

EMPIRE PARCELS PARK

HEALTH IMPACT ASSESSMENT



UNIVERSITY OF WASHINGTON

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Land Acknowledgment

The contributors to this report acknowledge that the institution we study under, the University of Washington, occupies land of the Coast Salish peoples, specifically the Duwamish, Puyallup, Suquamish, Tulalip and Muckleshoot Nations. The land for the Empire Parcels Park is traditional land of the Duwamish people. We recognize that the ancestral history, lands and waters of the Coast Salish people provide us and the Empire Parcels Park site visitors an environment in which to learn, work, live and recreate, and we pay our respects to the past and present original caretakers of this land. We recommend those who are reading this report learn more about the colonial history and the past and current Native caretakers of the land they occupy.

Equity Statement

Parks and green space are not equitably distributed in most U.S. counties. Thus, health benefits attributed to access and visitation to parks and green space are not equitably distributed, either. This presents parks departments and public health across the U.S. with a unique opportunity to collaborate in tackling environment, health, and equity issues jointly. We recognize that inequitable access to green space in King County is a motivating factor for the King County Parks' acquisition of the Empire Parcels. As such, the contributors to this HIA prioritized a focus on equity. Each chapter of the report includes equity considerations specific to the environmental & health, community, and accessibility involved in the development of Empire Parcels Park. Through the process of this HIA, we assess how the development of a park at the Empire Parcels can extend the intended health benefits and improve equity for all neighborhood residents.

Positionality Statement

The contributors to this report are all graduate students at the University of Washington representing the fields of public health, urban design & planning, landscape architecture, social work, and public administration. We recognize that our pursuit of higher education is a privilege that is inaccessible to many people, and that our position as students allows us to dedicate time toward learning about and addressing the root causes of health, environmental and structural inequity. Not all contributors of the report are familiar with the neighborhood and surrounding area of the Empire Parcels Park site. Our report and recommendations are informed by educational and personal experiences, online research, collaboration with residents near the proposed park, informational meetings with representatives from King County Parks and King County Housing Authority as well as limited firsthand accounts of visiting the site. Community engagement would also help ensure that recommendations align with community needs and perspectives.



Executive Summary

Background

The Empire Parcels A and B, now being considered for park development by King County Parks, make up 3.1 acres of undeveloped land in King County's Skyway-West Hill community located adjacent to Interstate 5, the Union Pacific Railroad, and Empire View Mobile Home Park. The Empire Parcels are located within a priority area for park creation within King County, having less access to open and green space, lower socio-economic status, and higher hospitalization rates compared to the county average (Ringel & Takizawa). This HIA was conducted by UW students at the invitation of King County Parks, following the selection of the site for park development but prior to park design. The purpose of this HIA is to provide King County Parks with recommendations for key design and implementation considerations to ensure that the park can produce the intended benefits and meet the needs of the surrounding community. These key project considerations and recommendations center on park access, maximizing visitor experience and benefits to health and community cohesion and minimizing negative impacts of traffic, pollution, and ecosystem disruption.

Findings

Overall, the creation of a park at the Empire Parcels can greatly benefit the health and well-being of the surrounding community. Critical findings within this HIA report include the importance of pedestrian infrastructure along the roadways adjacent to the parcels, disability access needs within the park, possible pollution concerns at the Parcel's location, local concerns regarding crime and safety, and the importance of sight lines and lighting within the park, irrigation needs and design possibilities such as rain gardens, and design choices or features such as local art, gathering spaces, and trails which benefit community cohesion and health. King County Parks collaboration with the King County Road Services Division, Skyway Coalition and other local stakeholders will be critical for park installation and maintenance that reflects community member priorities. Continued community engagement will ensure that HIA recommendations align with community needs and perspectives.

Based on these findings, the class produced ten recommendations which aim to guide King County Parks in improving park design to benefit the health & well-being of the community and local environment. The ten recommendations listed on the following page, ranked in order of greatest importance, are considered highest priority and aim to address several key findings across all focus areas (health, environment, access, and community).



Executive Summary

Priority Recommendations

1	King County Parks should consider collaborating with King County Road Services Division and the Washington State Department of Transportation to install and improve existing sidewalks along 129th street, Martin Luther King Jr Way, and Beacon Coal Mine Road. They should also consider establishing crosswalks with Rectangular Rapid Flashing Beacons (RRFB) where feasible to allow for safe access to the park from the Empire View Mobile Home Park, Foster Commons Multi-Family Residences, and surrounding areas.
2	King County Parks should consider involving the community of Skyway and local CBOs such as the Skyway Coalition in the initial design phase of the park, development of park-related programming, and ongoing park stewardship through various community engagement activities such as questionnaires, focus groups, meetings or forums to better understand community priorities for the park (e.g., features such as community gardens, multi-lingual signage, youth programming and stewardship needs).
3	King County Parks should consider keeping or planting dense vegetation with noise reduction capacity within a delineated setback area separating the park from the highway, railway, and where possible along S 129th in order to mitigate air pollution and noise.
4	King County Parks should consider investing in accessibility features and improvements at the park, including at least one major ADA trail and limited parking to support community members with varying abilities to access the full benefits associated with park use.
5	King County Parks should consider designing the park to allow several sight lines from nearby housing at Empire View Mobile Home Park and from critical points along S 129th St, such as the point where a crosswalk is installed. This will increase perceptions of park safety and utilization and discourage illegal activity.



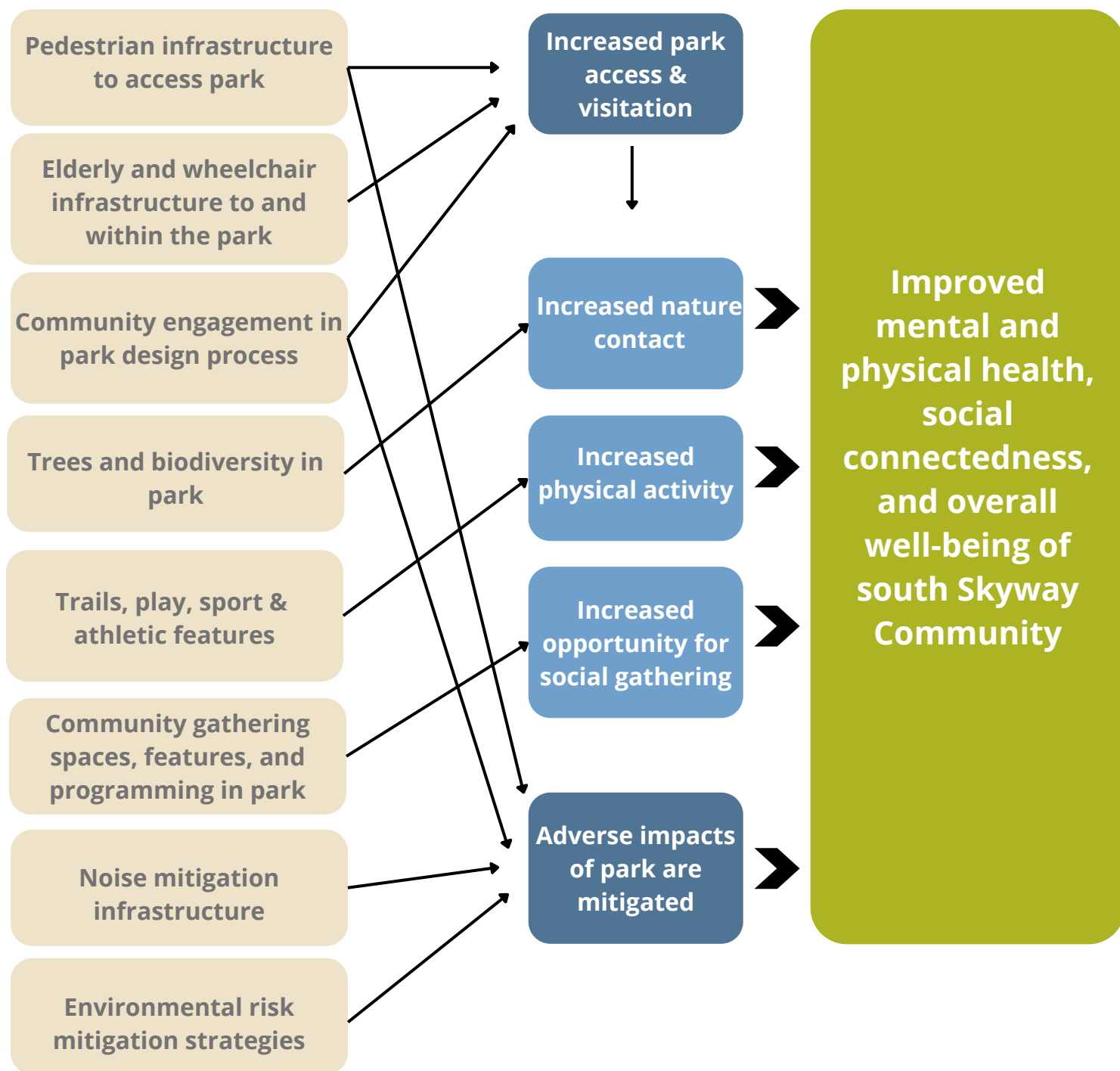
Executive Summary

Priority Recommendations, continued...

6	King County Parks should consider advocating for the Washington State Department of Transportation (WSDOT) to construct noise barriers along I-5 adjacent to the Empire Parcels and consider the feasibility and impact of noise barriers, or possibly dual-function noise and sidewalk / bike-lane barriers along sections of S 129th St.
7	King County Parks should consider working with the Washington State Department of Transportation to install and improve bike lanes on S. 129th St and Martin Luther King Jr. Way to connect the neighborhood via active transport to the greater Skyway area.
8	King County Parks should consider collaborating with organizations such as the Washington Trails Association to build a trail, in addition to other amenities that promote physical activity (e.g. play area, exercise equipment).
9	King County Parks should consider providing covered gathering spaces and benches within the park for people to connect and interact in a shared environment in inclement weather.
10	King County Parks should consider installing lighting on the park periphery and any areas designated for activity—i.e. picnic shelters and playgrounds—for increased safety and perceptions of safety.

Logic Model

Logic models typically help to define a project's intended impact and goals; the sequence of intended effects; and which activities produce which effects. Although this model is not comprehensive, it can still elucidate some of the key relationships between factors discussed in this HIA and the pathways through which they impact health.



Glossary of Terms

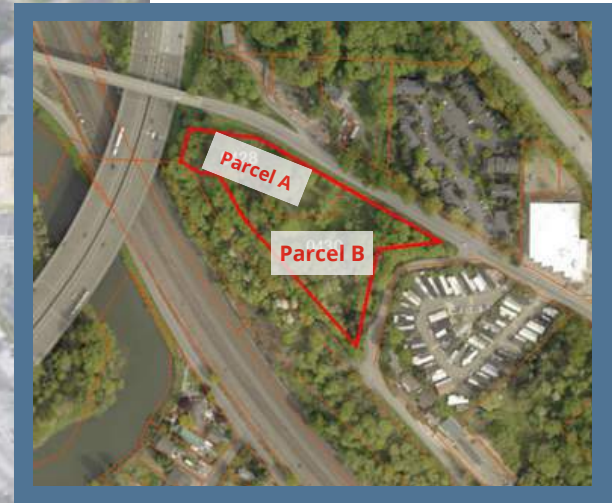
ADA Accessibility	Accessibility standards issued under the Americans with Disabilities Act (ADA) apply to places of public accommodation, commercial facilities, and state and local government facilities in new construction, alterations, and additions. The ADA Standards are based on minimum guidelines set by the U.S. Access Board.
CBO	CBOs, or community-based organizations, are driven and operated by community residents. For example, governing bodies and staff consist of local residents, the organization's offices are located in the community, and priority issues and solutions are defined and developed by residents.
CDC	The Centers for Disease Control and Prevention is the national public health agency of the United States. It is a United States federal agency, under the Department of Health and Human Services, and is headquartered in Atlanta, Georgia.
CPSTF	The Community Preventive Services Task Force (CPSTF) was established in 1996 by the U.S. Department of Health and Human Services to identify population health interventions that are scientifically proven to save lives, increase lifespans, and improve quality of life. CPSTF findings help inform decision makers in federal, state, and local health departments, other government agencies, communities, healthcare providers, employers, schools and research organizations.
Green Space	An area of grass, trees, or other vegetation set apart for recreational or aesthetic purposes in an otherwise urban environment.
Health	As defined by the World Health Organization, health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.
Health Equity	Attainment of the highest level of health for all people. Achieving health equity requires valuing everyone equally with focused and ongoing societal efforts to address avoidable inequalities, historical and contemporary injustices, and the elimination of health and health care disparities.

