 20-year vision for the city, outlines the city's commitment to its vision: "Bellevue welcomes the world. Our diversity is our strength. We embrace the future while respecting our past." Each project completed under the Livable City Year partnership ties to one of the plan's strategic areas and many directly support the three-year priorities identified by the council in 2018.



BELLEVUE 2035: THE CITY WHERE YOU WANT TO BE

Health Impact Assessment of the BelRed Neighborhood Subarea Plan supports the High Quality Built and Natural Environment target area of the Bellevue City Council Vision Priorities and was sponsored by the Department of Community Development.



HIGH QUALITY BUILT AND NATURAL ENVIRONMENT

Bellevue has it all. From a livable high-rise urban environment to large wooded lots in an equestrian setting, people can find exactly where they want to live and work in Bellevue. The diverse and well-balanced mix of business and commercial properties and wide variety of housing types attract workers and families who desire a safe, sustainable, and accessible community.

Bellevue has an abundance of parks and natural open space. Known as a “city in a park,” our park system is one of the best in the nation due to its high park acreage-to-population ratio. From neighborhood walking paths and forested trails to a regional waterfront park, we enjoy a variety of recreational opportunities within walking distance of our homes and businesses. Bellevue is a “Smart City” with a clean, high-quality environment and excellent, reliable infrastructure that supports our vibrant and growing city, including high-tech connectivity. The city has a connected multi-modal transportation system that blends seamlessly with its buildings, plazas, and parks.

Whether it’s an urban high rise, a classic Bellevue Rambler, or a historic resource, the constant is our people. Our neighborhoods and businesses transcend age, ethnicity, and culture to create safe, welcoming places to live and work.

BELLEVUE 2035: THE CITY WHERE YOU WANT TO BE

*Bellevue welcomes the world. Our diversity is our strength.
We embrace the future while respecting our past.*

The seven strategic target areas identified in the Bellevue City Council Vision Priorities are:



ECONOMIC DEVELOPMENT

Bellevue business is global and local.



TRANSPORTATION AND MOBILITY

Transportation is both reliable and predictable. Mode choices are abundant and safe.



HIGH QUALITY BUILT AND NATURAL ENVIRONMENT

From a livable high-rise urban environment to large wooded lots in an equestrian setting, people can find exactly where they want to live and work.



BELLEVUE: GREAT PLACES WHERE YOU WANT TO BE

Bellevue is a place to be inspired by culture, entertainment, and nature.



REGIONAL LEADERSHIP AND INFLUENCE

Bellevue will lead, catalyze, and partner with our neighbors throughout the region.



ACHIEVING HUMAN POTENTIAL

Bellevue is a caring community where all residents enjoy a high quality life.



HIGH PERFORMANCE GOVERNMENT

People are attracted to living here because they see that city government is well managed.

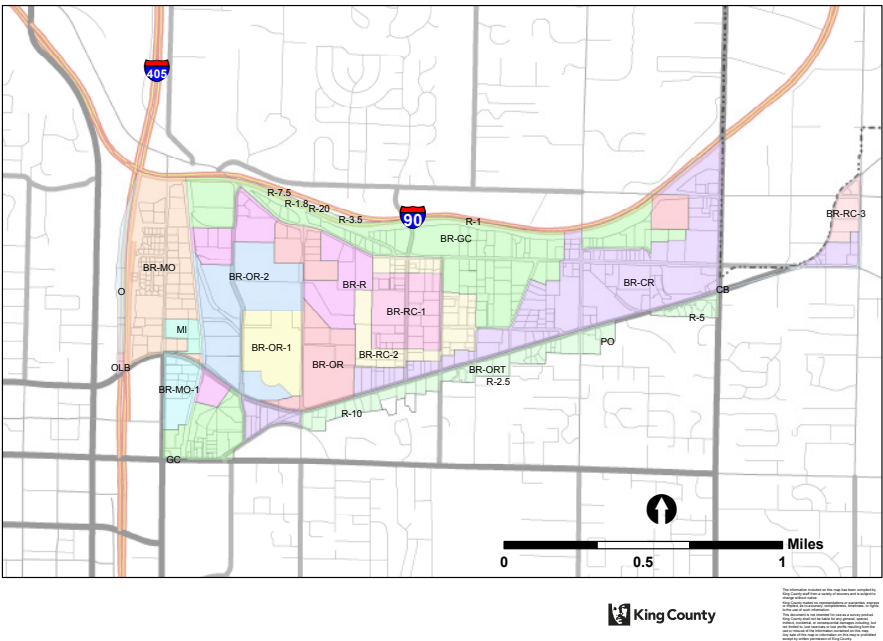
For more information please visit: <https://bellevuewa.gov/city-government/city-council/council-vision>

EXECUTIVE SUMMARY

INTRODUCTION

Health begins where we live, work, play, and learn. Neighborhoods and cities play a vital role in equitably creating and sustaining the conditions required for all people to achieve the best possible health. In conjunction with the Livable City Year (LCY) project, the City of Bellevue Department of Community Development asked a class of students at the University of Washington (UW) to conduct a Health Impact Assessment (HIA) of the BelRed Neighborhood Subarea Plan (SAP). This HIA identifies potential health concerns, positive impacts of policies, and practical recommendations to ensure the equitable development of a healthy urban environment for current and future BelRed populations.

BEL-RED SUBAREA ZONING



Zoning map of BelRed Subarea KING COUNTY

ABOUT THE BELRED SUBAREA PLAN

The BelRed neighborhood is a rough triangle of land nestled between downtown Bellevue and Redmond, bordered by BelRed Road in the south and SR 520 in the north.

For decades, BelRed has been the site of retail, light industry, and service activities, including a Coca-Cola bottling plant, a cement plant, numerous car service shops and dealerships, and historically minimal residential use. Catalyzed by regional growth and an expanding Sound Transit Link Light Rail, the City of Bellevue began envisioning a new future for BelRed: sustainable networks of dense, mixed-use nodes connected by multiple transit options with streams, greenbelts, pedestrian walkways, and bike paths woven throughout.

METHODS

The team of UW students identified five health focus areas which are examined as distinct chapters in this HIA:

1. Mobility
2. Economic Stability
3. Community and Culture
4. Health and Human Services
5. Environment

Students utilized data from academic and technical literature, public reports including the City of Bellevue's zoning and comprehensive planning documents, field visits, and key informant interviews to address each focus area.



Students on a site visit to the BelRed neighborhood. KELLEY PASCOE

KEY FINDINGS

MOBILITY

This chapter examines the impacts of mobility on health, focusing on three critical factors: active transportation, public transportation, and traffic safety and collisions. The Department of Community Development has already identified that mobility is a key factor in BelRed’s development and that strong mechanisms are in place to ensure comprehensive integration of active transportation and public transit within the subarea. However, an assessment of collision safety for bicyclists and pedestrians is notably absent in the Subarea Plan.

ECONOMIC STABILITY

BelRed is transitioning from its light industrial past, which will potentially result in job loss and job displacement. During this process, more than 2,500 industrial jobs are expected to be lost.

Although the Subarea Plan hopes to retain many businesses in their existing forms, the change in zoning ensures that the majority of these

businesses will eventually transition to mixed-use and commercial spaces. Information is currently insufficient regarding the types of jobs that will be available among the expected 10,000 new positions. Additionally, it is unclear whether the new positions will be comparable in hours, compensation, or benefits to those that will be displaced by the new development. Designing resources and plans to mitigate job loss and displacement will be important for the economic health of BelRed.

Affordable housing has been identified as a priority for the City of Bellevue. City planners have emphasized the opportunities for affordable housing, so that all people have an equitable chance to live, work, and play in the same neighborhoods. The BelRed SAP anticipates the addition of 5,000 new housing units by 2030, with a goal that half of these units be affordable for households with an income 120% of AMI or less. Delivering on these goals will be important to the health of the community, although the monitoring plans and progress reports are not yet publicly available. In addition, specific plans to facilitate the attainment of those goals are not clearly stated in the BelRed Subarea Plan beyond general mentions of zoning and tax incentives.



Construction in BelRed NOLA LIU



Construction in BelRed LAUREN CORN

**ABBREVIATIONS
IN THIS HIA**

- AMI: Area median income
- EIS: Environmental Impact Statement
- FAR: Floor-area ratio
- GIX: Global Innovation Exchange (University of Washington)
- LCY: Livable City Year
- LEED: Leadership in Energy and Environmental Design
- PM: Particulate matter
- PSCAA: Puget Sound Clean Air Agency
- S-BR: Subarea plan policy
- SAP: Subarea Plan
- SRTS: Safe Routes to School

COMMUNITY AND CULTURE

Community and culture are characterized by relationships—those between individuals, and relationships between people and their environment. Feelings of community and place attachment prompt better health behavior and well-being. These factors are often intangible and therefore hard to plan for and measure. However, neighborhood planning can develop feelings of community by integrating heritage and creating spaces for community gathering. The Subarea Plan demonstrates steps towards fostering community, and there are opportunities to build on that foundation.

Disenfranchised groups generally lack representation in the redevelopment process. Individuals experiencing homelessness, Native Americans, and the disabled population lack inclusion throughout the planning of the BelRed neighborhood in the Environmental Impact Statement (EIS) for the City of Bellevue: the BelRed Corridor.

Heritage can be recognized and elevated through physical, tangible recognition such as public art and signage. Likewise, diversity is valuable and must be nurtured through the provision of services and visibility for diverse populations. Communities need spaces and opportunities for people to gather and share common experiences. The changes taking place in BelRed provide a challenge and an opportunity to create the conditions to help support the growth of a cohesive and diverse community.

HEALTH AND HUMAN SERVICES

A community that prioritizes health and human services is one that prioritizes the well-being of the entire community. Developers and the City of Bellevue have a rare opportunity to entirely shape a community in a rapidly growing area. For the BelRed redevelopment, this necessitates expanding current services as well as anticipating future needs. Services include those necessary in maintaining public safety, health, and security, such as law enforcement, healthcare, education, natural disaster planning, and services for amenities such as telecommunication.

Existing services will need expansion as the new area continues to develop. Additionally, the growth in population will require more outreach to the community to ensure trust and analyze the accessibility of these services. Of interest are services that are provided on the city or state

level—explicit engagement at the community level can help ensure that all residents are able to access services during times of need. Currently, plans are dispersed and in varying stages of development among different service providers.

ENVIRONMENT

The redevelopment of BelRed presents an opportunity to improve the environmental health context of the area. The SAP proposes significant actions for stream rehabilitation, soil pollution remediation, expansion of urban green space, and sustainable planning and building. While some of these actions can be completed by the city, other activities are intended to be completed through public-private partnerships through the usage of incentives.

Improving the environment provides opportunities to further improve the health of residents. Furthermore, environmental equity is a factor that should be considered. For example, in many cities, urban green space is inequitably distributed with greater access for resourced communities, and urban parks are not often built to accommodate persons with different or impaired mobility.

The urgency of the climate crisis brings these and other issues into sharp focus. Due to climate change, cities are increasingly compelled to find ways to shield residents from the harmful effects of air pollution and smoke, rising temperatures, and other health impacts. In order to mitigate the impacts of climate change, cities can incorporate tactics for reducing greenhouse gas emissions and enhancing carbon sinks through parks and green spaces.

RECOMMENDATIONS

MOBILITY

1. The Department of Community Development could consider collaborating with the Department of Transportation to create a BelRed Pedestrian and Bicycle Transportation Subplan by the summer of 2021. This subplan might include key topics such as ensuring safety measures for bicyclists along BelRed arterial streets, which have been identified in this HIA as a hazard for future collisions. Moreover, this plan might include a review of the status and feasibility of priorities identified in the 2009 Pedestrian and Bicycle Transportation Plan, which include expanding paths and sidewalk networks, increasing bike path connectivity, and reducing accidents while increasing bike and foot traffic.
2. The Department of Community Development could consider collaborating with Bellevue School District and the Department of Transportation to negotiate an exchange of property of the King County Metro maintenance base and the proposed school site so the future school will be accessible by active and safe travel by students.
3. That the Department of Community Development consider exploring models and mechanisms for sustainable, low-impact development, such as green parking lots. Green parking lots may entail drivable grass on parking lots, and they conserve underground water while mitigating storm water overflows and urban heat island effects. This would also facilitate resilience and provide another potential community asset: a greenspace.

ECONOMIC STABILITY

1. The Department of Community Development could consider providing job training and transition services for displaced workers from the BelRed redevelopment. It is recommended that this be an ongoing monitoring process, which could be continued until all land has been redeveloped. This can start now through a partnership with the Office of Economic Development to undertake an ongoing assessment of job loss as a result of the BelRed SAP. The Office of Economic Development can also consider partnering with Worksource Seattle-King County and

Bellevue College to provide necessary job training, so all displaced workers can transition into new local work. Attention should be given to adults 55 and older, as additional employment services are needed to ensure their reemployment.

2. The City of Bellevue has an opportunity to garner recognition for thoughtful and proactive community planning, diligent monitoring, and leadership in addressing affordable housing. The Department of Community Development could consider making basic information on progress and monitoring of affordable housing readily available to the public. This could be accomplished by partnering with the City of Bellevue communication staff to create a simple and ongoing plan such as a report-card style display that can be easily updated and disseminated annually. Communication department staff can advise on the best dissemination strategies, which may include relevant websites, social media, and print materials.

COMMUNITY AND CULTURE

1. The Department of Community Development could consider taking steps to recognize the unique, rich, and at times painful heritage of the area by adopting Native languages in signage; creating a memorial or representation of the Japanese families who were forcefully interned during World War II; and commissioning art by community members with disabilities. These efforts can be instrumental in making these histories visible and demonstrating the welcoming of diversity.
2. The Department of Community Development could consider housing opportunities that allow families of varying sizes and people of all ages and abilities to live in BelRed, as well as community spaces such as communal kitchens and gardens that can foster interactions among a diverse population.
3. The Department of Community Development could consider broadening interdepartmental communication and community engagement to increase diverse representation in planning processes. Consulting with the Office of the City Manager's ADA/ Title VI Civil Rights Program Administrator, Blayne Amson, and Alex O'Reilly, Human Services Manager for the City of Bellevue would give planners more information about how to create equity among disenfranchised groups in the developing BelRed area.



New multi-family residential developments
LAUREN CORN

HEALTH AND HUMAN SERVICES

- 1. The Bellevue Police Department could consider hosting Citizen Advisory Councils in Highland Community Center to extend community outreach and build trust. Citizen Advisory Councils could meet every three months for a two-hour discussion between the Bellevue Police Department and the local community. Meetings could include relevant topics that are cycled on a regular basis to maintain community interest.
- 2. Leadership in the Patient Experience departments at three main Bellevue hospital systems (Overlake, Group Health, and Children’s Bellevue) could consider providing incentives to include community members on committees or boards who are representative of the cultural backgrounds of incoming Bellevue residents. One way to accomplish this is by using Hospital Community Benefits Funds to pay people from the community to incorporate community perspective.

ENVIRONMENT

- 1. The City of Bellevue could consider implementation of a citywide air quality monitoring system by placing additional air quality monitors throughout the city and conducting continuous monitoring and communication with residents during times of potential hazard. This could include plans to protect residents during wildfire season, including safe indoor spaces to shelter, and home filtration devices.
- 2. The City of Bellevue could consider ways to further decrease emissions associated with redevelopment. We suggest consulting with developers to understand barriers associated with using the LEED incentive, and if possible, increasing the incentives until LEED construction is seen as cost-efficient. Incentives or benchmarking could also be tools to encourage low electricity use from existing buildings. However, if incentives are not sufficient in promoting sustainable redevelopment, the City could consider requiring LEED certification and instituting emission caps for buildings and residences.



Students on site visit in front of Arras apartments
KELLEY PASCOE

INTRODUCTION

BACKGROUND

In preparation for the East Link Extension of light rail, the City of Bellevue has been planning and implementing a subarea plan to transform the BelRed neighborhood from a zoned light industrial area to a flourishing residential and commercial neighborhood. In conjunction with Livable City Year, the City of Bellevue Department of Community Development asked the University of Washington (UW) to conduct a Health Impact Assessment (HIA) of the BelRed Neighborhood Subarea Plan by identifying potential health concerns, positive impacts of policies, and practical recommendations for city officials to consider in ensuring a healthy urban environment for current and future BelRed populations.

In the HIA, University of Washington students investigated the proposed development plan and progress towards the 2030 Vision for the BelRed Subarea. That vision includes: 1) compact, transit-oriented neighborhoods; 2) 10,000 new jobs and 5,000 new housing units; 3) affordable housing; 4) restored streams and ecological functions; and 5) new parks, trails, bike paths, and amenities for the community (King 2019).

This HIA report represents the final assessment and recommendations from a class project by students in the 2019 UW Spring Quarter graduate course EnvH/UrbDP 536 on Health Impact Assessment. The class includes 21 students from public health, urban planning, and related disciplines. Due to a short timeframe of 10 weeks and limited resources, a rapid HIA was conducted.

DEFINING HEALTH IMPACT ASSESSMENT

HIAs are used throughout the world to improve health and are regarded as a valuable tool by the Robert Wood Johnson Foundation, the U.S. Centers for Disease Control and Prevention, and the World Health Organization (National Research Council 2011). An HIA is a new and growing tool for planners, developers, and policy makers to understand the health effects, both positive and negative, of proposed projects and policies. The objective of an HIA is to present key decision makers with practical recommendations that lead to health-focused actions (Blank, Howard, McCabe and Walkinshaw 2013). While HIAs are not mandated, they are an important tool to assess and promote equity by focusing on the impact of development and policies on marginalized and vulnerable

populations, including but not limited to people of color, people with low incomes, and people living with disabilities.

This HIA was requested by the City of Bellevue in partnership with LCY at UW and conducted over a 10-week period from April – June 2019.

An HIA is a new and growing tool for planners, developers, and policy makers to understand the health effects, both positive and negative, of proposed projects and policies.

CHARACTERISTICS OF THE BELRED SUBAREA

GENERAL OVERVIEW OF THE BELRED NEIGHBORHOOD SUBAREA PLAN

The goal of the BelRed revisioning was to develop a sustainable urban environment that reshapes the future of the BelRed Subarea, while acknowledging and preserving some of BelRed's history (City of Bellevue 2007). The BelRed Subarea has historically been one of Bellevue's major employment areas. In 2007, BelRed accounted for more than 50% of Bellevue's land that was zoned for light industrial use, which included 1,100 businesses and nearly 17% of the city's total employment. Over time, several large employers either moved out of the area or reduced operations. BelRed's largest landowner, Safeway, moved most of its distribution operations and sold about half of the 75 acres of land it owned. Employment has also been declining in BelRed. Between 1995 and 2004, employment dropped by more than 5% despite increasing by 20% in Bellevue overall (City of Bellevue 2007).



Map of Sound Transit's East Link light rail route and stations CITY OF BELLEVUE

While employment has transitioned out of BelRed, the expansion of the East Link light rail presents an opportunity for redevelopment to provide infrastructure for a vibrant and healthy community. Currently, there are no sizeable parks or trails, and the existing public transportation system is limited (City of Bellevue 2009). Despite recent changes and current conditions, the BelRed Subarea is on target to reach its 2030 forecast. From 2009 to 2019, 2,243 housing units have been constructed or permitted, which is 43% of the forecasted 5,000 units; and 4,416 new jobs, which is 44% of the forecasted 10,000 jobs (Bellevue Planning Commission 2019). Additionally, the retail chain REI will be moving its headquarters to the 120th Avenue NE node in 2020, alongside new Facebook offices. These new offices will join the recently opened UW Global Innovation Exchange (GIX) program and newly developed residential complexes. The city is also planning to create additional residential and retail complexes near the 130th Avenue NE East Link Light Rail stop (King 2019). The timeline on the development of the 130th Ave NE community is unknown at this time.

DEMOGRAPHICS

BelRed is currently sparsely populated. Since there is no certain way to determine the future inhabitants of the neighborhood, we used the demographics of Bellevue as a whole to inform our analysis and recommendations. Bellevue has a culturally diverse population with 39% of residents born outside of the US. More than 50% of the population is of a minority race, with Asian people comprising 34% of the population. Hispanic or Latino populations are Bellevue's second largest minority group, making up just under 9% of the population. Additionally, 42% of Bellevue residents speak a language other than English at home (City of Bellevue 2017).

Bellevue also has diversity in disabilities. In 2012, approximately 8% of Bellevue's population self-reported one or more disabilities, with 31% of adults ages 65 and older having one or more disabilities (City of Bellevue 2014).

Bellevue residents are also diverse in age. In 2017, about 15% of the population was 65 or older; workforce-aged residents (ages 18–64) comprised 65% of the population; and youth (18 and under) accounted for nearly 20% of the population (City of Bellevue 2017). Bellevue has high educational attainment, with 66% of the population over the age of 25 having a bachelor's degree or higher (City of Bellevue 2017). Due to high educational attainment, 61% of the workforce is employed in management, business, science, and arts occupations (City of Bellevue 2017). Bellevue's median household income in 2017 was estimated to be \$121,168, well over state and national medians. Roughly three-quarters of Bellevue residents had a household income higher than \$50,000 (City of Bellevue 2017). In comparison, median household income for Washington state is \$70,979 (Department of Numbers 2017). About 7% of Bellevue's population lived in poverty in 2017 (City of Bellevue 2017). In this HIA, vulnerable populations for the BelRed area are defined as individuals living with disabilities, people of color, renters, elderly, children, and low-income populations.

The City may also choose to consider a diverse housing mix as housing units are developed in BelRed. Single-person households comprise the largest share at 28% of all households, followed by married couples without children at 27%, and married couples with children at 24% (City of Bellevue 2017).

METHODS

The initial step of the HIA process—screening—is the identification of projects or policies for which an HIA would be useful. Screening for this HIA was conducted in collaboration with the UW course instructor, Livable City Year, and the City of Bellevue to determine whether an HIA would contribute to the implementation of the 2009 BelRed Subarea Plan. Remaining steps of the HIA were conducted in the following order:

1. Scoping, to decide which health effects to consider
2. Assessment, to identify possible effects of development and populations affected
3. Developing recommendations
4. Reporting the results to relevant stakeholders

The final steps of a standard HIA process — monitoring and evaluating the HIA’s impact on the given project — remain to be completed.

To establish a clear understanding of the connection between the BelRed SAP and individual and community health, we conducted an extensive literature review of governmental reports, administrative planning documents, and other research on relevant literature. We also extensively referenced the 2010 BelRed Subarea Plan, the 2007 BelRed Environmental Impact Statement, and recommendations from key local informants. When possible, we conducted key informant interviews with members of the City of Bellevue’s Department of Community Development, Gwen Rousseau and Emil King, and the Office of the City Manager’s ADA/Title VI Civil Rights Program Administrator, Blayne Amson.

SCOPE OF THE HIA

OVERVIEW OF HEALTH-RELATED TOPICS

The HIA team identified five health areas of focus, each of which comprises a separate chapter in the final HIA. Each chapter is comprised of key subtopics that shape our research and recommendations. The health areas of focus for BelRed include:

CHAPTER FOCUSES

Mobility	Economic Stability	Health & Human Services	Environmental Health	Community Cohesion & Social Capital
<ul style="list-style-type: none">• Active transportation• Public transportation• Traffic safety & collisions	<ul style="list-style-type: none">• Affordable housing• Job displacement• Food access• Alcohol and marijuana outlets• Advertising exposure	<ul style="list-style-type: none">• Emergency medical services• Public safety and policing• Access to health services• Natural disaster planning• Waste management• Telecommunication services• Education• Social services	<ul style="list-style-type: none">• Soil pollution• Water pollution• Green space and nature contact• Light pollution• Noise pollution• Air pollution• Energy consumption	<ul style="list-style-type: none">• Diversity through equal access• Community centering• Indigenous heritage and culture• Place attachment• Homelessness

CHLOE THOMPSON

MOBILITY

INTRODUCTION

Mobility—human movement, both physically and spatially—has long been understood as an important factor that shapes human health and well-being (Gushulak and MacPherson 2006). Accidental injury, chronic illness, child development and child health, mental health, and psychosocial health are all influenced by the built environment and how people move through it (Renalds, Smith, and Hale 2010). Transportation plays a key role in this: transportation networks link people to employment, education, shopping, and recreational opportunities (Blank, Howard, McCabe, and Walkinshaw 2013). These networks also foster the exchange of goods, services, and information between people in different places. Chosen transportation modes are equally as important to health as resources and opportunities. Unfortunately, segregated land use patterns and urban developments that prioritize vehicles and minimize walkability result in structural accessibility barriers to essential services, gainful employment, education, health-promoting behaviors and activities, and, ultimately, health and well-being (Northridge, Sclar, and Biswas 2003). These elements of the built environment have long-lasting impacts on a population’s health (McGinn, Evenson, Herring, Huston, and Rodriguez 2007).

In the BelRed Subarea Plan, mobility is a key consideration: the East Link Light Rail to the developing Spring District and eventual 130th Ave NE node will increase transportation and thus access to BelRed. This provides Bellevue with opportunities to invest in the health of the BelRed community through thoughtful planning on the following key factors to improve mobility:

- Active Transportation
- Public Transportation
- Traffic Safety and Collisions

CONNECTION BETWEEN MOBILITY AND HEALTH

ACTIVE TRANSPORTATION IN THE BUILT ENVIRONMENT

One way in which we can shape the built environment to influence health is to plan and develop neighborhoods and cities in a manner that promotes physical activity. Physical activity includes a wide range of activities, such as walking, exercising, swimming, and dancing, and can broadly be categorized into several domains: recreational, occupational, transport, and household activities (Mueller et al. 2015). A vast body of evidence demonstrates substantial health benefits of regular physical activity, including primary and secondary prevention of premature death and several chronic diseases (e.g., cardiovascular illness, hypertension, diabetes, osteoporosis, and even cancer) (Warburton, Nicol, and Bredin 2006). Furthermore, there is substantial evidence that physical activity supports mental health wellness for people at all stages of life, serving as a useful tool for reducing stress as well as preventing and treating conditions like depression and anxiety (Penedo and Dahn 2005).

