

# SOUTH PARK 2016: A PLAN FOR NEIGHBORHOOD EQUITY



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# THE SOUTH PARK TEAM

The South Park team consists of students from the University of Washington's Department of Urban Design and Planning. The team was formed to consult with the City of Seattle's Office of Planning and Community Development. This relationship developed out of the Department of Urban Design and Planning's Studio Program, which engages undergraduate and graduate students in hands-on, collaborative planning issues in local communities.

# ACKNOWLEDGEMENTS

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# EXECUTIVE SUMMARY

While Seattle's economy has grown rapidly, benefits of this growth have not been distributed equitably throughout the city. In fact, South Park, a small neighborhood on Seattle's southern edge, is Seattle's only riverfront community, and is a pocket of affordable housing in a city quickly becoming unaffordable for a significant portion of the population. South Park is one of the most diverse neighborhoods in the city of Seattle, and the tight-knit community is actively engaged in advocacy efforts that demonstrate care and dedication to neighborhood health and vitality. However, South Park has some of the highest rates of poverty in the city, at more than double the city-wide poverty rate. Furthermore, the neighborhood has borne the consequences of industrial activity; residents suffer from a higher rate of chronic illness and have a shorter life-expectancy than Seattle residents. South Park is located on the shores of the Duwamish River, an EPA-designated Superfund site. Although South Park has the lowest median household income in the city, the neighborhood lacks critical services in support of community well-being and economic stability. The City of Seattle's is committed to identifying how growth may impact marginalized communities, and seeks to identify strategies that will mitigate harmful impacts and maximize opportunity. As such, there is a clear need for the City to focus its attention on South Park, and the ways in which the neighborhood may grow equitably into the future.

In the spring of 2016, students from the Department of Urban Design and Planning at the University of Washington undertook an equity analysis of Seattle's South Park neighborhood. Advised by University of Washington faculty members David Blum and Ron Turner, and Lyle Bicknell of the City of Seattle's Office of Planning and Community Development, the student group completed a neighborhood analysis and developed twelve strategies for equitable growth and development in South Park. The group presented their findings and recommendations to City of Seattle staff on June 6th, 2016. This report contains the complete analysis of existing conditions; neighborhood strengths, weaknesses, opportunities, and threats; strategies for equitable growth and development; and case studies documenting successful implementation of each strategy from cities and towns in the Puget Sound region and beyond.

Our neighborhood analysis identifies strengths, weaknesses, opportunities, and threats in South Park; the City should consider these elements when creating policy and programs for implementation in the neighborhood. South Park's key strengths lie in its community institutions and neighborhood attributes, while public health, economic, and geographic weaknesses pose challenges for the neighborhood. South Park's proximity to the riverfront, available retail space, and strong industrial employment base suggest prime opportunities to advance community vitality. Finally,

displacement is a major threat to South Park residents, and the neighborhood's location in a liquefaction prone area and absence of an emergency preparation program endangers the lives of residents.

From this neighborhood analysis, the University of Washington team created a set of objectives for to guide strategy development. From People, Place, and Prosperity objectives, the team identified twelve strategies to promote equity in South Park. These strategies are:

1. Rezone the southwest industrial area
2. Develop a community land trust
3. Implement pedestrian-friendly routes along SR-99
4. Restore the waterfront to a natural state
5. Increase street light and street tree coverage
6. Create neighborhood design guidelines
7. Create weekly community events
8. Rezone the 14th Avenue corridor to Neighborhood Commercial
9. Create a skilled trades district
10. Create complete streets along 14th Avenue
11. Build backyard cottages
12. Implement an emergency preparation program



# INTRODUCTION

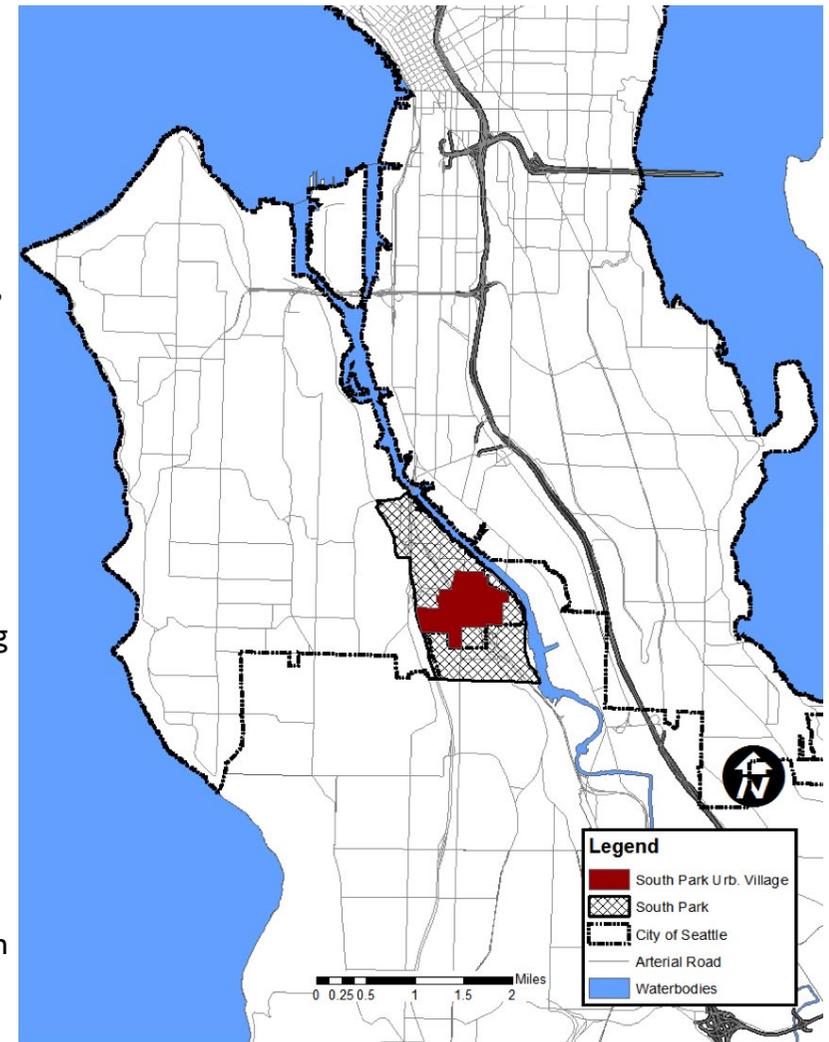
# INTRODUCTION

The South Park neighborhood is located in South Seattle, just south of Georgetown across the Duwamish River. The neighborhood is mostly, but not entirely, contained within the City of Seattle, and includes some slivers of Unincorporated King County. The major arterials within the neighborhood are West Marginal Way S, S Cloverdale Street, and 14th Ave S, the main commercial street. The newly renovated South Park Bridge connects at 14th Ave S to Georgetown.

South Park is cut in many sections by its vastly different land uses, jurisdictional boundaries, and the highway infrastructure that crosses through it. At its heart, the small residential core of the neighborhood is one of the most peaceful, affordable, and human-scaled neighborhoods in Seattle. An active and well-connected community, hard-working local organizations, a tight-knit and human-scale street grid, and a diverse fabric of single-family homes and low-density apartments are rare and valuable commodities in the Puget Sound region. These strengths make it easier to bear the hardships that come with being a low-income, majority-minority community: unaffordability of housing, racial profiling, and low-life expectancy.

However, South Park's unique geographic and jurisdictional position has contributed to planning choices that have undermined these strengths and threaten the long-term viability of the neighborhood. The residential core is surrounded and cut through by highways, industrial uses, environmental contamination, seismic hazards and fractured jurisdictional boundaries. The long-term sustainability of the neighborhood has been questioned, however this doubt fails to acknowledge the value residents place on community. There is a viable community in South Park, a community that can heal and grow sustainably in the future.

The thorough analysis contained in this report examines key strengths and weaknesses in South Park, and identifies possible paths for the future. This analysis and these recommendations were created based on research which included interviews with key community members. This document represents our findings and opinions about what the neighborhood could look like in the coming decades. However a thorough public planning process should be conducted as a follow up.



South Park Context Map

# I.I HISTORIC CONTEXT

The history of urban development in South Park falls roughly into three periods. Largely a neighborhood made up of farmers, Guiseppe “Joe” Desimone, was a farmer who was one of the founders of Pike Place market. South Park was incorporated as a city in 1905 and petitioned to be annexed to Seattle several years later. In 1907 South Park was annexed, along with West Seattle and Georgetown. The area had about 1,500 residents at the time of annexation. The first bridge across the Duwamish into the neighborhood was a built for a streetcar line and was replaced by a permanent bridge built in 1931, establishing 8th and 14th Avenues as the two main commercial streets.