Glossary of Terms

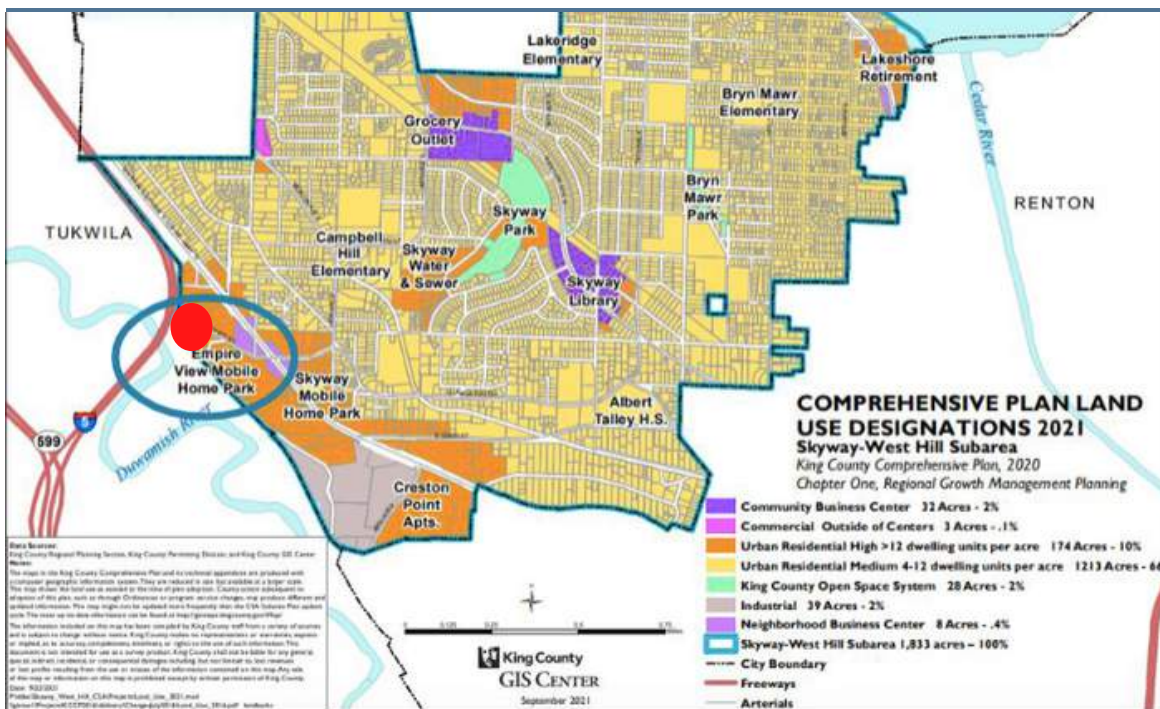
Health Impact Assessment	Health Impact Assessment (HIA) is a systematic process that uses an array of data sources and analytic methods and considers input from stakeholders to determine the potential effects of a proposed policy, plan, program, or project on the health of a population and the distribution of those effects within the population. HIA provides recommendations on monitoring and managing those effects.
HHS	The mission of the U.S. Department of Health and Human Services (HHS) is to enhance the health and well-being of all Americans, by providing for effective health and human services and by fostering sound, sustained advances in the sciences underlying medicine, public health, and social services.
King County Parks	King County Parks is a regional provider of parks, trails, open space, and aquatics centers. Their mission is to preserve and enhance public recreational assets and protected natural areas, enhance the region's quality of life, and preserve public lands legacy for future generations of King County residents.
NRPA	The National Recreation and Park Association (NRPA) is the leading not-for-profit organization dedicated to building strong, healthy and resilient communities through the power of parks and recreation.
Social Determinants	Conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks.
HRA	Regions and Health Reporting Areas (HRA) were created to examine geographic patterns below the county level.
Washington State Department of Transportation	Washington State Department of Transportation (WSDOT) is the governmental agency that constructs, maintains, and regulates transportation infrastructure such as roads and sidewalks statewide.

Empire Parcels: Site Maps

Empire Parcels site and surrounding area



Site boundary highlighted red.
Maps sourced from King County Parks Department

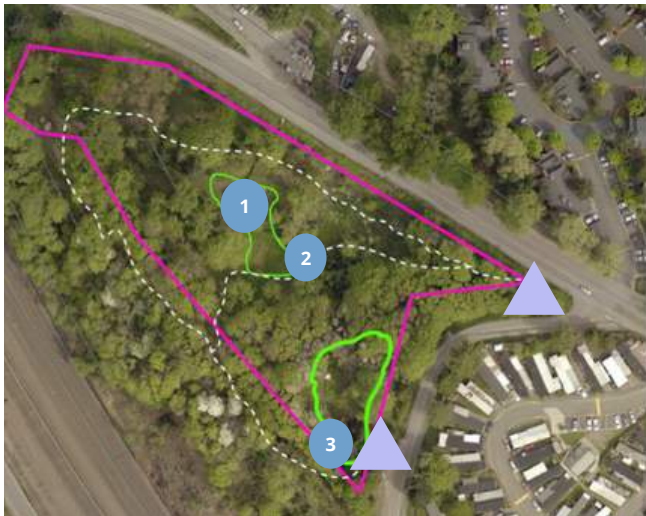


Empire Parcels site

Map from King County 2021 Comprehensive Plan

Empire Parcels: Site Maps

The site



Preliminary park design map from King County Parks showing potential trails, meadows or fields, and park entrances.

Key:

Dotted white line: potential trails for park

Green lines: potential meadow areas and/or gathering spaces.

Purple triangles: potential park entrances



View of willow tree in lower / middle of parcel, facing NE towards 129th St



*View looking west towards interstate 5.
Willow tree and S 129th to camera's right.*



View from within the Parcel looking towards Beacon Coal Mine Rd. Potential park entry point.

Photos taken at site visits by UW students

Empire Parcels: Site Maps

Getting to the site: Pedestrian infrastructure on border of the site is limited to non-existent



Top Right: Beacon Coal Mine Road
with Parcel on left.

Middle left: Intersection of Beacon
Coal Mine Rd and S. 129th St.
facing towards I5..

Middle right: View of Beacon Coal
Mine Rd. from Parcel

Bottom: S 129th St with Parcel on the
left.:



Photos taken during site visits by UW students

Empire Parcels: Site Maps

Getting to the site: Pedestrian infrastructure on border of the site is limited to non-existent



Empire Parcels: Demographics

Demographics

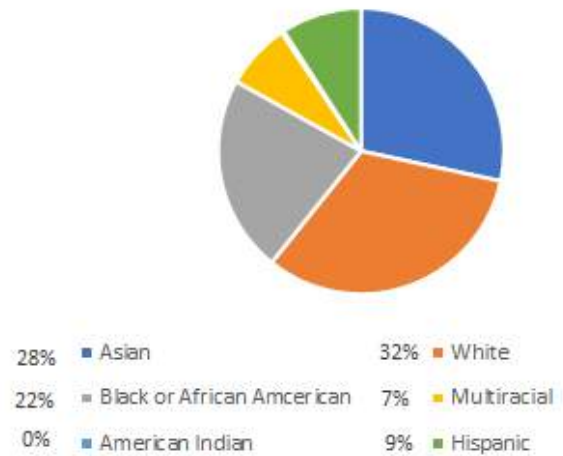
Skyway-West Hill is a vibrant and culturally diverse neighborhood in unincorporated King County. The demographics of the Skyway community can inform design to ensure features in the park align with its utilizers backgrounds and identities.

The community is 28% Asian, 22% Black or African American, and 32% White. 44% of Skyway identifies as BIPOC (Black Indigenous or Person of Color). 34% of community members were born outside of the United States and more than 40% of community members speak a language other than English at home (U.S. Census).

The community is overall low- to mid-income: 49% of residents make less than 80% of the county's median household income and the area is ranked in the bottom third for median income in King County. More than 1/4 of residents are enrolled in Medicaid (Data USA) Skyway residents are underserved by local healthcare systems; addressing healthcare disparities is a priority in the area's Community Service Plan (Skyway-West Hill Subarea Plan). Nearly 20% of the community's population is younger than 18 years old while 17% are over 65, a greater percentage of the population than in Washington State on average (U.S. Census).

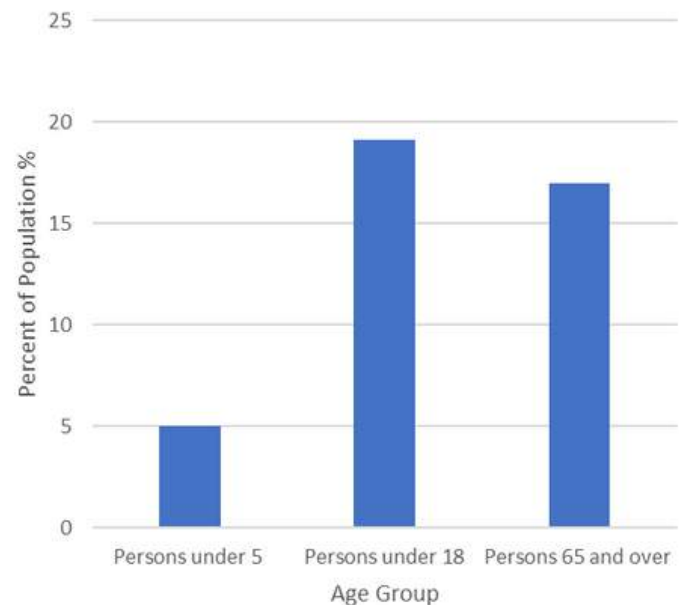
These demographics highlight the need to consider the Empire Parcels Park, and the recommendations outlined in this report, from an equity perspective.

Racial Demographics



Demographic information obtained from census.gov, Bryn Mawr-Skyway Census Designated Place, 2020.

Age Distribution

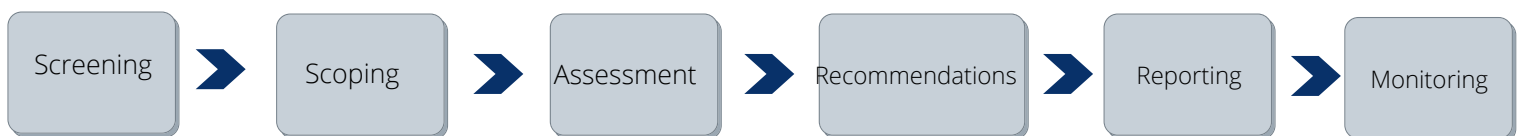


Demographic information obtained from census.gov, Bryn Mawr-Skyway Census Designated Place, 2020.

HIA Purpose & Process

HIA Purpose

Health Impact Assessments evaluate the potential health effects of implementing a project, policy, program or plan on the health of a population as well as the severity and distribution of impacts within the population. HIAs make recommendations that seek to address health impacts and focus on transparency and equity. Important tools for facilitating community engagement, HIAs engage health experts, decision-makers, and stakeholders in the effort of establishing and addressing health effects attendant to a proposal. HIAs typically incorporate six steps:



HIA Process

The screening step determines whether conducting an HIA is feasible, timely, and beneficial to the planning process. Scoping creates a concrete plan and timeline for the HIA and defines priority issues, research methodology, and which health topics the report will address. The third step, assessment, documents existing conditions in an area or population as a means of assessing change from the baseline; potential health impacts are then evaluated using quantitative and qualitative research methods. Authors create recommendations for addressing health impacts, drawing in equity considerations and community participation when possible. A written or visual report is then communicated to decision-makers and the public. Monitoring plans track the HIA's effect on the decision-making process and any potential health detriments.



HIA Purpose & Process

Site Background & Why This HIA

University of Washington graduate students conducted this HIA at the invitation of King County Parks. King County Parks is expanding parks county-wide to increase equity and identified the Empire Parcels as a potential location. Initially, the Empire Parcels site was obtained by King County Housing Authority for use in building affordable housing. However, the location was not appropriate for housing due to drainage and other site issues. King County Parks is obtaining the land from King County Housing Authority. King County Parks then invited University of Washington students to collaborate on the report to provide suggestions for improved park design.

The prospective park location was used as residential property from approximately 1926 until between 1990 and 2003, when the residential buildings were demolished, burned down, or relocated. (PBS EIA report) The parcels have remained vacant since 2003.

Methodology

This HIA was conducted via student research utilizing literature reviews and qualitative information obtained from park stakeholders. The class had ten weeks to complete the project during March to June 2022. Fourteen students from the fields of Public and Global Health, Landscape Architecture, Environmental Health, and Social Work collaborated on the report. Students met with collaborators David Kimmett and Sunnie Park, who work with King County Parks Natural Lands Program and King County Housing Authority's development program respectively, to learn more about the proposed project.

Students reviewed existing demographic data and literature to understand current conditions; site visits to the park parcel and Empire View Mobile Home Park were conducted independently. A group of students who visited Empire View Mobile Home Park interfaced with Greg Blount, Executive Director of the nonprofit that manages the property, who shared insights into the existing conditions and potential community needs or interests specific to park development. As a class, students scoped the project and divided topics into three categories: Health & Environment, Community, and Access. Students then developed recommendations for these topics that may potentially influence health determinants and outcomes, with a focus on equity and addressing health disparities. The class presented results to collaborators on June 2nd, 2022 and subsequently incorporated their feedback into the final HIA report.

Chapter 1: Health & Environment

Introduction

The Socio-Ecological model (Image 1) provides a framework for understanding social determinants of health. Parks are one component of the built environment that can have significant health benefits in the community. Research has demonstrated associations between parks and a large number of health outcomes, particularly for nearby residents. Parks encourage physical activity and contact with nature which both have demonstrated physical and mental health benefits across the life course. Parks contribute to clean air and water by absorbing and mitigating pollution from nearby sources like highways, railways, and water runoff from roads. Trees in parks can absorb noise from neighboring sources, and shield park visitors and nearby residents. By contributing to green space, parks contribute to mitigation of extreme heat events. Parks can also affect accessibility to healthy food if they are sites for farmers markets and community gardens.

Parks can be designed to maximize health benefits and minimize risks. Attractive and well maintained parks increase perceptions of safety, leading to more usage and therefore more health benefits for visitors. Lighting, walking paths with clear sightlines, and visibility from nearby housing and roads can reduce risk of injury and crime. Playgrounds, trails, and sports fields can increase the use of parks for physical activity. Vegetation can mitigate air and noise pollution from nearby sources. Shade trees and water features can keep parks cool and inviting during extreme heat events. Programming and activation of parks can lead to greater use, and co-designing parks with neighborhood residents can increase ownership and subsequent use.