Despite the known benefits of physical activity, more than 80% of people in the United States do not meet basic physical activity recommendations (Sallis, Frank, Saelens, and Kraft 2004). Multiple barriers in the built environment infringe on people’s ability to maintain recommended levels of physical activity. One primary barrier to physical activity is urban sprawl (Ewing, Meakins, Hamidi, and Nelson 2014). Urban sprawl is linked to increased physical inactivity, as well as increased traffic fatalities, poor air quality, long emergency response times, augmented private-vehicle commute distances and times, and poor health outcomes such as coronary heart disease (Renalds et al. 2010). Urban sprawl is also associated with low walkability, wherein long, non-grid street blocks and unsafe walking conditions deprioritize non-vehicular mobility and increase dependence on cars (Koohsari, Badland, and Giles-Corti 2013).

Thoughtful, human-centered urban design and planning can promote population health and health-promoting behaviors by fostering development that discourages car use and encourages active transportation (Wasfi, Ross, and El-Geneidy 2013). Active transportation methods, such as walking and biking, are convenient ways to increase

levels of physical activity and offer clear physical and mental health benefits (Koohsari et al. 2013; McGinn et al. 2007; Wasfi et al. 2013). Specific built environment attributes such as street connectivity, residential density, and land use mix have been consistently associated with active transportation (Koohsari et al. 2013). One internationally regarded measure for human-centered urban development is the “10-minute neighborhood,” which refers to the density of essential services surrounding residential areas (Zuniga-Teran et al. 2017). The 10-minute neighborhood measures a .25 mile or 10-minute walk from one’s home to schools, grocery outlets, recreational spaces, and work. The greater the 10-minute neighborhood access to such services, the greater the active transportation potential (Langdon 2017).

However, marginalized and vulnerable populations often have unequal and decreased access to health-promoting infrastructure, leading to negative short- and long-term health outcomes (Pollack, Bluestone, and Billingham 2010). The re-envisioning of the BelRed neighborhood is a rich opportunity for urban planners to build health and well-being into the BelRed cityscape for all members of the community.



Kate Pedersen summarizes her team's findings during her class' final presentation on June 6, 2019. Pedersen is earning her Master in Urban Planning and Master in Public Health degree (a concurrent degree program).
TERI THOMSON RANDALL

PUBLIC TRANSPORTATION

Ample evidence indicates that access to public transportation encourages active transit and thus increases physical activity (Bopp, Gayah, and Campbell 2015). For example, in a study of New Jersey train commuters, 78% met the federal guidelines for physical activity by spending an additional 20 to 40 minutes walking round-trip between train stations and their destinations. Locally, a study in King County, Washington found that transit users had more overall physical activity and more total walking time than non-transit users, with the highest rates of physical activity among those who used public transit more often (Saelens et al. 2014).

Additionally, people living with disabilities, people of color, and people with low incomes utilize public transit at higher rates than those who are wealthier and otherwise less marginalized (Pollack, Bluestone, and Billingham 2010). Public transportation therefore increases health benefits for the city's most vulnerable populations. This helps increase access to essential services, community spaces, and other health-promoting opportunities in addition to increasing rates of physical activity.

Promoting public transit is an essential element in promoting active transportation, a known corollary to human health. Increasing the number of bus routes and frequency of service, as well as ensuring affordable transit fares, are essential in promoting active transport decisions (Greenberg et al. 2005). Shifting communities' transportation systems away from personal vehicles to public transit offers a variety of indirect social and health benefits. Furthermore, when transportation systems increase access to preventative health care, the frequency of acute health problems and costly emergency room visits decrease (Syed et al. 2013). For example, an increase of walking by 8.3 minutes a day — the average time it takes to walk to/from public transit — can save up to \$6,600 in health care costs, 80% of which are public savings (Edwards 2008).

TRAFFIC SAFETY AND COLLISIONS

Safety in transportation is synonymous with good health. National Vital Statistics Reports announced that accidents (unintentional injuries) are the third highest cause of death in the United States (Heron 2016). This includes motorized vehicle accidents, which would be ranked 13th if not included in the broader accident category. Recent years have also demonstrated an increased number of vehicle-caused pedestrian and bicyclist injuries and fatalities. Pedestrian fatalities increased by 21.9%

between 2014 and 2016 (US Department of Transportation 2017). In addition, vehicular collisions account for an estimated 40% of all bike-related injuries (Mueller et al. 2015).

Pedestrian and bicyclist safety are crucial issues in developing a neighborhood to ensure community health and well-being. In the United States, parents identify pedestrian safety, or lack thereof, as a key concern for allowing their children to walk to school (McDonald et al. 2013; McGinn et al. 2007). Similarly, perceptions of safety shape bicyclist behaviors, with greater perceived risk resulting in lower bicycle initiation (Cho, Rodríguez, and Khattak 2009). Other reflections of a locality's safety — clear signage, well-lit streets, and wide, well-maintained sidewalks — also shape a community's willingness and ability to engage with active and public transportation options. This demonstrates how safety in transportation, both perceived and actual, can shape individual decision-making.

Promisingly, environments with strong measures to promote active transportation (e.g., sidewalks, traffic-calming measures, and well-marked street crossings) have been found to increase the number of pedestrians and bicyclists in an area (Boarnet, Forsyth, Day, and Oakes 2011; Kurt 2008). Furthermore, increased numbers of pedestrians and bicyclists in an area have been associated with fewer motorist collisions (Jacobsen 2003), which implies a possible positive feedback loop between perceptions of safety and habit: increasing environmental safety reinforces increased active transport, which in turn will increase environmental safety due to a reduction of motor vehicles.

ECONOMIC IMPLICATIONS OF ACTIVE AND PUBLIC TRANSIT

Physical inactivity costs more than \$77 billion per year in the United States in direct medical expenses alone (Pratt et al. 2000). This does not account for the economic impact of loss of life due to death: inactive lifestyles are responsible for about 200,000 deaths in the US each year, second only to tobacco use (Sallis et al. 2004).

Additionally, cyclist- and walker-friendly infrastructure enhances opportunities for accessing employment, education, health care, and shopping. Investments in pedestrian and cyclist infrastructure are also less expensive than those for car infrastructure due to the minimal infrastructural damage by active and public transportation as compared to vehicular transport (Kurt 2008). Relative to car ownership, bicycling

and walking are inexpensive means of transportation with no need for fuel, no parking fees, and a relatively low cost for purchasing equipment. One study found that automobile-dependent households spend 50% more time commuting and \$8,500 more annually on transit, compared to households that use active and public transportation (Litman 2004). When people save on vehicle and fuel expenditures, they can then invest in other aspects of the economy, driving economic growth through increased demand (Witt 2001).

Finally, vulnerable communities constitute 63% of public transportation ridership nationwide (Pollack et al. 2010). These communities are the foundation for support for public transportation, and their existence in a community creates sustainable usage of transit. Greater accessibility via public transportation also allows for increased opportunity. Thus, diversity and equity are key considerations for transportation. Vulnerable populations play a key role in public transport use and, in turn, a city's economic landscape.



Bellevue's population growth will require investment in more efficient public transportation systems. JELSON25

EXISTING MOBILITY AND ACCESSIBILITY CONDITIONS

CURRENT STATE OF BELLEVUE'S HEALTH

Heart disease is the second leading cause of death in Bellevue. Many Bellevue residents exhibit known risk factors for heart disease: 37% of Bellevue's residents have high cholesterol, 24% have hypertension, 17% are obese, and 14% indicate excessive drinking. Furthermore, 14% of Bellevue residents report having no physical activity in the last 30 days (King County 2012). While these rates are lower than both King County and Washington averages, taken together, they impact the health and well-being of the city's populace.

Less is known about the BelRed subarea, as BelRed has low levels of residence given its historical and current industrial infrastructure (CH2MHill 2009). However, as the Subarea continues to develop with greater attention paid to the creation of livable spaces, BelRed is predicted to have similar demographics to the city at large.

ACTIVE TRANSPORTATION

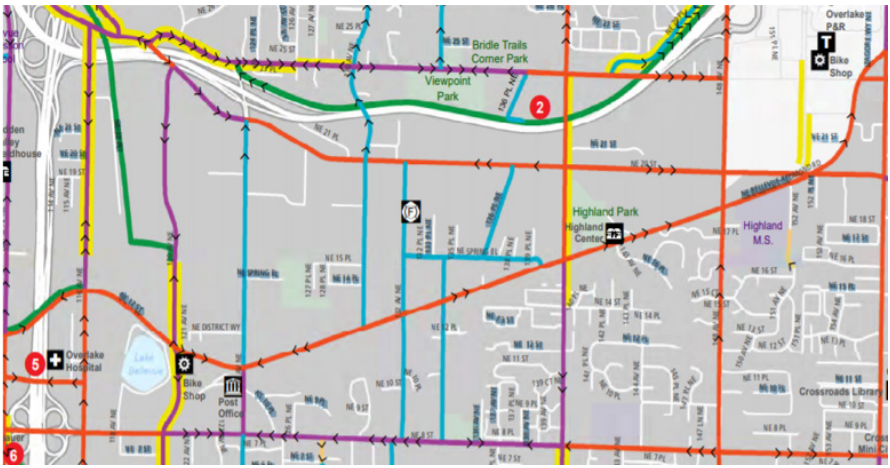
Bellevue is designated as a Silver Walk Friendly Community by Walk Friendly Communities. This designation was allotted based on Bellevue's "engineering practices, planning programs, and high mode share for transit and walking" (Walk Friendly Communities 2014). In 2019, Bellevue was recognized by the League of American Bicyclists as one of four cities nationwide to be a Silver award recipient (League of American Bicyclists 2019). Taken together, these awards reflect the city's commitment to developing in a way that encourages active transportation.

Blayne Amson, ADA Title VI & Civil Rights Program Administrator at the City of Bellevue, explained to us that downtown Bellevue has distinct markers of strong active transit infrastructure: well-maintained, continuous sidewalks; well-lit streets; and clear signage for pedestrians. This makes downtown Bellevue incredibly accessible to people living with disabilities as well as people of varying ages, which increases the quality of life for individuals living and working in the downtown area.

In BelRed, the neighborhoods are significantly less walkable with long, non-grid blocks and non-continuous sidewalks. There are long stretches

with no sidewalk access at all, especially around the 130th Avenue NE, the site of a future East Link transit station. Moreover, the 2018 Bellevue Bike Map indicates that there are no bike lanes throughout BelRed. The map also indicates that, while its inner-networked streets have low traffic and are therefore more accessible to bicyclists, the BelRed perimeter along the BelRed Corridor is a "Caution Area." This indicates that bicyclists should use caution because of higher speeds and/or lack of shoulders or wide curb lanes, making it dangerous for bicyclists (City of Bellevue 2018).

BIKE MAP OF BELRED NEIGHBORHOOD, 2018



CITY OF BELLEVUE

LEGEND

- Off-Street Path***
Most are paved and have multiple users.
- Bike Lane***
Indicated separately for each side.
- Lower Traffic Street**
Most are two-lane streets with low speeds.
- Higher Traffic Street**
Although these streets have higher volumes, most have either wide shoulders, wide curb lanes or bike lanes.
- Caution Area**
Generally are high traffic streets. Bicyclists should use caution because of higher speeds and/or lack of shoulders or wide curb lanes.
- Pedestrian Path**
Many are narrow and have steep grades and varying surface types. Walk bicycle.

*Dashed line indicates anticipated completion in 2018.

PUBLIC TRANSPORTATION

Bellevue is the fifth-largest city in the state of Washington and has identified public transportation as a critical element to modern urban development. The Transportation Demand Management Program (TDMP) 2015–2023 is a citywide framework that guides how transportation is considered and developed in the city of Bellevue, including in the BelRed Subarea.

Four bus routes currently serve the BelRed subarea. Two are student transit routes, which connect Bellevue neighborhoods underserved by standard Metro operations to Bellevue high schools. These public transit options are infrequent, limited in reach, and disconnected from other bus lines that could facilitate easy travel in and out of BelRed. This results in structural barriers for equitable access to opportunity, a key driver of human health and well-being. This disproportionately impacts the social cohesion and socio-economic capacities of vulnerable populations who most utilize and rely on public transportation (Pollack et al. 2010).

BUS ROUTES SERVICING BELRED

Bus No.	Route	Frequency
226	Bellevue, Overlake, Crossroads, Lake Hills, Bellevue College, and Eastgate	30-minute headway during weekday daytime, with 60-minute headway during all evenings.
249	Overlake, South Kirkland and Bellevue	30-minute headway on weekday morning to evening, with limited weekend availability (daytime Saturday)
888	Eastgate P&R, West Lake Sammamish, Interlake, International	Two trips each school day (1x morning and evening), consistent with school schedules
889	Cherry Crest, Sammamish, International	

KING COUNTY METRO

TRAFFIC SAFETY AND COLLISIONS

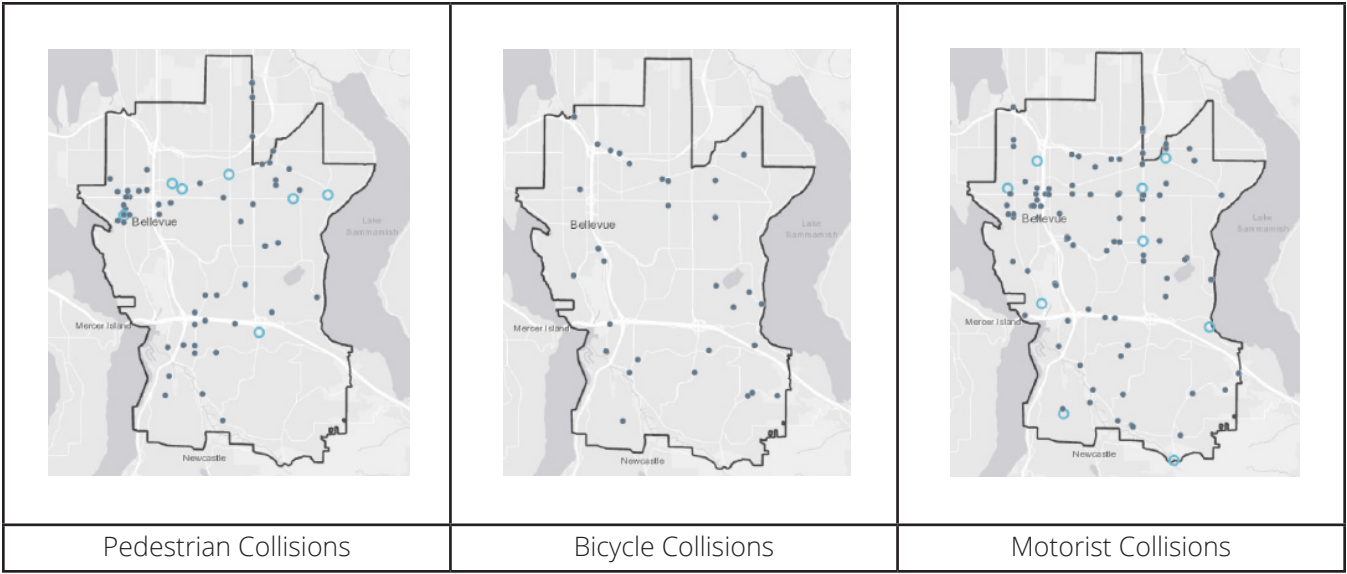
Crash fatalities in Bellevue are extremely low: data from 2008 through 2017 indicates one or fewer motor vehicle crash (MVC) related deaths per year, whereas Washington State total MVCs were 521 in 2008 and increased to 565 in 2017 (WA DOT). BelRed is comparably safer: from 2008 through 2017, there were 131 motorist collisions in Bellevue, of which 9 occurred in BelRed (Loewenherz 2018).

Collisions from biking, on the other hand, are comparatively higher on

average in BelRed than other regions in the state of Washington. From 2008 to 2017, there were 38 bicyclist collisions in Bellevue, with 11 (29%) occurring within BelRed (Loewenherz 2018). The figure included shows the existing bicycle landscape in BelRed and areas of caution for bicyclists. Observational analysis of the Collision Mapping indicates that 3 (27%) of the accidents within BelRed happened within 400 feet of the intersection of BelRed Road and 140th Avenue NE. This intersection is also the site of one fatal pedestrian collision within the same time period.

140th Avenue NE was also identified by the City of Bellevue’s Americans with Disabilities Act (ADA) Core Team as an area of concern (Amson 2019). As a major arterial street, 140th Avenue NE experiences congestion at key transit times but does not have a bike lane, which often results in bicyclists riding on the sidewalks. Additionally, the sidewalks throughout the subarea are non-continuous and, in many places, non-existent.

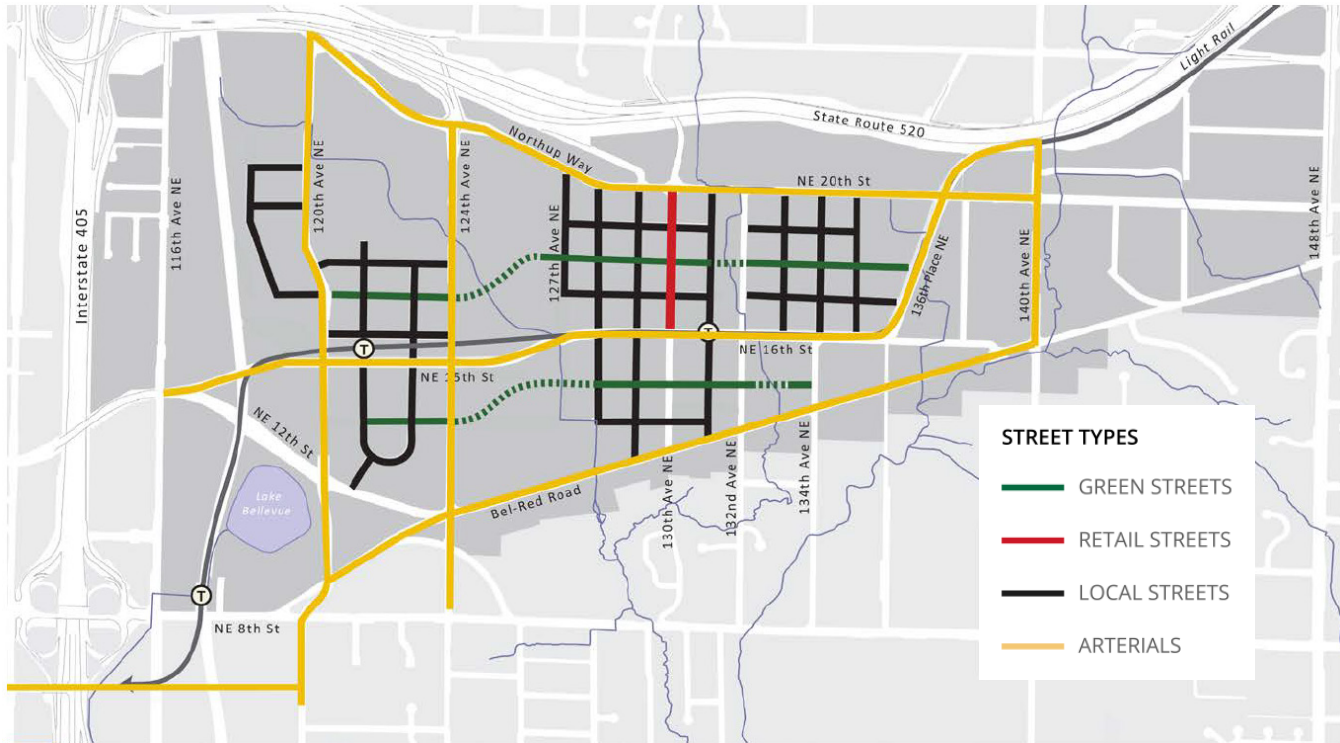
FATAL AND SERIOUS INJURY COLLISIONS IN BELLEVUE, 2016–2017



○ Fatalities ● Serious injuries

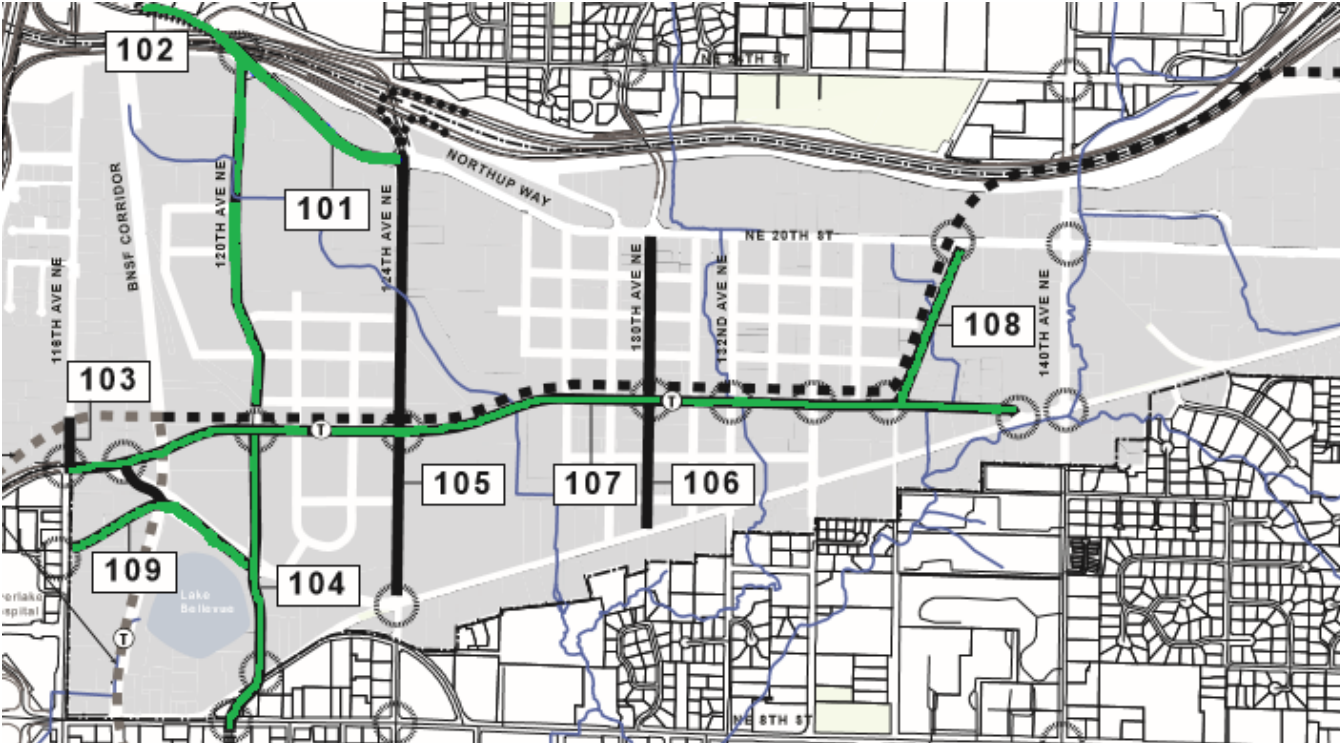
CITY OF BELLEVUE

PROPOSED STREET TYPES IN BELRED



CITY OF BELLEVUE

PROPOSED BIKE LANES IN BELRED



Proposed bike lanes are indicated in green. CITY OF BELLEVUE

MOBILITY IN THE SUBAREA PLAN

ACTIVE TRANSPORTATION

The BelRed Subarea Plan envisions that, by 2030, “neighborhoods will have a pedestrian friendly and walkable character, with convenient access to shopping, jobs, and community amenities, and will also be well-connected to the larger city and region” (City of Bellevue 2009). To accomplish this, the plan identifies the importance of promoting pedestrian-friendly and transit-oriented design, with specific attention to encouraging the development of safe, walkable, and interconnected nodes. These neighborhood nodes will have moderate neighborhood density, with amenities, recreation opportunities, and mixed land use between commercial and residential properties.

The proposed small-block, gridded system for local streets is favorable for encouraging active transit, as is the proposed connectivity and continuity between the nodes. By limiting entry points onto the arterial streets, developers can ensure the safety and well-being of the residents and employees of the BelRed Subarea. Notably, the neighborhood nodes will link development areas to the transit stations, which is another factor associated with increased walkability.

The Subarea Plan addresses including some bicycle lanes on arterial streets and connections to surrounding trails. Details about the locations of the planned developments on arterial streets are found in the tables and maps included at the end of the Plan. These are not specifically referred to in the body and policies of the Subarea Plan. The figure included shows the locations of proposed arterial road developments with proposed bicycle lanes highlighted in green.

Light rail development at the Spring District and 130th Ave NE is projected to provide convenient, walkable access to public transit for almost three-quarters of future BelRed residents and employees. When the light rail is operating in 2023, a “feeder” bus service can be reallocated to connect other Bellevue neighborhoods with the BelRed light rail stations (City of Bellevue 2009). The planned Park & Ride, a parking lot with public transport connections for commuters, at the 130th Ave NE station will further enhance local access to the multi-modal transportation system.

The multi-modal transportation system is also expected to improve arterial roads for vehicle capacity and non-motorized travel methods because of the greater distribution of commuting modes. The Plan describes improvement of connections to State Route 520 in conjunction with the Washington Department of Transportation. A new grid street system in smaller blocks will cater to a pedestrian-oriented infrastructure. On-street parking will be situated to support safe and friendly walkable areas. Most housing and employment will be concentrated in the western region of BelRed around the light rail station, and developments will be designed to reduce through traffic in this area with intentional street design catered to non-motorized mobility.

Policies in the BelRed Subarea Plan align with the TDMP to reduce traffic congestion and single-occupancy vehicle trips while increasing public transit options, access, and capacity (Policy S-BR-71). Furthermore, Policy-S-BR-72 encourages employers to provide sustainable commute benefits and incentives. Policy S-BR-73 addresses the reduction of traffic congestion by setting a cap on parking development, thereby encouraging alternative commute options such as public transit, car/van pool, and non-motorized mobility.