In the second period, from the 1940’s to the 1980’s, the Duwamish/Green River valley was largely converted to an industrial corridor. Farmland was converted to factories, with Boeing having the largest footprint. In 1956 the City’s comprehensive plan designated the entire area to be used for industry, which was formalized in 1962 when it was rezoned for “transition to industrial use”. This prompted protests at City Hall from South Park residents, who were able to revoke the change. At this time there were approximately 4,200 residents in South Park.

US Highway 99 (later State Route 99) was constructed through the middle of the neighborhood in the 1960’s and opened in

1966. Known at the “Boeing Bypass Route” the freeway cut the neighborhood in half, isolating the elementary school and reducing the number of cross-neighborhood connections to two. A cloverleaf interchange was built between Director St and 96th St, occupying about 15 acres of land.

The most recent period of stabilization and recovery begins in the 1970’s when some federal Neighborhood Development Program loans were targeted to South Park by the City to improve the housing stock. Following protests in 1962 some parts of the residential area were upzoned to increase the population of the area, and a 1973 plan by the city recommended further upzoning in the residential area. In the late 1970’s federal and state environmental legislation was passed to determine the level of environmental contamination on the Duwamish.

The neighborhood’s history as a sanctuary for immigrants and minorities continued as more and more latino families moved to the neighborhood. In order to serve this community the nonprofit healthcare provider SeaMar was established in 1976 and their first permanent clinic opened in 1978 in South Park. Since then SeaMar has steadily expanded service first in South Park and later across the entire state.

A number of public amenities have been built in South Park since the late 20th-century. In 1978 the

Duwamish Waterway Park opened at 10th ave and Elmgrove St. The lower 5 miles of the river were declared a Superfund site in 2001 and slated for a cleanup effort, which is ongoing. A collaboration between the Department of Neighborhood and the neighborhood association produced the South Park neighborhood plan 1998. A South Park Action Agenda was produced in 2006 with the intention of spurring faster progress on the priorities identified in the neighborhood plan.

These changes have improved the quality of life in South Park, but they have not changed the underlying causes for the problems of the neighborhood. South Park can continue to exist in its provisional and conflicted form, it could disappear as a residential neighborhood entirely, or it could for the first time, become truly a part of Seattle.



*South Park  
Aerial View,  
1946*

# 1.2 DEFINING EQUITY

The South Park team was tasked with creating a plan to address issues of equity in the South Park neighborhood of Seattle, Washington. In order to create this plan the team spent a considerable amount of time thinking through and defining what equity meant for the project, South Park, and Seattle. The team relied heavily on the use of equity that underlies the City of Seattle 2035 Comprehensive Plan ‘Managing Growth to Become an Equitable City’, which states:

*Seattle will be a diverse city where all people are able to achieve their full potential regardless of race or means. Seattle’s neighborhoods will be diverse and will include the community anchors, supports, goods, services, and amenities people need to lead healthy lives and flourish.*

The City of Seattle 2035 Comprehensive Plan states that it is intended for, “the people who live in, work in, and visit Seattle today”. The plan identifies racial and social equity as one of the City’s core values, and points out that the City in prior years has not been able to accomplish social equity for all who live and work in Seattle, particularly for people of color. The plan mentions that the City must work to keep existing residents and businesses a part of the changing and growing city. More so, the plan is seeking to enable “all Seattle residents better access to jobs, education, affordable housing, parks, community centers, and

healthy food”, a goal that will attempt to increase equity within the city.

Additionally, the team used equity tools from several departments to work through equity, this included: Seattle Public Utilities (SPU) Stakeholder Analysis and the Racial Equity Toolkit from the City’s Race and Social Justice Initiative. With these tools in mind the team set out to create a plan to address racial and social equity in South Park.



Seattle 2035 Comprehensive Plan

# I.3 PROJECT OVERVIEW

## Context

The City of Seattle has been growing at extraordinary rates, and is currently experiencing growth similar to that of the Gold Rush. Increasing incomes, the technology boom and migration, rising property values, and increased housing costs contribute to such growth. Though, this has caused issues with preserving neighborhood character, housing affordability, and displacement throughout many Seattle neighborhoods. Going forward, the City looks through a lens of social and racial justice when making policy and planning decisions. This has been laid out in the city's 2035 Comprehensive Plan, as well as the Race and Social Justice Initiative (RSJI). The City of Seattle plans to make this a priority and act with equity in mind.

Located in southern Seattle, South Park is a neighborhood full of rich history, a diverse population, a dynamic landscape, and is Seattle's only riverfront community. Residents of South Park care about their neighborhood and enjoy living there. Though, it also has one of the lowest median incomes in Seattle, and South Park residents are rent-burdened at almost twice the rate as Seattle.

There is great opportunity to increase equity in South Park. We have conducted an analysis on the neighborhood and specific recommendations

for South Park that align with Seattle's vision of social and racial equity. We have been hired by the City of Seattle Office of Planning and Community Development and are working directly with Lyle Bicknell throughout the duration of the project.

## Goals

Our goal is to fully understand current conditions within the South Park neighborhood regarding social and economic aspects, as well as the natural and built environment. Analysis of existing conditions and neighborhood strengths, weaknesses, opportunities, and threats informed the development of strategic recommendations to address issues within the neighborhood that have developed as a result of social and racial inequity. These recommendations are intended to fit within the cultural framework of South Park and align with the needs of the community. They have been designed to address particular aspects identified as unique to South Park in order to confront equity within the neighborhood.

# I.4 RESEARCH STRUCTURE

## Framework

This report follows the framework of “People, Place, and Prosperity”. These key principles guide the way in which objectives are created in response to the current conditions within South Park. The project consistently looks back to this lens throughout our recommendations and keeps “People, Place, and Prosperity” as the driving force of our report.

## Methodology

The methodology for our report relies on a community based approach in finding out the needs and wants of community members from their perspective- not from an outsider’s perspective. We looked at community driven reports, including:

- South Park Action Plan
- South Park Green Space Vision Plan
- Duwamish Valley Vision Map & Report
- Duwamish Riverfront Revival report
- South Park Residential Urban Village 1998 Plan
- South Park 2007 Neighborhood Plan

We spoke with residents of South Park and attended neighborhood association meetings. We met with organizations within the neighborhood that serve the community, including:

- South Park Neighborhood Association
- SeaMar Health Center
- SeaMar Youth Soccer League

- César Chavez Village (SeaMar)
- South Park Boxing Club (SeaMar)
- Duwamish River Cleanup Coalition
- Duwamish Youth Corps
- Catalyst Community Development

This comprehensive outreach enabled us to get a well-rounded understanding of the community. However, due to the short time period of this project, there are constraints in conducting in-depth community outreach, which may have limited the range of people we talked to. Additionally, as outsiders, we may have not been exposed to accurate viewpoints from community members.



# EXISTING CONDITIONS

# INITIAL CONDITIONS RESEARCH

Our project research began with an initial conditions analysis to provide a baseline from which to assess equity in South Park. We focused our initial conditions research on the areas of housing, economic development, education, and the environment. These areas were chosen based on the guidance from our client, specializations of group members, and our knowledge of key issues in South Park and Seattle.



# 2.1 EDUCATION

Educational opportunities in South Park are limited by the neighborhood's small size. In 2010 South Park had 968 residents under 18 years of age, comprising about 25% of the population of the neighborhood according to the US Census. In South Park 35% of families have children, compared to 19% of families in the city as a whole. The neighborhood also has a much lower percentage of adults with bachelor's degrees (estimated 19.5%) than the city as a whole (estimated 58%). The only school in the neighborhood is Concord International Elementary School. Older students attend Denny International Middle School and Chief Sealth High School.

Concord International School serves about 400 students from kindergarten through 5th grade. The classes at Concord are taught bilingually for all students in English and Spanish, with certain subjects taught in each language. Concord scores lower than average on state tests in most categories. Concord also has high percentages of low-income, hispanic, and English language learner students, reflecting the demographics of the neighborhood. On-site preschool is provided by YMCA for a limited number of children.

Denny Middle School and Chief Sealth High School are also international schools. Both are located to the west of South Park at SW Thistle Street and

27th Avenue SW. Travelling by bus to the schools takes about 25 minutes on Metro route 60, which has twenty-minute headways during the day.

There are several mentorship programs and youth activities in South Park led by non-profit organizations.