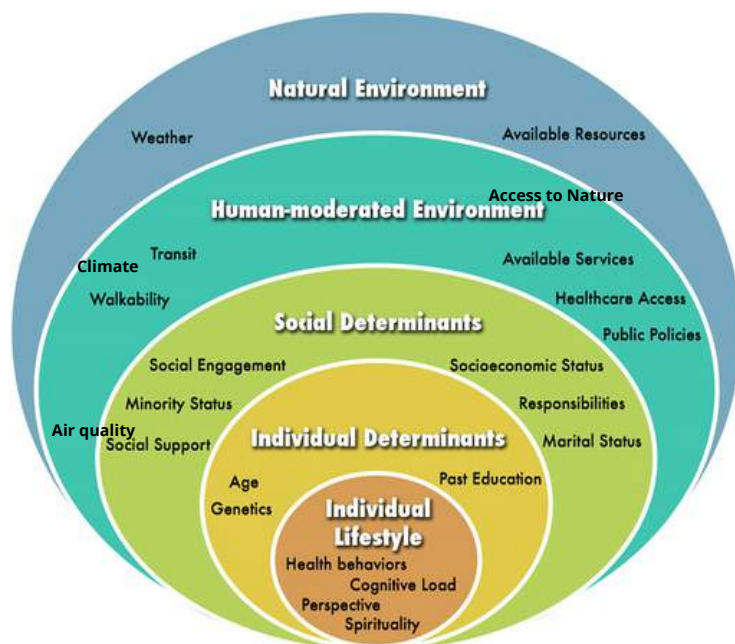


Image 1: Socio-Ecological Model
From [ResearchGate](#)

Health & Environment: Key Considerations

Physical Activity

Physical activity is broadly associated with health benefits and has few negative side effects (HHS). It can lengthen life and reduce the risks of dozens of physical and mental health conditions, including obesity, cardiovascular disease, and diabetes. Physical activity also reduces the risk of many cancers, and osteoporosis, and improves sleep and mental health (Botchwey, TRB IOM). The benefits of physical activity almost always outweigh the risks, which include exposure to air pollution and injury (Fisher). The societal costs of physical inactivity are staggering. The CDC estimates that direct medical expenses associated with physical inactivity totaled at least \$76 billion in 2000 (Botchwey).

All people can benefit from physical activity at different levels throughout their life course. According to the US Department of Health and Human Services, children and adolescents should get at least one hour of moderate to vigorous physical activity per day. Adults should get at least 150-300 minutes every week. Older adults should be as physically active as their abilities allow. One-fourth of adults and 80% of adolescents do not meet physical activity guidelines (HHS).

Women, minorities, older people, and low-income populations generally engage in less physical activity (Armstrong). Due to a history of racism and lack of access to resources, there are significant health disparities in the United States that affect minority and low-income populations (National Academies of Science).

Parks are a preferred site of physical activity, particularly among low income residents that cannot afford to join health clubs (Cohen). Despite this, access to space for recreation and their maintenance tends to be worse in low income communities (Floyd).

As part of the built environment, parks, trails, and greenways are modifiable social determinants of health (HHS). Opportunities for physical activity are generally associated with higher levels of physical activity (Karmeniemi). Recreation areas near one's residence are associated with greater levels of walking among youth, as well as less screen time (Kerr, Kopcakova). Those who live near the park are most likely to make use of it (Cohen).

The US Community Preventive Services Task Force (CPSTF) conducts reviews of evidence to identify interventions to improve health and prevent disease. The CPSTF recommends interventions that combine park, trail, or greenway infrastructure improvements with one or more additional interventions to increase physical activity and park use. Additional interventions include community engagement, awareness, programming, and access enhancements. A total of seven studies show that this intervention leads to a 17% increase in people who use a park to engage in physical activity. The CPSTF did not find sufficient evidence to support infrastructure improvements alone (CPSTF). Some physical features, such as lighting and other amenities (e.g., sports fields, playgrounds, etc.) are also associated with increased physical activity (TRB IOM).

Health & Environment: Key Considerations

The park will be built in a neighborhood that is included in the Renton South Health Reporting Area (HRA) by Public Health Seattle-King County. Life expectancy is 79.6 years. 22% of residents report no leisure-time physical activity, and only 16% of residents meet physical activity recommendations.

These all rank among the worst statistics across the County. In addition, the rate of age-adjusted mortality for stroke and diabetes is higher than in most neighborhoods (King County).

Key finding: Designing the park with community input, including infrastructure that encourages physical activity, and providing programming are essential components to ensure that a park promotes health.

Recommendations:

- King County Parks should consider providing amenities that promote physical activity, such as trails and playgrounds.
- Activation of parks is particularly important in low-income neighborhoods. King County Parks should consider exploring opportunities for programming with the planned Skyway Community Center, schools and other community groups.

Mental Health

Increasingly, research suggests that our built and natural environments play significant roles in our mental health. While the relationships between environment and mental health are complex and influenced by many other interpersonal, personal, and

community factors, we know that certain environmental features or experiences are conducive to improving or deteriorating mental health (Bratman). For example, exposure to residential green space as a child has been found to be positively associated with a reduction in psychiatric disorders from childhood through adulthood (Engemann, 2019). Stress, too, which plays a significant role in mental health has been shown to be reduced by exposure to nature (Yang et al., Roe et al, Perrins et al). Anxiety, depression, and cognitive functioning have also been found to be positively impacted by time spent in green space (Maas et al, Shanahan et al, Dadvand et al). Health benefits of spending time in nature are discussed further in the “Nature Contact” section of this chapter.

Parks, in particular, can play an important role for mental health in other ways besides providing nature contact. Certain park features such as athletic fields, playgrounds, or trails can encourage physical activity, which in turn impact mental health. One cross-sectional study examined the association between mental health and simple proximity to a park. They found that better mental health outcomes were significantly related to residential distance from parks, particularly within short walking distances (400m) and decreasing over greater distances (Sturm).

Another 2020 study examining the relationship between physical activity in parks, park proximity, and mental health found a significant indirect association between park use and mental health through physical activity (Orstad et al.). Findings from these studies reinforce the importance of ensuring all communities have access to nearby parks which are green and attractive for physical activity.

Health & Environment: Key Considerations

Additionally, park features such as picnic tables or shelters, cultural art, or community gardens can encourage social activity and help to build a sense of place or sense of community.* Increasingly, research demonstrates that there is a powerful relationship between a sense of place, social networks, and individual mental health (Silva et al; Macpherson et al; Ellery et al.; Palis et al.). Therefore, cities and park planners should be encouraged to consider park design features that increase social interaction, nature contact, physical activity, and culturally appropriate place-making.

However, given the location of the Empire Parcels, it is critical to understand the risks and potential adverse impacts of visitation to the park. Air pollution, noise, and local perceptions of safety and crime are of particular concern at the Empire Parcels and must be assessed further. Both air pollution and noise pollution have known adverse effects on health, including mental health (Ali, Khoja.; Carrington; Petrowski et al.; Lim et al.; Vermeer, Passchier). For more information about air and noise pollution at the Empire Parcels location and health impacts,

see the Air Pollution and Noise sections within this chapter. Multiple studies have also indicated that park visitation and related mental health benefits, despite residential proximity, are significantly reduced when there is high local concern regarding crime and safety (Orstad et al.; Lapham et al.).

Key finding:

Accessible, attractive, biodiverse green space can improve mental and physical health by increasing nature contact, physical activity, and social capital.

Recommendation(s):

- King County Parks should consider prioritizing park design features that increase park accessibility, maximize nature contact, encourage physical activity and social interaction, maximize perceptions of safety, and minimize noise and air pollution. For specific recommendations regarding these features, see Crime & Safety and Physical Activity subsections, and Community and Access chapters.



Photo sourced from: Children & Nature Network

Health & Environment: Key Considerations

Nature Contact

Increasingly, research studies are demonstrating the many ways in which contact with nature can impact human health and well-being. Recent studies have shown the association of increased contact with nature with improved cognitive ability, better sleep, the severity of ADHD symptoms, stress reduction, level of physical activity, and even immune function (Botchwey). For example, one nationwide study of US children showed that those who lived near parks were more likely to be physically active, reported better sleep, and was less likely to be diagnosed with ADHD (Reuben et al.). Another study of pre-school-aged children showed that increased time spent outside in nature led to changes in skin and gut microbiomes associated with improved measures of immune function (Roslund et al., 2020). While we are only beginning to understand all the ways in which nature contact affects us, what we do know is clear: that contact with nature significantly benefits our health and well-being.

However, nature contact is not an evenly distributed opportunity and is not equally accessible. Urban areas have fewer trees and biodiversity. Within urban areas, "nature" is not distributed equitably. Often, green space is concentrated in wealthier, whiter neighborhoods within urban areas (Botchwey).

As discussed in the introduction of this report, the Skyway Empire View Mobile Home park and neighboring area has little access to nature. While two parks (Codiga Park and Skyway Park) are technically nearby (approximately .5 miles and 1.4 miles away respectively), their accessibility is limited due to poor or lack of pedestrian infrastructure in the neighborhood.

While the Empire Parcels under question are currently green, they are undeveloped. The creation of a well designed and maintained park, with emphasis on trees and green space, at the Empire Parcels location would offer the community the opportunity to increase their contact with nature and hence reap the many associated health benefits.

As discussed in subsections titled "Noise Pollution" and "Air Pollution," the Empire Parcel's location, in close proximity to the highway, to train tracks, and to the busy 129th and Martin Luther King Way, is likely to have higher levels of air and noise pollution. While it is evident that contact with nature has beneficial health impacts, it is also important to consider the potentially harmful impacts of encouraging park visitors if the area is highly polluted, in addition to ensuring park safety through sight lines from the road.

Key finding: Accessible, attractive, biodiverse green space can improve mental and physical health by increasing nature contact.

Recommendation: King County Parks should consider incorporating park design features that maximize nature contact. Specifically, the Parks Dept. should consider avoiding the removal of existing trees and natural landscape features where possible, pending considerations regarding noise, accessibility, and sight-lines. For more information, see "Noise Pollution" and "Crime & Safety" subsections.

Health & Environment: Key Considerations

Nutrition

A plethora of research exists identifying the relationship between access to nutritious foods, nutrition behavior, and health impacts such as obesity or food insecurity (Barrett et. al, Rose). Access, in this case, does not simply refer to geographic proximity to a supermarket but also availability of adequate foods within a market, affordability of food (including perceptions of affordability), accommodation to local needs (such as hours that the market is open), and acceptability of the available food given cultural norms and preferences (Bolt). In combination with the availability of unhealthy fast-food options, access to nutritious food as defined above can significantly impact health.

In a 2017 study of food environments and obesity rates across the United States, findings reported that food swamps, defined as “neighborhoods where fast food and junk food inundate healthy alternatives”, are strong predictors of high obesity rates (Stowers et al.).

Food swamps and food deserts (residential areas with limited access to affordable and nutritious food) often coincide with low-income areas and areas with higher proportions of BIPOC individuals (Stowers et al., 2020). Based on the Food Access Research Atlas by the USDA, the Empire View Mobile Home Park falls into a high-risk category of food swamp or food desert, being within a low-income census tract in which a majority of the population lives farther than ½ mile from the nearest supermarket (U.S. Dept. of Agriculture). Non-supermarket options within a ½ mile of the Empire Parcels include a 7/11 convenience store, a Shell gas station, and El Oasis Food Trailer.

While more research is needed to draw significant conclusions about local food availability, the surrounding community of the Empire Parcels may classify as either a food swamp or food desert. Further, in the 2021 Public Review Draft of the Skyway-West Hill Community Service Area Plan, the community identified improved access to food as a critical need (King County). In the draft, policy SWH-24 is proposed to support access to healthy, affordable, and culturally relevant foods throughout Skyway-West Hill by encouraging grocery stores, small markets, farmers markets, urban farms, and community gardens.

Given the substantial evidence connecting food environments to health, in addition to the community desire for increased nutritious food options in the area, the establishment of a community garden in the Empire Parcels Park should be considered. Existing research shows that benefits of community gardens include increased intake of fruits and vegetables, fostering physical activity, improving mental health, and increasing social capital (Porter).

However, while research demonstrates the major health benefits of community gardens, and the greater Skyway community identified a need for more healthy food options, there is still an outstanding question of community desire, motivation, and capacity to maintain a community garden. Further, if the garden is difficult to access (proximity, or lack of a safe or enjoyable route to get there on foot), the garden may not get much use. Therefore, community engagement is critical to gauge local interest in installing a garden at the Empire Parcels Park.

Health & Environment: Key Considerations

Key finding:

The Skyway Empire View Mobile Home Park and neighborhood have limited access to nutritious foods due to limited stores which offer fresh food nearby and poor pedestrian and public transit infrastructure to existing fresh food locations. This poses significant and inequitable health risks to the community, which could be mitigated in part by establishing a community garden.

Recommendation:

King County Parks should consider involving the community of Skyway and local CBO's such as the Skyway Coalition and the Urban Food Systems Pact to help improve access to better nutrition in the community.