Overall, the Plan sets the stage for diverse and extensive transit-oriented development. Urgency in addressing climate change is acknowledged but the Subarea Plan neglects to set specific actions beyond what is standard for many environmentally-conscious cities. The vision described in the plan highlights efforts for improved connection to the larger city and region overall. This will reduce travel time for many—allowing more time for family, rest, and play. The increase in frequency and options for transit enable more opportunities for employment, as well as a better quality of life for individuals and families for whom transit would typically be a barrier to more gainful employment.

TRAFFIC SAFETY AND COLLISIONS

The BelRed Subarea Plan has detailed descriptions of its commitment to supply transportation infrastructure, but it does not have a unified transportation safety policy statement. Presumably, each component project for the BelRed Subarea considers safety according to development codes. However, a safety policy or statement at a high level plays an important role in initiating and reinforcing safety as a priority in lower-level policies or plans.

The BelRed Subarea Plan also does not contain a policy regarding safe modes of travel to school. With the planned development of an elementary school in BelRed, Bellevue has the opportunity to implement national standards set by the Safe Routes to School (SRTS) program. SRTS tackles childhood physical inactivity by promoting walking and bicycling to school through infrastructure improvements, enforcement of traffic laws, tools, safety education, and incentives. Many case studies show that SRTS programs improve safety and levels of physical activity for students (McDonald et al. 2013; Mendoza et al. 2011; US Department of Transportation 2015). Without a SRTS plan, families that already have limited mobility options are further burdened with excess commute time and/or cost, which decreases access to known health-promoting behaviors.

ANALYSIS AND IMPACT ASSESSMENT

Given the projected increase in population by 2030, BelRed can expect an increase in traffic in the surrounding arterial streets. The BelRed Subarea Plan accounts for this projection by emphasizing arterial improvement and expansion. However, lane expansion is associated with increased traffic and vehicle collisions (Kononov, Bailey, and Allery 2008). Pedestrian and biker collisions are also positively correlated with increased traffic (Wier et al. 2009). As traffic along these streets increases, we can expect bicyclists traveling into BelRed from neighboring subareas to ride on sidewalks at increasing rates. This, in turn, will decrease walkability.

The lack of bike lanes disproportionately impacts low-wage workers, as they are more likely to rely on active transportation. Moreover, while 10-15% of BelRed’s planned 5,000 housing units are designated as moderate to low-income housing, the plan does not make provisions for very low-income households. As a result, low-wage employees of the newly-developed retail, restaurant, and other commercial establishments



A crosswalk sign in BelRed NOLA LIU

within BelRed will likely be traveling from neighboring areas. This makes accessibility by active and public transit options a vital consideration for equity and access within and to BelRed.

At present, the Subarea Plan includes proposes to build some bike lanes and connections to trails throughout the arterial streets, but does not propose bike lanes on every street. There is also no publicly available assessment of the projected traffic and collision safety following increased vehicular travel in these arterial streets. This may inhibit the Department of Community Development's thoughtful efforts to increase public and active transportation in BelRed.

In considering active transport measures, school accessibility and child walkability are also important. While Bellevue School District has purchased land near the Spring District to build an elementary school, this property is separated from BelRed's meticulously-planned pedestrian-friendly neighborhood blocks by the King County Metro Maintenance Center (King 2019). This places the future elementary school in an unwalkable location close to heavy traffic. Thus, the future elementary school will ultimately be inaccessible by SRTS standards. To remedy this, we encourage that the Department of Community Development, Bellevue School District, and the King County Metro consider exploring mechanisms to exchange land ownership. This would directly connect the elementary school to the BelRed neighborhood, while allowing the King County Metro its appropriate and necessary space.

In addition to age, race, and income, Bellevue also has diversity in disabilities. In 2012, approximately 8% of Bellevue's population self-reported one or more disabilities, with 31% of adults ages 65 and older having one or more disabilities (The Diversity Advantage 2014). Ambulatory disabilities—disabilities that impair mobility—were the most prevalent across all ages, affecting 4% of the population. Assuming BelRed's projected population is representative of the city at large, we could assume approximately 2,000 residents and workers in BelRed would have a mobility-related disability. While the BelRed Subarea Plan does not discuss mobility in terms of accessibility by people living with disabilities, the envisioned node model is fertile ground for ensuring equity of access and opportunity. BelRed can do this in collaboration with the City of Bellevue's Title VI/Civil Rights Administrator and the ADA Core Team to assess mechanisms for equitable design for the BelRed development.

RECOMMENDATIONS

COLLABORATE WITH THE DEPARTMENT OF TRANSPORTATION TO UPDATE THE 2009 PEDESTRIAN AND BICYCLE TRANSPORTATION PLAN WITH BELRED DEVELOPMENT

As of 2019, the last City of Bellevue Department of Transportation Pedestrian and Bicycle Transportation plan was published 10 years ago. The 2009 Pedestrian and Bicycle Transportation Plan includes extensive review of projected BelRed corridor development. However, there seems to have been no updates as BelRed development has advanced, nor has there been an evaluation of 2009 priorities. Thus, we encourage the Department of Community Development to consider collaborating with the Department of Transportation to create a BelRed Pedestrian & Bicycle Transportation Subplan by the summer of 2021. This subplan might include key topics such as ensuring safety measures for bicyclists along BelRed arterial streets, which have been identified in this HIA as a hazard for future collisions. Moreover, this plan might include a review of priorities identified in 2009 and an update as to their current status and feasibility.

NEGOTIATE WITH BELLEVUE SCHOOL DISTRICT AND DEPARTMENT OF TRANSPORTATION TO SWITCH LOCATIONS OF ELEMENTARY SCHOOL AND KING COUNTY METRO MAINTENANCE BASE

School walkability is associated with increased physical activity for young people, with lifelong health implications. Yet, the Bellevue School District's current site for future elementary school development is inaccessible by active transit from the BelRed residential neighborhoods. This will disrupt the future potential for Safe Routes to School program implementation in BelRed. The planned King County Metro Maintenance Base will occupy desirable land adjacent to BelRed that is much more accessible. As such, we recommend that the Department of Community Development consider collaborating with Bellevue School District and King County Metro to negotiate and facilitate an exchange of property.

DEVELOP COMPREHENSIVE SAFETY PLAN FOR THE BELRED TRANSPORTATION PLAN

As the BelRed population increases with development, the risk for pedestrian, bicycle, and vehicular collision will also increase. As such, we recommend that the Department of Community Development consider collaborating with the Department of Transportation to assess the current and projected safety of BelRed, as well as to review, update, and implement transportation safety policies in BelRed. The Bellevue Vision Zero Action Plan will be a critical piece of this process. Such policies could include an assessment for road improvements and investigating potential dangers on the existing and future transportation infrastructures; policies to reduce fatalities of pedestrians and bicyclists; a Safe Routes to School feasibility assessment; and a transportation safety plan. Altogether, these measures would preemptively address potential light rail collisions and make safety provisions for pedestrians and bicyclists across the lifespan. Moreover, this would align scattered and segmented safety plans from different development plans. Ultimately, this will improve safety for residents engaging with active transportation, public transit, and vehicular transit.

COLLABORATE WITH THE BELLEVUE ADA CORE TEAM TO DRAFT A STRATEGIC PLAN FOR EQUITABLE DESIGN AND UNIVERSAL ACCESS

To make BelRed accessible to residents across varying age-spans, mobility levels, and levels of physical and mental ability, we encourage the Department of Community Development to consider collaborating with the City of Bellevue's Title VI/Civil Rights Administrator and the Bellevue ADA Core Team to assess mechanisms for equitable design and universal access in BelRed. The ADA Core Team—a team of community members who are living with disabilities and committed city employees across multiple departments—is uniquely positioned to offer valuable development assessment and feedback to the BelRed Subarea Plan. As such, we recommend that the Department of Community Development and the ADA Core Team consider drafting and adopting a strategy for equitable design and universal access. The purpose of this strategy would be to provide a framework for future BelRed development as well as citywide access and design. This need exists beyond mobility and transportation, touching upon all aspects of equitable built

environments: economic stability, social cohesion and cultural capital, health and human services, and even environmental justice. One avenue for equitable design and universal access is ensuring that the routes connecting Highland Community Center and BelRed development are accessible, providing equitable opportunity for enjoying the BelRed neighborhood.

DESIGN GREEN PARKING LOTS AND INCENTIVIZE LOW-IMPACT DEVELOPMENT

We recognize that transitioning a neighborhood from vehicular dependency to health- and environmental-promoting behaviors is a delicate balance: until the East Link light rail stations are complete, many residents of BelRed will continue to require vehicular travel and, therefore, parking spots. At the same time, parking lots decrease walkability and limit neighborhood cohesion. To mitigate the negative impacts of parking lots, we recommend that the Department of Community Development consider exploring models and mechanisms for sustainable, low-impact development, such as green parking lots. Green parking lots may entail drivable grass on parking lots, and they conserve underground water while mitigating storm water overflows and urban heat island effects. This would also facilitate resilience and help provide another potential community asset: a greenspace. The image included shows an example of a green parking lot. The Department of Community Development may consider collaborating with graduate students at the University of Washington Department of Landscape Architecture to facilitate this design. To encourage developers, we recommend that the Department of Community Development consider exploring incentives for businesses to develop and adopt low-impact development.

An example of a green parking lot with grass covering the stalls.
AIR FORCE MATERIAL COMMAND



REVIEW MODELS OF THE 10-MINUTE NEIGHBORHOOD TO EXPLORE FOR BELRED DEVELOPMENT

The 10-Minute Neighborhood is an internationally renowned model for promoting active transportation. This framework lays a strong foundation for city development and therefore may be useful for development in BelRed. As such, we encourage the Department of Community Development to consider zoning policies and incentives to foster the 10-minute neighborhood. This would ensure that essential services are within walking distance of residential neighborhoods, which increases a population's ability to engage with health-promoting active transit behaviors. To learn more about how this can be pursued, please review our chapter on Health and Human Services.

SUMMARY

This chapter examined the health impacts of mobility, focusing on three critical factors: active transportation, public transportation, and traffic safety and collisions. The Department of Community Development has already identified that mobility will play a key role in BelRed's development, and strong mechanisms are in place to ensure comprehensive integration of active transportation and public transit within the subarea. Nonetheless, we note that an assessment of collision safety for bicyclists and motorists is generally absent within the Subarea Plan.

As such, we recommend that the Department of Community Development consider pursuing several key remedies with the goal of increasing safety and well-being for BelRed's future residents and employees: updating the 2009 Bellevue Bike Plan to include an assessment to promote bicyclist safety in BelRed; increasing safety in active transportation for children, with a focus on child health and development; increasing safety and access for people living with disabilities; and creating a master plan for transportation safety.

Marginalized and vulnerable populations often have unequal and decreased access to health-promoting infrastructure, leading to negative short- and long-term health outcomes.

ECONOMIC STABILITY

“Economic opportunity motivates and enables people to invest in their health; its absence does the reverse.”

— *The Dartmouth Institute 2019*

INTRODUCTION TO ECONOMIC STABILITY

For individuals, households, and communities, economic stability is the ability to meet basic needs and to prosper. However, the circumstances of living a prosperous and healthy life are often unequally distributed. Because of this, economic environment plays an important role in shaping an individual's opportunity to achieve optimal health. Economic stability is seen as a key social determinant of health, and is defined by the World Health Organization as “the circumstances in which people are born, grow up, live, work and age, as well as the systems put in place to deal with illness” (US Department of Health and Human Services 2019). The amount and quality of resources available can either enhance or hinder quality of life and can significantly influence population health outcomes. This section will assess economic factors within existing and future development plans in BelRed.

Health elements assessed in this section include:

- Job Loss and Job Displacement: The loss of employment and job displacement can lead to a multitude of poor health and social outcomes, such as loss of health insurance, physical and mental harm, loss of identity, and homelessness.
- Affordable Housing: When neighborhoods have housing at a range of prices, they can support a diverse population, have a variety of uses, and give better chances for more individuals to live, work, and play in the area.

- Access to Food, Alcohol and Marijuana Outlets: The kinds of retail outlets available can impact local economy and health. Grocery stores and other retail outlets that sell healthy and nutritious foods are major contributors to strong local economies. On the other hand, the presence of alcohol outlets and fast food chains are associated with negative health outcomes.
- Retail Advertisements: The type and placement of advertising and other marketing communications can play a role in health-related consumer behavior, especially for youth.

CONNECTION BETWEEN ECONOMIC STABILITY AND HEALTH

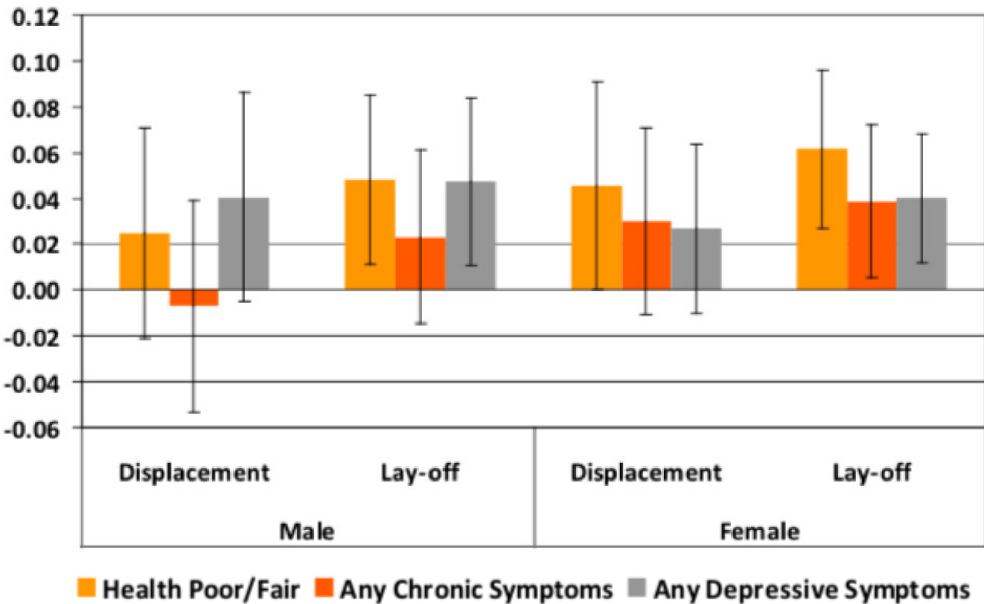
JOB LOSS AND JOB DISPLACEMENT

There are two different types of occupational changes: job loss and job displacement. Job loss is the complete loss of employment. Job displacement occurs when employment is still maintained, but the employee must either accommodate change or leave the position. These two scenarios could be voluntary, where an employee decides to leave a job on of their own account, or involuntary, where an external factor (i.e., supervisor, business closure, or new development) causes the employee to leave the position (Schröder 2011).

The loss of employment and job displacement can lead to a multitude of negative health and social outcomes, such as loss of health insurance, physical and mental harm, loss of identity, and homelessness. Self-reported declines in overall physical and mental health have been found in the aftermath of job loss (Gallo et al. 2000). Individuals with pre-existing chronic illnesses were less able to access needed healthcare services after a job loss than when they were employed (Schaller and Stevens 2015). With individuals working later in life because of demographic shifts in the US population, the impacts of job loss on older adults will need specific attention. One study established a causal relationship between job loss and morbidity in older adults with an average age of 55 (Gallo et al. 2000). These negative outcomes are not permanent—reemployment showed a positive association with increased overall physical and mental health (Gallo et al. 2000). However, there is the potential of a 1–1.5-year decrease in life expectancy for an individual who loses their job at the age of 40 and never regains employment (Sullivan and Von Watcher

2009). Commercial displacement is usually a precursor to residential displacement. The loss of small businesses in a community has multiple effects, including job loss for employees and less neighborhood support (Aboelata et al. 2017).

HEALTH STATUS IN RELATION TO INVOLUNTARY CHANGE IN JOB STATUS



Correlations between involuntary job loss from displacement or lay-off and different health metrics for men and women M SCHRÖDER

In the chart included here, regression analyses based on self-reporting health indicators show that an involuntary job change (whether it be job loss, labeled “Lay-off,” or job displacement) has a negative effect on current self-perceived health status, chronic diseases, and depression (Schröder 2011). There are no significant differences between males and females. However, there are small differences in health effects between job loss and job displacement, with those who were displaced showing smaller effects. We predict that job displacement will likely be of greater concern due to new developments and rezoning that will be in effect in BelRed.

AFFORDABLE HOUSING

Rising rents, along with wages that remain below pre-recession levels, are key drivers in a national shortage of affordable housing (Fernald 2015). Bellevue is not immune to this pattern. Housing is defined as affordable when it requires 30% or less of gross household income for rent and utilities or for mortgage, taxes and insurance (Sato et al. 2017). The terms “rent burdened” or “cost burdened” are utilized to describe households that pay more than 30% of their monthly income for housing (Fernald 2015). Households that pay more than 50% of their monthly income for housing are considered “severely cost burdened” (ARCH 2016). Negative impacts of rent burden at both the household and metropolitan level are well documented in the literature and are summarized in the introduction to Bellevue’s 2017 Affordable Housing Strategy.

To cope with rent burden, households adjust and cut back in several areas. For example, space may be shared with more individuals. This can lead to overcrowding, which has negative effects on health and educational achievement. It is also cited as an “engine of cumulative inequality over the life course” (Díaz McConnell 2017). Increased rent burden means reduced spending on nutritious food, education, and health care (Kirkpatrick et. al. 2007). Households may move to less



BelRed apartment building NOLA LIU

expensive neighborhoods which are further from work sites and require longer commute time, have lower quality housing, higher crime rates, and/or lower performing schools (Sultana 2002; Cervero and Duncan 2004; Kirkpatrick and Tarasuk 2007). Individuals living in households that are rent burdened report poorer mental health compared to homeowners (Mason et al. 2013). This contributes to reduced civic and community engagement and reduced social capital.

At the metropolitan level, lack of affordable housing leads to increased travel times, congestion on roads, and increased air pollution (Cervero and Duncan 2004; Sultana 2002; Ben-Shahar, Gabriel and Golan 2018). Job-housing imbalance has a significant impact on the efficiency and quality of life and can make it difficult to recruit employers (Saleh, Hwa, and Majid 2016). Economic and job success are impacted by housing availability/affordability and in turn impact quality of life and health in a neighborhood.

ACCESS TO FOOD, ALCOHOL, AND MARIJUANA OUTLETS

The best sources for a healthy diet are fresh produce, whole grains, and minimally processed foods. These foods are commonly found at full-service grocery stores (Blank, Howard, McCabe and Walkinshaw 2013). Regardless of economic status, studies have found that residents living near a plethora of fast-food restaurants and convenience stores are more likely to suffer from obesity, diabetes, and mortality than people who live in an environment with more grocery stores (California Center for Public Health Advocacy 2008; Ahern, Brown, and Dukas 2011). Generally, grocery stores and supermarkets are associated with better health outcomes, and fast food availability is associated with poorer health outcomes (Ahern, Brown, and Dukas 2011).

In addition to being available, grocery stores should be affordable and accessible to those who live in the community (Blank, Howard, McCabe and Walkinshaw 2013). Furthermore, unprocessed foods and foods fresh from farms are likely to be more nutritious, leading to better health outcomes (Ahern, Brown, and Dukas 2011). Local farmers markets and community gardens can positively impact health outcomes by providing a source of fresh, healthy foods, and by acting as drivers of community development and economic growth (Blank, Howard, McCabe, and Walkinshaw 2013). Therefore, affordability in any food source is key.

Many studies have highlighted a relationship between alcohol outlet density and traffic-related incidents, including drinking and driving, riding with intoxicated drivers, alcohol-involved pedestrian collisions, traffic injury requiring hospitalization, and alcohol-related crash fatalities (Pereira 2013). Additionally, proximity of marijuana stores to schools may increase the risks of marijuana use among adolescents who are at a particularly high risk of developing marijuana use disorders and other negative health consequences (Shi, Meseck, and Jankowska 2016). Health consequences may include poorer mental health and academic performance, increased delinquency, higher likelihood of abuse or dependence in adulthood, and neurocognitive deficits (D'Aimco 2018). While zoning regulations keep marijuana stores 1,000 feet from schools, they are often still within walking distance (Shi, Meseck, and Jankowska 2016).

RETAIL ADVERTISEMENTS

Since land has been purchased for the development of a new school and since new families are expected to move into BelRed, the effects of advertising on youth should be considered. Evidence shows that young people find alcohol advertisements appealing. Their exposure to alcohol marketing is associated with earlier initiation of alcohol use and higher rates of risky drinking (Pierce et al. 2019). Exposure to marijuana advertising may not only play a significant role in shaping attitudes about marijuana, but may also contribute to increased marijuana use and related negative consequences throughout adolescence (D'Amico 2018). Several studies also have reported associations between childhood obesity and exposure to food and beverage marketing (Isgor 2016). Food and beverage marketing influence children's food and beverage purchases, requests, and consumption (Isgor 2016). Common types of food and beverage advertising include outdoor advertisements posted on billboards, wall signs, and storefronts (Isgor 2016). The pervasiveness of these advertisements throughout a community poses potential health risks.

EXISTING ECONOMIC CONDITIONS IN BELRED

JOB LOSS AND JOB DISPLACEMENT

The BelRed Subarea has historically been one of Bellevue’s major employment areas. More than 50% of land in BelRed was zoned for light industrial use (City of Bellevue 2007). In 2007, the area encompassed over 1,100 businesses and nearly 17% of the city’s total employment (City of Bellevue 2007). However, the BelRed Subarea has been transitioning in recent years as several large employers have moved out of the area or reduced operations (City of Bellevue 2007). BelRed’s largest landowner, Safeway, has moved most of its distribution operations and sold about half of the 75 acres that it owned (City of Bellevue 2007).

Employment has also been declining in BelRed. Between 1995 and 2004, employment in BelRed dropped by more than 5% despite increasing by 20% in Bellevue as a whole (City of Bellevue 2007). Occupational change will continue in BelRed as the REI headquarters completes its move to the Spring District (120th Avenue NE) development in 2020 alongside new Facebook offices.



New REI headquarters under construction LAUREN CORN

AFFORDABLE HOUSING

In Bellevue, 31% of all households are cost or rent burdened. Of those that are cost burdened, 14% spend more than 30% of their income on housing and 17% spend more than 50%, classifying them as severely cost burdened. The table highlights the significant gap in affordable housing. In 2014, 8% (4,190) of Bellevue’s households were Low Income, earning 30-50% of the area median income (AMI), and 9% (4,820) were Very Low Income, earning less than 30% of AMI. For these 9,010 households, only 6% (3,095) of housing units would have been considered affordable for these incomes (ARCH 2016). Among seniors who rent, 51% are cost burdened, with 19% spending 30-50% of income on housing and 32% spending more than 50% of their income on housing. About 31% of seniors who own their homes are cost burdened. Additionally, 65% of people aged 65 and older live in single-family housing (ARCH 2016).

AFFORDABLE HOUSING IN BELLEVUE: AVAILABILITY AND NEED, 2014

	Bellevue Households	Bellevue Housing Units
Low Income (30-50% AMI)	4190 (8% of total)	3,095 (6% of total) affordable for Low and Very Low Income
Very Low Income (<30% AMI)	4820 (9% of total)	

ARCH 2016

In Bellevue, years of steady growth in the workforce have created more jobs than housing. Planned growth with thousands of new jobs is increasing demand for worker housing and increasing the job-housing ratio. This has been a concern for businesses and local employers. In a 2015 survey of local businesses, the availability of affordable housing was ranked lowest in Bellevue compared to other cities in the state of Washington (ARCH 2016).

Despite the prevalence of highly paid tech jobs, a high proportion of local jobs have salaries at low (30-50% AMI) and moderate (50-80% AMI) income levels. This includes entry-level pay for police, firefighters, teachers, office and retail managers, bookkeepers, bank tellers, dental assistants, and carpenters. These jobs are a significant portion of Bellevue’s employment, yet many employees cannot afford to live near their places of work. This causes people to spend a higher percentage of their household budget on transportation and forces them to endure increasingly long commutes, which add to regional and local congestion and pollution (ARCH 2016).

ACCESS TO FOOD, ALCOHOL, AND MARIJUANA OUTLETS

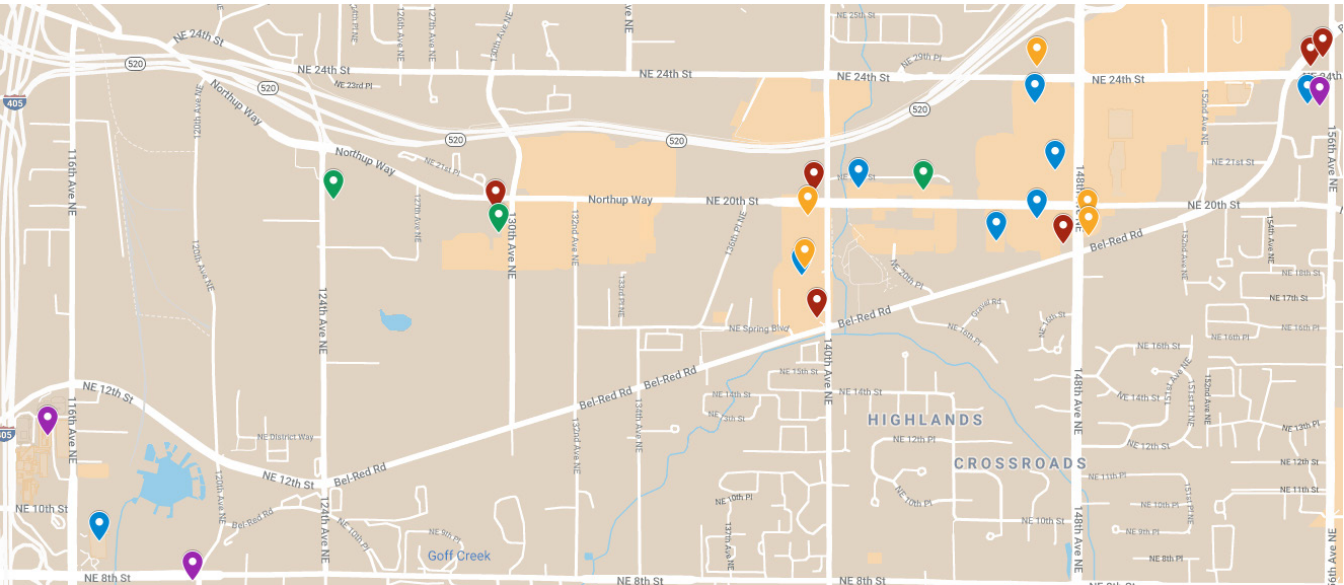
The BelRed subarea currently has eight supermarkets, including one Southeast Asian and two Indian grocery stores. There are currently no farmers markets and no space dedicated for any to start. According to the USDA Food Access Research Atlas, 33% of people in BelRed live more than one mile from the nearest supermarket (USDA 2017). To our knowledge, no leases have been signed for additional supermarkets to open in BelRed, even as the population is expected to increase.