- The Duwamish River Cleanup Coalition operates the Duwamish Youth Corps, a program for teenagers that builds life and job skills through volunteerism and team-activities.
- SeaMar operates a boxing club in South Park that serves youth ages 10-17 throughout the south-King County area, with approximately half of the members living in South Park. The club operates daily, usually with about 40-50 youth participating on any given day.
- SeaMar also operates a Soccer club out of the Neighborhood Community Center.
- The Duwamish Rowing Club is based in South Park and is open to all youth regardless of ability to pay membership dues.
- Seattle Public Libraries operates a library branch in South Park, with bi-lingual programming for children and adults. Bilingual homework help for students is offered throughout the week.



*Concord Elementary School*

# 2.2 HOUSING

There are approximately 1,500 housing units in South Park. These units are a low-density mix of mostly single-family houses, with duplexes, triplexes, 4-plexes, townhouses and low-rise apartments. Single family detached houses make up about 52% of the housing in the neighborhood while apartments make up about 10%. The housing stock as a whole is relatively old, with about 35% of units built before 1939. The median construction year for detached single family homes was 1941, while the median construction year for apartments was 1959.

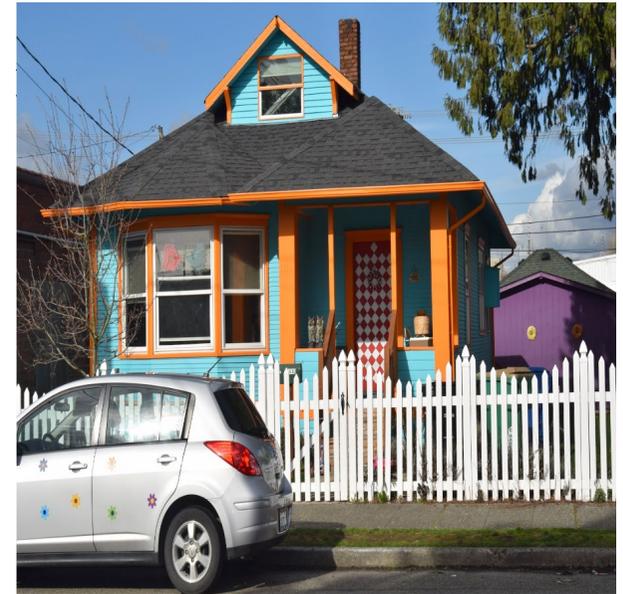
Land and home values in South Park are lower than in most other parts of Seattle. The neighborhood also has a lower proportion of homeowners than the city as a whole at 40% compared to 46%, which is significant given the relatively small number of apartments in the neighborhood. Land values in the neighborhood vary geographically and by use zone. Parcels zoned Single-Family have widely varying land values. Land values in areas zoned low-rise or neighborhood commercial are fairly high, while land values in areas zoned industrial are moderate.

Rents in South Park are much lower than in the city as a whole, with 50% estimated to fall below \$750 per month, compared to just 17% in the city as a whole. Despite these lower rents, most of the renting population is severely rent-burdened, with

54% of the population estimated to pay more than a third of their monthly income on rent. In the city as a whole 37% are estimated to pay a third or more of their income on rent.

Within single family and lowrise areas there is development capacity of 438 additional units on top of 991 existing units according to our analysis. The City of Seattle's analysis which includes commercial zones estimates a development capacity of 1,115 units.

A total of 52 units of subsidized housing are provided by Seattle Housing Authority and SeaMar. South Park Manor is a Seattle Housing Authority Senior Housing Program property with 27 apartments located on Cloverdale street between SR 99 and SR 509. Cesar Chavez Village is an affordable housing project operated by SeaMar adjacent to their Community Care Center on "Catholic Hill" on Henderson St near 14th Ave S. The project consists of 25 townhomes available to low-income families. In addition to conventional housing types, a 100-bed skilled nursing facility is operated by SeaMar at their Community Care Center on Catholic Hill.



*Single-Family Home*



*Backyard View of Residential Unit*

# 2.3 ECONOMIC DEVELOPMENT

## Economic Indicators

Economic data gathered from the 2014 American Community Survey by the US Census Bureau indicates significant economic disparities between South Park and Seattle. Approximately 34.7% of the population of South Park lives below the poverty level, compared to 14% in Seattle, with a relatively large proportion of South Park residents receiving public assistance. The median household income in South Park is \$38,875, significantly lower than both the Seattle and Washington state median incomes at \$71,273 and \$61,366 respectively. Likewise, the per capita income in South Park is far lower than in Seattle, indicating that South Park residents do not experience the same level of prosperity as Seattle residents more generally. That the unemployment rate in Seattle is almost half that in South Park suggests barriers to employment disproportionately affect South Park residents. Furthermore, unemployment rate for specific demographics within South Park shows that the neighborhood's Hispanic population experiences a far higher rate of employment, at 19.5% than the neighborhood as a whole. With South Park's sizable Hispanic population, this statistic is particularly illuminating. Of the population aged 25-64, unemployment for those without a high school diploma is 21.8%; the unemployment rate for those with a diploma is only slightly lower, at 19.5%.

ECONOMIC INDICATOR	South Park	Seattle
Population Below Poverty Level	34.7%	14%
Under 18 Below Poverty Level	53.7%	14.7%
Median Household Income	\$38,375	\$71,273
Unemployed	11%	6.5%
No Health Insurance Coverage	18.6%	10.4%
Receiving Cash Public Benefits	13%	3.1%
Receiving Food Benefits	28.1%	9.9%

## Employment in South Park

Fourteenth Avenue is South Park's main commercial hub. The corridor hosts a small grocery store, two gas stations, a health clinic and pharmacy, a few Mexican restaurants, one bar, and automobile-related services.

The major industries of employment for South Park residents include manufacturing; professional, scientific, management, and administrative and waste management, services; educational services; health care and social assistance; arts, entertainment, and recreation; accommodation; and food services. A relatively high number of residents are employed in production, transportation, and material moving occupations compared to Seattle as a whole, reflecting the industrial economy in the neighborhood. The median income for those working in these occupations is \$43,929 for production occupations,

\$21,771 for transportation occupations, and \$37,778 for material moving occupations. These numbers illustrate that opportunity for living wage jobs exist in the South Park industrial sector. However, of the 1,850 civilian employed population aged 16 and over, 31.2% are employed in service occupations. The median income for those working in service occupations was \$20,573. That the highest percentage of South Park employment lies in the some of the lowest paying occupations suggests a relationship to the neighborhood's poverty rate.

OCCUPATION	South Park		Seattle	
	% of Population	Median Earnings	% of Population	Median Earnings
Management, business, science, and arts occupations	24%	\$45,463	55.8%	\$63,934
Service occupations	31.2%	\$20,573	15.8%	\$20,759
Sales and office occupations	16.9%	\$33,710	19.1%	\$34,928
Natural resources, construction, and maintenance occupations	9.0%	\$19,732	3.5%	\$36,828
Production, manufacturing transportation, and material moving occupations	18.9%	\$37,847	5.9%	\$30,258

# 2.4 ENVIRONMENT

## Introduction

The environment is an important mechanism to the built form and social fabrics of communities on both a neighborhood and city scale. Environmental aspects can include controllable features that contribute to the health and vitality of a community, such as parks and open space. It can also include non controllable environmental risks, like natural hazards, which can affect the urban landscape and people in the community. Keeping green spaces clean is important to South Park residents, and the community support and effort to do so has been strong. The Duwamish River Cleanup Coalition (DRCC), along with Duwamish Valley Youth Corps, organize monthly clean ups in South Park along the Duwamish River. South Park, as Seattle's only riverfront community, has many opportunities for environmental stewardship. However, South Park also faces environmental justice concerns related to green space, natural hazards, and natural resources.