Air Pollution

Air pollution is an important health risk factor. The WHO states that premature deaths due to air pollution exceed 7 million per year worldwide (WHO). Air pollution has been proven to induce numerous physical diseases including respiratory, cardiovascular (Kelly F J et al.) and psychological disorders (Buoli, M et al., 2018). The main air pollutants are O₃, PM, CO, NO_x and SO₂, and Environmental Protection Agency (EPA) identifies industrial processes, mobile sources, fossil fuel combustion, and secondary pollution as the major sources of air pollution in the United States (EPA). Urban green space has a positive effect on air quality improvement, mainly by regulating the ventilation environment (Diener, A et al.; Baldauf, R) and by adsorbing

dust (Wu, J et al.; Gao, T et al.). It is important to note that parks and green spaces can attract people, but they can also cause negative health effects if they are exposed to high-risk environments.

Empire Parcels Park is near Interstate 5 as well as Martin Luther King Way and transit rails, which makes mobile traffic the likely main source of air pollution. No air quality survey report or monitoring has been done specifically for this area, but pollutant concentrations are still at acceptable levels. The monitoring data from the nearest site, Tukwila Allentown, shows that the AQI from May 10 and 11, 2022 is below 38 units for both days, which is at a good level (Puget Sound Clean Air Agency, CAA).

Key finding: Rational design of parks to enhance their ability to clean the air and promote physical activity needs to be emphasized, but meanwhile, the response to the risk of high exposure to air pollution also needs to be strengthened.

Recommendation:

King County Parks should consider park design features which minimize noise and air pollution to reduce adverse impacts to mental (and physical) health.

Health & Environment: Key Considerations

Noise Pollution

The negative impact of noise on human health has been widely proven, such as cardiovascular diseases (Ndrepepa, A et al.), sleep disturbance, annoyance, cognitive impairment of children (Brown A L et al.), and hypertension (Harding A H et al.), etc. The UN Environment Programme (UNEP) report emphasizes that physical and mental health detriments from urban noise pollution are one of the top emerging environmental threats. Traffic noise exposure is a risk factor for the development of cardiovascular (Babisch W) and metabolic disorders (Recio A et al), and the WHO pointed out that traffic noise alone is harmful to the health of almost every third person in the WHO European Region. Urban or community parks provide opportunities for people to engage with nature, but the surrounding environment can also be a significant source of noise and thus increase people's exposure. The internal acoustic environment of the park is mainly influenced by the surrounding traffic noise and urban form, and tall trees are more effective in reducing noise than lawns (Margaritis, E et al.).

Noise from vehicles on I-5 and police sirens can be clearly heard in the park, while aircraft and railroad noise also have an impact on the area. According to Rentlingo's noise index, there are important traffic arteries and railroads within 500m of the park, which are the main sources of noise. The sound in Empire Parcels Park is above 50 dB during the day and night, with relatively higher values during the day (see graph to the right).

The EPA has determined that certain outdoor activities need to be conducted below 55 decibels, and above 70 decibels is considered to cause hearing loss (EPA). Therefore, it is necessary to reduce the noise level in the park by design and to reduce the possible exposure risk for residents.

Key finding: Plant configuration, distance from surrounding noise pollution sources, and physical barrier interventions are important for the creation of a good park acoustic environment.

Recommendation:

King County Parks should consider advocating for the Washington State Department of Transportation to construct noise barriers along I-5 adjacent to the Empire Parcels and consider the feasibility and impact of noise barriers, or possibly dual-function noise and sidewalk/bike-lane barriers along sections of S 129th.



The noise environment in and around Empire Parcels Park (Source: Rentlingo)

Note: The noise index is not a real-time metric, but through the comprehensive analysis of potential influencing factors.

Health & Environment: Key Considerations

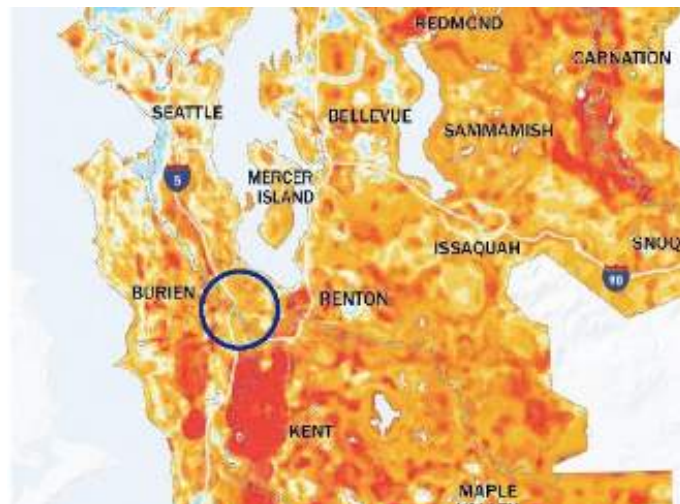
Urban Heat Impact

Increased urban population density and minimal greenspace contribute to the urban heat island phenomenon, while high temperatures can negatively impact health. For example, high temperatures have been found to exacerbate the respiratory health effects of air pollution (Hansel, N. N et al; D'amato, G et al.), and extreme heat has been found to exacerbate cardiovascular and other diseases (Lin, S et al., 2009), even death (Lin, Y. K et al.). Urban green spaces have been shown to significantly reduce the urban heat island effect by increasing ventilation (Gronlund C J et al.; Aram, F et al.) and increasing humidity (Qiu, G. Y et al.). The EPA states that trees, green roofs, and vegetation can reduce surface temperatures by shading buildings, reducing solar radiation, and increasing moisture in the air.

Seattle has experienced extreme summer heat in recent years (McNerthney C). In such a context, the cooling effect in parks deserves more attention, and vulnerable groups are more vulnerable in hot environments and need more attention. The figure to the right shows a mapping analysis of the extreme heat day in 2017 conducted by King County. This map indicates that south King County, including the Skyway area, can experience extremely high temperatures during certain seasons.

Key finding: The construction of the park should be adapted to the temperature changes of the general environment, adding elements of the environment that are beneficial to cooling and enhancing the shaping of ventilation.

Recommendation: King County Parks should consider park design which enables wind-flow to reduce temperature within the park through internal site and path design, including the use of wetlands to create a source of cooling.



Results of one day extreme temperature simulation analysis in July 2017 (daytime)
(Source: King County Executive News)

Crime & Safety

The built environment is one factor that influences levels of crime in a community. Parks can be locations for crime because of the convergence of offenders and potential victims in a location lacking the presence of perceived guardians (Iqbal).

The King County Sheriff's Department does not disaggregate most crime statistics, however Public Health Seattle-King county reports that the Renton South Health Reporting Area (HRA) has a homicide rate of 7.5/100,000—one of highest rates in King County (King County). The local crime rate, and physical location of the parcel, adjacent to the railway and highway, may increase risks of crime.

Health & Environment: Key Considerations

The King County Open Space Plan notes that parks, trails, and recreational facilities should be safe for all users (King County).

Crime can affect health directly through injury, or indirectly by preventing residents from using a park. Fear of crime is a barrier to outdoor physical activity and park use (Roman 2008). The association of perceptions of crime and park use is particularly important for senior citizens (Botchwey). People feel safer using parks when they see other park users, so a well-utilized park will generally be seen as a safer space (Iqbal).

Both design and maintenance are important for safety. Isolated locations and pathways in parks with poor visibility may cause fear (Herzog). Lighting makes people feel safer and increases use, which reinforces perceptions of safety (Polan). Poor maintenance leading to signs of physical decay may attract criminals (Iqbal).

Crime prevention through environmental design (CPTED) uses design principles to deter criminal behavior while positively affecting the usage of an area. Four principles of CPTED include access control; surveillance; territorial reinforcement; and maintenance and management. On this site the latter three principles are feasible. Surveillance involves eliminating barriers that prevent casual observers from seeing what is happening in a space. This could include ensuring that there is visibility into the park from the adjoining streets and housing. Territorial reinforcement involves making the park attractive for community members to use. This could include playgrounds, picnic areas, sports fields, and other areas that attract neighbors.

Maintenance and management is focused on regular caretaking and promptly addressing issues like refuse, broken lights and graffiti (Cannavino). However it is important that the park is accessible to all legitimate users, and that neighbors do not discourage certain communities from using the park due to their own biases.

Key finding: Design features such as lighting, playgrounds, and clear sight-lines can prevent crime and increase community perceptions of safety, while regular maintenance can ensure the park remains safe for all users.

Recommendations

- King County Parks should consider designing the park to allow several sight lines from nearby housing at Empire View Mobile Home Park and from critical points along S 129th St, such as the point where a crosswalk is installed. This will increase perceptions of safety and utilization and discourage illegal activity.
- King County Parks should incorporate design elements to attract neighbors for culturally relevant activities. This could include gathering spaces and a playground. Events and programming with community groups can also ensure regular use and deter crime.
- King County Parks should consider incorporating plans for additional light sources in the park and should consider working with engineers to select acceptable lighting fixtures that will minimally contribute to light pollution. King County Parks should also include lighting on the park periphery and any areas designated for activity—i.e. picnic shelters and playgrounds—for increased safety.

Health & Environment: Key Considerations

Conservation & Education

Studies have shown that regular exposure to green spaces and participation in outdoor education or conservation programming increase societal health by helping people foster strong connections with their communities, a sense of place and belonging, and environmental stewardship (Berg et al; Strife). Nature programs create shared culture between diverse individuals by joining citizens together in an effort to improve the green space in their neighborhood, and volunteering projects promote technical skill-sharing and knowledge acquisition for those who participate (Walker). The park has numerous opportunities for outdoor education and conservation activities in a community currently lacking safe, convenient greenspace access. Conservation and nature programming increases participants' contact with green spaces, which has broad positive implications for health and well-being (Frumkin); see "Nature Contact" and "Mental Health" sections of the report. Community members of diverse ages and backgrounds would benefit from the education and conservation opportunities provided by parks. Activities like group outdoor education or trail building help participants, particularly young people, build skills and physical-emotional strengths that promote healthy youth development (Walker). Research also links positive childhood interactions with nature to increased care about environmental stewardship as an adult (Chawla). Volunteering at a local park fosters technical skills as well as knowledge about conservation and park management for those of all ages (Walker).

Current park plans integrate robust community involvement and nonprofit partnership. A collaboration with the Washington Trails Association will emphasize youth leadership and volunteering opportunities. Additional partnerships with local stakeholders including nonprofits, neighborhood associations, and the Renton School District are being developed. Hosting programs that sustain conservation efforts, offer chances for youth and adults to have regular contact with the outdoors, and emphasize knowledge and skill-sharing will be crucial to maintaining community involvement in the park. Incorporating Indigenous lifeways into outdoor education programs and involving Native stakeholders will make curricula more culturally relevant and appropriate. Empire Parcels Park will be an important locus for community sustainability and resiliency through ongoing education and conservation activities.

Key finding: Outdoor education and conservation programming at local parks increases social-emotional and physical well-being for youth and adults, increasing nature contact and therefore improved health outcomes, helping community members foster meaningful relationships with the natural world.

Recommendation: King County Parks should consider collaborating with stakeholders like King County Youth Conservation Corps, Renton School District, or Skyway Coalition after the park's opening to implement outdoor education and conservation programming that may increase social-emotional and physical well-being, nature contact opportunities, and community resiliency for park utilizers.

Health & Environment: Key Considerations

Environmental Contamination

The presence of hazardous materials, such as those resulting from improper disposal or illegal dumping, pose a threat to both human and environmental health (Bregman et al.). A Phase I environmental site assessment was conducted in 2019 to research the property's current and historical uses and assess whether they led to environmental contamination that would require remediation for human or environmental safety (PBS EIA report). 30-40 containers with petroleum products, paint, ammonia, solvents and pesticides were found on the property—it appeared that these items had been dumped illegally on the land. Some leakage was discovered from motor oil and paint containers, but without evidence that a significant release occurred it was recommended that the chemicals be properly disposed of. The report concluded that no environmental contamination requiring remediation was found during sampling of the site's soil and groundwater. The park's secluded nature may make it appealing for continued illegal dumping of contaminants like those found during the assessment.

Key finding: Environmental analysis of the site indicates no current contamination. However, the park has historically been utilized as an illegal dumping site for hazardous materials and merits ongoing monitoring to mitigate future risk.

Recommendation: King County Parks should consider monitoring the site during park construction and after opening for illegal dumping, and coordinate the safe disposal of any hazardous material found in the park, in order to mitigate the possibility that contaminants are dumped on the site.

Injury Hazards - Lighting

Lighting is a key feature of outdoor spaces. Lighting in parks provides visitors with a sense of safety and helps them to avoid tripping or falling over natural hazards such as roots and breaks in the sidewalk or walkway (Rahm et al., Smith & Hallo). While evidence supports the importance of lighting in parks, it is also important to consider the types of lighting provided. Proponents of dark skies, or combatting light pollution, provide examples of acceptable outdoor light sources such as LEDs, solar powered lights, and shielded light fixtures (IDA, Harnik et al.). There are currently no plans to install additional lighting in the Empire Parcels Park area, though there are street lights positioned on streets adjacent to the park site. Depending on the level of forest density, the park may be extremely dark after sundown without the introduction of additional lighting, especially during the winter months.

Key finding: Well-lit parks encourage individuals to perceive them as safer and increased light is associated with decreased levels of injury. When designing park lighting, it is important to consider ways to minimize light pollution.

Recommendations: See subsection titled "Crime & Safety" for recommendations about park lighting.