According to the Washington State Liquor and Cannabis board, there are 157 off-premise liquor licenses and 236 cigarette, tobacco, and vapor licenses in the city of Bellevue (Washington State Liquor and Cannabis Board 2017). In 2017, there were 187 alcohol-involved accidents in Bellevue as a whole (Ausburn and Manandic 2018).

There are currently two marijuana shops in BelRed on 124th and 130th Avenue NE, as well as one tobacco-specific store. This is not including the drug stores, gas stations, food marts, and other small stores that are licensed to sell tobacco products.

With the expanding mixed-use and commercial development in the city and downtown core, BelRed’s light industrial past will need to change.

FOOD, ALCOHOL, AND MARIJUANA OUTLETS IN BELRED



Supermarkets*	Fast Food	Drug Stores*	Convenience Stores and Gas Stations*	Marijuana Outlets
<ul style="list-style-type: none">Whole Foods MarketSafewayFred MeyerTrader Joe'sIndia SupermarketAsian Food CenterOskoo Persian & MedApna Bazar	<ul style="list-style-type: none">Taco BellMcDonald'sBurger KingSubwayJack in the Box	<ul style="list-style-type: none">Bartell DrugsWalgreens PharmWalgreens	<ul style="list-style-type: none">Safeway Fuel7-ElevenChevronampmampmARCO am/pm	<ul style="list-style-type: none">Green-Theory Marijuana Bel...The Novel Tree Bellevue Pot...K SMOKE Bellevue

*Sells alcohol
LCY STUDENT TEAM

ECONOMIC STABILITY IN THE BELRED SUBAREA PLAN

JOB LOSS AND JOB DISPLACEMENT

Between 1995 and 2004, employment dropped in the BelRed neighborhood while the rest of Bellevue saw a significant increase in jobs due to the relocation of many large employers (City of Bellevue 2010). The BelRed Subarea Plan acknowledges that rezoning will change the current land uses allowed within the area. Existing businesses will be allowed to remain, and only new light industrial uses will be prohibited (City of Bellevue 2010). The BelRed Subarea Plan makes no specific mention of how to mitigate job loss and displacement; the primary focus is on how the development will increase job density within the area.

AFFORDABLE HOUSING

Affordable housing has been identified as a priority in Bellevue (City of Bellevue 2010; ARCH 2017). City planners have emphasized the opportunities for increasing affordable housing, so that all people would have the chance to live, work, and play in the community. Additionally, planners have identified opportunities to address the needs of vulnerable populations such as senior citizens, people with disabilities, and children in the community through universal design. The policies in these plans use a multi-factor approach for addressing affordable housing. Policies focus on the following areas (City of Bellevue 2010; City of Bellevue 2009; ARCH 2017):

- Promotion and advocacy for policies and funding that support affordable housing
- Incentives to developers to create additional affordable units
- Financial support for occupants
- Fostering innovation and start-ups
- Children/families/seniors/special needs and universal design

The BelRed development is planning for the addition of 5,000 new housing units by 2030 with the goal that half of the units will be for households with income less than 120% AMI. Additional goals include that 10–20% (500–1,000 units) will be in each of the following income categories (City of Bellevue 2010):

- 80–120% AMI
- 50–80% AMI
- 30–50% AMI

ACCESS TO FOOD, ALCOHOL, AND MARIJUANA OUTLETS

Food access and related topics are not addressed in the Bellevue Comprehensive Plan or BelRed Subarea Plan.

A poor transportation system cuts off access to many food outlets, especially for those who do not own a car or do not have access to reliable and affordable public transportation.

ANALYSIS AND IMPACT ASSESSMENT

JOB LOSS AND JOB DISPLACEMENT

BelRed has historically been a major economic area in the city of Bellevue, containing much of the light industrial and commercial land use (City of Bellevue 2010). With the expanding mixed-use and commercial development in the city and downtown core, BelRed’s light industrial past will need to change. With these changes comes the potential for job loss and job displacement. Although the subarea plan states that it hopes to retain many of the existing businesses, this will be difficult with the zoning changes that will shift BelRed from a light industrial area to mixed-use and commercial area (City of Bellevue 2010). Land will be valuable, and we assume that developers will wish to purchase vacant land in addition to land that is currently being used by the local industrial businesses. This change is likely to have a negative impact on worker health as specific job types, which are often jobs that are available to those without a college education, disappear or move. We assume these positions are likely to be replaced by positions requiring higher skills and a college education. There is currently insufficient information about what types of these jobs, which are only being advertised as office and retail, will be available within the expected 10,000 positions to be added. However, based on the Final Environmental Impact Assessment, it is expected that more than 2,500 industrial jobs will be lost (Helland 2007). Additionally, there is no information on whether the new positions will be available and comparable in hours, compensation, or benefits to those displaced by the new development.

AFFORDABLE HOUSING

Of the BelRed Subarea Plan goal for 5,000 new housing units to be built, 1,000 to 2,000 of these units are intended for moderate and low-income housing. This will alleviate the current need for about 6,000 low and very low-income units. However, the plan does not make provisions for very low-income households. It also includes the goal that another 500–1,000 of the units will be for workers earning 80-120% AMI.

When 80-120% AMI is included within the affordable housing considerations, it is indicative of an area with extremely high costs of living. Bellevue’s cost of living, including average home cost, is 12% higher



Apartment buildings in BelRed.
CHLOE THOMPSON

than nearby Seattle, which must be kept in mind when undertaking a large-scale subarea redevelopment (Best Places 2019). Achieving affordable housing goals will be important to the health of the community.

As of January 2019, 2,300 units (45% of the planned total) are currently permitted or have been built (King 2019). As of November 2018, 226 affordable units have been funded with an additional 35 units in the permitting process (City of Bellevue 2019).

Neither the monitoring plan nor reports of progress in accomplishing the affordable housing goals are available on the Internet. The BelRed Subarea Plan will be reviewed through the BelRed Lookback, which is expected to resume next year—a delay from the planned 6-year Lookback. Updates to the City Council on implementation of the Affordable Housing Strategy are tentatively scheduled for twice each year, with the next update planned for September 2019.

The most recent update to the City Council on city-wide implementation of the Affordable Housing Strategy occurred in March 2019 and included timelines for implementing affordable housing actions, a 10-year yield for those actions, location of affordable units relative to light rail transit, and whether a greater yield could be achieved with mandatory, as opposed to voluntary, affordable housing incentives. City-wide, the 10-year yield totaled 2,785 units. Since 2015, 15 developers have permitted or have built 2,079 units in BelRed.

Of these units, two developers have included a total of 89 affordable units, nine developers have used FAR (floor area ratio) and paid fees totaling \$2.4 million, three developers did not use FAR or provide affordable units, and one is yet to be determined. The city is continuing to negotiate and search for affordable housing opportunities near the 130th Ave NE light rail station and King County Metro Operation and Maintenance Facility.

FOOD ACCESS

The BelRed Subarea Plan currently does not address issues of food access. The absence of planning for food access could result in challenges when the population density increases and there is inadequate development planning for a grocery store. Most supermarkets are located on the east side of BelRed. Residents on the west side may be most impacted since the closest grocery store, which is Whole Foods, is expensive. Safeway will be located 1.5 miles from the Spring District Node and since there is currently no sidewalk, a car would be required to get there.

The lack of planning for farmers’ markets presents a lost economic opportunity for the surrounding community, since a market could attract additional people into the area. It is also a lost opportunity for social cohesion and interactions that strengthen the social capital of a community. Since the expansion and completion of the East Link light rail system in BelRed is not on the same timeline as the residential and business developments in the BelRed Subarea Plan, transportation in relation to food access should be considered. A poor transportation system cuts off access to many food outlets, especially for those who do not own a car or do not have access to reliable and affordable public transportation (CDC 2014).

In BelRed, considerations around addressing potential transportation barriers to and from such food sources is recommended to be taken into consideration while the Link light rail is being built. For more about transportation planning, see Chapter 1 on Mobility.

ALCOHOL OUTLETS, MARIJUANA OUTLETS, AND RETAIL ADVERTISEMENTS

Prevention of harm related to alcohol, tobacco, and marijuana use is essential for a healthy community. While not addressed in the BelRed Subarea plan, the City of Bellevue can consider proactive measures to limit accessibility to these substances and improve overall health.

RECOMMENDATIONS

JOB LOSS AND JOB DISPLACEMENT

Job Training We recommend providing job training and transition services for displaced workers from the BelRed redevelopment. This is an ongoing, monitored process that should be continued as jobs are displaced from the original BelRed businesses.

- The City of Bellevue could consider working with Worksource Seattle/King County in partnership with Bellevue College or Hopelink Bellevue to provide necessary job training, so that all displaced workers can transition into new local work.
- Attention could be given to adults 55 and older, since additional employment services can be provided to ensure their reemployment.
- We recommend considering working with local technology companies, incoming large businesses, and local universities to provide financial assistance for displaced workers to attend local universities in order to transition into new fields moving into BelRed.

Benefit Options We recommend increasing available information on benefit options in the situation of job loss. This is an ongoing, monitored process that could be continued as jobs are displaced from the original BelRed businesses until all land had been developed.

- We recommend distributing information at local businesses that are being displaced on how to access health insurance and unemployment benefits.

Industrial Use in BelRed The City of Bellevue could consider continuing with its proposed plan to allow existing industrial uses to remain, not allow new permits within the area, and provide permit assistance for displaced businesses to relocate nearby when needed.

AFFORDABLE HOUSING

Housing Transparency and Monitoring Recent media reports about misuse or misappropriation of affordable housing units under ARCH (A Regional Coalition of Housing) management may have reduced public trust and support for investment in these efforts. Given that many public resources and taxpayer dollars are involved, a more transparent process and better public reporting is recommended.

- The Department of Community Development could consider describing and publishing how the affordable housing goals in the BelRed Subarea Plan are being monitored, who is responsible for the goals, and who has oversight. This could be published in a convenient public access location.
 - » The Department of Community Development could continue to monitor affordable housing goals; however, reporting every 3-5 years may not be enough. We recommend publishing annual reports. This is an opportunity for Bellevue to garner recognition for thoughtful and proactive community planning and to demonstrate leadership in growing diverse and inclusive communities.
 - » Since 2015, nine developers have used FAR and paid fees totaling \$2.4 million that are intended to fund affordable housing in BelRed. Given the critical need for affordable housing, the Department of Community Development could consider using these funds as soon as possible to provide affordable housing and be part of a phased implementation plan for additional and future FAR fees.

Evaluation Evaluation of incentive strategies could be considered to focus resources on the strategies that work best to meet or exceed the affordable housing targets.

- The Department of Community Development could consider meeting with local developers who are building within BelRed to develop a desirable incentive program that will result in the most affordable units being built based on their bottom line and preferred system.
- The Department of Community Development could consider monitoring progress on affordable housing units. If unit goals are not met or exceeded within two years, it could reevaluate and determine if a mandatory affordable housing program would provide a better result.

Diverse Housing When neighborhoods have housing at a range of prices, they support a diverse population, allow a variety of uses, and give a better chance for more individuals to live, work, and play in the area. The Department of Community Development could consider the following:

- Prioritize development of family-based housing with a minimum of two bedrooms per unit when considering incentives and building permits. Micro units, although more affordable, are not suitable for everyone.
- Continue with the Accessory Dwelling Unit (ADU) and Detached Additional Dwelling Unit (DADU) program, which has resulted in additional affordable units.
- Continue to work with the legislature to change condominium liability periods to encourage the future development of condos within the BelRed neighborhood. This will diversify affordable home purchase options for middle- and low-income populations.
- Continue with utility subsidization and deposit/first month rent assistance programs. Information for these programs could be published in convenient and diverse locations, both digital and physical, such as on multiple government, non-profit, and community-based websites; at unemployment centers; food banks; and community and faith-based sites.
- Prioritize affordable housing around transit centers in order to offset transportation costs for low-income individuals. Consider increasing incentives for developers building within one-quarter mile of transit centers to encourage more affordable units within these areas.

FOOD ACCESS

Healthy Food As the population increases, the demand for healthy food will also increase. Recommendations assume that current healthy food sources will not meet future demand for the growing and ethnically diverse population, specifically on the west side of BelRed.

- The City of Bellevue could consider continuous monitoring of food availability and pricing as people move in. This monitoring would inform efforts to address food access in BelRed.
- The City of Bellevue could consider creating zoning regulations that prohibit fast food restaurants from being within a half-mile buffer from any new schools in BelRed. By establishing buffer zones around schools, communities can create health-promoting environments for students and families.
- The City of Bellevue could consider providing incentives for developers and private building owners to include ethnically diverse and minority-owned food stores and restaurants to meet the culturally diverse needs of Bellevue communities.

Farmers' Markets These recommendations focus on the importance of farmers' markets to the economic and physical health of communities:

- The City of Bellevue could consider providing incentives for private developers to include urban community spaces to hold farmers' markets and Community-Supported Agriculture drop-offs, ideally within the new residential developments.
- The City of Bellevue could consider providing incentives for private developers to create on-site gardening spaces in the residential nodes and partner with building owners to include engagement opportunities for youth and families to grow or pick their own healthy foods.

ALCOHOL AND MARIJUANA OUTLETS

Alcohol and Marijuana Outlet Density Limiting the density of alcohol outlets is one strategy recommended by the National Institute on Alcohol Abuse and Alcoholism to address problem-drinking behaviors and limit alcohol-related harm (Pereira 2013). We recommend the following considerations:

- The City of Bellevue could consider limiting alcohol availability to minimize alcohol related harm by not opening additional stores unless part of a supermarket.
- The City of Bellevue could consider limiting marijuana availability to minimize youth exposure by not opening additional stores.
- The City of Bellevue could consider contacting the Washington State Liquor and Cannabis board to provide Responsible Alcohol Sales Training courses to local vendors. These courses have been shown to lower the number of underage youths who are served alcohol, as well as decrease the number of intoxicated patrons at bars, restaurants, and liquor stores. Consider holding these trainings for both off-premises and on-premises alcohol distributors.

RETAIL ADVERTISING

Exposure to Advertisements Limiting children's exposure to alcohol, tobacco, and unhealthy food and beverage advertising can reduce the risk for youth of developing unhealthy habits that can last a lifetime.

- The City of Bellevue could consider not allowing alcohol, tobacco, and unhealthy food and beverage advertising or sites within a minimum of 1,000 feet from the site of the new school. If possible, the City of Bellevue could consider discussing with the Bellevue School District the restriction of marketing of unhealthy foods within the new school as well.

SUMMARY

An abundance of strong literature links job loss and job displacement, the need for affordable housing due to rent burden, the lack of accessible and affordable nutritious foods, and targeted retail advertising to a greater risk of negative health outcomes.

Within the Bellevue Comprehensive Plan and the BelRed Subarea Plan, we found that:

- For Job Loss and Job Displacement, a greater focus is placed on increasing job density, but not on potential job changes. This section includes recommendations for mitigating job loss and displacement.
- For Affordable Housing, goals are set, but monitoring plans and progress reports are not yet publicly available. In addition, plans to support meeting those goals are not clearly stated. This section includes recommendations around monitoring, information accessibility, and strategic partnerships to strengthen existing affordable housing goals.
- For Access to Food, Alcohol, and Marijuana Outlets, topics are not explicitly addressed. This section includes recommendations around incentives for prioritizing accessible and nutritious food outlets and limitations around fast food, marijuana, and alcohol outlets, especially around schools.
- For Retail Advertisements, topics are not explicitly addressed. This section includes recommendations for limiting exposure and restricting placements specifically around schools.

Economic stability will play a significant role as BelRed continues to develop new business, residential, and recreational spaces. Considerations around improving health and reducing health inequities will be useful in addressing not only health care and healthy behaviors, but also the economic conditions that strongly affect people's health.

COMMUNITY AND CULTURE

INTRODUCTION

Due to the desirability of the BelRed community—which is near to both Microsoft and downtown Bellevue, as well as the new light-rail system—BelRed has the potential for exponential economic growth. However, planners not only have an obligation towards economic growth, but an obligation towards equity (Legacy and Leshinsky 2013). Since growth is inevitable, planners must now turn their attention to the social outcomes of rezoning BelRed with a focus on equity. For the BelRed neighborhood and Subarea Plan, community and culture are characterized by relationships between individuals and between people and their surroundings. The organization of society and the state of these relationships can have significant implications for health. The key themes of community and culture that this HIA focuses on are:

- Diversity and Access
- Building Community
- Heritage and Culture
- Place Attachment
- Individuals Experiencing Homelessness

This chapter will discuss the connection between these themes and health, the existing conditions for these themes in BelRed and the surrounding area, what the current Subarea Plan includes to address them, an analysis of the current Subarea Plan, and recommendations based on that analysis.

CONNECTION BETWEEN COMMUNITY, CULTURE, AND HEALTH

DIVERSITY AND ACCESS

Design for all provides equal access to all populations and allows for a more diverse group of individuals to utilize spaces. However, the free market caters to those who can afford its services and often excludes marginalized and vulnerable populations, namely people living with disabilities, the elderly, children, and people of color. Consequently, vulnerable populations are not often represented in urban planning or in the creation of space (Legacy and Leshinsky 2013). Urban planners can influence equitable access by giving a voice to underrepresented populations as well as by actively addressing social and economic

imbalances faced by vulnerable populations. We suggest that planners pay special attention to equitable access by centering the needs of people living with disabilities, children, and the elderly, as well as by fostering cultural diversity and security within the BelRed community.

BUILDING COMMUNITY

Neighborhood and individual health can be substantially impacted by a sense of community. Feelings of community increase the likelihood of making positive changes for healthier behavior and taking action to improve the health of others (Carman et al. 2016; Hystad and Carpiano 2012; Walter, Rasugu and Omariba 2010; Ross 2002). We identified that education, greenspace, and community centers/public spaces are features of neighborhoods that build and center feelings of community as. For example:

- Basic education has been shown to give people fundamental tools of health and well-being and is a key social determinant of health (Hahn et. al. 2015).
- The presence of green space is associated with better mental and physical health outcomes as well as increased social interaction and cohesion (White et al. 2013; Day 2008; Markevych et al. 2017).
- Activities and educational programming provided in community spaces such as libraries and community centers allow residents to gain valuable civic and professional skills and create deeper social networks which, as part of building community, build health (London et al. 2010; Glover 2004; Morgan et al. 2016).
- Every-day public spaces such as community centers and outside meeting places build sense of community and foster social interactions (Cattell et al. 2008).

The redevelopment of BelRed gives planners the opportunity to build a community focused on promoting social cohesion and bolstering health.

HERITAGE AND CULTURE

BelRed has historically been ethnically and culturally diverse, and as more people move here, raise families, and age in place, a commitment must be made to share culture and maintain heritage. Master-apprentice learning programs have been utilized in cities like Vancouver, allowing fluent speakers to share a space for speaking their languages while language-learners can practice (Baloy 2011). This exchange would create wellbeing through belonging and connection and would also provide emerging professionals the opportunity to gain cultural competency and deliver better care by using this skill.

PLACE ATTACHMENT

Place attachment is characterized by a person-to-place emotional connection (Wolf, Krueger and Flora 2014). Positive place attachment and community attachment can result in increased social cohesion, social control, and neighborhood revitalization as well as reduced crime rates; all of these factors lead to positive human health outcomes (Manzo and Perkins 2006; Ujang 2009; De Piccoli and Rollero 2010). This is particularly true among aging populations, individuals experiencing mental health concerns, or populations in transition, such as college students (Rioux 2005; Wright and Kloos 2007; Tognoli 2003; De Piccoli and Rollero 2010). Individuals tend to choose and use places that help them meet their daily needs (Wallenius 1999), which may look different for different individuals or communities. Regardless of differences in need, the environments in which individuals choose to live continue to impact their sense of identity and well-being (De Piccoli and Rollero 2010).

INDIVIDUALS EXPERIENCING HOMELESSNESS

Individuals experiencing homelessness and/or chronic homelessness often experience rapid deteriorations in health, as compared to their housed counterparts (Munoz, Crespo, and Perez-Santos 2005). Individuals experiencing homelessness often have the same costly and preventable diseases and illnesses as their housed counterparts; however, rates of disease, illness, substance abuse, and mortality are significantly higher among the homeless population (Walsh 2018; Munoz

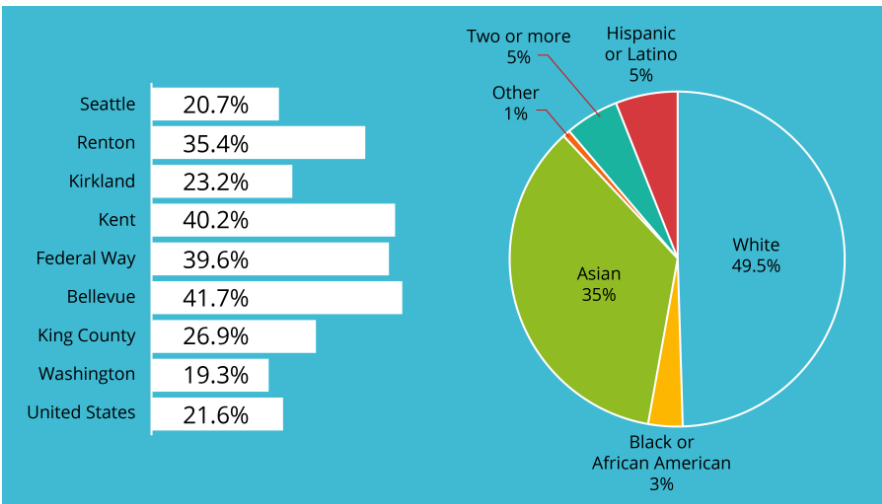
et al. 2005). Additionally, populations experiencing homelessness suffer from a higher rate of co-occurring health conditions, a lack of basic needs, and an increased number of barriers to services that may lead to a further potential decline in their overall health status (Walsh 2018). Additionally, although homelessness is experienced across populations, it is disproportionately experienced by people of color; veterans; youth; members of the LGBTQ+ community; people with disabilities; and people with histories of domestic violence, partner abuse, and foster care (Noble 2016; Department of Commerce 2016).

EXISTING CONDITIONS RELATING TO COMMUNITY, CULTURE, AND HEALTH

DIVERSITY AND ACCESS

BelRed is at the optimal stage to plan for encouraging diversity and increasing access to resources in the community. As of 2017, 43% of residents in Bellevue spoke a language other than English at home, and in 2018, 50% of the city was non-white, as is illustrated in the figure (Department of Planning and Community Development 2018). This makes Bellevue a minority-majority region where there is exceptional racial and ethnic diversity that can create a rich cultural fabric.

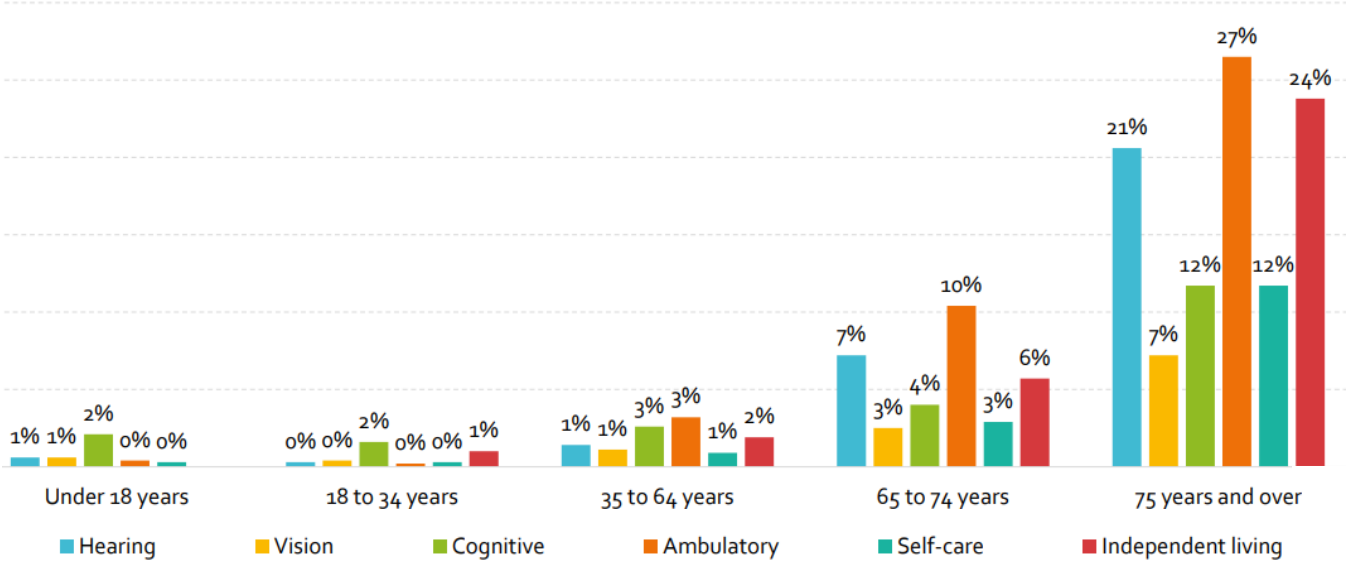
BELLEVUE DEMOGRAPHIC DATA, 2016



Left: Percent of residents who speak a language other than English at home.
Right: Bellevue's racial and ethnic makeup.
US CENSUS BUREAU, 2016 AMERICAN COMMUNITY SURVEY

Bellevue’s diversity extends beyond ethnicity: 8.4% of Bellevue’s population lives with one or more disabilities (Department of Planning and Community Development 2018). As age increases, so does the prevalence of disabilities, as the figure above displays. At present, Bellevue has the Highland Community Center to provide individuals with physical and mental disabilities with teaching and recreational facilities. A gymnasium, kitchen, art room, and fireside room are among the facilities available at the Highland Community Center.