## Green and Open Space

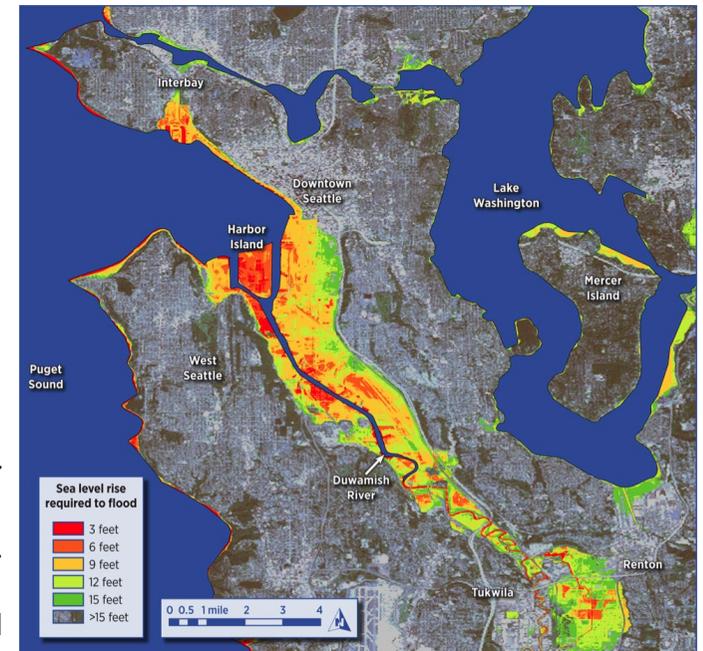
Currently, South Park has access to 1/10 of the accessible green space of an average King County resident. In relation to the Lower Duwamish Waterway, South Park has the lowest amount of park area per resident. In fact, residents of South Park have an average of 40 square feet of accessible open space compared to an average of 387 square feet within the city of Seattle.

## Natural Hazards

South Park's location and topography makes it an area of high natural hazard risk. While tsunamis or seiches might be a large problem for other waterfront communities throughout Seattle, effects of a tsunami are unlikely to reach South Park. Thus, mitigation planning for tsunami risks is not needed. Due to soil quality, topography, and vegetation, there are a few areas in South Park that are landslide-prone. These areas are primarily concentrated on a narrow corridor on the west side of the neighborhood (see map to the right).

South Park has an average elevation of 23-feet above sea level. This makes South Park particularly susceptible to flooding and sea level rise induced by climate change. In 2005, Seattle Public Utilities identified 25 homes that experienced flooding or sewage backup, and in 2012 the number increased to 40 homes that experience flooding in heavy rainstorms. Various areas of South Park, especially 14th Avenue, have experienced similar flooding extremes, which has prompted the city to invest \$8 million in drainage improvements for 14th Avenue S and S Donovan street, expected to start Summer 2016. Mitigation measures should include new infrastructure to help with stormwater management. Additionally, repurposing parcels along the riverfront that are most susceptible to sea level rise will help mitigate the risk of climate change.

Liquefaction, an earthquake induced hazard, poses a significant risk to South Park. Liquefaction occurs when the strength of the soil is compromised due to a combination of the soil being under extreme pressure and saturated with water. This event would most likely occur with a shallow earthquake along the Seattle Fault. Currently, a significant portion of South Park is liquefaction prone. Although this area is susceptible to liquefaction, there are ways to mitigate it through structural engineering and development decisions. These are outlined further in detail in Appendix B.



Sea Level Rise and Landslide Susceptibility

# 2.4 ENVIRONMENT

## Duwamish Cleanup

In terms of environmental exposures, including diesel particulate matter, benzene, and prior contaminated sites, the South Park neighborhood is rated as a 10, on a ranking of 1-10, compared to Seattle's average rate of 3.4. The lower Duwamish contains many contaminants that require cleanup, labeling the Duwamish in the South Park neighborhood a superfund site by the U.S Environmental Protection Agency. South Park is particularly vulnerable because of its location in a highly industrialized area, its proximity to the port, presence of factories, and specific wind patterns. Terminal 117 is a major site in South Park in need of cleanup, located between 14th Ave South, Dallas Ave South, and South Donovan St. Although South Park isn't the only neighborhood dealing with this issue, the site was a former asphalt factory, making it a location that has high levels of contaminants from sprayed dioxins and burnt PCBs. In 2010, a cleanup plan was developed, funded by the City of Seattle and the Duwamish Waterway group. Though, this cleanup has significant impacts on the South Park community. Since 2014, the clean up has torn up yards, emitted debris, closed down streets, and contributed to high levels of noise pollution. Even more, once the cleanup has been completed, it's likely that it will become recontaminated. In order to help the community avoid the polluted area and waterway, fish advisory signs have been placed around the neighborhood informing the public of

how many fish can be eaten from the river. Further, fliers are posted to educate residents on ways to reduce potential contaminant exposure.

## Public Health

South Park's proximity to industry and the nearby contaminated Duwamish River contributes to the residents' overall health. South Park has a rating of 3 on a scale of 1-5 of public health effects, based on life expectancy at birth, obesity rate, deaths from heart disease and stroke, prevalence of diabetes and hypertension, childhood asthma hospitalization, adult cigarette smokers, and lung cancer prevalence (Duwamish Valley Cumulative Health Impacts Analysis). The City of Seattle has a lower rating, with an average of 2.4 for these factors. Residents living in the South Park neighborhood experience asthma rates that are four times the amount of King County, high prevalence of diabetes according to reports by SeaMar Health Clinics, and a lower life expectancy than the King County average. In fact, South Park and neighboring areas have the highest rate of asthma related hospitalizations than anywhere in the country. Even more so, the average life expectancy for a resident of South Park is 73.3 years, which is eight years younger than the Seattle average.



T - 117 Cleanup Site

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# NEIGHBORHOOD ANALYSIS

# 3.1 SWOT ANALYSIS

A SWOT analysis is a method used by professionals in both the public and private sector to evaluate the conditions of a plan, place, or proposal. A SWOT analysis is used to identify and expand on the *strengths*, *weaknesses*, *opportunities*, and *threats* that may exist. The South Park team applied a SWOT analysis to the South Park neighborhood to structure our planning, strengthen the initial conditions research, and to better inform our strategies.

**S**

- Community Institutions
- Neighborhood Attributes
- Low Housing Costs

**W**

- Health
- Geography
- Economy

**O**

- Proximity to Riverfront
- Available Retail Space
- Strong Industrial Employment Base
- Land Capacity

**T**

- Displacement Risk
- Industrial/Residential Conflict
- Natural Hazards

# STRENGTHS

## Community Institutions

South Park has a multitude of community organizations, providing services such as health care, low-income and senior housing, legal aid, and youth engagement and development programming. In particular, SeaMar Health Clinic plays a major role in the community, operating both a neighborhood health clinic as well as Cesár Chavez Village, a subsidized housing development for low- and no-income families and individuals. Concord Elementary School offers a dual language curriculum and frequently partners with community organizations for educational programming and events. Marra Farm is located in South Park's Marra-Desimone Park and hosts city-supported programs such as P-Patch and Cultivating Communities. In addition, non-profit organizations Solid Ground and Seattle Tilth utilize the farm for their Lettuce Link and Youth Garden Works programs, respectively. The South Park library hosts educational and entertainment events for the community, and offers a community space for lifelong learning. Furthermore, the neighborhood has a strong social justice focus, with organizations actively engaged in community development, environmental clean-up and protection, and arts advocacy.

## Neighborhood Attributes

South Park community members engage in community organization at the local level through the

South Park Neighborhood Association (SPNA), which hosts monthly meetings and an online neighborhood discussion group and listserv. The South Park Community Center offers programming and community events tailored to the neighborhood. In addition to engagement through the SPNA and Community Center, South Park hosts numerous festivals and events in celebration of the neighborhood's unique culture, history, and setting. These events include:

- Fiestas Patrias Parade, a celebration of Mexican culture
- Lucha Libre In The Park, a traditional Mexican wrestling event
- Duwamish River Festival, a celebration of the Duwamish River and advocacy event for the river cleanup effort
- South Park Putts Out, a mini-golf tournament created by local artists
- Marra Farms Fall Festival
- Art Under \$100 Sale, a yearly event supporting local artists

South Park's low housing costs are a key strength, especially at a time when the city is concerned with housing affordability. The gross median rent in South Park is approximately \$749 per month, compared to \$1,131 per month for Seattle as a whole. This provides more affordable options for families who otherwise would not be able to afford to live

in Seattle.

Moreover, the classic street grid and neighborhood structure of South Park adds to the neighborhood's walkability and facilitates connections between residential areas, key institutions throughout area, and commercial services along Fourteenth Avenue.

# WEAKNESSES

## Social Impacts

Social impacts in the South Park neighborhood come about in the form of lack of education, direct health risks, and public safety. In regards to opportunities for education, the neighborhood is served by Concord Elementary School, and the neighborhood does not have a middle or high school. Further, the average level of educational achievement in South Park is far lower than in Seattle generally, with 19.4 percent of adults having a Bachelor's Degree, and 74.4% holding a high school diploma or equivalent.