Health & Environment: Key Considerations

Injury Hazards - Pedestrian Safety

A 2017 study conducted in Denver, Colorado found that the concentration of child pedestrian fatalities around parks is 1.16-1.81 higher than the respective citywide concentration (Ferenchak & Marshall). This illustrates the importance of ensuring the safest conditions possible surrounding parks, including sidewalks and easy pedestrian access, to maximize human health.

Please see the “Accessibility” chapter for additional information regarding pedestrian safety and access.

Key finding: Sidewalks and other pedestrian safety measures are integral to maintaining human health and safety in parks.

Recommendations: Please see the “Accessibility” chapter for recommendations related to pedestrian safety.

Landslide Hazards

Landslides pose a multitude of risks that can ultimately harm human health – rapidly moving water and debris that lead to injury, disrupted roadways, as well as broken electrical, water, gas, and sewage that can result in injury or illness (CDC). Risk factors that may cause landslides include heavy rainfall, erosion, earthquake shaking, and processes of freezing and thawing (Disaster Center).

King county is vulnerable to landslides based on the region’s geography and weather patterns (King County Emergency Management).

However, according to an interactive, GIS-based tool created by the U.S. Geographical Survey (USGS), there is low risk of landslide at the location of the proposed park (U.S. Landslide Inventory).

Key finding: Landslides pose risk to human health in King County.

Recommendations: King County Parks should consider monitoring changes to landslide risk in the area.

Water

Watershed quality is linked closely with human health – polluted watersheds can lead to contaminated drinking water, toxic chemicals in fish can make them unsafe to eat, and swimming in contaminated water can lead to adverse health outcomes (WA Department of Ecology). Urban watersheds pose a unique set of challenges, as dense populations are more likely to produce contaminants at higher rates and require increased levels of monitoring and treatment (McGrane). The proposed park is located in the Green-Duwamish River Watershed, which runs into the Duwamish River (King County Environment).

Another water-related issue that poses health concerns is stormwater flooding. Stormwater flooding can lead to increases in pollutants and bacteria levels that are harmful to humans and can lead to physical safety concerns caused by erosion and deposition (EPA).

Health & Environment: Key Considerations

There are multiple methods that parks can use to manage stormwater, including rain gardens, vegetated swales, and retention/detention tanks (Land Studies).

According to an Environmental Site Assessment prepared for the King County Housing Authority, the parcel of land and adjacent parcels do not need decontamination beyond trash removal. The parcel of land has a wastewater pump station that is owned and maintained by the county.

The Empire Parcels Park land plot is susceptible to flooding, which was emphasized as a concern by community stakeholders, based on the topography.

Key Finding: Water pollution and stormwater flooding both influence human health. There are precautions park designers can take to mitigate their effects.

Recommendations:

- King County Parks should consider working with King County Utilities, or relevant utilities companies, to ensure regular maintenance and security surrounding the pump station.
- King County Parks should consider collaborating with local artists to help infrastructure blend in and enhance, rather than detract from, the park atmosphere.
- King County Parks should consider working with engineers to implement stormwater resiliency infrastructure, such as rain gardens.

Equity Considerations

Environmental inequities, such as limited access to green space or increased exposure to environmental contamination and noise, air, or heat pollution disproportionately affect low-income communities and communities of color (Cunningham). Environmental justice combats these disparities by promoting access to safe, healthy environments for marginalized communities. Access to healthy outdoor spaces—spaces that are biodiverse, safe, and free from air and noise pollution—is a key component of environmental justice. For example, parks can incorporate environmental equity through design that combats air pollution from a nearby highway and promotes physical activity for all ages, or programming that encourages park utilizers to participate in conservation activities or outdoor education. Parks that are designed with environmental equity in mind can be powerful catalysts for fostering justice and access within historically underserved communities.

Health & Environment: Recommendations

Detailed Recommendations

Key Finding	Recommendation	Predicted Impact(s)	Likelihood	Direction & Extent	Quality of Evidence
Accessible, attractive green space and certain park features influence mental health through increased nature contact, physical activity, and social capital.	King County Parks should consider incorporating park design features that maximize nature contact, encourage physical activity and social interaction, and increase perceptions of safety. Specifically, the Parks Dept. should consider avoiding the removal of existing trees and natural landscape features where possible.	Multitude of mental and physical health benefits for frequent park visitors.	Likely	↑ ↑ ↑	***
Air and noise pollution negatively impact mental health outcomes.	King County Parks should consider park design features which minimize noise and air pollution to reduce adverse impacts to mental (and physical) health* *see noise and air pollution recommendations	Improved mental health outcomes for frequent park visitors	Likely	↑ ↑ ↑	***
Specific physical features promote physical activity.	King County Parks should consider providing amenities that promote physical activity. In this setting, trails and playgrounds would promote physical activity rather than passive recreation.	Increased use of park for physical activity.	Likely	↑ ↑	***
Programming at parks can increase their use.	King County Parks should consider exploring opportunities for programming with the planned Skyway Community Center, schools and other community groups.	Increased use of park for physical activity.	Likely	↑ ↑	**



Key

↑ ↑ ↑ - Severe impact on few
 ↓ ↓ ↓ - Small impact on many
 ↑ ↑ - Moderate impact on medium number
 ↑ - small impact on few

*** - many strong studies
 ** - several strong studies
 * - no clear studies, but generally consistent with public health principles

Health & Environment: Recommendations

Detailed Recommendations, continued

Key Finding	Recommendation	Predicted Impact(s)	Likelihood	Direction & Extent	Quality of Evidence
Lighting makes people feel safer and increases use	King County Parks should consider incorporating plans for additional light sources in the park and should consider working with engineers to select acceptable lighting fixtures that will minimally contribute to light pollution. King County Parks should also include lighting on the park periphery and any areas designated for activity—i.e. picnic shelters and playgrounds—for increased safety.	Reduced perception of crime and opportunity for crime	Likely	↓	**
Visibility in public space increases perception of safety and use	King County Parks should consider designing the park to allow several sight lines from nearby housing at Empire View Mobile Home and from critical points along S 129th St, such as the point where a crosswalk is installed. This will increase perceptions of safety and utilization and discourage illegal activity.	Reduced perception of crime and opportunity for crime	Likely	↓	**
Perception of crime lowers when others are present	King County Parks should incorporate design elements to attract neighbors for culturally relevant activities. This could include gathering spaces and a playground. Events and programming with community groups can also ensure regular use and deter crime.	Reduced perception of crime and reduced opportunity for crime	Likely	↑	**
When designing park lighting, it is important to consider ways to minimize light pollution	King County Parks should work with engineers to select acceptable lighting fixtures that will minimally contribute to light pollution	Reduced light pollution due to lighting in park	Likely	↓	**
The Empire Parcels neighborhood has limited access to nutritious foods, which negatively impacts health.	King County Parks should consider involving the community of Skyway and local CBO's such as the Skyway Coalition and the Urban Food Systems Pact to help improve access to better nutrition in the community.	Improved health from improved nutrition	Possible	↑ ↑	**

Health & Environment: Recommendations

Detailed Recommendations, continued

Key Finding	Recommendation	Predicted Impact(s)	Likelihood	Direction & Extent	Quality of Evidence
Isolated vegetation may reduce air pollution and noise transmission.	King County Parks should consider park design features which minimize noise and air pollution to reduce adverse impacts to mental (and physical) health.	Reduce air pollution and noise dispersion into the park	<i>Likely</i>	↑	**
Physical isolation of the highway can effectively block noise.	King County Parks should consider advocating for King County Road Services Division to construct noise barriers along I-5 adjacent to the Empire Parcels and consider the feasibility and impact of noise barriers, or possibly dual-function noise and sidewalk / bike-lane barriers along sections of S 129th.	Greatly reduced noise impact	<i>Possible</i>	↑ ↑	***
The Urban Heat Island effect can create dangerous temperatures. The park will offer respite to high temperatures and can be intentionally designed to stay cool.	King County Parks should consider park design which enables wind-flow to reduce temperature within the park through internal site and path design, including the use of wetlands to create a source of cooling.	Cooler temperatures within the park during peak summer months.	<i>Likely</i>	↑ ↑	***
The water body can create a source of cooling and then promotes ventilation.	King County Parks should take full account of the wetland environment when designing the park.	Reduce the impact of high temperature.	<i>Likely</i>	↑	**
A pollution information app can guide people to make better choices about when to go to the park.	It is recommended that King County Parks set up multiple testing instruments for uninterrupted monitoring of air and noise; and try to construct prediction models to provide park environment visualization and movement suggestion services to surrounding residents through an app.	Reduce the risk of exposure of residents in highly polluted environments	<i>Possible</i>	↑	*
Landslides pose risk to human health in King County	King County Parks should stay apprised of any changes to landslide risk in the area	Increased awareness of changing landslide risk	<i>Possible</i>	↑ ↑	*

Health & Environment: Recommendations

Detailed Recommendations, continued

Key Finding	Recommendation	Predicted Impact(s)	Likelihood	Direction & Extent	Quality of Evidence
Water pollution and stormwater flooding influence human health	King County Parks and utility companies should ensure regular maintenance and security surrounding the pump station	Decreased chance of pump station-related issues arising	<i>Possible</i>	↓	**
Water pollution and stormwater flooding influence human health	King County Parks should work with engineers to implement stormwater resiliency infrastructure, such as rain gardens	Decreased chance of stormwater-related flooding	<i>Likely</i>	↓ ↓	**
Increased distance from pollution sources can reduce health risk exposure.	King County Parks should consider designing the park, facilities, and trails at a distance setback from the highway.	Reduces the likelihood of people being exposed to highly polluted air	<i>Likely</i>	↑ ↑	***
Outdoor education and conservation programming at local parks increases social-emotional and physical well-being for youth and adults, as well as helping community members foster meaningful relationships with the natural world.	King County Parks should consider collaborating with stakeholders like King County Youth Conservation Corps, Renton School District, or Skyway Coalition after the park's opening to implement outdoor education and conservation programming that may increase social-emotional and physical well-being, nature contact opportunities, and community resiliency for park utilizers.	Increased community participation and engagement from nature contact and learning.	<i>Possible</i>	↑ ↑	**
Environmental analysis of the site indicates no current contamination or need for remediation. However, the park has historically been utilized as an illegal dumping site for materials of environmental concern and merits ongoing monitoring to mitigate this issue in the future.	King County Parks should consider monitoring the site during park construction and after opening for illegal dumping, and coordinate the safe disposal of any hazardous material found in the park, in order to mitigate the possibility that contaminants are dumped on the site.	Mitigated environmental contamination.	<i>Possible</i>	↑	***



Chapter 2: Community

Introduction

Neighborhood parks create and provide a high quality of life in a community (National Recreation and Park Association). The park can serve many purposes, and, in this setting, the local community will benefit from the availability of green space. King County Parks' mission is to inspire healthy communities through parks (King County Parks). Engagement from the community in Skyway is vital to the park's success of generating healthy communities. Community engagement can be incorporated into the development of the park and in the programming available once the park is built (Kelly & et al.). Town halls, focus groups, steering committees, and other avenues for reaching out to local community to help design the park can greatly improve its use and awareness (Kelly & et al.). Including a diverse set of individuals, organizations, schools, and businesses from the community allows for greater input and awareness of needs that can be addressed by a local park (Kelly & et al.).

The engagement of the Skyway community in the development phase can ultimately set up a successful design of a park that is actively used by the surrounding community. Furthermore, engagement from the community is important once the park is built. Increased use of the park can be attained by engaging the community through programming, events, and other attractions (Kelly & et al.). Community programming should be based on the preferences of the community. Parks tend to have more visitors and are more active when programming is available to the community (Kelly & et al.). Park location and size as well as features in the park will determine the feasibility of various programming.



The path alongside Empire Parcel Site.
Sourced from: Emily Dittig personal photos

Community: Key Considerations

Community Engagement

Programming in parks can include various activities such as natural and art exhibits, community gardens, music, cultural gatherings, and food vendors (Project for Public Spaces).

Importantly, early and active community engagement with parks and public spaces can influence ownership and local stewardship of the park, thus increasing park usage, social cohesion, and associated health benefits (Kelly & et al.). However, external factors beyond the control of the park development team can impact park usage as well. Early engagement and programming can increase the use of the park, but studies have shown the use of parks declines when the community is adversely impacted (Otero Peña & et al.). Parks surrounded by communities with violent crime, traffic accidents, and low social cohesion and trust typically have decreased visitation and community engagement (Otero Peña & et al.). These factors outside of the control of park designers should be considered in park design.

Further, park design features and community engagement which is culturally and linguistically appropriate to the community are critical for encouraging park use and social cohesion. As discussed in the demographics section at the beginning of this HIA, the Skyway-West Hill community consists of a multi-cultural, multi-lingual community. As of 2017, about 34% of the total population were foreign-born, coming from primarily Asian countries (US Census American Community Survey).

Approximately 43% of the population speaks a language other than English at home (US Census American Community Survey).

These include Vietnamese, Chinese, Tagalog, Spanish, and Russian, among others (US Census American Community Survey).

Hence, Skyway is filled with many diverse individuals from various backgrounds that bring important qualities to the community. Activities and features in a park that speak to the communities' diverse backgrounds can increase the engagement and use of the park. Reference the Demographics chapter for a more in-depth description of Skyway's demographic profile.

Key Finding: Community engagement is vital to a park's success beginning with the design and ultimately the programming offered at the park.

Recommendation: King County Parks should consider involving the community of Skyway and local CBOs such as the Skyway Coalition in the design phase of the park and development of park-related programming through community engagement activities such as questionnaires, focus groups, or forums to better understand community priorities for the park (e.g., features such as community gardens, multi-lingual signage, or youth programming).