TYPE OF DISABILITY BY AGE IN BELLEVUE, 2018



CITY OF BELLEVUE

Unfortunately, resources are sparse for the elderly in the BelRed neighborhood. Currently, Kelsey Creek Adult Family Home and the Elder and Adult Day Services (EADS) centers are the only elderly service centers located in BelRed.

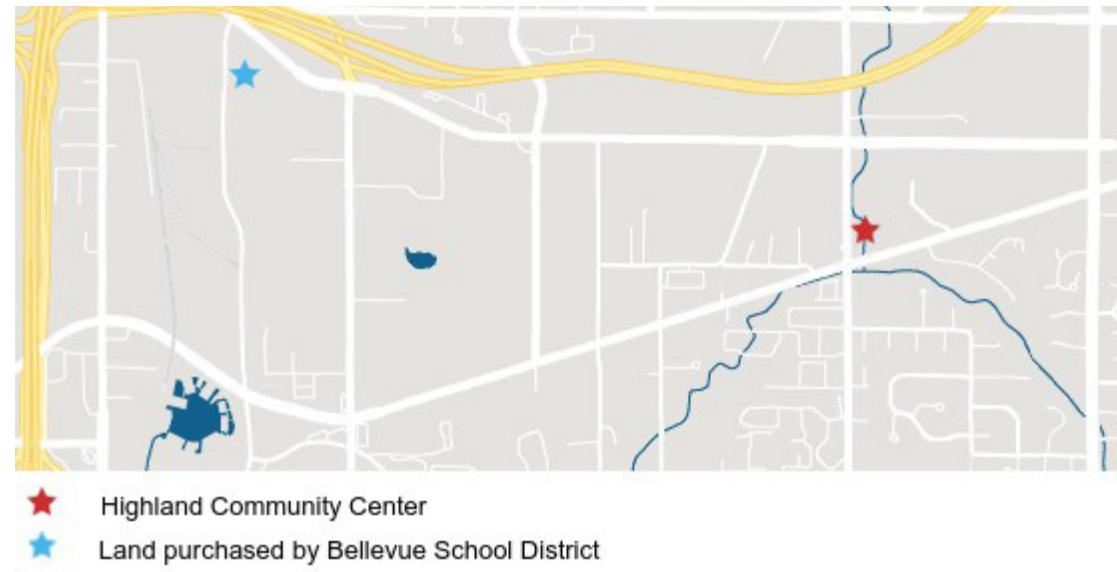
Alongside elder care, childcare is fundamental to a sustainable community. The Sparc apartments provide one of the few daycare options for the BelRed neighborhood aside from a few privately-owned preschools. Diverse communities deserve access to the BelRed neighborhood, and the first step to providing access is providing facilities that multiple populations can utilize.



Childcare and early education facilities are fundamental to sustainable communities. NOLA LIU

BUILDING COMMUNITY

Presently, community is not a major feature of BelRed because until very recently, the district was zoned for light industrial use and is consequently not highly populated. BelRed does not currently have an operational public school. However, the community does have three private preschools, one private K-12 school, and one experimental university (Global Innovation Exchange of GIX). The Bellevue School District has purchased land for an elementary school within BelRed north of the Spring District, indicated on the map included here. An existing middle school, located adjacent to the BelRed area, is currently being renovated to upgrade infrastructure and is expected to be complete by August 2020. Additionally, there are two other public schools within a one-mile radius of the community.



Map of BelRed with location of intended school and existing community center CHLOE THOMPSON

The area also currently has one major recreational and community center: The Highland Community Center. The Highland Community Center, located in Northeast BelRed, is not centrally located as seen by its position on the map. Highland Community Center provides recreational facilities for sports, a gym, a toddler playroom, rental spaces and a kitchen open to the community, and other play areas. Across the street from the existing community center is a privately-owned YMCA. There are no libraries in the BelRed area—the nearest libraries are in Crossroads and on the west side of I-405. The Highland Community Center houses the only major park that is currently in the BelRed area. Otherwise, rooms in GIX are potential rentable spaces for community gatherings.

Green space in the BelRed area exists at Highland Community Center and in two publicly-owned open spaces near the Spring District. The Spring District also contains a small, privately owned piece of land dedicated as a park. A section of the eastside rail corridor is being developed into a trail through the west side of BelRed along I-405, but as of 2016, only 8% of households lived within one-third of a mile's walking distance to a park or trail entrance and 56% lived within one-third of a mile's walking distance to a school ground with publicly available recreational facilities (City of Bellevue 2016).



Newly developed buildings in BelRed. NOLA LIU

HERITAGE AND CULTURE

The area of BelRed has numerous cultural amenities such as a multiple private dance schools; creative businesses like architecture or graphic design firms; venues and event spaces; various faith-based facilities dedicated to Christianity, Buddhism, Islam, and Hinduism, some of which focus on well-being for people with varied abilities; and multiple arts, crafts, and music supply stores. All three preschools in the area are bilingual.

PLACE ATTACHMENT

The BelRed neighborhood is undergoing revitalization with the addition of new parks, trails, bike paths, housing, and public transit services. This process provides the unique opportunity to foster a strong sense of place attachment for incoming communities, as well as to maintain an identity and place attachment for previous communities. Most of the population that will live in the redeveloped BelRed community will be in a state of transition and may therefore be lacking place attachment. Current facilities or public spaces that enhance place attachment include the Highland Park and Community Center, the Global Innovation Exchange (GIX), the Bellevue YMCA, religious institutions, and both Kelsey and Golf creeks (City of Bellevue n.d.).

INDIVIDUALS EXPERIENCING HOMELESSNESS

In 2015, King County declared a homelessness State of Emergency for the region, including Bellevue and BelRed (Project Homeless 2018). The number of individuals experiencing homelessness rose to 12,112 in January 2018, and fell only 8% to a total of 11,199 people experiencing homelessness in King County in January of 2019 (All Home 2018; Count Us In 2019). The eastern region of King County, including Bellevue, Issaquah, and Sammamish had 393 individuals experiencing homelessness during “Count Us In,” a regional one-night count of the unsheltered population. In conjunction with the one-night count data, the Bellevue Congregations for the Homeless served 1,200 individuals experiencing homelessness throughout the year of 2018 (Bellevue Downtown Association 2018).

The City of Bellevue currently addresses the issue of homelessness through three approaches: identifying risk factors to increase prevention of homelessness; providing subsidized housing; and leveraging community partnerships to host rotating shelters (City of Bellevue 2017). Services for individuals experiencing homelessness are largely provided through community or religious organizations such as Hopelink, Friends of Youth, Catholic Community Services, the Muslim Housing Association, and The Sophia Way or through some public services like the Bellevue Public School District (Bellevue Downtown Association 2018). Bellevue operates a daily downtown service center in addition to a rotating emergency winter shelter for men experiencing homelessness.

The temporary emergency winter shelter has rotated between four different neighborhoods, including BelRed. Bellevue also has a temporary emergency winter shelter for women, operated through a community agency called The Sophia Way (<https://sophiaway.org/>). Despite these efforts, Bellevue does not currently have a permanent shelter for any population experiencing homelessness; however, plans to build a permanent men’s shelter have been in development since early 2014 (Seattle Times Editorial Board 2018).

COMMUNITY AND CULTURE IN THE SUBAREA PLAN

DIVERSITY AND ACCESS

While the BelRed Subarea Plan persuasively describes the benefits of streets that include multiple forms of transportation and levels of accessibility around the new transit nodes, there is little description of how BelRed will be accessible to all in other ways. The Subarea Plan clearly benefits sustainable growth among young, affluent populations; however, it does not currently provide accommodations for vulnerable or more diverse populations or for their involvement in planning processes.

BUILDING COMMUNITY

The current Subarea Plan for BelRed mentions the Highland Community Center, but there seems to be no provision for developing another similar facility beyond the potential for a major recreation facility (S-BR-36). Additionally, the plan does not include a recommendation or commitment to building a library in BelRed.

A desire to integrate green space and trees into BelRed redevelopment efforts is stated explicitly in the overall goals of the subarea plan. Specific policies also speak to the importance of green space. For example, S-BR-35 and S-BR-38 outline a robust and accessible park and trail system, and S-BR-39 makes a provision for the creation of “green streets” lined with trees and landscaping.

The BelRed Subarea Plan currently includes no specific policies addressing the education of adults or children. Subarea planners are aware of Bellevue School District’s land acquisition in the area, but do not include it in the subarea plan. Otherwise, the plan includes policies to encourage arts education (S-BR-44) and public environmental education (S-BR-32), as discussed elsewhere in this HIA.

HERITAGE AND CULTURE

The 2009 BelRed Subarea plan states that arts and culture lead to increased well-being for individuals, neighborhoods, communities, and societies. Arts and culture are instrumental in “enhancing the quality of life, vibrancy, and attractiveness of the area, helping to attract creative professionals to live and work here, and benefiting the broader community” (City of Bellevue 2009, 30). The Plan also advocates for the integration of art, cultural uses, and “complementary activities” throughout the Subarea development (City of Bellevue 2009, 30). An example is the development of a cultural/arts district near 136th Place NE, in the vicinity of the existing Pacific Northwest Ballet School. This district would serve as an amenity to the neighborhood, and could be used by individual artists, educational institutions, and nonprofit organizations. There is a strong emphasis on creating art, and some uses could include craft studios dedicated to ceramics, glass blowing, sculpture, and other artistic pursuits. Art could be used to reflect BelRed’s character, heritage, and ecology. Otherwise, area heritage and indigenous culture are not addressed in the Subarea Plan.

PLACE ATTACHMENT

The 2009 BelRed Subarea Plan references a “sense of place,” understood as equivalent to place attachment for the purposes of this HIA. The Subarea Plan indicates that the City of Bellevue is conscious of the distinct history and feel of the BelRed neighborhood and will actively “build on its industrial past, and recall its natural, agricultural and ethnic heritage” (City of Bellevue 2019, 14) as the neighborhood undergoes the revisioning and revitalization process. Specific deliberate actions to increase the sense of place include:

1. The inclusion of public art
2. The creation of open space
3. The promotion of pedestrian-friendly and transit-oriented design
4. The use of community art events such as art walks
5. The use of construction techniques and materials that reflect the area’s industrial roots
6. To create distinct neighborhoods, each with different character within the BelRed subarea

INDIVIDUALS EXPERIENCING HOMELESSNESS

The 2010 BelRed Subarea Plan does not directly address homelessness. However, the converse of homelessness, housing, is discussed within the Subarea Plan. For more information about housing affordability in BelRed, please refer to Chapter 2 on Economic Stability.

The Subarea Plan does not include any insight, proposals, or planning regarding the potential for increased access to the BelRed area by individuals experiencing homelessness due to the light rail expansion.

ANALYSIS AND HEALTH IMPACT ASSESSMENT

DIVERSITY AND ACCESS

Design with Disability Disability will affect most of us for some portion of our lives. This may occur because of environmental factors, genetic factors, and/or the process of aging. However, people currently living with disabilities are often ostracized in the context of inaccessible public spaces (Imrei 2001). Physical urban spaces often exclude people with disabilities. These communities rely on access to public transportation systems, resources within walkable distances, and visual guides to aid in the navigation of the city (Imrei 2001). Disregard for individuals with cognitive and/or physical disabilities effectively dehumanizes them. Generally, inclusive design is better design for everyone. The decision to incorporate or exclude these communities in the development of the BelRed neighborhood will be indicative of the city’s valuation of diversity and diverse experiences. Diversity of perspective is essential in the planning process as it increases community resilience and long-term sustainability by actively engaging different collective and individual experiences, preferences, and strengths.

Highland Community Center provides resources, classes, and recreational opportunities for people living with both mental and physical disabilities. The resources provided at Highland Community Center could make the BelRed area a hub for people living with disabilities and offers BelRed the unique opportunity to integrate this community into the new development. Currently, the plan for BelRed limits the integration of this population into the new community. We suggest that the BelRed planning committee actively engage with members of the disabled

community and coordinate with Blayne Amson ADA/Title VI Civil Rights Program Administrator, as well as the City of Bellevue Core Team, in the development process.

Currently, much of BelRed lacks sidewalks and amenities for individuals to safely cross busy streets. We support the existing complete street agenda that planners have created that adds additional ADA-compliant sidewalks, especially around vital resources such as the proposed school, grocery stores (Safeway, Fred Meyer, and Asian Family Market), future light-rail stations, and community centers such as Highland. Posted speed limits, speeding vehicles, and lack of crossings are major limitations to pedestrian access. Roads can be perceived as barriers to the daily movements of peoples with disabilities (Evans 2009). We suggest that planners add dynamic ways to accommodate all people in BelRed, including those with impairments. This could include raised crosswalks, which would elevate pedestrian access, separate pedestrians and automobiles, and increase pedestrian visibility by motorists. These raised crosswalks would also act as a traffic calming measure to reduce the physiological stress of crossing a street (Evans 2009). Furthermore, the addition of visual and auditory elements such as flashing lights and chiming bells to connote a crosswalk in use would allow security for walkers with both visual and auditory impairments. These changes would aid those with disabilities and make BelRed a more livable community for all people.



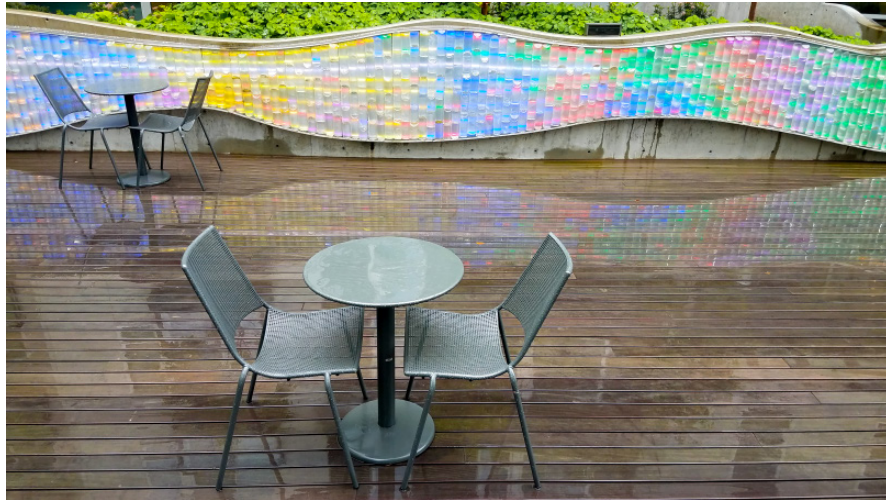
Seating accommodations contribute to more accessible public spaces. NOLA LIU

Most bus stops in the BelRed area are only represented by a pole with the route number inscribed on top. We would suggest that seating accommodations and physical protection from the elements such as trees or a bus shelter be provided at popular bus stops. More creative opportunities exist in BelRed to make transit stops accessible for the community. This could include a small patch of imprinted or mildly textured concrete/pavers at the bus-stop that identifies the location. This would provide both a textural identifier of transit stops for those with visual impairments, as well as an opportunity for a unique community feature.

Development in BelRed provides a canvas upon which the identity of the disabled community could be expressed. American cities continue the legacy of urban exclusion of disabled populations by limiting access and control of the spaces they inhabit. Now, BelRed has the opportunity to create an equitable and inclusive environment by creating more opportunities for disabled populations to be included (Fraser 2013). New public developments such as light rail and bus stations create an opportunity of community engagement through on-site art. There are two categories to be emphasized: art done by disabled populations and the creation of the art on the site of its public installation. A prototype for this project can be seen at Madrid's Nuevos Ministros Metro Station, where the disabled population was invited to create art on site for the metro station. Public embodiment of disability is central because people with disabilities performed their representation in the public sphere (Fraser 2013). BelRed's active acknowledgement, acceptance, and engagement of vulnerable community members would be displayed through such a project.

Intergenerational Design Intergenerational design, design that accounts for the needs of people of all ages, creates sustainable communities by enabling individuals to live the entirety of their lives in the same space. Children and elders, although on opposite sides of the age spectrum, have similar urban needs. Both groups need available restrooms, locations of rest, and places of entertainment.

Within the developed BelRed area, there is a lack of sitting spaces. Older and younger populations often rely on walking because they tend not to own cars. Simultaneously, due to age and physical limitations, older and younger populations may need additional rest stops after walking long distances. The Bellevue Department of Community Development could consider the addition of innovative seating areas around transit stops, grocery stores, green spaces, as well as commercial areas.



Example of an innovative seating area at Sparc Apartments. LAUREN CORN

Lack of access to bathrooms is one of the largest impediments to elders and families leaving their homes. BelRed could create accessible toilets throughout the community that will meet the needs of both these groups. The Portland Loo, a free and public toilet with features to maintain cleanliness and deter crime, is one potential public bathroom option that has proven to be successful at maintaining functionality and deterring individuals from using the bathroom for alternative reasons than its function (Metcalf 2012). The addition of bathrooms in proximity to the light-rail stations and resources would be a small actionable step toward creating a more equitable environment for these groups.

Security Fear for one's safety creates a major impediment for individuals to access resources throughout their community. More vulnerable groups and those who rely primarily on walking (such as elders and youths) cite perception of safety as a factor in travel (Evans 2009). Perception is the operative word in this section. Often, a safe area has features that create the illusion of insecurity. BelRed currently contains features that could give the perception of insecurity, such as a lack of sidewalks and scarce lighting on walking and transit spaces.

More lighting on sidewalks, increased greenery around walking areas, availability of maps, and public art can decrease negative perceptions of an area. Elements that signify identity and character may minimize the physiological barrier to accessibility. Additional amenities like these can create a community that feels and is safe.

Ethnic and Economic Diversity Nearly 42% of Bellevue households speak a language other than English (Department of Planning and Community Development 2018). This language diversity reflects the importance of multilingual signage around major transit and resource hubs. Other than English, the two most popular languages are Spanish and Chinese. Multilingual signage around these areas will give individuals who are not fluent in English more access to a variety of different resources and prevent social exclusion.

The current development of BelRed around the light-rail stations centers around upper-middle class developments. However, vulnerable communities—individuals living with disabilities, people of color, renters, and the economically disadvantaged—rely on and utilize public transit more than any other group. These communities are the foundation for support of public transportation, and their existence in a community creates sustainable usage of transit (Pollack et al. 2010). Exclusion from these resource centers increases stress and anxiety for these communities who are often already under financial and emotional strain. Furthermore, forcing these populations to commute to work via automobile increases existing financial strain through car payments, and can increase individual negative health outcomes like cardiovascular disease and obesity which can result from a sedentary lifestyle. We suggest that planners leverage the power of zoning and economic incentives to encourage affordable and low-income housing near these light-rail stations, since these are the individuals who will most utilize public transit.

BUILDING COMMUNITY

The presence of a community center in BelRed and the focus on recreation in the Subarea Plan promotes physical health and activity in the community. However, a primary emphasis on recreational community centers fails to include other facilities that target key areas of health. For example, community gardens and kitchens are not included in most recreational facilities. Learning to grow, prepare, and eat foods together in a communal kitchen or garden would simultaneously increase feelings of community and promote the learning of healthy eating habits (Garcia et al. 2016; Carney et al. 2012). Healthy eating interventions must come from and belong to the communities they target to be effective (O'Neill, Rebane, and Lester 2004). Lack of access to gardens and kitchens is a barrier to community-led change for positive health.

Rentable rooms and library spaces are not recreational, yet they allow for a variety of community programs and learning opportunities. These spaces have the potential to bring groups of people together, increase relationship building, and develop cultural assets by pursuing group cultural activities and education. Libraries and similar spaces benefit health by increasing feelings of community and developing cultural, civic, and professional assets (Stern and Seifert 2017; London et al. 2010; Glover 2004; Morgan et al. 2016). Holistic community spaces with recreational facilities, kitchens, gardens, rentable event spaces, and libraries expand health benefits derived from greater community cohesion, increased physical activity, and increased healthy-eating and food literacy. The Subarea Plan will have limited community health impacts in this regard because its policies do not address modifying existing community centers or creating new ones. Notably, the potential health benefits from libraries, gardens, and kitchens would be most beneficial for vulnerable populations.

The Subarea Plan has positive implications for health because of its broad use of green spaces. An existing policy (S-BR-39) in the Subarea Plan to increase street trees and vegetation could alleviate childhood asthma, reduce crime, and even improve birth outcomes (Lovasi et al. 2008; Donovan et al. 2013; Abelt and McLafferty 2017). Urban trees have the potential to improve air quality, reduce blood pressure, lower incidence of acute respiratory illness, and reduce non-accidental mortality (Nowak, Crane, and Stevens 2006; Nowak et al. 2014; Kardan et al. 2015). In addition to the general benefits of trees and vegetation, trails and larger parks increase exercise and use of less health-harming and polluting methods of transportation like bicycling (Le, Buehler, and Hankey 2018). Overall, the Subarea Plan addresses green space thoroughly and with techniques that have been associated with improved health in policies S-BR-35, 38, and 39.

Historically, negative environmental factors mostly impact the vulnerable populations in a community.

The Subarea Plan will have a limited impact on education because it does not provide detailed policies surrounding education. However, many BelRed planning officials are optimistic about the purchase of land made by the Bellevue School District in the area. If recommendations made in the Mobility and Health and Human Services chapters about school accessibility are followed and the report does not leave out public schools from the design narrative, then the Subarea Plan should have a positive impact on health regarding schools.

HERITAGE AND CULTURE

The 2019 Subarea Plan uses the term “culture” to refer to “arts” instead of traditions or values of different nationalities, religions, or ethnicities represented in BelRed. Though the city cannot mandate that such values be represented, it can encourage placing language, the public acknowledgement of peoples, lands, and languages to foster connection to place while maintaining tradition (Baloy 2011). Placing language can come from establishing homeland-urban planning partnerships and bringing diverse languages into planned and existing forms of urban cultural expression. Examples of this include the use of indigenous language greetings as well as indigenous names in local publications (newsletters and announcements) and on signs (Baloy 2011).

Additionally, “heritage” is mentioned as a planning consideration, but without specifying what is meant by heritage or how it will be incorporated into planning. For instance, the area now called BelRed was once Sammamish and Duwamish territory. These peoples have not explicitly been mentioned as part of area heritage in the subarea plan, but their local and experiential knowledge is increasingly valued by contemporary planning approaches valuing place-based, community-focused, collaborative processes (Hibbard et al. 2008; Lane and McDonald 2005). Furthermore, Bellevue used to be home to family farms. The preservation of these properties would allow newcomers to access living artifacts of that local heritage. One successful example of preservation is the inclusion of the Kelsey Creek Farm to the Washington State Heritage Barn Register. This site serves as a site for regionally specific recreation, education, and resource preservation (City of Bellevue 2017).

Before World War II, Bellevue was known for its expansive strawberry fields that were farmed by over sixty Japanese families. The total produce from these farms accounted to 75% of the fresh produce in the region

(Marsha 2017). After the attack at Pearl Harbor, many of these families were forced from their farms and sent to internment camps, and their land was sold inexpensively to white families who could build residential and retail spaces. BelRed is the modern location of some of these farms. The representation of this tragic piece of BelRed history would help BelRed reconnect with past injustices. Similarly, Japanese farmers made up a large portion of Pike Place Market’s vender stalls, and most of these farmers were sent to internment camps during World War II. In 1998, the Japanese American Citizen League Seattle Chapter commissioned Japanese-born artist Aki Sobage to create five porcelain enamel panels depicting the history of Japanese farmers in the market (Pike Place Market Blog 2016). The project is still on display at the entrance to Pike Place Market. We recommend that BelRed adopt a creative strategy to connect current BelRed with its historical roots.

PLACE ATTACHMENT

The current incorporation of “sense of place” into the 2009 BelRed plan is a strong start to the revisioning process of the BelRed neighborhood. It indicates intention to both preserve area history and create a distinct and welcoming neighborhood character for incoming communities. The Subarea Plan draws upon walkable and transit-oriented designs, proposes adequate and accessible green space, and promotes community events highlighting arts and culture. These features can lead to community attachment, which has been found to increase social cohesion, social control, and neighborhood revitalization as well as reduce crime and promote positive health outcomes (Manzo and Perkins 2006; Ujang 2009). While planning and designing to emphasize cultural heritage and local area history, the BelRed development team could consider defining and understanding the diversity of definitions for “place” and “neighborhood” for all communities and cultures residing within BelRed. This can be achieved through a community advisory planning board and may result in a more accurate and therefore beneficial socio-spatial expression through culturally-sensitive and locally-based architecture (Manzo and Perkins 2006). Additionally, when considering area historical preservation, planners and planning committees could prioritize acknowledging past and present cultures beyond the industrial history of BelRed including indigenous histories and natural histories.

INDIVIDUALS EXPERIENCING HOMELESSNESS

The experience of homelessness or living unsheltered can be temporary or chronic, and is not unique to a specific demographic or subset of the population. East King County is not devoid of homelessness: the combined population of individuals experiencing homelessness is roughly 11,199 as of January of 2019 (Count Us In 2019). BelRed has a high likelihood of experiencing significant growth in the homeless population due to the increased access by light rail. Due to a lack of stable housing and increased health needs, individuals living with homelessness have a different set of needs from their housed counterparts and consequently may utilize public goods and services differently (Nichols and Cazares 2011). Public services like the proposed East Link light rail stations may experience an influx of use by the homeless population since light rail cars are used as a new mode of transportation and shelter. The Subarea Plan shares several strategies to create community and often cites the diverse population that currently resides in BelRed as well as future residents; however, members of the BelRed and Bellevue communities who are living unsheltered are not mentioned. The absence of a discussion surrounding the population experiencing homelessness within the BelRed Subarea plan is concerning.