One of South Park's main weaknesses is the pollution of the Duwamish River. Caused by the siting of many industries the river has aided in increasing the high level of chronic diseases among residents. Life expectancy in the neighborhood is significantly lower than the Seattle average life expectancy, and there is a higher occurrence of chronic diseases such as diabetes and obesity. Lastly, residents in South Park noted property crime as a concern. The existence of property crime presents a further barrier for residents, and for investment in the business community alike. Property crime, coupled with many street lacking streetlights and the neighborhood not having safe walkways weaken opportunities for community building in South Park. With many streets lacking streetlights and the neighborhood not having safe walkways proper presents a further barrier in attracting investment

in the community from residents and businesses alike. These weaken opportunities for community building and years of healthy life that are critically important to a neighborhood.

## Geography

The neighborhood's geographic location along the Duwamish industrial area and on the southern border of Seattle has kept it isolated from other neighborhoods, especially from downtown Seattle. This isolation has contributed to the lack of commercial services available in South Park and promotes expensive automobile oriented travel patterns. The neighborhood overlaps more than one jurisdiction, with the result that government entities view the neighborhood in a limited and fractionalized manner. The shared border presents a challenge to the city and neighborhood, as it requires a level of collaboration between government entities not required in most other neighborhoods.

## Economic

14th Ave is South Park's primary commercial main street. This seven block stretch is host to several local restaurants, one bar, two gas stations, three car shops, one convenience store, and one health clinic and pharmacy. While these businesses provide some community benefit, the main street is lacking in some key services. A large majority of the neighborhood population does not have access

to a full service supermarket within a half-mile of their home. Other services, such as a post office, bank, affordable clothing store, and hardware store are also absent. The absence of these services is not due to lack of space, as there are several vacant storefronts along 14th Avenue, making the vacancy rate about 10%. South Park's relatively low land values make it difficult to attract private development investment and new business to the community.

The poverty rate in South Park is higher than the rate in Seattle, with 34.7% of residents living below the poverty line, compared to 14% in Seattle. South Park residents also face a higher rent burden than the city as a whole, with 54% of South Park residents paying more than one-third of their income in rent. In addition, South Park has a lower level of homeownership than Seattle, meaning residents opportunities to accumulate wealth are limited.

# OPPORTUNITIES

## **Economic**

### *Proximity to the riverfront*

South Park is Seattle's only riverfront community, and the Duwamish River is a unique asset available to the neighborhood. Although the River is polluted due to years of industrial use, the U.S. Environment Protection Agency has identified the Duwamish River as a superfund site, and has begun clean-up efforts. Capitalizing on this asset, and the City has begun to utilize the shoreline as public space. The Duwamish Waterway Park sits on the shore of the river, and offers views of the South Park Bridge. The park is an example of how the shoreline could be used for community benefit. The neighborhood hosts festivals and other events in the space; the Duwamish Rowing Club uses the shoreline to access the water, and community members can use grills in the park for cookouts. Furthermore, the riverfront offers an important opportunity to build neighborhood resilience in the event of an earthquake and sea level rise. Should the riverfront be returned to its natural state, the area could accommodate rising water levels and would reduce damaging impact on housing in the vicinity.

### *Available Retail Space*

With infrastructure improvements to 14th Avenue due in 2016, the available retail space along the corridor presents an opportunity for

commercial growth. This will bring additional employment opportunities to South Park, as well as expanded services for the community. Gaps in services provided along 14th Avenue offer opportunity for grocery, hardware, post office, and banking to bring important services to the community.

### *Strong industrial employment base*

South Park's industrial sector is a strong employment base in the community, providing living wage jobs. Opportunity exists to create innovative partnerships with local organizations to offer job training programs to equip residents and youth with key skills for employment in the sector.

## **Geographic**

### *Improvement of 14th Avenue corridor*

As South Park's major transportation and commercial corridor, 14th Avenue improvements provide an opportunity to create a vibrant business core. Fourteenth Avenue currently operates as a four lane roadway with parking on either side of the road during specific hours of the day. In 2014, average daily ridership was 10,800 trips per day on a four lane road. Seattle Public Utility is currently working on an infrastructure project along 14th Ave to address the flooding issue, and will finish by the end of Summer 2016.

### *Land Capacity*

South Park's single family and lowrise zones offer opportunity for increased housing capacity. While liquefaction risks prevent high density development, these zones can support lower densities. Within South Park there is development capacity of 1,115 units in addition to the 1,359 existing units. In particular, higher land values in lowrise zones indicate demand for units along 14th Avenue as well as Cloverdale Street.

### *Duwamish Triangle/North Highline Annexation*

The potential for annexation of the Duwamish Triangle and North Highline areas of King County presents an opportunity for investment in South Park. While residents of the Duwamish Triangle and North Highline may already utilize services in the South Park neighborhood, officially incorporating these neighborhoods into the City of Seattle will decrease the need for coordination among multiple jurisdictions and will create an incentive for greater investment in the South Park neighborhood.

# THREATS

## **Social**

### *Displacement Risk*

High displacement risk for current residents. The City of Seattle's Equity Analysis for the 2035 Comprehensive Plan evaluated displacement risk for neighborhoods throughout Seattle. The analysis found South Park to have a high displacement risk and a low access to opportunity. This is due to the low educational attainment, low English speaking proficiency, high housing cost burden, low household income, and below-average median rent. With affordability concerns throughout Seattle, displacement is the most pressing threat facing South Park today.

### *Industrial/Residential Conflict*

The neighborhood of South Park has an industrial sector that operates as an employment hub for the community. However, the frequency of industrial activity in South Park poses an ongoing health risk in the neighborhood in the form of pollution and vehicle traffic.

## **Geographic**

### *Natural hazards*

Liquefaction is a highly destructive phenomenon that can occur from earthquakes that have low levels of shaking and measure on the moderate side of the Richter Scale. South Park lies near the Seattle fault, which is a shallow fault line and has a

high risk of causing liquefaction. A large proportion of the neighborhood is at high risk of liquefaction, thus presenting a unique threat for the neighborhood. An earthquake causing liquefaction would lead to utility and street disruption and property damage,

An additional natural hazard threat is Sea level rise. As Seattle's only riverfront community, the banks of the Duwamish River are susceptible to flooding as sea levels continue to rise over the coming years. Present estimates put likely sea level rise at up to three feet by 2100. While the entirety of South Park is not at risk of flooding, many properties in lower areas may experience significant damage and permanent flooding in the future.



# STRATEGIES FOR EQUITABLE GROWTH AND DEVELOPMENT

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# 4.1 OBJECTIVES

These objectives reflect the analysis of strengths, weaknesses, opportunities, and threats present in South Park. Broadly, these objectives encompass the themes of **people, place,** and **prosperity** and guide strategy development for fostering equity in South Park.



## People

### **Foster a Community in Which All Residents Feel Safe & Secure**

*Deter crime to promote a safer neighborhood.*

### **Reduce Neighborhood Displacement Risk**

*Ensure availability of affordable housing while preserving neighborhood culture.*

### **Engage Youth & Facilitate Community Connections**

*Support for youth programs and community events and activities.*



## Place

### **Promote Pedestrian Mobility**

*Safe walkable access to neighborhood amenities.*

### **Develop Accessible and Aesthetically Pleasing Spaces**

*Provide access to additional parks and support investment in neighborhood aesthetics.*

### **Cultivate a Healthy Environment**

*Mitigate negative environmental impacts on the health and wellbeing of residents.*



## Prosperity

### **Develop a Vibrant Business District**

*Attract, retain and support business in South Park.*

### **Cultivate a Resilient Built Environment**

*Consider natural disaster risk and necessary infrastructure improvements.*

### **Promote an Economically Sustainable Future**

*Promote investment in the community while supporting living wage jobs and affordable housing.*