Key Finding: External factors need to be considered due to their ability to affect community engagement and use of the park.

Recommendation: See recommendations regarding improved pedestrian infrastructure in the Access chapter and recommendations for safety in the Crime & Safety subsection of the Health & Environment Chapter.

Community: Key Considerations

Community Gardens

Existing literature demonstrates the benefit that garden spaces provide for communities. Among some of the most consistent findings in research is that participation in community gardening can enhance one's sense of belonging within the community (Kingsley,). Community gardens establish a space for collaborative engagement to occur and for community members to meet and work together towards a common goal. This has been associated with stronger ties among community members (across ages, cultural backgrounds, etc) and increased social capital within a neighborhood (Siewell), (Wakefield), (Teig).

Community gardens have also been found to foster pride and ownership of one's neighborhood by community members, an aspect that plays a key role in community safety (CivicWell). Crime is a top concern voiced by residents of the area immediately surrounding the Empire Parcels Park. The area is proximal to a corner with two marijuana dispensaries, which are prone to armed robberies. Additionally, the planned location of the park (currently vacant) is regularly being used for illegal dumping of litter. Converting a portion of the park to community garden space could increase safety by ensuring some frequent and regular monitoring of the park by local residents. Existing literature has demonstrated that gardens in urban areas are positively correlated with decreased crime rates (Stluka), (CivicWell).

The City of Seattle's P-Patch program has been very successful in bolstering community-oriented and public resources for residents while also providing unique educational opportunities



Estelle P-Patch in the Mount Baker neighborhood of Rainier Valley, Seattle, Image Credit: Joe Mabel, October 2018. Sourced from: Urban@UW Newsletter

and offering spaces that build and strengthen the community (P-Patch Community Gardening). However, Skyway West-Hill sits outside of the city of Seattle and no such widespread community garden program exists. Further, as identified in the Nutrition subsection of the Health & Environment chapter of this report, the Empire Parcels and Skyway-West as a whole sit in a nutritionally deficient location, with fewer opportunities for accessing nutritious foods compared to the greater King County.

While the Empire View Mobile Park does have a small community garden plot, this space is not well utilized and is restricted to residents of the mobile home park. The closest public garden space to the location of Empire Parcels is over a mile and a half away and is the only community garden within a 3-mile radius (Google Maps).

Community: Key Considerations

However, construction of a new community garden at Skyway Park, at the "Pizza Slice", has begun as of May 9, 2022 with project completion expected in September, 2022. From the Empire Parcels, Skyway Park is 1.2 miles away, a 5-minute drive or 30 minute walk via streets which do not all have sidewalks. With no nearby community garden in close walking distance of the Empire Parcels, further research may be warranted as to whether residents adjacent to the Empire Parcels would want and utilize a garden there.

Given the location and background of the community next to Empire Parcels Park, there is a unique opportunity for a garden within the park to serve a variety of the communities' needs and play a role in improving health equity for residents of this unincorporated area.

Key Findings:

- Community gardens can increase an individual's sense of belonging within their

community, strengthen social ties amongst residents, and are associated with an increase in social capital for a neighborhood.

- Gardens in urban areas are positively correlated with decreased crime rates.

Recommendations:

- King County Parks should consider a). identifying community interest in creating a community garden at the Empire Parcels via early community engagement during the design phase of the park; and b). if interest exists, consider designating land for a community garden.
- King County Parks should consider collaborating with the upcoming community Garden in Skyway Park known as the "Pizza Slice" in regards to partnering with Nurturing Roots in order to develop a community garden that attracts community engagement.



High Point P-Patch gardener, Oun Yeav, her granddaughter, and Courtney Peetz, volunteer from West Crest P-Patch in Seattle. April 2020.

Sourced from: Seattle Department of Neighborhoods Front Porch Newsletter

Community: Key Considerations

Visual Art and Park Appeal

Communities around the globe have been creating, experiencing, and extrapolating public art for centuries. Since the days of cave paintings artwork has been made to be displayed and shared with the public. Whether it is music, painting, architecture, photography, or cinema; art was created for celebration, to signify important events, to push boundaries, to make statements, and to impact change. Green spaces and public parks have become a great platform for artists to showcase their work and integrate their community in the process. The creation and development of artwork in communal spaces have radiating positive health impacts not just for the artists involved but the entire community.

Colin Ellard a neuroscientist who works at the intersection of psychology, architecture, and urban design has researched the effects of art within public spaces. Ellard studied two sites in Toronto one with public art and one without and compared the walking speeds, “[he] found that those who walked past the artwork dropped their speed by half... [they] paused, looked around and absorbed their surroundings while in a pleasant state of positive affect and with a lively, attentive nervous system” (Cathey).

Public art has the power to physically move us and draw us in to experience the beautiful creation for ourselves. The simple act of adding artworks to public parks has the possibility to improve physical activity for community residents which can increase energy levels, prevent chronic illnesses, and instill healthy habits. Along with physical health effects, the creation of public art is known to have positive mental health impacts.

Key Finding: Public art can increase physical health by motivating city dwellers to slow down and absorb their surroundings or encourage them to seek out public art.

Recommendation: Infuse artwork throughout the future park site in unique and creative ways. Mosaics and murals are cost-effective ways to add artwork. Enhance the built structures like picnic tables, benches, and water fountains in the park with structural and surface-level art pieces.



Bench at the Log House Museum, West Seattle
Photo courtesy Southwest Seattle Historical Society

In Philadelphia, the Mural Arts organization created a program called Porch Light to focus on achieving universal health and wellbeing throughout the city. The program provides opportunities for individuals with mental health and trauma to participate in the establishment of meaningful works of public art.

Community: Key Considerations

An evaluation of this program discovered important community-level impacts such as reducing mental health stigma, stronger neighborhood pride, and promoting collective efficacy. Evaluators noted that “perhaps the singular power of murals then is to engage a community, defined geographically or through a common experience, to come together to find meaning and shared purpose, including an action for social change”(Tebes & et al.). Communities across the country have been developing their own unique participatory public art projects program to engage residents and cultivate a sense of belonging. The power of public art radiates through a community not only impacting the mental and physical well-being but the societal, cultural, and economic sectors.

Key finding: Community participation in public arts can have positive impacts on mental health, community identity, and community placemaking.

Recommendation: King County Parks should consider including community residents in the development and creation of public art in the Empire Parcel space and partnering with local organizations like Art Corps to conduct art and music programming with youth and community residents in the park site.

As echoed above public art attracts viewers and draws people in, including people from outside the immediate neighborhood. Some research has been done to determine the economic impacts on public art and, “data strongly indicates that cities with an active and dynamic cultural scene are more attractive to individuals and business.” ([Public Art Network Council](#)).



Black Lives Matter Street Mural, Seattle. Sourced from Google Images

The Empire parcel site will not have the capacity for large art installations or a large influx of visitors like the Cloud Gate (“Bean”) in Chicago or the Olympic Sculpture Park in downtown Seattle. Adding artwork to the future park site in Skyway has the possibility to help revitalize the community and attract more business or visitors to the area.

Additionally, there is a huge economic impact for the artists selected and involved in any public art projects. Even before the pandemic many artists especially BIPOC artists struggled to gain an income; being selected for a public art scale commission can have an incredible impact on that person and their family. Equity can start at small levels impacting one artist and their family, radiating to influence a community, public art and parks can help magnify these goals.

Key Finding: Public art in parks can have a progressive economic impact on both the larger community and the artists selected.

Recommendation: We recommend that King County Parks consider making a concerted effort to include artworks by BIPOC artists, especially from the Skyway community and consult with local organizations like 4 Culture for support with the public art development process.

Community: Key Considerations



The Spirit of Haida Gwaii Vancouver Airport, Canada.
Sourced from Google Images

The integration of art within public parks has always raised questions about funding and costs. Large-scale public artworks even murals can have substantial materials, labor, and time associated costs. These related costs should not distract from the substantial health, economic, societal, and cultural community benefits public art can have. To address these concerns in 1973 the city of Seattle and King County became the first area in the nation to set up a percent-for-art ordinance to fund large-scale public art projects. Similar projects and ordinances have popped up across the country.

In Seattle, the program specifies that 1% of eligible city capital project funds are to be set aside for the commission, purchase, and installation of public artworks in various community settings. Programs like this address equity and inclusion head-on by providing more opportunities for residents to interact with art in communal spaces and give voice to BIPOC artists.

From enhancing built structures in green spaces to creating unique attractions for communal spaces, public art becomes part of a community's identity and culture.

Artists, residents, and community members that partake in the development and creation of public art become part of the placemaking process. Parks are a social and cultural gathering space and, "public art offers a grounded experience for tangible audiences in their daily life that enriches, enhances and empowers everyone" (Crush). Participatory public artworks have the power to be uniquely accessible and celebrate the exceptional cultures within a community like the Color Swatch Mural found in South Philadelphia. The neighborhood where this mural is located has a high concentration of immigrants and refugees from Southeast Asia, the incorporation of different languages helps to strengthen this public art piece and make it accessible for its residents.

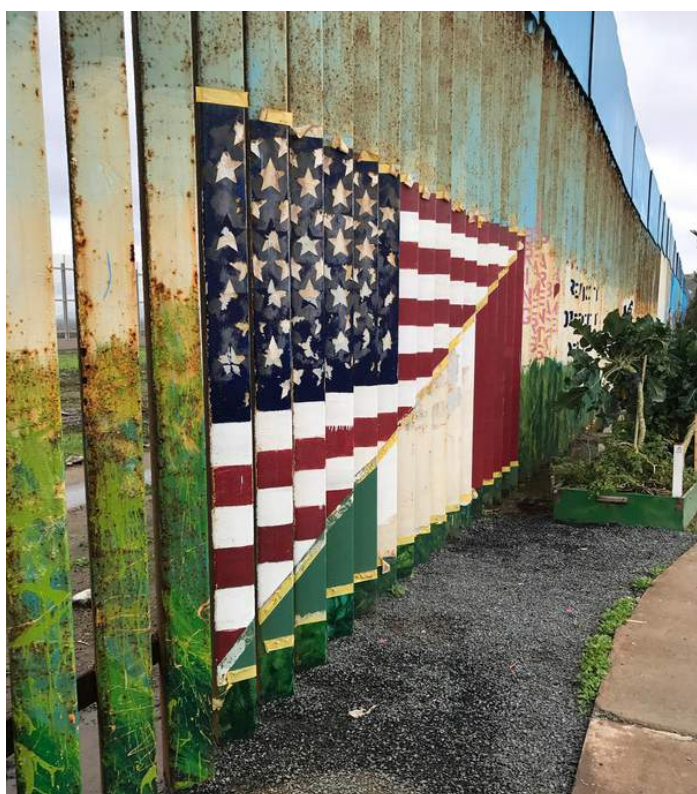


Color Swatch Mural, Philadelphia, Sourced from: Emily Dittig Personal Photos, 2018

Community: Key Considerations

Similar to the neighborhood in South Philadelphia, the Skyway community has predominantly Asian language-speaking residents. Census data from 2020 found that 21.6% of the limited English proficient (LEP) community in Skyway speaks Asian and Pacific Islander languages. The second most spoken language by LEP residents was Spanish at 6.5% (United States Census Bureau).

Key Finding: Expressing cultural identity through public art has positive impacts on community placemaking, increasing accessibility, and enhancing community pride.



Flag Mural, Tijuana, Mexico, Sourced from: Emily Dittig Personal Photos, 2017

Recommendation: King County Parks should integrate various neighborhood cultural identities through visual artworks by selecting local BIPOC artists and collaborating with cultural community-based organizations. We recommend that future park signage have other most common languages beyond English to welcome other cultural identities to the space.

Even non-traditional parks like the Friendship Park at the Southern Border have incorporated culturally significant public artworks to make statements and reflect the distinctive community experiences. Friendship Park is a small space situated between the US and Mexican border walls and is only open a few times a year for families on both sides to reconnect. Artists have painted murals along the Mexican side, depicted in the picture below, alluding to the deep connection between our two countries.

Public art that reflects the community provides a more meaningful experience for residents and draws people in more than other works. Public art's ability to decrease stress, elicit awe, develop shared identity, reduce isolation, reinforce self-efficacy, and promote positive health behaviors are clear public health impacts (Thomas). Public art and parks are nexuses between open democratic spaces; free from costs, accessible to all, and provide exceptional experiences. The impacts of combining these two are rarely seen but easily felt.

Community: Key Considerations

Programming

Park programming that encourages community engagement provides the opportunity for a safe, functional, and educational public amenity. An excerpt from Planning, Designing, and Maintaining Safer Parks by the Toronto Parks and Recreation provides an excellent template for the design and use of public parks. Providing a well-programmed park to encourage placemaking has positive outcomes including an increase in property value, lowering of crime rates, increase in access to transit and pedestrian routes, etc. (Marsh)

Programming can include recreational offerings, exhibits, community gardens, festivals, and volunteering programs. There should be certain considerations when developing the parks program such as establishing diversity in users, in regard to age, race, gender, and income demographics, defining what kind of presence the park will have during the day versus the evening, and where certain programming is located within the site.



National Parks Conservation Association, Leave no Trace, Google, 2015

Statistics in the National Recreation and Park Association show that 70 percent of “park and recreation agencies” programs are targeted toward senior citizens, with 25 percent of parks administering farmer’s markets, and 63 percent providing space for growing healthy foods.

Key Finding: Parks with recreational programming provide resources for a plethora of age groups, races, genders, and demographics and should reflect this diversity within their provided programs.