BelRed and the City of Bellevue are uniquely positioned to both acknowledge and address the growing homelessness crisis within the Puget Sound region. The BelRed development team could commit the time and resources to establishing adequate service provisions, building affordable housing and shelter, and conducting a thorough policy analysis. This will ensure that a vulnerable segment of their community is recognized, supported, and included to create a stronger and more cohesive BelRed community overall. In doing so, BelRed has the opportunity to not only help its current community experiencing homelessness, but also future community members who may experience bouts of temporary homelessness, creating a healthier and more resilient neighborhood for the foreseeable future.

RECOMMENDATIONS

CREATE PLACE ATTACHMENT THROUGH HISTORICAL CONNECTION

The creation of historical connection in a city works to create place attachment and allows a community to honestly convey its past to adopt methods for reconciliation and healing.

Short Term Opportunity

- Consideration could be taken to adopt native languages, in addition to English, for places with native names on signage.
 - » We recommend collaborating with Duwamish tribal leaders, local Indian Health Services, and the Indigenous Wellness Research Institute at UW to identify these names and places of significance.

Long Term Opportunity

- The City of Bellevue could consider opportunities to erect memorials or artistic pieces to honor the Japanese American farmers who contributed to the economic development of the area and were removed from their homes during World War II.

ENCOURAGING DIVERSITY IN THE COMMUNITY

Diversity strengthens the character of a community. BelRed has the opportunity to create spaces for a diverse set of individuals who are pursuing economic opportunity in the developing neighborhood.

Short Term Opportunity

- The city could work with the community to define what diversity might mean for the BelRed area and how historic diversity can be woven into the emerging community.
 - » Consider creating a community advisory board to receive direct community feedback about City of Bellevue planning efforts and monitor community involvement in planning and development.
- We recommend that planners consider defining and understanding all definitions for “place” and “neighborhood” for all cultures and communities represented within the BelRed neighborhood.
 - » Consider utilizing the community advisory board to help inform city planners and capture community voices and needs.

Long Term Opportunity

- Consider incorporating building plans for permanent shelters (for families, men, and women) to serve an increasing population of people experiencing homelessness.
 - » Create opportunities for social service organizations and centers, so that all individuals in the BelRed community are supported through difficult and transitory life periods.
- We recommend that planners continue to pursue permanent shelter plans throughout the city to benefit all those living without shelter in Bellevue.
- Disabled communities could be embraced in the design of BelRed. Following the lead of Madrid’s Nuevos Ministers Metro Station, we recommend that opportunities for self-expression and visibility are created in the public space.
 - » Consider allowing artists with disabilities to create public elements like light rail station art and textured/patterned pavers to signify transit stops.
 - » Implementation and monitoring could be coordinated with Blayne Amson ADA/Title VI Civil Rights Program Administrator, and the City of Bellevue Core Team.
- We recommend providing more elderly housing near transit hubs in BelRed.
 - » We suggest considering cooperation with Janet Lewine, the City of Bellevue Program Lead on affordable housing. For more on housing for seniors, see Chapter 2 on Economic Stability.
- Encourage new buildings to allow to 2+ bedroom housing options for growing families. For more about family housing, see Chapter 2 on Economic Stability.
 - » We suggest cooperation with Janet Lewine, the City of Bellevue Program Lead on affordable housing.
- Create opportunities for more daycares and early childhood development centers, so that families are encouraged to move to, and stay in, BelRed.
 - » Consider current zoning laws and incentives for such businesses. A community center presents a potential venue with which to provide childcare.

- We recommend encouraging disability-assisted housing options located within a mile of Highland Community Center.
 - » We suggest cooperation with Janet Lewine, the City of Bellevue Program Lead on affordable housing.

EQUAL ACCESS

Equal access to necessary resources is the first step toward equity in any community.

Short Term Opportunity

- We recommend considering coordination with the ADA Core Team, Blayne Amson (ADA/Title VI Civil Rights Program Administrator), and the City of Bellevue Core Team to ensure that the disabled population has equitable access to the neighborhood.
- Consider including benches around hubs of activity like shopping centers and parks to enable children, seniors, and those with disabilities to rest.
- Consider installing public restrooms within the new nodes. The Portland Loo could be used as an example for BelRed.
- The Bellevue Department of Community Development might consider utilizing the two most popular languages in the region other than English, Spanish and Chinese, on maps, transit, and other resources in the BelRed area.

Long Term Opportunity

- The Bellevue Department of Community Development could consider encouraging non-automobile modes of transportation such as walking, biking, and transit. Often, disadvantaged individuals (people of color, people with low incomes, immigrants, and renters) do not have access to transportation through a private vehicle. Modes of alternative transportation could be encouraged by increasing the number of sidewalks and crosswalks, road space devoted to bike lanes, and more numerous transportation stops.
 - » We suggest cooperation with the City of Bellevue Transportation Department. For more information about walkability and non-vehicle transportation, see Chapter 1 on Mobility.

- Consider increasing the provision of and planning for services catered to individuals experiencing homelessness (e.g., mental health services, physical health services, substance abuse services, and adequate quantity and quality shelters serving men, women, and/or children).
 - » We suggest considering collaboration with Alex O'Reilly, Human Services Manager for the City of Bellevue.

CENTRAL COMMUNITY SPACE

The addition of a community space will create opportunities for place attachment and resources for community members to live healthier lives.

Short Term Opportunity

- We recommend providing policies for a publicly owned garden, kitchen, and library at different locations throughout BelRed in the subarea plan. Aim to have these facilities built at the same pace as major housing developments. Collaborate with the King County Library System and Bellevue Parks and Community Services to identify locations for potential facilities and best practices. For more recommendations about community gardens, see Chapter 2 on Economic Stability.
- Consider repurposing already existing buildings that are safe and suitable to accommodate intentions in the Plan to transition existing spaces and preserve area character. GIX could be a potential space to host community events temporarily.
- Consider amending policy S-BR-36 to include potential locations or sources for funding of a “major recreation facility” that is more centrally located.

Long Term Opportunity

- Consider adding a policy to the subarea plan for the creation of a centrally located, universally accessible, and comprehensive community center. There is currently no such facility available in the BelRed area. Key aspects of the community space to be included are: reservable/free/rentable space, a library, recreation/sport and play facilities, a community garden, and a commercial-grade kitchen.
 - » Communicate with the King County Library System to see if a library would be a feasible option for the BelRed community.

SUMMARY

One of the challenges in the redevelopment of BelRed for planners is attempting to anticipate the health ramifications surrounding community and culture because the planned population does not currently live in the area. However, planners have significant power in directing the growth of community and culture and can anticipate features of a healthy community in their design. We recommend that planners consider historical context, creation of opportunities for place attachment, accommodations for populations with disabilities, and creation of community spaces. These recommendations will help shape an equitable community in BelRed.



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HEALTH AND HUMAN SERVICES

INTRODUCTION

When the well-being of people is prioritized, they are happier, healthier, and more productive (WHO 2010). A community that prioritizes health and human services is one that prioritizes the well-being of all members of a community. This occurs through expansion and maintenance of current services and the anticipation of future needs. Developers and the City of Bellevue have a rare opportunity to completely redevelop a community in a rapidly growing area. This chapter considers the multiple entities involved in these services. We propose recommendations to nurture and encourage equitable access to services that create a healthy and vibrant community.

This chapter covers emergency medical services, public safety and policing, access to health services, natural disaster planning, waste management, telecommunication utilities, education, and social services.

CONNECTION BETWEEN HEALTH AND HUMAN SERVICES

EMERGENCY MEDICAL SERVICES

Emergency medical services refer to the treatment and transport of people in critical health and in life threatening situations. In the emergency and trauma care system, emergency medical services (EMS) play a critical role. Trauma is considered a health crisis, and has historically formed a significant portion of the healthcare burden (King County Hospitals for a Healthier Community 2018). Annually, hundreds of thousands of EMS personnel provide more than 16 million medical transports (Steeps et al. 2017). Well-planned and sufficiently funded EMS services improve public health through injury control and disease prevention programs that are prepared to address evolving community needs (King County Hospitals for a Healthier Community 2018).

PUBLIC SAFETY AND POLICING

The police force is often the most visible component of a city's government. The police must be able to balance community safety and personal safety with fairness and impartiality when they are called upon in instances of crime. When the citizens of a community have faith in their police, they are more likely to report crimes, cooperate, and follow

the law (Furman and McCrary 2015). Police departments also play a role in handling numerous societal issues and preserving equity in the community while policing, which makes a collaboration with public health officials invaluable (Collier 2017).

ACCESS TO HEALTHCARE SERVICES

Access to healthcare is defined as the ease with which an individual can obtain necessary medical services. Access to health services is a key factor to good health and is a social determinant of health. Although all levels of healthcare are important, inequities in access have proven to be strong factors in determining ultimate health outcomes. These inequities include inability to reach a healthcare facility and lack of cultural competence from health-care providers (McGibbon et. al. 2008).

TELECOMMUNICATION UTILITIES

Telecommunication utilities include landline telephone, wireless communications, cable television, and broadband internet. Telecommunications utilities are all private in Bellevue (City of Bellevue 2015). Therefore, we will only be discussing public Wi-Fi access. Bellevue prides itself as being a leader in technology. In this increasingly globalized world, it is necessary to have access to these services. Access affects job opportunities, safety, and human connection. Aside from the individual need for communication, access to telecommunications affects access to healthcare through telehealth and the sharing of electronic health records. Public Wi-Fi provides a key bridge between the information and access gap.

SOCIAL SERVICES

We assess social services as the opportunities for citizens' self-improvement and cultural enjoyment, especially for vulnerable populations (children, women, seniors, ethnic/racial minorities, linguistically isolated, economically disadvantaged, and individuals with disabilities). Engagement in cultural activities and arts by citizens can provide opportunities for social connection, which further benefit their health (Roe et al. 2016).

EDUCATION

Education is significant for individuals’ self-improvement and lifelong health status. For children, higher quality early learning experiences are more likely to result in future success and better health conditions (Georgia Health Policy Center 2015). For some ethnic minorities, education opportunities such as English language classes may help them avoid isolation caused by language obstacles, increase their awareness of a health or safety risk, and provide them with better educational and career opportunities (Kochtitzky 2011).

NATURAL DISASTER PLANNING

In modern contexts, disasters not only include natural phenomena such as earthquakes and tsunamis, but also come from human created hazards such as underground storage, which might cause hazardous substance leaks or releases and unreinforced masonry buildings. Climate change is also a prominent issue which can result in long-term health threats and perpetuate existing social inequities. In the Pacific Northwest region, one major hazard is the potential for a Cascadia Subduction Zone (CSZ) earthquake. This earthquake is projected to be 8.0-9.0 in magnitude and would cause immense shaking and liquefaction. A CSZ earthquake could trigger secondary hazards like landslides and tsunamis from British Columbia to northern California (University of Washington n.d.). Disasters not only cause “immediate mortality and injury,” but also bring “displacement risk, as well as substantial physical and psychological stresses to surviving families” (Beatley 2011). Disaster preparedness and the community’s capacity to respond are crucial public health considerations.

Disaster preparedness efforts include aspects such as laws and authority figures, hazard identification and risk assessment, hazard mitigation, resource management, direction, control and coordination, communications and warning, operations and procedures, logistics and facilities, training, exercises, evaluations, and corrective actions, crisis communications, public education, information, finance, and administration (Sutton et. al. 2006). Community components that enhance disaster resilience include hazard preparedness education; economic, financial, and insurance resources; and social capital (Beatley 2011).

WASTE MANAGEMENT

The proper management of waste can directly lead to better quality of life for a community. Areas with access to landfills ultimately have cleaner air and water because waste is managed in a more efficient manner. A local community’s food sources can also be improved by being exposed to fewer contaminants. Reducing pollutants from a landfill, proper containment and disposal of hazardous chemicals, and environmental sustainability should continue to remain at the forefront of waste management. This is made possible through the development of a waste management hierarchy in which preventing waste, recycling and reusing materials, and optimizing final disposal methods are sought with continued monitoring (Hester et. al. 2002).

A community that prioritizes health and human services is one that prioritizes the well-being of all members of the community.

EXISTING CONDITIONS RELATED TO HEALTH AND HUMAN SERVICES

EMERGENCY MEDICAL SERVICES

Based on discussions with current City of Bellevue Fire Department staff, the BelRed area is currently served by Fire Station 6 with a three-person engine. This company provides Basic Life Support and Suppression/Hazardous Materials response for the area and contains both the Hazardous Materials Technician and HazMat vehicle for serious hazardous material response.

Advanced Life Support response is currently provided by Medic 101 based at Overlake Hospital. This unit will be relocated in early 2022 to their new Fire Station 10, which will be located on the Northwest corner of 112th Avenue Northeast and Northeast 12th Street, north of McCormick Park, which is about half a mile from the current Overlake Health Center. Based on discussions with the Bellevue Fire Department, this will not substantially impact its response to the BelRed area. The Fire Department states that decisions regarding the addition of Advanced Life Support resources will be made by King County Emergency Medical Services. They are currently unsure of what those resources may be.

PUBLIC SAFETY AND POLICING

The BelRed subarea is served by the Bellevue Police Department. The guiding principles of this department are respect, integrity, accountability, and service. The staff is composed of 225 commissioned and noncommissioned officers. Their core focus is to reduce crime, reduce the fear of crime, and enhance the quality of life for all who call Bellevue home. Based on the Bellevue Police Department’s 2018 annual report, BelRed will fall into the North Sector, which is headed by Captain Joe Nault (Bellevue Police Department 2018).

ACCESS TO HEALTH SERVICES

The BelRed area has three main medical centers: Overlake Hospital, Kaiser Permanente (formerly known as Group Health), and Seattle Children’s Overlake (previously known as Children’s Bellevue). They offer primary, secondary, and tertiary care for adults and children. Based on discussions with City of Bellevue officials, the hospitals offer language translation and interpretation services for a variety of languages. While all the medical centers are accessible by vehicle, they are currently difficult to reach by walking or public transportation.

TELECOMMUNICATION UTILITIES

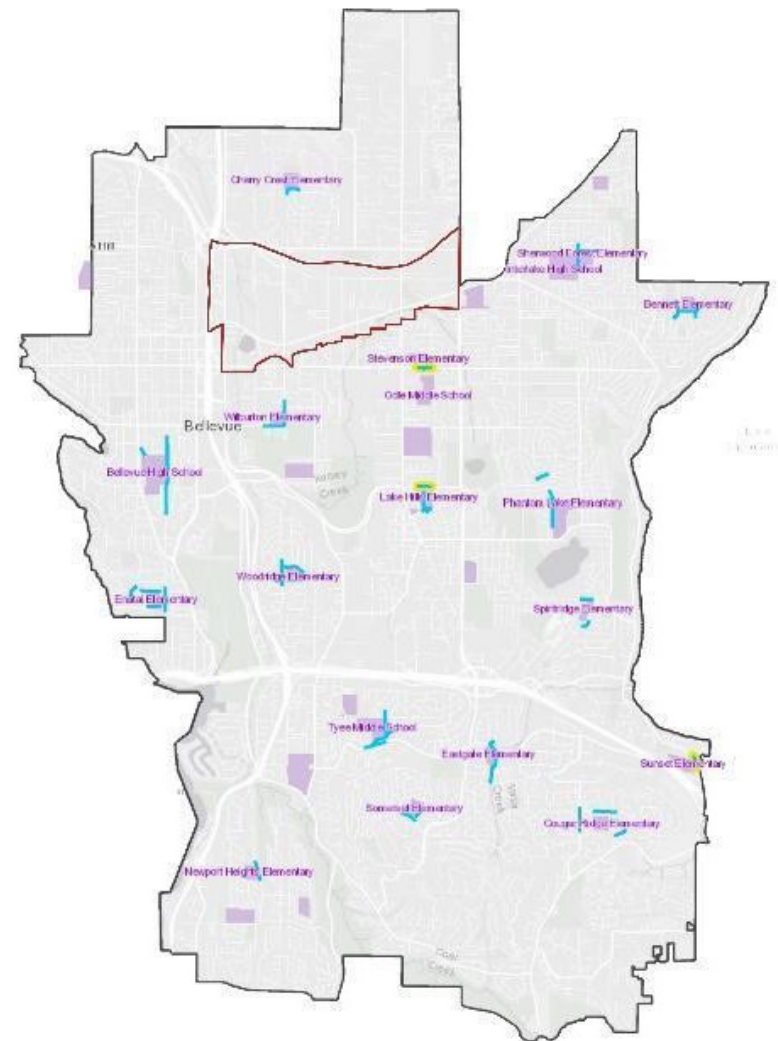
In the pursuit of becoming a smart city, Bellevue is focusing on the livability, sustainability, and resiliency of its Wi-Fi infrastructure. Bellevue is preparing for the future of its infrastructure by expanding its fiber-optic network (City of Bellevue, Information Technology n.d.). Additionally, Bellevue is addressing Internet inequity through its current public Wi-Fi, BellevueConnect. Currently, public Wi-Fi exists in some city facilities, some city outdoor areas, and in some low-income housing (Conversation with Chelo Picardal, City of Bellevue, Information Technology n.d.). BellevueConnect can only reach low income housing if it is physically close to existing BellevueConnect infrastructure. According to Chelo Picardal, Chief Technology Officer for the City of Bellevue, the BellevueConnect Wi-Fi would only be available in the common areas of these buildings since it cannot be a direct competitor with telecommunication companies and since the funding for this would be immense. Currently, a plan for public telecommunication access does not exist for the BelRed subarea.

SOCIAL SERVICES

BelRed has a diverse set of social services. Existing social services that support self-improvement, children’s development, and vulnerable populations’ special needs include: four private children education facilities (three of them are bilingual), 17 private fine art schools, one institution of higher education (GIX), four faith-based culture centers, two disability service organizations, and one youth service organization (City of Bellevue, GIS n.d.).

EDUCATION

Bellevue currently has 15 elementary schools, eight middle schools, and six high schools. Since Bellevue is currently experiencing an elementary school shortage, BelRed is the proposed location for a new elementary school that will be built within the next five years. Currently, children in the BelRed neighborhood attend Odle Middle School and Sammamish High School. However, these middle and high schools are not in the BelRed community, which could contribute to a potential education inequity due to the increased commuting time and safety concerns for children from BelRed.



Locations of schools surrounding the BelRed neighborhood CITY OF BELLEVUE

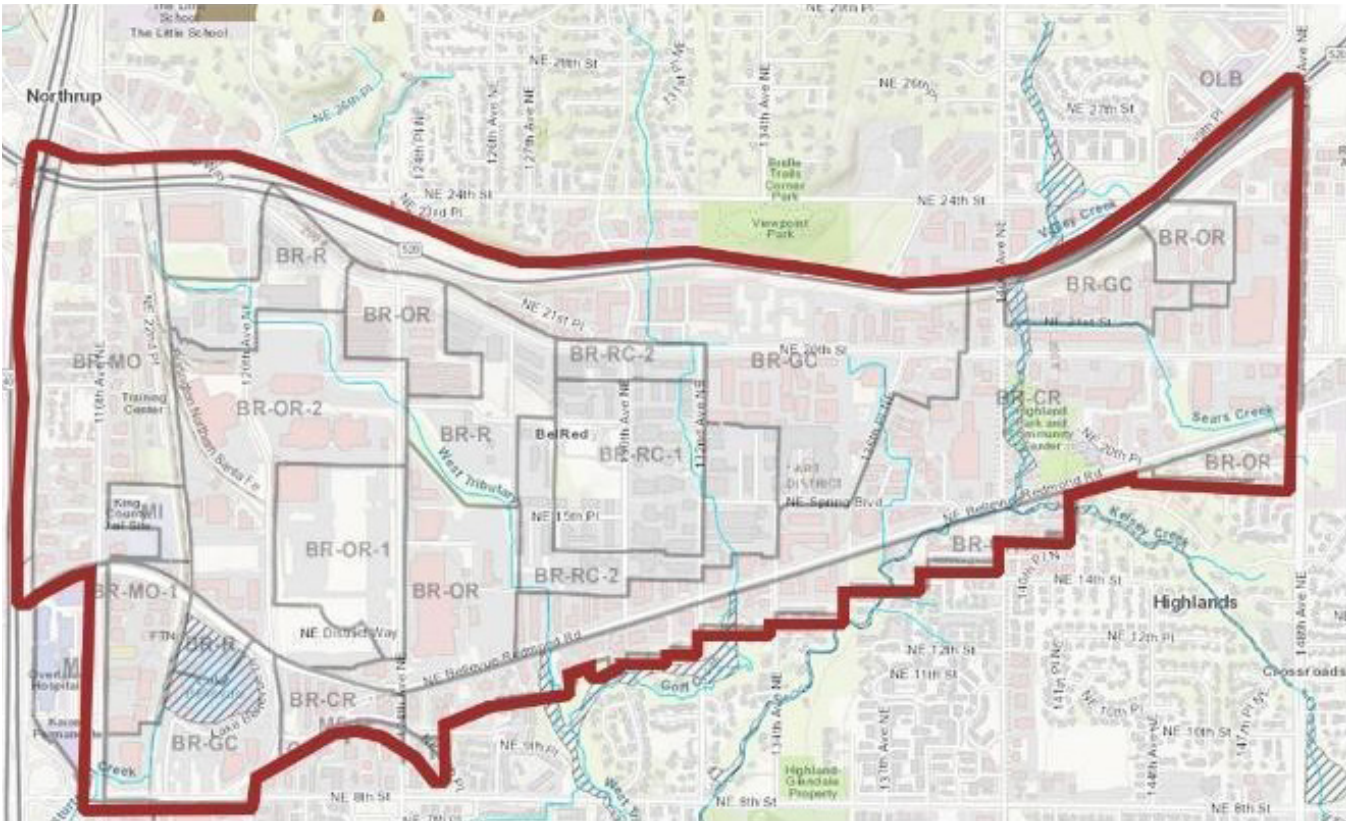
WASTE MANAGEMENT

The City of Bellevue currently contracts Republic Services for garbage collection, recycling, and solid waste disposal. Bellevue offers year-round waste resources such as latex paint recycling, composting, and guides on how to reduce carbon footprints. Republic Services offers single-family residents a free food scrap container and free waste containers for apartment residents if they sign up for organic services. Republic Services also provides a drop-off recycling program at their Customer Care Center, which is located at 1600 127th Avenue NE in Bellevue, for items that are more difficult to recycle such as small appliances, used cooking oil, and scrap metal.

NATURAL DISASTER PLANNING

BelRed has several meteorological and geologic hazards, including flooding which is depicted in the Meteorological Hazards Map, soil erosion which is reflected in the Critical Geological Hazards Map, and underground gas storage which is displayed in the Human Created in Hazards Map. In addition, BelRed contains two major floodplain areas; one floodplain area is in the general commercial zone, and the other is in the commercial/residential zone. Two areas that have severe soil erosion hazard risks are in the medical office zone and the commercial/residential zone. Meanwhile, two underground gas storage pumps are in commercial node-2 and one commercial/residential zone. Although gas pump accidents are rare, they are hazardous.

People experiencing homelessness, people who work outside, people with respiratory conditions, the elderly, and children are at greatest risk for health impacts of air pollution.