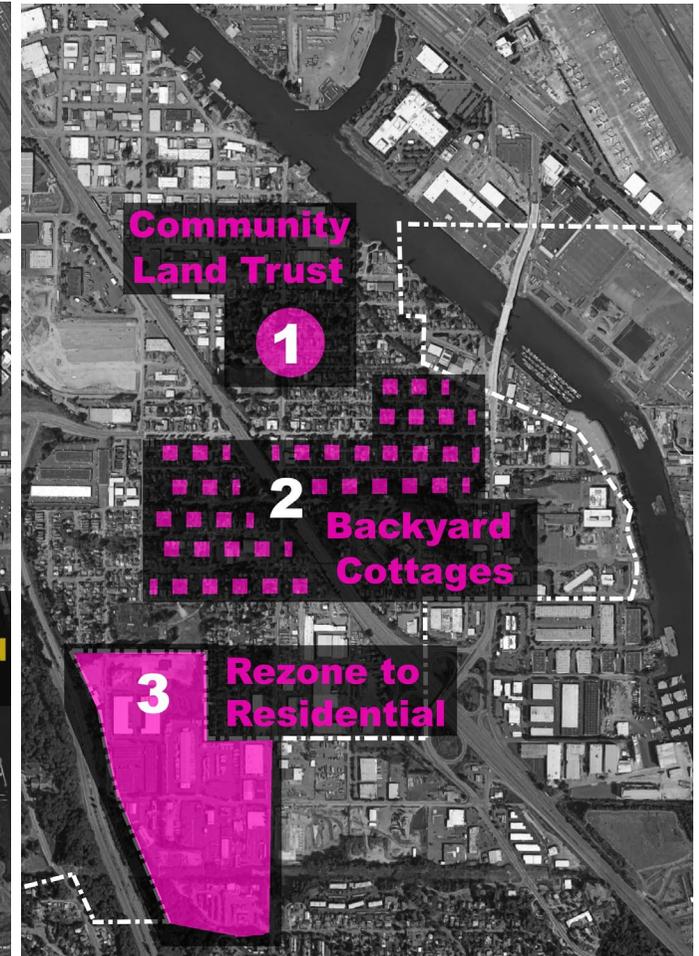
# STRATEGIES FOR EQUITABLE GROWTH AND DEVELOPMENT



**Urban Placemaking**



**Community and Economic Development**



**Sustainable Growth**



## 4.2 Strategies for Equitable Growth and Development: *Urban Placemaking*

The following strategies address our stated objectives through urban placemaking.

- Safe walkways Along SR-99
- Complete Street on 14th Ave
- Streetlights and Trees
- Riverfront Restoration

# Urban Placemaking Strategy #1

## Safe Walkways Along SR-99 at Des Moines Memorial Way

### Current Conditions

14th Ave S is the commercial main street for the South Park neighborhood. However, the only full-service grocery store in the area is located one mile to the south at 96th St and Des Moines Memorial Way. Roughly one-half mile south of the South Park Bridge, 14th St leaves Seattle city limits and intersects with State Route 99, a limited access expressway. At this point 14th Ave becomes Des Moines Memorial Way and crosses over the highway in a cloverleaf-style interchange. The overpass has four traffic lanes with widths between twelve and twenty feet, with a fourteen foot median buffer, and six foot paved shoulders on each side. No walking or cycling facilities are provided for the 2000 feet between Director St and 96th St.



Existing Conditions Along SR-99 Overpass

### Problem

The current configuration of the SR 99 overpass puts pedestrians at an risk for traffic fatalities and violent crime. There is no safe, direct way to walk from most parts of South Park to the only full-service grocery store in the neighborhood located at the commercial plaza at Des Moines Memorial Way and 96th St. Businesses at this plaza and along 14th Ave are also burdened by having fewer customers that can reach them on foot or bicycle.

### Proposal

Create safe walkways over SR 99 at Des Moines Memorial Way by change measurements, restructure, and add amenities to the SR 99 overpass. The four driving lanes would remain, with widths of eleven feet each. Nine-foot wide sidewalks and six foot bike would be built on each side of the highway. Lastly, there will be six foot buffer lanes on each side, eliminating the middle buffer and providing further protection to cyclists and pedestrians. Additionally, a reduced speed limit will be instated at 30 MPH.

There are two options to implement this strategy. The first option for the medium-term involves putting sidewalks on the existing layout of the SR 99 overpass. This option would not require significant changes to traffic patterns on the interchange, however some traffic lights or other traffic control devices may be required to ensure that pedestrian road crossings are safe.

Alternately, a longer-term strategy would be to replace the the entire interchange with a stoplight intersection. The interchange was built circa 1965 and may be nearing the end of its useful life during the timeframe of this plan. If the cloverleaf-style interchange were replaced by traffic-controlled intersection the length of path and the number of road-crossings and overall travel distance for pedestrians would be reduced significantly. Approximately 15 acres (650,000 sq ft) of land would be opened up for development or green space. At \$13 per square foot (the average value of nearby vacant industrial land) this land would be worth a total of \$8.3 million.

Policies, initiatives, and reports that can support this strategy are the Move Seattle Levy to provide funding; the Seattle Pedestrian Master Plan, as this project would work towards the plan's goals; the Seattle Bicycle Master Plan; the Seattle Freight Master Plan, which considers how the freight network could be updated and improved; Vision Zero.



# Urban Placemaking Strategy #1

## Safe Walkways Along SR-99 at Des Moines Memorial Way

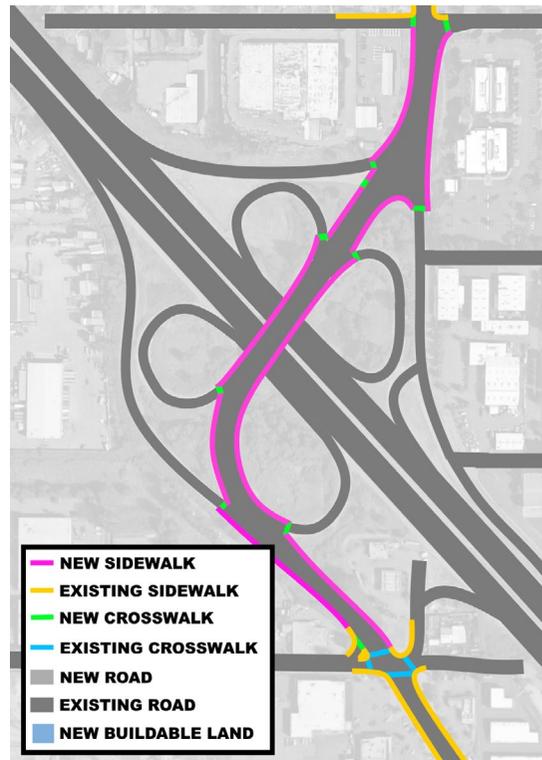
### Objectives

In order to achieve equity in Seattle residents need to have access to retail and commercial areas through safe pedestrian walkways no matter which neighborhood they reside in. The city of Seattle Seattle has publicly embraced a Vision Zero plan with the goal of eliminating traffic fatalities by the year 2030, to achieve this goal all neighborhoods need to be planned with this goal in mind. Businesses shouldn't have to suffer due to unusable and unsafe pedestrian conditions. The existing barrier between the 14th Ave main street and Des Moines Memorial Way commercial plaza would be reduced, allowing shoppers to feel more comfortable visiting both commercial nodes, however they travel. This will help us achieve the following objectives:

- Promote pedestrian mobility
- Create a vibrant business district
- Foster a community where all residents feel safe and secure
- Promote an economically sustainable future

### Constraints

For option 1, the distance of sidewalks to be added is 2,151 feet. The width of sidewalks per side is nine feet, the total square footage of sidewalks added is 19359 ft<sup>2</sup>. Using WSDOT sidewalk costs estimates this could cost approximately \$150,000.00. Paint for seven new crosswalks will cost around \$5,390 total. Bike-lanes along whole distance on both sides would cost about a total of \$108,503.

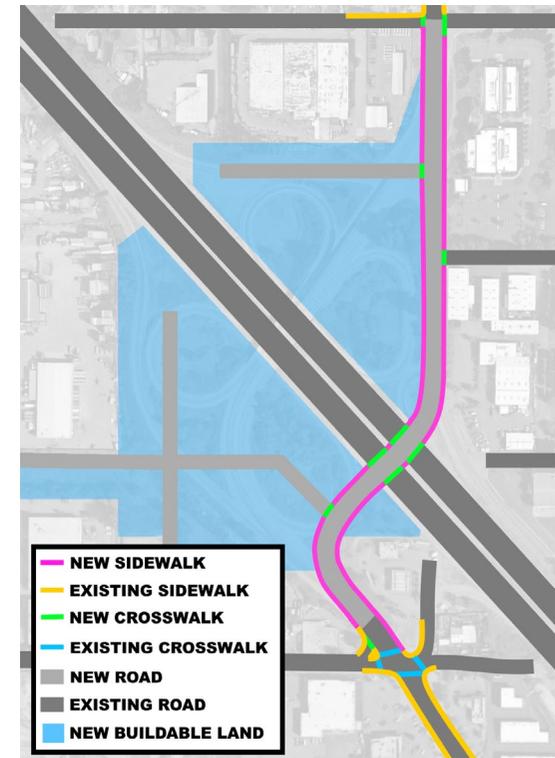


Option 1:  
Maintain  
Existing  
Layout

Option 2 will consider the cost of a new traffic light can range between \$500,000 to a few million dollars. There may be pushback from some residents and freight operators due to traffic delays. Lastly, most of the interchange is currently outside of Seattle City Limits, and SR 99 is owned by WSDOT. Thus, the City of Seattle would need to annex this area and could face difficulty in coordinating with Washington State to implement this strategy. Average traffic speeds on SR 99 would fall, however this would not be the only stoplight along its route.