Recreational Programs and Education

Recreational program implementation aligns with the Skyway West Hill Subarea Plan Public Review Draft of 2021 as pointed out:

“Currently, Skyway Park hosts Little League and youth football games as well as community events like the Skyway Community Festival. As of 2020, the County is implementing a capital project in Skyway Park to improve recreation and sports facilities. Proposed Park improvements include adding an outdoor mini soccer arena, expanding and moving the playground, upgrading fencing and lighting, and improving pathways and the basketball courts, among other improvements.” (Williamson).

Community: Key Considerations

The British Columbia Recreation and Parks Association's Programming Ideas for Recreation Professionals provide effective examples of park programming, in the case of increasing access the development of gardens and trails provide opportunities for family nature clubs.

In contrast, the development of playgrounds allows for a dedicated area for children to play and promote park and wildlife preservation. Additionally, well-designed playgrounds improve green space opportunities, and neighborhoods that have grass and trees in common outdoor spaces have increased use of outdoor spaces and more social activities take place there.

Leave no Trace, Center for Outdoor ethics include a series of programs that appeal to younger and teenage populations which include the use of community gardens and tree planting programs that provide neighborhood residents, local schools, and visitors the opportunity for greater engagement.

Key finding: Providing unstructured play allows for a greater opportunity for informal engagement for younger demographics and allows for better use of green spaces and natural features.

Recommendation: King County Parks should include local schools and education programs in park programming to increase environmental stewardship, and should develop events that promote discovering relationships with the natural world.

Programming Partnerships

Partnerships with local community groups and local officials are imperative when building and maintaining playgrounds, and promoting the benefits of being outdoors. King County Parks and Empire Parcels Park should consider working with a variety of sectors and individuals which include:

- Health providers and public health officials
- Teachers and schools
- Landscape designers, urban planners, architects
- Non-profit organizations
- Private corporations and businesses
- Municipal government departments
- Agriculturalists, farmers, naturalists
- Local media
- Interested community members
- Nearby universities and educational institutions such as libraries

Community: Key Considerations

Houseless Encampments

During site visits by HIA contributors, the parcels showed visible signs of illegal garbage dumping and encampments of houseless people. Greg Blount, Executive Director of Manufactured Housing Community Preservationists (MHCP), explained that the parcels have experienced loitering and encampment issues, which may become a safety concern for future park goers.

Parks, nonprofit organizations, health and human services departments, and the police are cities' most frequent groups which handle issues of homelessness. Typically, urban parks and recreation agencies rely on their cities' police departments to enforce anti-loitering rules on public park property. However, forceful removal by police does not tackle the root cause of the issue nor prevent it from occurring again, and can potentially cause harm or fear in marginalized neighborhoods which may perceive the police as dangerous. In King County, social service agencies like United Way of King County or REACH can outreach homeless individuals where they are residing and facilitate linkage to services and shelter (United Way of King County).

Some park and recreation agencies use or are considering the use of, design elements that discourage people from staying overnight in parks (NRPA). However, these design elements may be considered inhumane and do not tackle the root causes of houselessness (Hu).

In virtually all cases, park and recreation agencies offer restroom facilities, which are open for use by anyone. Approximately one quarter of urban park and recreation agencies have specific programming for the respective communities' houseless population (NRPA).



An encampment in the parcel's woods during a student field visit (May 2022).

Key Findings: Open, regularly maintained park restrooms provide inclusivity and mitigate health concerns related to waste in the park. Collaboration between parks management and social service agencies can facilitate outreach to people residing in public parks and promote safe relocation and increase public perception of park safety.

Recommendations:

- King County Parks should consider collaboration with social service providers and local law enforcement to outreach people camping in the park.
- King County Parks should consider making restroom facilities available in the park, as well as training the parks employees to engage more effectively with individuals experiencing homelessness and collaborate with social service agencies as a first response.
- King County Parks should continue to advocate for increased affordable housing and partner with the Housing Authority where possible in order to help mitigate the houselessness crisis.

Community: Key Considerations

Green Gentrification & Displacement:

The Skyway neighborhood, as it is unincorporated, relies on King County for its municipal services which include park administrative services. There is a risk that King County may consider Skyway lower priority when providing funding, as the community only has a population of 17,397 compared to the more than two million residents of King County (U.S. census).

The South Seattle area has a historical record of housing discrimination and segregation based on race. Housing inequality has existed in the area for decades. The community has some utilization of the parcel's natural environment, but accessibility is limited due to the trail's condition. The community is also cut off from the surrounding neighborhoods by Renton Municipal Airport, I-5, and the Duwamish River, leaving it somewhat isolated.

There is ongoing concern about the erosion or lack of local services, and the desire for stronger local representation has led some to push for annexation. Annexing to Seattle could potentially raise housing prices in the area, which would affect housing affordability and price the residents out.

The vacancy rate in Skyway CDP in 2020 is 2.6%, clearly indicating housing scarcity. The housing shortage has been occurring since 2018, demonstrated by vacancy rates indicated in the census.

Existing apartment buildings in the area are looking to capitalize on the current housing shortage by increasing the number of units, and luxury apartments are under construction in the neighborhood, which may increase the rent. Most tenants in that area are low- and moderate-income, but it may not stay that way.

The new park may green-gentrify the area. Green gentrification occurs when environmental greening leads to increased perceived local desirability that results in higher property values and rents. New apartments in the area may raise their rent because of the planned park.

Key Findings: The development of the park will improve housing equity in the community by providing accessibility to green spaces. However, the planned park may cause green gentrification and increase the rent burdens, and the total effect is still to be seen in the future.

Recommendations:

King County Parks should assess the potential for park creation to cause rent increases and green gentrification in the surrounding neighborhood and work with community stakeholders to prepare for, or mitigate, these impacts where possible.

Community: Recommendations

Detailed Recommendations

Key Finding	Recommendation	Predicted Impact(s)	Likelihood	Direction & Extent	Quality of Evidence
Community engagement is vital to a park's success beginning with the design and ultimately the programming offered at the park.	King County Parks should consider involving the Skyway community in the design phase of the park and development of programming. A more engaging park can be developed for the community by holding meetings or focus groups to help design the park and create engaging activities.	Increase use of park by the local community	Likely	↑ ↑ ↑	***
Public art in parks can have positive economic impact both the community and artists selected.	We recommend that King County Parks make a concerted effort to include artworks by BIPOC artists, especially from the Skyway community. Consult with local organizations like 4 Culture to get help with the public art development process.	Add visual interest to the neighborhood and aid in economic development for residents	Possible	↓	*
The development of a green park will improve housing equity in the community by providing accessibility to green spaces. However, the park may cause green gentrification and increase the rent burdens, and the total effect is still to be seen in the future.	King County Parks should assess the potential for park creation to cause rent increases and green gentrification in the surrounding neighborhood and work with community stakeholders to prepare for, or mitigate, these impacts where possible.	Potential green gentrification and increasing rent burdens in the surrounding area.	Possible	↑ ↑	*



Key

↑ ↑ ↑ - Severe impact on few
 ↓ ↓ ↓ - Small impact on many
 ↑ ↑ - Moderate impact on medium number
 ↑ - small impact on few

*** - many strong studies
 ** - several strong studies
 * - no clear studies, but generally consistent with public health principles

Community: Recommendations

Key Finding	Recommendation	Predicted Impact(s)	Likelihood	Direction & Extent	Quality of Evidence
Community participation in public arts can have positive impacts on mental health, community identity, and community placemaking.	King County Parks should consider including community residents in the development and creation of public art in the Empire Parcel space and partnering with local organizations like Art Corps to conduct art and music programming with youth and community residents in the park site.	Community residents who participate in the art development and creation process will be more likely return to and explore the park.	Likely	↑ ↑	***
Public art can increase physical health through motivating city dwellers to slow down and absorb their surroundings or encourage them to seek out public art.	Infuse artwork throughout the future park site in unique and creative ways. Mosaics and murals are cost-effective ways to add artwork. Enhance the built structures like picnic tables, benches, and water fountains in the park with structural and surface-level art pieces.	Infusion of artwork in the future site will increase park participation and have positive impacts of physical and mental health.	Likely	↑ ↑	**
Expressing cultural identity through public art has positive impacts of community placemaking, increasing accessibility, and enhancing community pride.	King County Parks should integrate various local cultural identities through visual artworks by selecting local BIPOC artists and collaborating with cultural community-based organizations. We recommend that future park signage have other most common languages beyond English to welcome other cultural identities to the space.	Increase frequency of park visitation. Positive mental health impact for residents who enjoy artwork that reflects their identity and enhance the visual appeal of the park.	Likely	↑ ↑	**
Making the park restroom available to all utilizers, including homeless individuals, would make the space more inclusive. Collaboration between parks management and social service agencies can facilitate outreach to people residing in public parks.	To address homelessness in the park, King County Parks should consider making restroom facilities available to this population, training the park's employees to engage more effectively with individuals experiencing homelessness, and collaborating with social service agencies to provide street outreach.	The park will be more inclusive to all community members, and park management will be able to effectively address homelessness in the park.	Likely	↑ ↑	**



Chapter 3: Accessibility

Introduction

Accessibility to urban parks and green spaces has a direct relationship to community health benefits. For a park to be accessible it should include safe and equitable access to park features and the health benefits associated with park use. This can be accomplished through efforts to improve physical access like pedestrian access, public transportation, bike lanes, and parking. Accessibility also incorporates safe and inclusive areas, with a focus on equity, to bestow health benefits among all park users. This chapter will explore the benefits of park features, operations, and transportation infrastructure to the proposed park to maximize public health benefits of the park.

Equity Considerations: Achieving equitable park access requires an intentional process and sustainable solutions, grounded in equity and inclusion. That means developing unique solutions for all members of the community to maximize benefits associated with public works. Accessible parks have been linked to increase physical activity, improved mental health, stronger community bonds and a sense of belonging. Public parks, especially pedestrian accessible parks, also gives those without transportation an opportunity to experience the outdoors through mode-shifting and non-motorized transit. Through equitable consideration and practices, King County Parks can cultivate ties that connect people to the fabric of the community.

Accessibility: Key Considerations

Pedestrian Access

Improving pedestrian access has the ability to increase engagement within parks and other green spaces. Similar to increasing transit options, this type of access is influential in producing community connections while directly adding to the physical benefit of active transportation and park use (David Fleming, Dennis McLerran). Parks and infrastructure for active transportation help to facilitate healthier communities, reduce carbon emissions, and provide better access to the park for those who walk or roll.

The residential areas surrounding the Empire Parcels have a walkability score of 30/100 as determined by walkscore.com. The neighborhood is classified as a car-dependent area and lacks the pedestrian infrastructure to support the current community. Unsafe sidewalks and absent crosswalks discourage park use for all community members as impose a barrier, especially for families who may have children.

Pedestrian infrastructure can have significant impacts on equity because it can increase access to public parks and does not require equipment, skills, or membership fees. This makes it an important component of health and transportation, particularly for low-income individuals (Mozhgon Rajaei et al.).

Key finding: Safe pedestrian access is vital to accessing the park and associated benefits, especially in areas with low walk ability.

Recommendations: We recommend that King County Road Services Division consider installing sidewalks and crosswalks to access the park entrances from the surrounding community.

Bicycle Access

Developing cycling infrastructure can increase access to parks and green spaces in addition to creating a safer environment for those who use them (Sinang Lee, Amy Shumann). While there is a bike lane on 129th St, the road overlooking the park, upon examination we found it likely to be unsafe for all users and a barrier to access. Bicycle infrastructure benefits health, accessibility, and equity. Bicycling advocates have an opportunity to work with transportation agencies to prioritize racial equity in their neighborhood plans .

Key findings: Bicycle infrastructure can be a tool to combat inequity perpetuated through exclusionary transportation planning.

Recommendation: We recommend that King County Road Services Division or WSDOT consider installing bike lanes to connect the neighborhood via active transport to the greater Skyway area.



Source: Aaron Bialick; sfmta.com

Accessibility: Key Considerations

Public Transportation Access

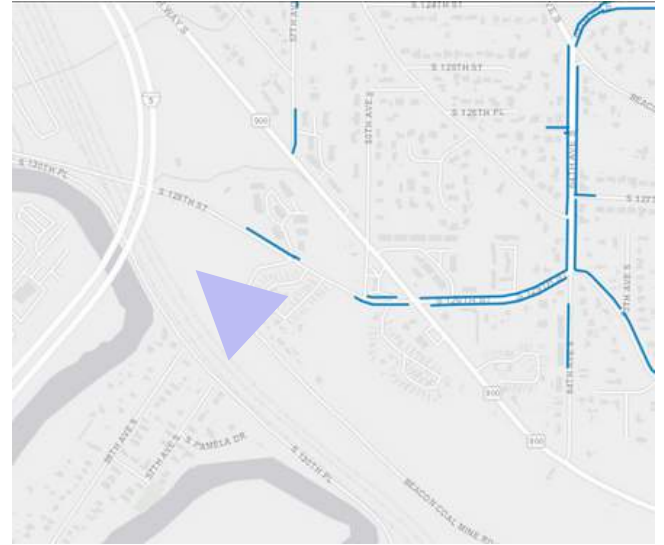
Increasing the accessibility of public transit to green spaces can be a cost-effective approach to facilitate a relationship between community members and their natural environment. Increasing access to green space through transit can build community connections, develop a healthier atmosphere, and reduce carbon emissions in the surrounding area. (Alessandro Rigolona, Matthew Browninga, Viniece Jenningsb).