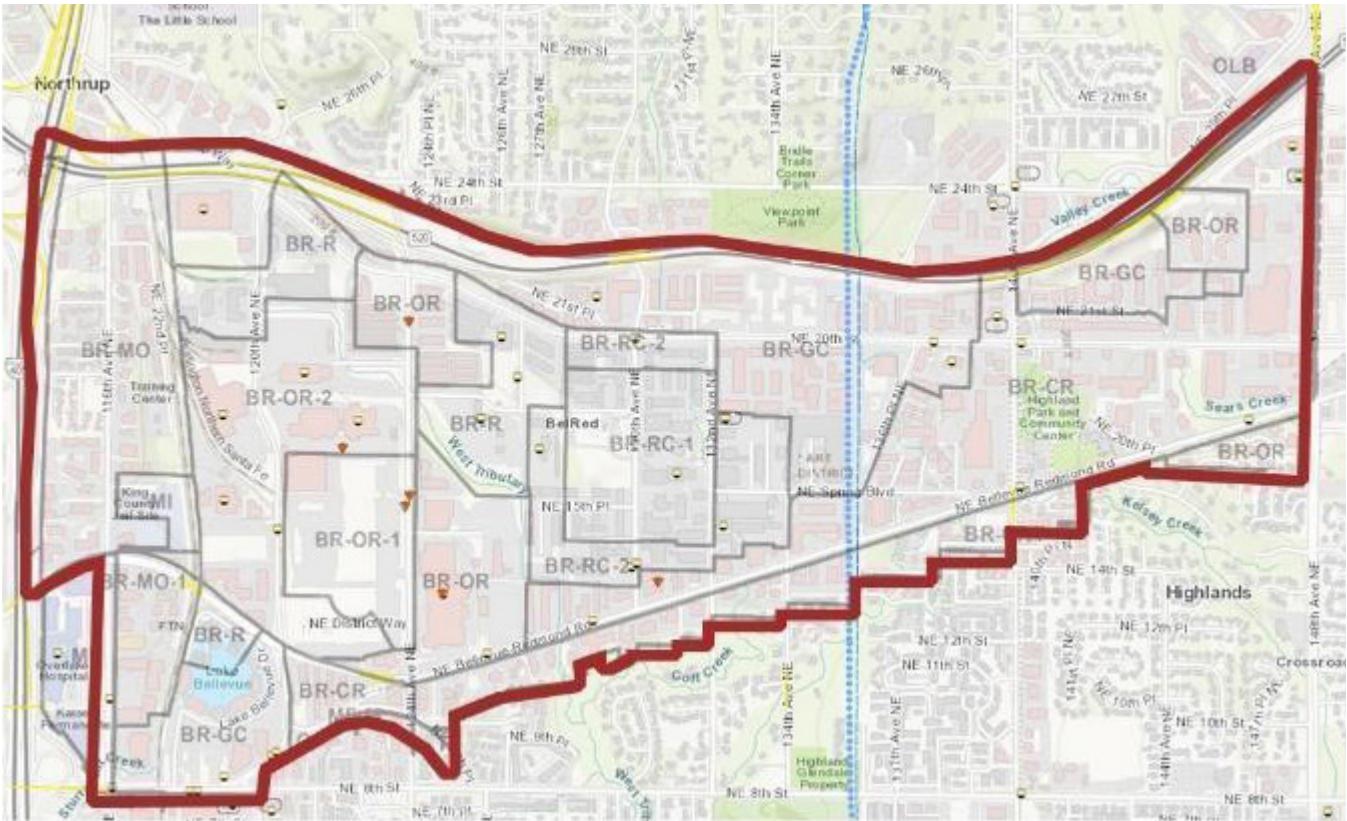
CITY OF BELLEVUE

Critical Meteorological Hazards

Stream

Potential Flooded Street

Floodplain



CITY OF BELLEVUE

Critical Human Created Hazard

SARA Site

Underground Storage

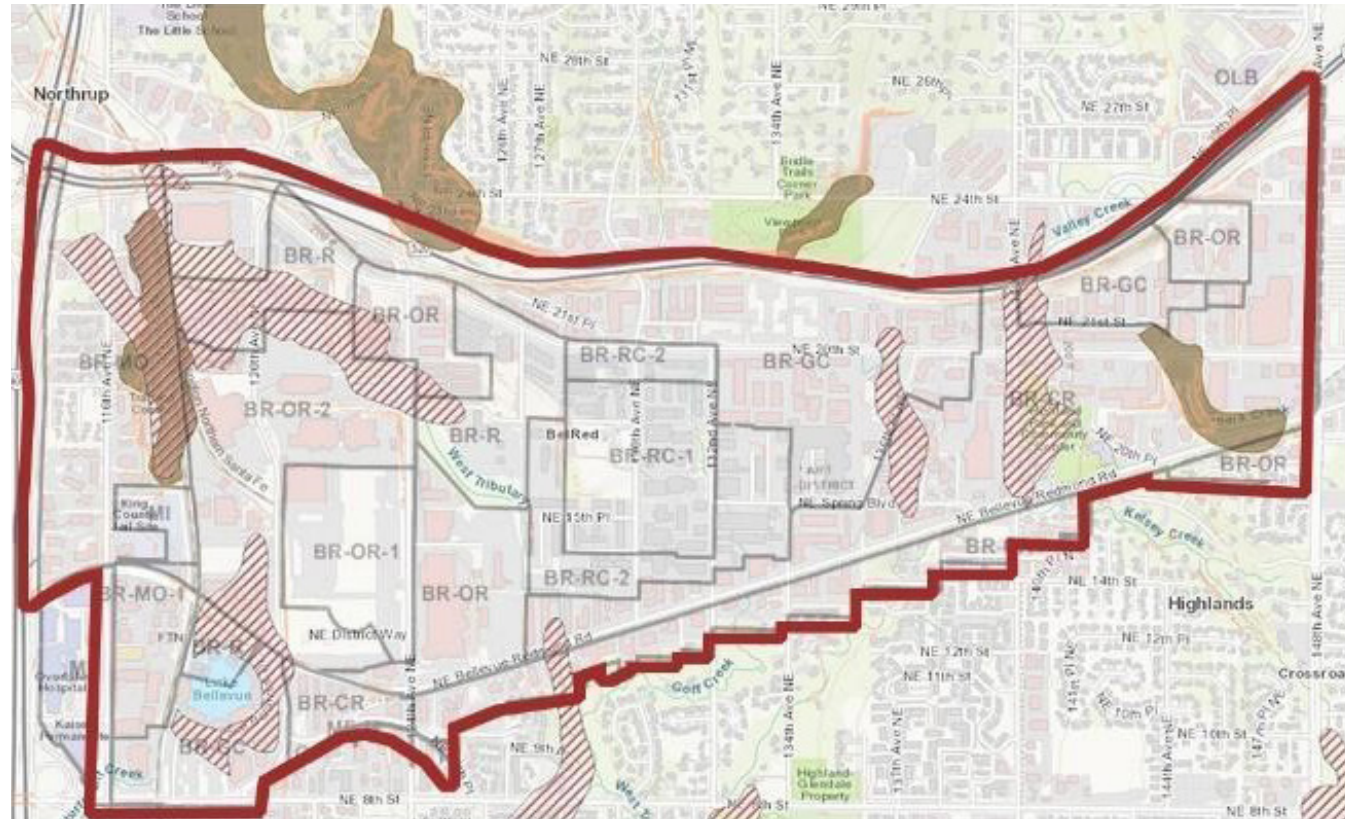
Underground Storage Gas Pump

Bridge

Potential Flooded Street

Floodplain

Floodplain



CITY OF BELLEVUE

Critical Geological Hazards


Seattle Fault Zone

Steep Slopes > 40%

100% 90% 80% 70% 60% 50% 40% 30% 20% 10% 0%

Liquefaction Hazard

Very Severe Soil Erosion Hazard

 Low to moderate

 Moderate to high

HEALTH AND HUMAN SERVICES IN THE BELRED SUBAREA PLAN

EMERGENCY MEDICAL SERVICES

The Subarea Plan does not explicitly discuss mobility and bus routes for emergency situations, nor does it include details on how to address the need for increasing the capacity of the local fire station to accommodate the growing population and traffic in the area. However, in discussions with the Bellevue Fire Department, it is apparent that plans are underway to increase resources for the department and to improve maintenance of the station. Discussions regarding station upkeep and future resources are ongoing.

PUBLIC SAFETY AND POLICING

The Subarea Plan makes no mention of the emergency services such as police or ambulance services. A fire station is identified on page 45 of the comprehensive plan and is centrally located to the community (City of Bellevue 2015).



LCY students visiting BelRed KELLEY PASCOE

TELECOMMUNICATION UTILITIES

The concept of a smart city is woven throughout the Plan but is not elaborated upon. There is a separate utilities section of the 2015 Comprehensive Plan and the Bellevue Smart/Planning for a Smarter City strategic plan (City of Bellevue, Information Technology n.d.). According to Chelo Picardal of City of Bellevue Information Technology, there is currently no plan for BellevueConnect in BelRed other than a request that infrastructure be built during the construction of new city streets near the three light rail stations.

EDUCATION

The Subarea Plan does not provide many details on school needs. An assessment of schools in the area determined that the downtown elementary school is quickly reaching its maximum capacity of 600 students (Conversation with Emil King 2019). The proposed elementary school in the BelRed area will be necessary to support children in the BelRed neighborhood as the population continues to grow.

SOCIAL SERVICES

The BelRed Subarea Plan lays out seven policies to promote art and culture in the community. Some examples include encouraging art and cultural organization by using transitioning buildings as art installation spaces and developing dance businesses. The plan also articulates a specific design strategy that creates a cultural/arts district near 136th Place NE to be used for art-related education, industry, and performance.

NATURAL DISASTER PLANNING

The plan mentions a few strategies in terms of stormwater treatment, such as future stormwater basin planning and use of green infrastructure.

WASTE MANAGEMENT

The plan mentions environmentally sensitive approaches to managing stormwater and natural resources. Environmental education is mentioned in the BelRed plan in Policy S-BR-32 and Policy S-BR-37.

ANALYSIS AND HEALTH IMPACT ASSESSMENT

EMERGENCY MEDICAL SERVICES

BelRed development is projected to triple the residential population and double the employment population by 2035. The Downtown and BelRed/ Spring District will account for most of the residential and employment growth over the next 15 years. Based on discussions with Kieron Gillmore (Accreditation and Performance Management Analyst) and Andy Adolfsen (Deputy Chief of Operations) from the City of Bellevue Fire Department, the population of BelRed may become larger than predicted. Fire Station 6 serves all areas of the BelRed neighborhood and is a busy unit. However, the station has the capacity to grow and to absorb additional resources if they are allocated.

PUBLIC SAFETY AND POLICING

The increase in population and the increase in BelRed's daytime working population indicate that hiring more Bellevue Police officers would benefit the growing community. Having police in this area will lead to faster response times and the efficient handling of new societal issues in a professional manner. These additional officers can also increase community engagement by hosting Citizen Advisory Councils in the Highland Community Center. Citizen Advisory Councils currently meet every three months for a two-hour discussion between the Bellevue Police Department and the local community. The discussions involve process improvement, best practices, and how to improve the delivery of services to the community. This will be beneficial as the neighborhood grows into a new dynamic identity and could address BelRed-centric issues. In identifying barriers that exist between police officers and the new community, equity should be the main consideration. By being transparent, building trust within the BelRed community, and embracing the community that they serve, Bellevue Police can continue to work towards their guiding principles.

ACCESS TO HEALTH SERVICES

The addition of the Wilburton Link light rail stop near the hospital district will increase access to hospitals and health care services for a diverse population. Since this stop will serve people seeking medical care, it is important to implement plans for building a station platform that is accessible for people of varying abilities. The BelRed SAP makes no specific mention of this. Additionally, including maps and visual cues in multiple languages will be important to accommodate the diverse populations that must access this area.

TELECOMMUNICATION UTILITIES

Expanding the current network infrastructure will benefit all residents of BelRed by ensuring equal access to information. Integrating improved networks will touch many aspects of smart city life, from traffic management to equitable internet access and interactive maps for the Bellevue Police Department (City of Bellevue 2017). Fewer resources will be spent on BelRed management as the city analyzes data to work towards becoming a smart city while serving its residents, its daytime visitors, and the business community (City of Bellevue 2015). The primary obstacles with this vision are issues of finance and implementation. Currently, there is no BellevueConnect plan for the BelRed area. Due to the high cost, there will be no plan until BelRed has a significant population boom, likely after the Link Extension is completed in 2023 (Conversation with Chelo Picardal n.d.).

EDUCATION

The increase in employment opportunities will result in an increase of families moving to the neighborhood. Building an elementary school in the BelRed neighborhood will anticipate the influx of elementary-age school children and help maintain a sustainable ratio of students to staff in school. A new elementary school will provide opportunities for individualized attention to students and subsequently a more favorable ratio of students to staff. Positioning the elementary school in a safe and accessible area of the BelRed neighborhood will improve walkability and encourage community cohesion.

SOCIAL SERVICES

Bellevue is diverse in race/ethnicity, ability, age, and language (see Introduction). Cultural identity is important to strengthen mental health and social cohesion. However, the SAP does not mention the development of cultural and community spaces. Moreover, few specific organizations in BelRed exist for senior citizens to improve their social lives and increase their opportunities for exercise.

To read more about the connection between health, community cohesion, and social capital, see Chapter 3 of this HIA.

NATURAL DISASTER PLANNING

Although disaster preparedness planning is usually issued on the state level, community design is equally important in creating community resilience (Beatley 2011). Across the country, dozens of cities have been implementing policies to mitigate and adapt to the impact of climate change. The BelRed Subarea Plan proposes a few strategies about natural stream rehabilitation and natural drainage practices, but it primarily emphasizes natural resources protection and a cost-effective method to deal with rainwater instead of health-related goals. Meanwhile, soil erosion and human-created hazards are not mentioned. Few policies discussing hazard avoidance are available for land use planning and public education.

WASTE MANAGEMENT

Due to the projected population growth, BelRed will cause more environmental degradation from the increase in waste production. Public health problems can be mitigated by improving the current waste management program as the density scale increases, properly enforcing Bellevue's waste management plans, and working towards the overall minimization of waste produced by the new residents.

RECOMMENDATIONS

COMMUNITY INVOLVEMENT AND AWARENESS

One of the most important components for establishing community is community involvement and awareness of services. To foster a sense of community among incoming residents and to create an awareness of the services offered, we suggest the following recommendations:

- The Bellevue Police Department could consider hosting Citizen Advisory Councils in Highland Community Center to extend community outreach and build trust. Citizen Advisory Councils could meet every three months for a two-hour discussion between the Bellevue Police Department and the local community. Meetings could include relevant and cycling topics to keep community interest.
- City of Bellevue Departments, health entities, and private businesses connected to BelRed could consider holding events at local spaces, such as schools, that emphasize the importance of community-level events and services. Inviting local school children might involve adults as well, because parents and teachers will be encouraged to participate. A community center, as recommended in Chapter 3 on Culture and Community, would also be an ideal location for such events.
- Bellevue apartments' landlords may consider creating bulletins (or online presences) at apartment complex community spaces (such as apartment public yards) to notify residents of community changes and upgrades, promote local events, and post announcements. Apartment managers could take the responsibility to invite residents to engage in events and process their feedbacks. These bulletins could also incorporate recommendations about indigenous language from Chapter 3.
- The City of Bellevue, in partnership with Republic Services, may consider waste minimization education for the BelRed community including citizens, business, and visitors to address and minimize the impact of the increase in waste production. For example, a program could be offered at local grocery stores to teach proper food and waste disposal.

VARIETY IN EVERY ASPECT OF SERVICES

To meet the needs of diverse populations, we suggest that a variety of services be offered in BelRed. The City of Bellevue could consider looking for ways to encourage this variety. We suggest the following recommendations to address variety:

- Leadership in the Patient Experience departments at three main Bellevue hospital systems (Overlake, Group Health, and Children’s Bellevue) could consider providing incentives to bring in community members on committees or boards who are more representative of the cultural backgrounds of incoming Bellevue residents. One way to accomplish this is by using Hospital Community Benefits Funds to pay people from the community to incorporate community perspective.
- The Bellevue Planning Department could consider increasing affordable art and cultural facilities for senior citizens and children. Part of this strategy would include increasing public awareness of such opportunities. Spaces that could provide these cultural activities could be a community center or other building transitioning from light industrial use. Cooperation with private sectors could be made to gain financial support and increase publication of information.
- The Bellevue planning department could consider increasing public education for hazard preparedness. Open spaces such as parks and plazas could add signage to inform citizens of the locations of emergency shelters. Cooperation with private sectors such as stores, firms, and multi-family apartments could be made to inform citizens of the most direct way to reach an emergency shelter in the event of a disaster.

PREPARE FOR ANTICIPATED SERVICE NEEDS BEFORE SERVICE IS VITAL

The provision of health and human services make a community safer and more connected. However, required services for the area are challenging to anticipate and expenditures are hard to justify without knowing specific population needs. Considering these challenges, we suggest that plans be made preemptively for anticipated health and human service needs in BelRed to increase efficiency.

We suggest the following recommendations to increase preparedness:

- All current and future City operated health and human services (as covered in this chapter) could consider holding a meeting to discuss current service extensions in BelRed. All included entities could consider compiling a master BelRed Service Extension Plan that is available to the public. This would allow for residents to understand current and future services.
- The City of Bellevue’s Department of Information Technology could consider developing a proposed BelRed SMART plan. This department is currently requesting that city-owned streets next to the three Link light rail stations include infrastructure for cables. The expected population influx will increase demand for wi-fi and may require more public spaces in BelRed to be connected to BellevueConnect outside of the Link Light Rail. One way to start this planning process is to look at similar areas in the US that have city wi-fi and how they prepared for anticipated growth. We also suggest working with the City of Bellevue’s Planning Department and Development Services to ensure that the BellevueConnect infrastructure is considered in all future city-owned construction.
- The Bellevue School District could consider a proposal for future educational facilities to meet the needs of a growing population. This includes sites of new schools and school routes for students who live farthest away from their designated school location.
- The City of Bellevue’s Planning Department and Development Services could consider the 2015 Comprehensive Plan amendments to encourage zoning policies that ensure that future health and human services are within a 10-minute walk from residential areas, as already expressed in the Mobility chapter. Zoning changes could prioritize sidewalks and expand the City’s Neighborhood Sidewalk Program.

- As the BelRed area undergoes rapid change from increased construction of commercial and residential buildings, the Bellevue Fire Department may consider increasing the number of regular inspections of underground storage areas and updating regulations to avoid hazard substance leaks or releases.

SUMMARY

The BelRed 2009 Subarea Plan specifically considers some aspects of health and human services. The 2015 Comprehensive Plan for the City of Bellevue delves more deeply into whole city aspects of some of these services. Currently, the authorities in charge of various health and human services are at different stages of BelRed planning. This is partly because the area lacks a large population, so the need for services is not as urgent. It is crucial that plans are made for all health and human services. Even if these plans are only preliminary, the plans must be easily accessible and available for reference. This ensures that as the community develops, there is consistency across health services, especially if some needs are more immediate than expected. The recommendations proposed in this chapter consider the impact of these services on establishing and maintaining a resilient community.

ENVIRONMENT

INTRODUCTION

Environmental health encompasses all factors that affect mental and physical health: physical, chemical, biological, social, and psychosocial. In addition, environmental health refers to strategies for improving health outcomes or mitigating poor health outcomes. Equity plays a fundamental role in environmental health because disadvantaged communities, low-resourced communities, and communities of color bear a disproportionate burden of poor health outcomes related to environmental health.

In this chapter, we explore how different aspects of the BelRed Subarea Plan potentially impact local and regional environmental health for current and future residents, with emphasis on the following topics:

- Water pollution
- Soil pollution
- Air pollution
- Noise and light pollution
- Green space and nature contact
- Energy consumption

WATER POLLUTION

DEFINITION AND IMPACT ON HEALTH

Water shapes habitats for a multitude of plant and animal ecosystems. These ecosystems provide recreational and mental health benefits for humans. Wetlands can reduce the incidence of flooding, contribute to stream flows, and improve overall water quality (City of Bellevue Comprehensive Plan: Environment n.d.). Access to blue spaces (i.e., lakes, rivers, springs, and coastal waters) may help attenuate stress, encourage physical activity, and facilitate social cohesion (Gascon et. al. 2018). However, urbanization in areas where streams and wetlands are located can diminish the quality of these surface water sources. During times of heavy precipitation, the non-point source pollution from runoff of polluted surface water can threaten stream quality (Gaffield 2003). Increased runoff into bodies of surface water is associated with elevated concentrations of bacteria and microorganisms that are harmful to human health, such as *Giardia* and *Cryptosporidium*. Typically, chlorine is added to prevent microbial growth and to prevent health outcomes

that may occur as a result of exposure to microbes that thrive in water systems (Bellevue Utilities 2018). Human exposure to surface water may occur when sources are filtered for drinking purposes, during recreation in streams or wetland areas, irrigation for agriculture or vegetation, and other public uses.

Redevelopment of older industrial areas is a concern because corroded pipes increase the potential for lead and copper to dissolve into drinking water (Bellevue Utilities 2018). The human health effects from exposure to lead or copper are extremely severe, especially for children, infants, and pregnant persons. These effects include damage to the central nervous system and long-term, irreversible cognitive developmental delays in children (Brown and Margolis 2012). At this time, information to indicate whether all pipes and fixtures will be replaced during redevelopment remains insufficient.

EXISTING CONDITIONS

Stream and Surface Water Quality The City of Bellevue encompasses 79 miles of streams and approximately 13 miles of large-lake shoreline. All major streams in the city are classified as biologically impaired (Figure: EN-1 Bellevue Streamwater Quality) (City of Bellevue Comprehensive Plan: Environment n.d.). The subarea of the BelRed neighborhood has seven drainage basins, including six streams, one pond, and two wetlands that serve as the regional stormwater treatment facility. The habitat conditions of the streams vary: some are in pipes, which does not foster a healthy habitat, and all are degraded due to urban development.

The West Tributary and Goff Creek are the two stream habitats that will be developed according to the BelRed Subarea Plan. The West Tributary has a very low gradient and an inaccessible stream that is often channeled or piped. This habitat includes two large riparian wetlands and one regional stormwater facility. The wetland areas contain beaver ponds and other wildlife habitats. However, the degraded water quality prevents salmon access. Goff Creek is a narrow, low gradient stream that is piped in some locations. The open channel segments are narrow and resemble a ditch. Some natural features exist, such as meanders, spawning gravels for fish, and woody debris. Goff Creek hosts a cutthroat trout habitat. The central segment of the creek hosts native plants and a mature forested canopy that composes a wildlife habitat (BelRed Subarea Plan 2007).

Drinking Water Quality Drinking water sources within the city limits of Bellevue had lead levels of 4.5 ppb (90th percentile) in 2018, well below the Environmental Protection Agency’s action level of 15 ppb (EPA 1991; Bellevue Utilities 2018). However, the EPA also acknowledges that there is no safe amount of lead. Additionally, it was estimated that one out of every 66 homes would exceed the action level due to corrosion of household plumbing systems (Bellevue Utilities 2018). The copper levels in Bellevue drinking water were 0.11 ppm, which is below the action level of 1.3 ppm (Bellevue Utilities 2018). Samples from the Cedar or Tolt River water supplies did not detect any *Cryptosporidium* (Bellevue Utilities 2018).

**SUBAREA PLAN AND ENVIRONMENTAL
IMPACT STATEMENT**

The BelRed Subarea Plan proposes to promote the rehabilitation of streams and adjacent corridors through public investments and private development incentives (stream setbacks of 100 feet or more for enhanced stream buffers) through Policy S-BR-26. Policy S-BR-27 states that wetlands and other designated critical areas will be protected and enhanced via development regulations, incentives, and public funds. Policies S-BR-28 and 31 encourage natural drainage practices as alternatives to stormwater treatment and control and encourage the use of green infrastructure to naturally treat and reduce stormwater in development (BelRed Subarea Plan 2007).

The EIS includes strategies and proposed actions that directly address “opportunities to improve stormwater management, use Low Impact Design techniques, and protect or enhance habitat through conditions on redevelopment and/or developer incentives” (BelRed EIS 2007). The preliminary preferred alternative would include restoration and enhancement of the West Tributary and Goff Creek watersheds. Developers could receive incentives in the form of a development bonus in exchange for Low Impact Design techniques and wider stream buffers of over 100 feet rather than the regulatory setback of 50 feet (BelRed EIS 2007).

ANALYSIS AND IMPACT ASSESSMENT

The comprehensive plan for the City of Bellevue indicates that “continuing growth and development in Bellevue has the potential to negatively affect the city’s environmental resources, particularly natural open spaces, water quality, and tree cover” (City of Bellevue Comprehensive Plan: Environment n.d.). As of 2008, 46% of the total area in Bellevue was impervious to precipitation (concrete or other substances), and this area is likely to grow with increased urbanization and redevelopment. Construction could damage streams and wetlands if sediments become eroded in these areas. However, restoration practices and features such as silt fences, sedimentation ponds, or other erosion control measures, would help to reduce these impacts (BelRed EIS 2007). The rehabilitation of streams and riparian corridors in the wetland areas could provide benefits such as improved water quality, habitat enhancement, stormwater and flood control, aesthetic enhancements, noise attenuation, and potential trail access (BelRed Subarea Plan 2007). Finally, daylighting piped streams by removing them from pipes and underground and returning them to their natural state and increasing blue spaces may enhance neighborhood character and aesthetics. Daylighting can provide positive health benefits by reducing urban heat and greenhouse gases and providing access to more open space (BelRed Subarea Plan 2007).

EQUITY

Children and pregnant persons are high-risk subpopulations that could develop detrimental health effects if urbanization of the BelRed neighborhood exposes lead to drinking water, soils, or surface/ recreational waters. Children and developing fetuses are more sensitive to lead exposure because of an immature blood-brain barrier, increased gastrointestinal absorption, and hand-to-mouth behaviors. For pregnant persons, lead that has accumulated in bones can be mobilized when calcium is needed during pregnancy and lactation. Therefore, pregnant and breastfeeding parents and their infants may continue to be exposed long after external sources have been remediated (Brown et. al. 2012).

SOIL POLLUTION

DEFINITION AND RELATION TO HEALTH

Much of the BelRed neighborhood was previously zoned as light industrial and includes a variety of commercial facilities. The development of these sites is likely to increase the potential for human exposure to contaminants in the soil and should be handled with care. The Washington State Department of Ecology regulates soil contamination under the Model Toxics Control Act, and the Toxics Cleanup Program works to clean up contaminated properties throughout Washington State (Washington State Department of Ecology n.d.). The extent of the cleanup is often specific to site and type of contaminant.

Some of the contaminants that are present at concerning properties in the BelRed neighborhood are extremely hazardous to human health:

- Total petroleum hydrocarbons (TPHs) are often found in the environment where petroleum products are used or stored. TPHs include common compounds such as benzene, toluene, and xylene, which are present in gasoline and are known to affect the human central nervous system (ASTDR 1999). Benzene is of particular concern because it is a common compound that is often present at hazardous waste sites and breaks down slowly in water and soil. Long-term exposure can cause cancers of blood-forming organs, while short-term exposure may cause dizziness, confusion, rapid heart rate, or unconsciousness (ATSDR 2007).
- Arsenic and lead are common heavy metals hazardous to human health. Both metals are systemic carcinogens known to induce organ damage at low levels of exposure. Health effects in children are well-researched and include impaired neurological development, impaired growth, and poor attention span. Children have higher rates of lead exposure due to high rates of hand-to-mouth activity (Tchounwou 2012).

EXISITING CONDITIONS

Contaminated Inudustry Sites Currently, there are 18 known hazardous material sites located in the BelRed neighborhood and near the development nodes for proposed light rail stations (BelRed EIS 2007). 13 of these sites are included in the preliminary preferred alternative development plan. The figure below shows the exact locations of these contaminated sites. Contaminants include petroleum-diesel and petroleum-gasoline at the Coca-Cola Bottling Plant, the Safeway Distribution Center, King County Metro East Base, ARCO, Ranbanco, and Cadman facilities. Environmental contamination by benzene occurs at Willamette Industries, Elephant Car Wash, and Bellevue Fire Station 6 sites. Lead and priority metals are present at the Wades Bellevue Indoor Range, ARCO, and Bellevue Plating Co. sites. Finally, Polycyclic Aromatic Hydrocarbons (PAHs) are present at the Cadman site. The status of cleanup activities varies across the facility sites, from sites where no further action needed, to sites where no cleanup activities have begun (WA State Dept of Ecology n.d.).