### Case Study

Brooklyn, New York City, NY. As part of New York City's effort to achieve its Vision Zero plan goals it has begun a number of projects to make its major intersections safer for all users, especially pedestrians and cyclists. One such project is a series of improvements to Conduit Blvd, a highway-like thoroughfare in Brooklyn with six traffic lanes, high speeds, discontinuous sidewalks, and few, poorly placed crosswalks. After a public outreach process the city is planning on moving forward with the installation of sidewalks, crosswalks, and lane reconfigurations to make traffic safer and crossings easier for pedestrians.



Option 2:  
Stoplight  
Intersection

# Urban Placemaking Strategy #2

## Complete Streets on I4th Avenue

### Current Conditions

I4th Ave S is a regional connector and local connector route through South Park and serves as the main commercial area in South Park. The road accommodates freight, public transit, personal vehicles, bicycles, and pedestrians. I4th Ave has a 60ft right of way, currently configured for four 10 foot travel lanes and two 10 foot sidewalks. In some sections, parking is allowed in the outer lanes during non-peak-travel times. The road accommodates 10,000-15,000 vehicles per day.

North of Donovan St to the South Park Bridge, I4th Ave is designated a “Mixed Use Street” in the SDOT Right of Way Improvements Manual, meaning it should “accommodate all modes of travel with particular emphasis on supporting pedestrian, bicycle and transit activity”. South of Donovan St until it leaves the City limits, I4th Ave is designated as a “Regional Connector”, meaning, “although [it] must be accessible and attractive to all modes, they are designed to provide city-wide and regional access for transit, cars and truck trips.”

I4th Ave is marked as a bike route on the City’s bike map, despite the lack of appropriate facilities.

### Problem

The street environment is hostile to pedestrians, cyclists and casual users. Long crosswalks, traffic volumes, and speed, discourage pedestrians from crossing the street. Pedestrians are thus discouraged from crossing the street, meaning many simply choose not to. As a result, business is suppressed along I4th Ave, South Park’s traditional main street, and puts residents at risk of injury or death. Furthermore, the emissions created by traffic along the corridor add to the significant pollution impacting the area due to SR99, SR509, and industrial areas.

### Proposal

The City should pursue a Complete Street strategy on I4th Ave, including a road diet, improved crosswalks, sidewalks, street furniture, and more clearly-marked and safe connections to other parts of the neighborhood. We propose a conversion from four traffic through lanes to two, with one middle-running turn lane, and all-day parallel parking on the west side of the street. Additionally, the entirety of I4th Ave south of the bridge should be redesignated as “Mixed Use Street”, which is appropriate for its role as a historic main street. This can be accomplished through various policy tools and documents, including the Bicycle Master Plan, Pedestrian Master Plan, Complete Street Ordinance and Checklist, Right of Way Improvement Manual, Green Stormwater Infrastructure Program, Street and Sidewalk Use Code, and the Freight Master Plan.



*Mixed Use Street for Trucks, Cars, Bikes, and Pedestrians*

# Urban Placemaking Strategy #2

## Complete Streets on I 4th Avenue

### Objectives

Allowing I4th Ave to adequately serve its historic role as South Park's main street reverses the long held pattern by which the interests of the residents of South Park have been overridden by regional economic interests. Currently, I4th Ave is organized to serve trucks and motorists passing through South Park. This is a useful service, but it is one which damages the street's ability to serve South Park's own community. With a street that is safe, inviting, and comfortable, local residents will be better able to make use of the existing services, workers in the neighborhood will be more interested in spending time and money in the neighborhood, and those passing through may pause along their way. A better business climate helps stabilize the existing businesses which serve the community, and may ultimately attract new businesses that can provide needed services.

Residents will face less danger when using their streets. It is necessary for a City that has declared Vision Zero to be its stated policy, to pursue this standard in areas where minority and low-income populations live.

If freight traffic finds it convenient to bypass I4th Ave, air pollution along the neighborhood core will be reduced, alleviating the key equity issue of low-income and ethnic minority populations being exposed to greater levels of pollution. This will help us achieve the following objectives:

- Healthy Environment
- Vibrant Business District
- Promote pedestrian mobility

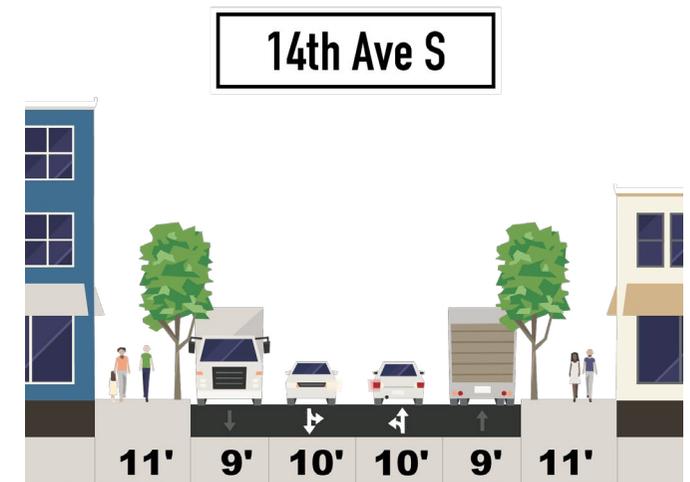
### Constraints

There are no easy alternatives for freight between Boeing field and SR 99, meaning heavy traffic may continue to degrade the pedestrian environment on I4th.

### Case Study

The City of Seattle has completed road diet and complete street projects on a number of streets similar to I4th Ave. The City has been conducting lane reductions on minor arterial streets since 1972.

Stone Way N in Wallingford was converted from four traffic lanes to three traffic lanes, plus bike lanes, in 2007. At that time, Stone Way carried 13,000 vehicles per day and had a speed limit of 30 mph, similar so I4th Ave. After implementing the road diet, the number of users exceeding the speed limit by at least 10 mph dropped 10%. Overall, vehicle traffic fell 6% and bicycle traffic grew 35%. Total collisions fell 14%, injury collisions fell 33%, and pedestrian collisions fell 80%. The corridor still maintained its peak-hour capacity, moving roughly the same amount of vehicles during rush-hour as before the conversion.



Existing Configuration of I4th Ave S



Proposed Street Configuration

# Urban Placemaking Strategy #3

## Streetlights and Trees

### Current Conditions

The streets between S. Cloverdale St and S. Southern St, east of Marginal Way, are barren of key infrastructure elements, lacking sufficient street trees and streetlights. Zoned as single-family residential, this is an area that has homes that are in close proximity to one another. Residents want to safe and welcoming space to walk, and interact with their neighbors.



*Absence of streetlights in South Park*

### Problem

The absence of substantial street trees and streetlights in this part of the neighborhood creates an area that is both unsafe and aesthetically displeasing. Street lights allow for people to easily identify objects and increases visibility for drivers and pedestrians. A lack of streetlights discourages residents from being outside during the evening, preventing them from fully enjoying their neighborhood. The presence of street trees has been shown to reduce automobile speeds. Street trees have a buffer effect, acting as a visual and natural wall between sidewalks and the street so drivers can easily distinguish between the two, thereby reducing the amount of motor vehicle accidents and increasing pedestrian safety.

In addition to the lack of streetlights, the lack of street trees causes the area to appear uninviting, and overall is lacking of aesthetically pleasing elements. Tree canopy has been shown to promote placemaking and enrich the urban fabric of an area. More so, trees enhance the walking environment, causing people to walk more frequently and to take pride in their neighborhood in regards to its cleanliness and safety.

### Proposal

Increase the amount of street trees and streetlights between S Cloverdale St and S Southern St. Seattle ReLeaf assists residents in planting street trees by providing information, assistance with applying for a street tree permits, and the trees themselves. The program could conduct further and more intensified outreach within the South Park neighborhood to encourage residents to plant street trees along the right-of-way within the area. Furthermore, the Duwamish Tree Canopy Enhancement Project, working as part of the Seattle Parks Foundation, is currently in the process of planting hundreds of street trees within South Park.

The Seattle Department of Transportation (SDOT) is in charge of street lighting and the design guidelines that accompany their installation. SDOT is responsible for determining that neighborhoods meet the adequate standards of street lighting and thus reviews all pedestrian and street lighting requests ([http://www.seattle.gov/transportation/rowmanual/manual/4\\_16.asp](http://www.seattle.gov/transportation/rowmanual/manual/4_16.asp)). Thus, SDOT is able to determine how streetlights should be installed within this area of South Park. Implementing this idea can further be accomplished through the Urban Forest Management Plan, SDOT Approved Street Tree List, and Seattle Right-of-Way Improvement Manual.