Providing improved access to transit can have significant effects on inequity within these spaces. Spatial inequality can develop from various patterns and properties of the built environment and the transportation systems that they help shape (Chad Frederick, J. Gilderbloom). The transportation justice movement focuses on improving the transportation planning process to address the burdens and inequities that many low-income and minority communities have suffered at the hands of transportation planning over the past century. (Harry Oosterhuis).

Injustices in urban transport systems showcase how the country- and city-wide educational initiatives can have a significant impact on people's perceptions of the importance of transit systems. Unequal distributions of the burdens and benefits associated with transport systems continue to significantly impact lower-income individuals and pedestrians (StefanGössling).

Key findings: Public transportation infrastructure is a cost-effective and equitable way to improve accessibility to public parks.

Recommendation: King County Metro and Sound Transit should consider including additional service stops to accommodate park users.



Sidewalks supported by King County
(Source: King County GIS Open Database)
Note: Park Parcel represented by purple triangle

Facilities for All Ages

Often times, a park can be left unused by certain groups because it is perceived as unsafe or belonging to another group. To create a more inclusive public outdoor environment, societal groups must perceive the environment as welcoming and have the opportunity to use the space based on their needs and wishes. Several research studies have investigated the ability of park management to adapt spaces for the purpose of a specific user, like children or the elderly.

User age is important when considering how parks are designed (ÅsaOde Sang, IgorKnez, BengtGunnarsson, MarcusHedblom) (Elin P. Sundevall, Märit Jansson) and the opportunities they provide for use, which are called affordances (A Ben-Zeev). The age groups recognized as major users of parks are children and the elderly, while use by adolescents has been found to be low (Jenny Veitch), but is insufficiently studied.

Accessibility: Key Considerations

Children appreciate a variety of different places and elements in park spaces, including both informal (e.g., nature) and formal (e.g., playgrounds). Areas that are less planned and less maintained can encourage exploration and free play while improving children's contact with nature.

For elderly users, accessibility, proximity to green spaces, and safety are important factors in contributing to health benefits. Frequently placed benches along well-maintained walking paths are important for both safety and accessibility while also taking advantage of the health benefits associated with green spaces (Hannah Postles)

Park design should reflect the different needs and interests of the community and provide multiple opportunities for use. Places programmed to solely for a specific group may appear exclusive to others.

It is important for park designers to consider benefits and limitations when including age specific features in a limited park space. Some park features when located near each other can be synergistic, while poor planning can lead to lack of use. For example swing sets located directly behind horseshoe courts may be left unused by youth.

Key findings: To create a more inclusive public outdoor environment, all age groups should be welcome and have opportunities for engagement.

Recommendations: King County Parks should consider designing landscapes and structure for all age groups of the community.

Access for All Abilities

Public parks best serve the community when the overall design and elements of the park are carefully considered with inclusion in mind. Inclusive parks are designed to be unrestrictive both in the approach to the park and travel within it. Accessible travel within a park requires paths be wide enough to accommodate all types of mobility aids and assistance animals.

Accessibility within parks also applies to the features, like play structures. Play areas that permit service animals to enter makes these features accessible for folks in need of medical or ambulatory support with minimal risk of disruption, as service animals are well trained for hectic environments (National Recreation and Park Association). Many people rely on service animals for mobility, to alert them of medical issues, or to assist in other ways. Allowing these animals in the area improves the inclusivity of the entire park (National Park Service). Park design that incorporates limited infrastructure supportive to service animals, like dog watering areas, also make people who use service animals feel welcome.

It is also important for inclusivity to provide flush transitions from one surfaces to another in the park. This allows people using mobility aids to move freely between different areas with less risk for injury.

Playgrounds are best designed to engage children of all ages and abilities by providing a full range of equipment with various play values and different levels of challenge (Play World).

Key findings: Accessibility improvements in parks help make parks more engaging for people of varying abilities.

Accessibility: Key Considerations

Recommendations: King County Parks should consider investing in accessibility improvements to support community members with varying abilities to access the full benefits associated with park use.

Community Gathering Spaces

Community gathering spaces support community engagement by providing residents with a venue for participation in, and attachment to, their communities. They also create a sense of place by connecting residents to one another and to their greater environment.

Community centers in public parks also provide an important role in developing gathering spaces in the city and provide a unique opportunity to connect diverse residents. Hosting social events in community spaces creates an opportunity for people to engage with one another, which adds to the sociability of the park. It can also create intricate connections between the park users and the space, therefore forming a sense of cohesion and unity in the park.

Seattle is well-known for its rainy weather. Gathering spaces that provide shelter from the rain increase use by allowing for the park to be used during intermittent rainy weather.

Key Findings: Community gathering spaces in parks encourage positive community participation by diversifying opportunities for engagement with one another.

Recommendations: King County Parks should consider providing covered places and benches for people to connect and interact in a shared environment.

Parking

Park accessibility and usability are critical because they can affect park efficiency and limit the involvement of people with disabilities. The availability of parking spaces is a well-known facilitator for boosting engagement and recreational use of facilities by individuals with disabilities (Kelsey Nyland). However, the park is being designed primarily to be access via pedestrians, not cars, and parking should be limited to allow for ADA access. The availability of handicapped parking spaces is a critical aspect of disabled people's travel decisions and has a significant equability impact. There is currently no parking available at the site and no plan to install parking areas for the park once it is opened.

Key findings: There are no parking lots in the vicinity for people with disabilities or planned parking for park users.

Recommendations: We recommend that King County Parks and King County Road Services Division consider incorporating limited parking at the park entrance for disabled park users.

Park Maintenance

Access to clean and safe parks is directly connected to the health benefits community members gain from park use. Maintaining park facilities and grounds increases access by promoting healthy, clean, and intended use of parks. Litter and illegal waste dumping in parks negatively impacts users by disincentivizing park use (Rachel Schulkin). Seattle Public Utilities reported a 195% increase in litter and dumping waste collected in the third quarter of 2021 and noted a general rise in misuse of parks with increased dumping and litter.

Accessibility: Key Considerations

With the uptick of misplaced rubbish in public parks, park maintenance and trash removal efforts are vital for upholding intended uses to preserve the health benefits associated with green spaces. Robust park maintenance also contributes to an accessible atmosphere through graffiti removal efforts. Graffiti can discourage park use by displaying inappropriate and harmful messaging.

Key findings: Park maintenance can improve the use of public parks by creating an approachable and safe environment for park users.

Recommendation: King County Parks should consider implementing a robust maintenance program for the park, especially following the park opening, to ensure sustained intended use of the park.

Emergency Services

Emergency services are an integral part of our society and how we perceive risk and safety. Expedient response to emergency situations has been the metric to evaluate the effectiveness of EMS (emergency medical services) due to its strong association with favored outcomes (Sultan Zayed Khalifah Al-Shaqsi). Environmental conditions, like extreme topography, can negatively impact emergency medical service response time in providing patients with care. (Emergency Medical Services). Frequently used equipment for emergency medical personnel includes oxygen sensors, blood pressure cuffs, and most importantly gurneys.

Gurneys are adjustable beds with wheels used for transporting immobile patients and are frequently used in emergency situations. Gurneys are often used because they allow for safe patient transfers when the extent of an injury is unknown, when there is a spinal injury, or for unresponsive patients.

Key findings: Emergency medical services is integral to our sense of safety and perceptions of risk. A common tool for EMS are gurneys.

Recommendations: We recommend that King County Parks consider installing paved paths for use by emergency medical services as well as emergency call buttons at park entrances.

Lighting

Landscape and path lighting are vital for park safety and impact how accessible parks can be, especially for vulnerable populations. One of the major roles of lighting in public spaces is to ensure safety and visibility by illuminating uneven terrain, debris, and obstructions on walking paths (Lumega Group). Safety is a priority during the design phase of public projects. The Empire Parcels Park will likely have limited sight lines and general noisiness due to the proximity to I-5 and Union Pacific railway; both factors contribute to possible safety and criminal concerns. Lighting serves as a deterrent to illicit activity in recessed areas. This may be a concern in the Empire Parcels Park due to its topography. While there are no intended plans to add lighting to the park currently, path lighting and general lighting of communal areas would contribute to the accessibility of the park by making a safer atmosphere for patrons to enjoy. The park however will be primarily used during the daytime, and night lighting may be a lower priority with a constrained budget.

Key findings: Lighting contributes to perceived and actual safety of park users.

Recommendations: King County Parks should consider installment of general and path lighting on major trails to improve safety of walking paths and deter criminal activity.

Accessibility: Recommendations

Detailed Recommendations

Key Finding	Recommendation	Predicted Impact(s)	Likelihood	Direction & Extent	Quality of Evidence
Safe pedestrian access is vital to accessing the park and associated benefits, especially in areas with low walkability.	We recommend that parks and transportation consider installing sidewalks and crosswalks to access the park entrances from the surrounding community.	Allow for safe movement to and from the park.	Very Likely	↑ ↑ ↑	***
Public transportation infrastructure is a cost-effective and equitable way to improve accessibility to public parks.	King County Metro and Sound Transit should consider including additional service stops nearby to accommodate park users.	Increase use of park and encourage active transport.	Likely	↑	*
Bicycle infrastructure can be a tool to combat inequity perpetuated through exclusionary transportation planning.	We recommend that King County Road Services Division consider installing and improving bike lanes on 129th St and Martin Luther King Jr. Way to connect the neighborhood via active transport to the greater Skyway area.	Increase use of active transportation for community residents.	Likely	↑	**
To create a more inclusive public outdoor environment, all age groups should be welcome and have opportunities for engagement.	King County Parks should consider designing landscapes and structure for all age groups of the community.	Improve inclusive and increase use.	Likely	↑ ↑ ↑	***



Key

↑ ↑ ↑ - Severe impact on few
 ↓ ↓ ↓ - Small impact on many
 ↑ ↑ - Moderate impact on medium number
 ↑ - small impact on few

*** - many strong studies
 ** - several strong studies
 * - no clear studies, but generally consistent with public health principles

Accessibility: Recommendations

Key Finding	Recommendation	Predicted Impact(s)	Likelihood	Direction & Extent	Quality of Evidence
Accessibility improvements in parks help make parks more engaging for people of varying abilities.	King County Parks should consider investing in accessibility improvements. This could include at least one major ADA trail and limited parking to support community members with varying abilities to access the full benefits associated with park use.	Increase park use and allow for equitable access.	Likely	↑ ↑	**
Community gathering spaces in parks encourage positive community participation by diversifying opportunities for engagement with one another.	King County Parks should consider providing covered places and benches for people to connect and interact in a shared environment.	Increase use of park in poor weather and improve community cohesion.	Likely	↑ ↑	**
There are no parking lots in the vicinity for people with disabilities or planned parking for park users.	We recommend that parks and transportation consider incorporating limited parking at the park entrance for disabled park users.	Increase park use and allow for equitable access.	Likely	↑ ↑	*
Park maintenance can improve use of public parks by creating an approachable and safe environment for park users.	Parks should consider implementing a robust maintenance program for the park, especially following the park opening, to ensure sustained intended use of the park.	Increase use and fidelity to intended uses of the park.	Likely	↑ ↑	***
Emergency medical services is integral to our sense of safety and perceptions of risk. A common tool for EMS are gurneys.	We recommend that King County Parks consider installing paved paths for use by emergency medical services as well as emergency call buttons at park entrances.	Increase park use and allow for equitable access.	Possible	↑ ↑	*
Lighting contributes to perceived and actual safety of park users.	Parks should consider installment of general and path lighting on major trails to improve safety of walking paths and deter criminal activity.	Reduce risk of injury on major walking paths and expand safe hours of use in the park.	Likely	↑	**



Conclusion

Discussion

This Health Impact Assessment aims to identify the impacts that the creation of a park at the Empire Parcels will have on the residents of Skyway-West Hill. Located in an underinvested area of unincorporated King County with fewer environmental and social amenities, the addition of this park will promote equity and health by increasing access to green space, encouraging outdoor activity, and possibly increasing social capital and cohesion for neighborhood residents. Through the recommendations provided in this report, we aim to guide the creation of a park that is accessible, safe, health-promoting, and environmentally sustainable. We strongly agree with King County Parks that **the development of a park at the Empire Parcels will extend the health benefits of nature contact to neighboring residents and thus further health equity in King County**. Our review found that the creation of a park will have overwhelming positive impacts on the health of nearby residents as long as several key factors are considered in the park design phase: pedestrian infrastructure surrounding the park, actual and perceived safety within the park, and community involvement in design and programming at the park. Priority recommendations in this HIA outline specific suggestions for addressing the aforementioned considerations and thus provide King County Parks with guidance in how to create the Empire Parcels Park to ensure intended health benefits reach the community.

Limitations

Limitations of this HIA include the fact that students had limited access to the site and limited time to conduct site visits (site visits occurred outside of class hours). Also, the impact of the COVID-19 pandemic has not dissipated, and students had limited opportunities to meet with the site clients and interview people in the local community. Authors were not able to conduct community forums, surveys, or other means of obtaining community input about park development. Additionally, the rapid 10-week quarter system presented a major time constraint for completing the report and thus limited student capacity for research and writing. Lastly, it should be noted that the contributors to this report are students with varying levels of expertise in the topics matter related to the assessment.

Despite these limitations, we feel that this HIA's findings provide valuable insight into potential health impacts related to the Empire Parcels Park and surrounding community, as well as important and justified recommendations for how King County Parks can proceed with park design in a manner that promotes health and equity of the community.



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