CONTAMINATED SITES IN BELRED

Action	Facility/Site Information
No further action needed	Safeway Warehouse Distribution Center King County Metro Transit East Base Coca-Cola Bottling Co. Cadman Bellevue Plating Co. Bellevue Fire Station 6
Construction complete - performance monitoring	King County East Base Maintenance Building
Cleanup started	Rabanco Eastside Disposal Four Seasons Carwash Wades Bellevue Indoor Range Exxon 72864
Awaiting cleanup	Cadman Premix Co. Inc.

WASHINGTON STATE DEPARTMENT OF ECOLOGY

SUBAREA PLAN AND ENVIRONMENTAL IMPACT STATEMENT

The Environmental Impact Statement includes strategies and proposed actions that directly address potentially contaminated soils that are likely to be disturbed during redevelopment and may expose people to nearby contaminants. The EIS suggests further investigation of the sites before disturbance of the soils occur, the development of a hazardous substance management plan, and the development of a worker health and safety plan.

ANALYSIS AND IMPACT ASSESSMENT

Contaminated Industrial Sites As development of the BelRed Subarea continues, it is likely that cleanup of contaminated sites will be addressed and the hazardous exposure to the contaminants will be mitigated. The cleanup will help to reduce the likelihood that the contaminants would migrate into the nearby groundwater or surface water sources. However, construction in the areas is likely to disturb the contaminants that may not be known or tested, which could increase the risk of exposure to workers and nearby residents in the area.

EQUITY

Individuals contracted to develop contaminated sites and workers employed at sites that have yet to be cleaned up are more likely to be exposed to soil contamination. Temporary employment and contract work may be associated with a higher risk for occupational injury and exposure due to “inexperience, lack of induction and safety training in the temporary workplace” (Virtanen et al. 2005).

AIR POLLUTION

DEFINITION AND RELATION TO HEALTH

Air quality affects the environment and human health. People experiencing homelessness, people who work outside, people with respiratory conditions, the elderly, and children are at greatest risk for health impacts of air pollution. Air pollution is generally higher in industrial and lower-income residential areas, and can be a result of industry, traffic, or natural events, among other factors (Sacks 2011).

The EPA has designated standards for six common criteria air pollutants, all of which affect human and environmental health: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO₂), ozone (O₃), particulate matter 10 and 2.5 (PM₁₀ and PM_{2.5}, respectively), and sulfur dioxide (SO₂). The Puget Sound Clean Air Agency (PSCAA) only monitors PM_{2.5} in Bellevue, and the sensor is placed on SE 12th St, which is outside of BelRed. Pollutants of most concern for the BelRed redevelopment include CO, PM_{2.5}, and O₃ (EPA 2018).

- Carbon monoxide (CO) is a colorless and odorless gas released by burning, especially fossil fuels. Inhaling CO reduces the amount of oxygen that can be transported in the bloodstream to critical organs, such as the heart and brain. People with heart disease are at most risk to adverse effects from CO. Under the Clean Air Act, the EPA defines and reviews standards for CO in outdoor air to ensure that it is kept at a safe level (EPA 2018).
- Ozone is a gas composed of three oxygen atoms. Stratospheric/atmospheric ozone shields the Earth from ultraviolet radiation, but tropospheric or ground-level ozone is harmful to health. This type of ozone occurs when pollutants emitted by cars, power plants, industrial boilers, refiners, chemical plants, and other sources chemically react with each other in sunlight. Exposure to ozone can reduce lung function and exacerbate conditions such as emphysema and asthma. Ozone also impacts sensitive vegetation during growing seasons and can cause loss of species diversity, changes to habitat quality, and changes to water and nutrient cycles. The EPA works with jurisdictions to determine appropriate regulations, which include vehicle and transportation standards, regional haze and visibility standards, and regular reviews of standards (EPA 2018).

- Particulate Matter (PM), or “particle pollution,” is a mixture of solid and liquid particles in the air. Some, like dirt, dust, soot, and smoke, can be seen with the naked eye; others require detection with an electron microscope. Some are emitted directly from sources like construction sites, unpaved roads, fields, smokestacks, or fires. Others form in the atmosphere as a result of complex chemical reactions between pollutants emitted from power plants, industrial sites, and automobiles. PM2.5 are fine inhalable particles with 2.5 or smaller micrometer diameters. PM2.5 poses serious risks to health, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms. Particulate matter can travel long distances by wind, acidify bodies of water, deplete nutrients in soil, damage sensitive forests, and affect ecosystem diversity (EPA 2018).

EXISTING CONDITIONS

Air quality is not generally a major concern in the Bellevue area. In 2017, the PSCAA monitoring system detected an annual average of 4.1 atmospheric parts per million (ppm) of PM2.5. This is well below the EPA standards of an annual maximum of 12-15 ppm. Pollution is such a minimal concern in Bellevue that the PSCAA does not monitor for pollutants other than PM2.5 (Clean Air Agency n.d.). Air pollution spikes in Bellevue during the summer months due to wildfire smoke (Clean Air Agency n.d.). Wildfire activity has been increasing in past years and is expected to continue to increase due to human-caused climate change and forest mismanagement (Abatzoglou and Park Williams 2016). Wildfire smoke is associated with decreased lung function and exacerbated pre-existing conditions, such as asthma, chronic obstructive pulmonary disease, and respiratory infections (Reid 2018).

SUBAREA PLAN AND ENVIRONMENTAL IMPACT STATEMENT

Air Pollution and Traffic Vehicle traffic is estimated to increase by 10% with the BelRed Subarea Plan, as stated in the 2007 EIS (BelRed EIS 2007). Although this was not a concern at the time of the EIS, acceptability of elevated carbon emission levels from the increase of traffic should be reconsidered based on contemporary understanding of the urgency of climate change and the urgency to lower emissions at every possible juncture (IPCC 2018). Increased traffic is estimated to increase carbon monoxide emissions in the area by 40%, and of particulates by 30%, though totals are still estimated to be below regulation levels. (BelRed EIS 2007). Construction will temporarily increase vehicle emissions and airborne dust. Long-term impacts on air quality are not expected (BelRed EIS 2007).

130th Avenue Station Cadman Concrete Batch Plant Construction designed around the 130th Ave. NE Light Rail Station will be near the Cadman concrete batch plant. Cement plants are a significant source of sulfur dioxide, nitrogen oxide, and carbon monoxide (EPA 2019). Particulate matter emissions burden neighboring concrete batch plants, and machinery and trucks exacerbate pollution (Frederick 2018). Presently, the area around this plant is light industrial, but since more people are living around and transporting to and from this area, pollution mitigation around the plant might be considered.



Cement plants, such as the Cadman facility in BelRed, are a significant source of air pollution.
NOLA LIU

EQUITY

Air pollution is typically higher in lower-income residential areas that have higher proportions of people of color. Thus, people with fewer resources are at risk from more health consequences from air pollution, both from outdoor contaminants and inadequate housing (Samet 2004). Asthma is one well-documented example. Due to disparate exposure, African-American children have much higher rates of asthma and poorer long-term health outcomes than their white peers (Tschudy 2016).

GREEN SPACE AND NATURE CONTACT

DEFINITION AND RELATION TO HEALTH

Urban green spaces, such as parks, playgrounds, and residential greenery, can promote mental and physical health and reduce morbidity and mortality in urban residents by providing psychological relaxation and stress alleviation; stimulation of social cohesion; support of physical activity and spiritual restoration; alleviation urban heat effects; and reduction of exposure to air pollutants, crime and violence, noise, and excessive heat (Cole 2019; Jennings 2016; Kondo 2018; and Sugiyama 2018). When green space is distributed equitably, these spaces can help alleviate health disparities in urban areas (Jennings 2016).

EXISTING CONDITIONS

Today, the BelRed park and trail system consists of three stages: existing, emergent (currently under development), and latent (planned but as yet undeveloped) (City of Bellevue 2016).

- Existing Parks: Highland Park and Community Center, BelRed Mini Park
- Emergent Parks: West Tributary Park; Eastside Rail Corridor Trail, Spring District Park, Goff Creek Park and Plaza
- Latent Parks: M1 Mini Park, M2 Mini Park, C1 Community Park, N4 Neighborhood Park, G Gateway Park, Major Indoor Recreational Facility

BELRED PARKS SIZE AND CHARACTERISTICS

Park Name	Size	Park Type	Characteristics
West Tributary Park	15 acres	City of Bellevue park: publicly owned, developed, and maintained	Stormwater facility (provides emergent wetlands), gravel lot, and a former industrial facility
Eastside Rail Corridor Trail	1 mile through BelRed, 7 miles in Bellevue, 42 miles total	Regional Trail Corridor: sections owned by the Port of Seattle and Sound Transit	Backbone for the transportation and regional trail system in eastern King County
Spring District	1 acre with other adjacent private plazas and open spaces	Public mini-park: owned, developed, and maintained by private developers	36-acre mixed-use urban neighborhood with open spaces, bike networks, water fountains, and emerging light rail station
Goff Creek Civic Plaza and Park	9 acres (combined)	Series of publicly accessible parks, plazas, and restored riparian corridors: developed by a combination of public and private stakeholders	Free-flowing stream and ecologically enhanced riparian corridor with an emerging strategically-placed street crossings and multipurpose paths

CITY OF BELLEVUE

SUBAREA PLAN AND EIS

The Subarea Plan includes policies to support the enhancement of the park and green space system in the BelRed area. Specifically, the Subarea Plan envisions a system of parks and open spaces that would serve the needs of the entire community and would ideally integrate stream corridors, trails, plazas, and other spaces (BelRed Subarea Plan 2007).

ANALYSIS AND IMPACT ASSESSMENT

BelRed’s legacy of light industrial and commercial use has left few existing parks and open spaces, with the notable exception of Highland Park and Community Center. As the area evolves, a comprehensive and connected system of parks, open space, and trails will be needed to provide recreation and enjoyment for residents, employees, and visitors in new BelRed neighborhoods. These new parks will also complement and connect the citywide parks system for the benefit of surrounding neighborhoods and the broader community. The Subarea Plan envisions a park system with an array of elements: community and neighborhood parks; riparian corridor open spaces; open spaces developed as part of natural drainage treatments and designed as public amenities; passive and active plazas and other urban open spaces; and a comprehensive trail system on- and off-roads, including along stream corridors. Beautiful and functional open spaces will help transform the area, support new residential and commercial uses, improve the environment, and be an asset for the broader Bellevue community.

EQUITY

Urban green space is not equitably distributed; in most cities, low-income communities have fewer green spaces, and the spaces that they do have are often poorly maintained and unsafe. Ultimately, inequitable access to green space results in an inequitable distribution of health benefits.

NOISE AND LIGHT POLLUTION

DEFINITION AND IMPACT ON HEALTH

Noise pollution, also known as sound pollution or environmental noise, is sound that reaches a level that negatively impacts the quality of human or animal life (Senate Public Works Committee 1972). Noise pollution causes annoyance and interferes with complex task performance and social behavior. It is also associated with hypertension and psychological symptoms that are not clinically defined (Stansfeld 2003). Noise pollution is regulated by local governments with different standards based on zoning. For example, industrial zones are permitted to have louder noises than residential zones (WA State Department of Ecology n. d.).

Light pollution is defined as “the inappropriate or excessive use of artificial light” (Dark Sky n.d.). Studies have found that exposure to white LED lighting, especially at night, can disrupt human circadian rhythms and melatonin production, resulting in increased risks for obesity, depression, sleep disorders, diabetes, breast cancer, and other afflictions (AMA 2016).

CURRENT CONDITIONS

Generally, noise levels do not pose much concern for BelRed because traffic volume would have to double for human detection (EIS 2007). Noise levels throughout the Subarea are predicted to be generally undetectable in 2030 based on current projections. However, noise levels associated with construction and light rail stations are potential sources of noise pollution for current residents.

Prior to BelRed Subarea development, the area had minimal residential use, so light pollution was not a concern. However, with the increase in residential zoning in addition to the mix of commercial and residential uses, light pollution for residents may become a concern.



Construction sites often contribute to noise pollution for surrounding communities.
KELLEY PASCOE



Sound Transit construction will elevate noise levels in BelRed. NOLA LIU

SUBAREA PLAN AND EIS

Noise Pollution and Construction Elevated noise levels are facets of major construction projects. During construction in BelRed, acceptable noise levels will rise and acceptable hours of operation will be expanded to accommodate the project (City of Bellevue n.d.).

Noise Pollution and Light Rail After construction, expected sources of noise include light rail vehicle operation (including wheel/rail interface, train-mounted warning systems, and track crossovers) and operations that create stationary noise (safety systems associated with the train, public address systems, electrical transformers, and traction power substations) (City of Bellevue n.d.). The City of Bellevue was the first jurisdiction to apply a local noise code to light rail operations, but the city now faces the challenge of applying and enforcing the codes during the development.

ANALYSIS AND IMPACT ASSESSMENT

Development of the BelRed area will potentially increase noise and light pollution for residents. Construction will increase noise temporarily, but proximity to above-ground light rail means there is a potential for long-term noise pollution. Redesigning the street grid means streetlights will

be more frequent, and the mix of retail and commercial with residential use could imply night-long lighting for signage. Finally, the light rail service station may contribute to increased noise and light pollution, especially for the planned residential development nearby.

EQUITY

Research has indicated that neighborhoods with low socioeconomic statuses bear a higher burden of noise pollution, since they are often located in closer proximity to industrial sites, freeways, and airports (Dale 2015).

ENERGY CONSUMPTION AND CLIMATE CHANGE

DEFINITION AND RELATION TO HEALTH

Driven by fossil fuel emissions, global surface temperatures are increasing and causing sea level rise, acidification, and extreme weather events that are more frequent. The climate crisis is upon us (IPCC 2018). As demonstrated by these crises, climate change as a result of burning fossil fuels is impacting human health in a myriad of ways. Cities contribute to the problem by increasing energy and fuel consumption in addition to resource depletion. The US Energy Information Administration estimates that residential and commercial buildings account for about 40% of US energy consumption from indoor lighting, climate control, elevators, and other appliance use (US Energy Information Administration 2019). BelRed's energy is provided by Puget Sound Energy (PSE). Coal burning comprised 38% of PSE electricity supplies in 2017, though this practice will be phased out over the next several decades in accordance with the statewide 2019 clean energy bill (PSE 2019).

However, cities can also be part of the solution. Higher density cities generally have smaller dwelling sizes that require less lighting, heating, and cooling, and units with shared walls retain warmth and heat better than detached single-family units (Gunalp 2017). Thoughtful building design can reduce energy consumption and consequently reduce the burning of fossil fuels by integrating LEED standards for low-energy use (LEED 2019). Landscape design can also contribute to lower energy

consumption: strategic placement of trees around buildings can regulate indoor temperatures, reducing demand for heating and cooling (Ko 2013).

Health effects of fossil fuel consumption and climate change range from the immediate to the long-term. Immediate effects include contamination of air, soil, and water (as previously discussed). In the long term, impacts on health will be drastic and wide-ranging. Extreme variation in weather, from heavy precipitation to drought, will lead to natural disasters that can cause death, illness, and displacement. For example, rising sea levels threaten islands and coastal areas with saltwater intrusion and damage to infrastructure. Extreme impacts on ecosystems threaten food production. Changing surface temperatures increase the range of vector-borne disease beyond usual boundaries (IPCC 2018). Overall, vulnerable communities bear most of the burden, since the same systems that cause social and economic vulnerability also cause vulnerability to the damaging health impacts of climate change (Rudolph 2018).

EXISTING CONDITIONS

While the City of Bellevue requires benchmarking and public reporting of building energy use for municipal buildings, laws currently do not require the same practices for privately owned and operated buildings (NEEC 2019). Therefore, current energy consumption rates in the area are unknown.

SUBAREA PLAN AND EIS

The BelRed SAP states the intention to “promote environmentally sensitive design in public and private projects” (BelRed Subarea Plan 2007). However, since 2007, the IPCC’s recommendations on climate change have shifted in response to unanticipated increases in greenhouse gas emissions that will drastically impact the Earth’s climate.

The City of Bellevue currently offers incentives to urban developers for building “green” structures that are LEED certified. In BelRed, areas zoned Medical Office (MO-1), Office/Residential (OR-1 and OR-2), and Residential/Commercial (RC-2 and RC-3) offer increased density incentives for LEED building: 0.33 FAR Bonus for LEED platinum, and 0.13 FAR Bonus for LEED Gold (City of Bellevue 2019).

The BelRed EIS states that utilities use is expected to increase substantially in the area, although this increase is not expected to require significant augmentation in utility provider capacity.

ANALYSIS AND IMPACT ASSESSMENT

The BelRed redevelopment process anticipates an additional 5,000 new units of residential space, an increase of 4 million square feet of office space and 500,000 square feet of retail space, and a net reduction of almost 2.5 million square feet of industrial use (BelRed EIS).

Jennifer Eweing, Environmental Stewardship Program Manager with the City of Bellevue, notes that as of this time, no developers have taken advantage of the Floor Area Ratio incentive for LEED building. However, one developer is pursuing LEED certification independent of the incentive program (GIX in the Spring District), and the Spring District itself is marketed as having been designed according to LEED neighborhood development standards.

EQUITY

LEED construction is not only beneficial for the environment but can also help reduce utility bills for residents. Climate change will cause more extreme weather events, and “green” buildings can protect residents from extreme heat and cold without high energy costs by regulating temperature with structural components instead of air conditioning and heat.

RECOMMENDATIONS

REDUCE THE POTENTIAL FOR WATER AND SOIL CONTAMINATION

Monitoring and mitigation efforts can reduce the negative health effects of contamination and prevent future contamination. Therefore, we suggest the following:

- The Bellevue Environmental Health Department could consider more frequent monitoring and sampling for soil and water contamination in the BelRed neighborhood on lots that were previously industrial but are being converted to residential. We recommend sampling soil and water on a quarterly basis for contaminants of concern, such as lead and arsenic.
- The progress toward daylighting all piped stream sections and improving wetland areas within the BelRed neighborhood has been limited. The Bellevue Department of Planning could consider providing alternative methods that encourage existing and proposed industries to work to daylight piped streams on their property during redevelopment. Additionally, these industries could be encouraged to improve the habitat of the wetland and stream areas. This could be accomplished by providing ample buffer zones surrounding between the streams, wetlands, and places of industry or development. These methods may include substantial incentives for those affected businesses.

Planners not only have an obligation
towards economic growth, but an
obligation towards equity.

REDUCE THE BURDEN OF AIR POLLUTION ON VULNERABLE POPULATIONS

Existing air pollution sources will worsen as climate change advances. This will have especially serious effects on the health of vulnerable populations. Therefore, we suggest the following:

- The City of Bellevue could consider actions to protect vulnerable populations from smoke exposure during wildfire season. This could include providing a space so that people experiencing homelessness have safe indoor spaces during intensified pollution, particularly during wildfire season, and providing materials to low-income households to make simple filter fans to purify air in their home. Senior housing accommodations, daycares, and medical centers that cannot be moved and are nearby high traffic or other high pollution areas could be supplied with adequate information and resources pertaining to the reduction of particulate matter through either air conditioning or filter fans (Puget Sound Clean Air Agency n.d.).
- If the resources and expertise are available, the City of Bellevue could consider making recommendations to the Department of Forestry for controlled burns and other forest management tactics to decrease the risk of catastrophic, uncontrolled wildfires.
- The City of Bellevue could consider offering grants to convert the Cadman concrete plant to more sustainable energy use or to transition to sustainable concrete alternatives such as Solidia (<https://solidiatech.com>) or Biomason (<https://biomason.com>). This would help reduce the emissions of the plant and lessen the health impact of nearby residents, without driving out the industry.
- The City of Bellevue could consider planning zones of the BelRed area which are car-free or have extremely low speed limits to lower air and noise pollution, allow more room for green spaces and active transport, and enhance the quality of life for people living within those zones (see ‘Superblocks’ in Barcelona, Spain as an example).

ADVANCE AIR QUALITY MONITORING AND POLLUTION-RELATED INTERVENTIONS

Wildfire seasons are expected to lengthen and worsen with the advancement of climate change (Abatzoglou et. al. 2016). Presently, air quality is only monitored in one location in Bellevue (on SE 12th Street), and only PM2.5 is accounted for. In order to prepare for climate change and determine whether the new infrastructure is impacting air quality, we suggest the following:

- The Bellevue Environmental Health Department and Puget Sound Clean Air Agency could consider implementation of a citywide air quality monitoring system.
 - » The City could select locations (residential, business, or public spaces) throughout the City to receive air quality monitors. PurpleAir has been used in wildfire preparation as an inexpensive and effective monitor for PM 0.3-10 micrometers in diameter. More information about these sensors can be found at <https://www.purpleair.com/>
 - » The City of Bellevue could consider continuously monitoring air quality and communicating hazard levels to residents when they reach levels that can impact human health.
 - » If areas with consistently poor air quality correspond with elements of the built environment (e.g., traffic congestion, building emissions, or construction zones) and the BelRed Subarea Plan, the City could take measures to reduce emissions in those areas.
- The City of Bellevue could consider providing protective measures for vulnerable populations during wildfire seasons and in areas that receive a disproportionate burden of pollution from the built environment through expanded air quality monitoring. Box fan filtration interventions have demonstrated success at improving indoor air quality in Southern California (Fisk et. al. 2016).

INCREASE BENEFITS OF URBAN GREEN SPACE

Access to urban green space has the potential to create numerous health benefits for residents, especially when access is equitable. Therefore, we suggest the following:

- The City of Bellevue could consider monitoring green space usage by specific population groups with a focus on vulnerable populations such as children; the elderly; working-age adults; pregnant people; cultural and ethnic minorities; and individuals with mental illnesses, cognitive impairments, or physical limitations. If barriers to access are identified regarding one of these groups, the City could consider expanding community involvement to reduce barriers.

REDUCE THE BURDEN OF NOISE POLLUTION AND LIGHT POLLUTION ON CURRENT RESIDENTS DURING AND AFTER CONSTRUCTION

Long-term exposure to noise and light pollution can cause negative health impacts for residents. Therefore, we recommend the following:

- The City of Bellevue could consider regular testing of noise levels around construction sites to ensure that noise levels are not exceeding permitted levels, and use USDOT recommendations for noise mitigation as guidance.
- The City of Bellevue could consider requiring long-term sound-dampening measures for residential areas close to high-noise areas, such as busy streets and light rail stations.
- The City of Bellevue could consider working with offices and businesses to ensure that lit signage does not create undue light at night, and that the usage of white light in LED lighting is avoided when possible.

REDUCE ENERGY USE IN COMMERCIAL AND RESIDENTIAL BUILDINGS IN BELRED

Emissions from energy use in residential, office, and commercial buildings are a significant factor in climate change. The scientific knowledge regarding climate change has expanded since the publication of the 2007 BelRed EIS. The IPCC 2018 report states that carbon emissions must be halved by 2030 and be net zero by 2050 to keep global warming below 1.5 degrees Celsius and avoid climate catastrophes. The BelRed EIS does not consider the severity of the climate crisis. Therefore, we suggest the following:

- The City of Bellevue could consider consulting with developers to understand why incentives for LEED-certified construction have not been utilized. If necessary, the Department of Community Development could consider increasing incentives until LEED construction is cost-effective for developers.
- The City of Bellevue could explore policy options to further decrease emissions of greenhouse gases related to the BelRed redevelopment, including setting mandatory LEED standards for new construction; mandatory or incentivized LEED retrofitting of existing buildings; and emission caps for residences, businesses, and office space within the BelRed area.

SUMMARY

The redevelopment of BelRed can improve the natural urban environment by daylighting streams and rehabilitating wetlands, creating accessible and open green spaces, and increasing density to incentivize low-emission transit use. Preventative action is recommended since the community faces increased exposure to environmental health hazards from higher emissions of greenhouse gases, disruption of contaminated soils, a surge in nighttime LED lighting, more noise, and the increasing consequences of climate change. While some exposure to these elements is inevitable, action can be taken to mitigate impacts on BelRed’s new residents. Historically, negative environmental factors mostly impact the vulnerable populations in a community. Active monitoring can help ensure that these vulnerable groups are not unduly impacted by environmental health burdens. Overall, the developers and planners of BelRed have an opportunity to demonstrate the benefits of low-impact development and to create a community that fosters principles of environmental sustainability.

CONCLUSION

Redevelopment in BelRed offers the opportunity to create a new community in the thriving city of Bellevue. Thoughtful planning can create a community that serves both the economic and social needs of the growing BelRed neighborhood, contributing to positive long-term health outcomes for the residents.

FOSTERING EQUITY

A sustainable community supports individuals from a wide range of backgrounds. Vulnerable populations in this HIA include communities of color, individuals experiencing homelessness, economically disadvantaged individuals, renters, women, children, and individuals with disabilities. Although BelRed does not currently have a large population, we recommend putting measures into place to protect these groups while changes remain actionable. Equitable planning will ensure that BelRed values diversity in its community and will help foster resiliency in individuals and the community.

LIMITATIONS OF THE HIA

Although the team attempts to identify all sources of inequity in BelRed, the creation of the HIA and its consideration of these factors is limited by several factors. The 21 UW students conducting this HIA had a limited timeframe to complete the HIA within UW's 10-week quarter system. This time constraint limited students from conducting surveys or in-depth interviews with residents and parties who are influential in the development of BelRed. Furthermore, opportunities for quantitative research, evaluation, and monitoring are not possible within this constrained time period.

NEXT PHASE

The final steps of an HIA are monitoring and evaluation. Monitoring tracks the effectiveness of the HIA in shaping policy and helps determine the outcomes. For example, did the decision-makers follow the HIA recommendations? Was health integrated more deeply into planning processes? What were the outcomes, both intentional and unintentional, of the HIA and its recommendations? Evaluation focuses on assessing the HIA process itself and on the impacts of the HIA recommendations on subsequent decisions.

The limited time period for this HIA precludes a full evaluation. However, our partners at the Department of Community Development have agreed to inform Professor Dannenberg of any changes to the plan and to redevelopment based on the strength of the findings of this HIA.



CITY OF BELLEVUE

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