# Urban Placemaking Strategy #3

## Streetlights and Trees

### Objectives

The need for streetlights has been identified as necessary for street improvements in the Seattle Comprehensive Plan, especially in certain neighborhoods, such as Rainier Beach. Increasing the amount of street trees and streetlights in South Park would increase equity in the neighborhood by giving key infrastructure to an area that the City has been traditionally overlooked. Implementing this strategy would accomplish the following objectives:

- Foster a community in which all residents feel safe and secure
- Develop accessible, aesthetically pleasing public spaces

### Constraints

The cost of installing street lamps and street trees can be costly. One streetlight can cost about \$4,000, and between \$250-\$600 for planting a street tree.



*Street with high tree canopy*

# Urban Placemaking Strategy #4

## Riverfront Restoration

### Current Conditions

The Duwamish River forms the western boundary of the South Park neighborhood flowing from the Green River valley to Elliott Bay. Dredging and re-channeling of the meandering river began in 1913 and was largely completed by 1920, resulting in the straight waterway we know today. Decades of industrial use led to contamination of the waterway with PCBs, PAHs, mercury, and phthalates and today is a designated Superfund site with an allocation of \$342 million for cleanup and restoration procedures. 1,450 linear feet of the western shoreline between the South Park Bridge and Duwamish Waterway Park cross 14 privately held parcels containing residential and industrial use as well as four King County owned right-of-ways. The river proper is administered by the Port of Seattle. While the surrounding neighborhood is part the City of Seattle, most of this stretch of shoreline remains (at the time of this report) part of unincorporated King County.

### Problem

The parcels in question, with hard bulkheads and limited vegetation, are not conducive to a healthy habitat in which marine life such as salmon can flourish. The residential lots along this area have never been connected to sewer leaving them to rely on septic tanks which pose environmental concerns especially in the context of rising sea-levels. The area also faces the most dire liquefaction risk of the neighborhood because of its proximity to the river. Finally, these privately held parcels restrict access to the riverfront for the residents of Seattle's only river front community.

### Proposal

Convert the riverfront area between the South Park Bridge and Duwamish Waterway Park into a public park and undertake habitat restoration. Seattle's Shoreline Street Ends program has already begun the process of habitat restoration with limited access available to the general public. The remaining parcels will need to be acquired to connect these right of ways into a continuous stretch of shoreline. Once parcels are acquired the existing structures and utilities can be removed, regrading can take place and appropriate vegetation can be re-introduced. There are numerous federal, state, local and nonprofit grants available to cover necessary expenses.



*Restored Duwamish Waterfront, represented in the Duwamish Valley Vision Map and Report (2009)*

# Urban Placemaking Strategy #4

## Riverfront Restoration

### Objectives

This project will provide additional green space for a neighborhood which has traditionally been lacking. The river currently contributes to the cultural identity of the neighborhood and it has the potential to aid in community development if made more accessible and attractive. The adjacent business district would benefit from the presence additional shoppers. Finally, the restored riverfront will assist in efforts to restore habitat while the natural shorefront will help mitigate storm surge risk and the impact of toxic runoff into the waterway. This would enable us to achieve the following objectives:

- Accessible Public Spaces
- Vibrant Business District
- Healthy Environment
- Resilient Built Environment

### Constraints

The current total value of the 14 private parcels most amenable to this plan is assessed at \$3,805,596. The cost of habitat restoration was appraised at roughly \$5 million in 2001 by the Environmental Coalition of South Seattle. Coordination between multiple jurisdictions and private property holders could result in political difficulties. Furthermore, extent of soil contamination is not known.

### Case Studies

Seahurst Park, Burien, WA. The City of Burien in partnership with the US Army Corps of Engineers, WA Dept. of Fish and Wildlife and WRIA-9 undertook shoreline habitat restoration along Puget Sound. The project restored 2,800 feet of marine shoreline and provides public space for surrounding community.

Rockaways, Queens, New York, NY. Following devastation of Hurricane Sandy, habitat restoration and shoreline reconfiguration has been proposed to mitigate against future storm surges. In 2013 the New York Department of Parks and Recreation commissioned design proposals.



South Park Marina



Duwamish Waterway Park, Seattle, WA



Seahurst Park, Burien, WA

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## 4.3 Strategies for Equitable Growth and Development: *Community and Economic Development*

The following strategies address our stated objectives through community and economic development.

- Rezone to Neighborhood Commercial
- Host a Street Fair
- Create Neighborhood Design Guidelines
- Emergency Preparation Program
- Start a Trades District

# Community and Economic Development Strategy #1

## Rezone to Neighborhood Commercial

### Current Conditions

South Park’s main business district is located along 14th Ave S, bordered by Sullivan St. to the North and Henderson St. to the South. The commercial area currently contains over 12 acres with the zoning designation of either C1, C2 or “Regional Business” in the unincorporated area. There is a section of nearly 2.6 acres that is currently zoned “Neighborhood Commercial 3” with a “Pedestrian” overlay and a 40 foot height limit. The two sections combined provide nearly 15 acres of land zoned for commercial, and 119,790 square feet of net retail floor space, which includes many residential structures and some light-industrial uses. There is no longer a grocery store in the business district although the Urban Land Institute (ULI) in a 2015 report suggested that with a 20% capture rate the district could support as much as 15,000 square feet of food and or grocery retail space.



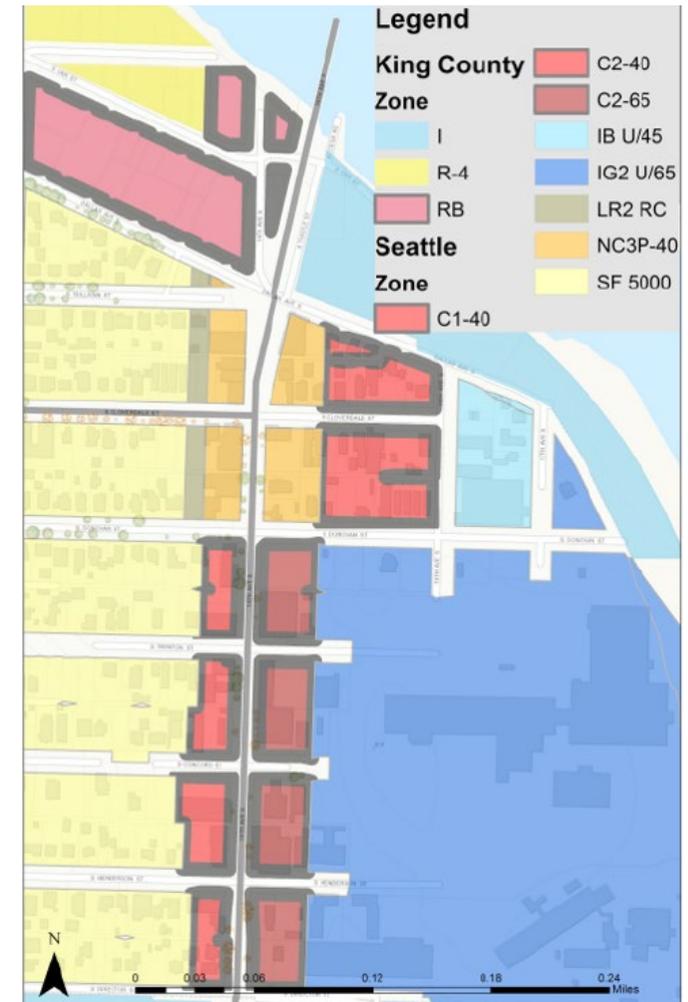
14th Ave South

### Problem

Residents have complained that the current mix of business do not match their desires or conform with the neighborhood character. The commercial district lacks basic services such as a grocery store, bank, drug store, post office, etc. Meanwhile, existing business often serve regional needs, such as automotive services and cannabis distribution, rather than neighborhood needs.

### Proposal

Rezone 14th Avenue commercial areas to “Neighborhood Commercial 2” with a pedestrian overlay while maintaining current height limits. For the area currently within the city of Seattle limits, this will require the rezone to be formally analyzed under Seattle Municipal Code 23.34 and approved by the City Council of Seattle. For the area zoned RB, because it is within the currently unincorporated “sliver” the area will need to be first incorporated by the City of Seattle. This rezone will compliment the recommended pedestrian improvements to 14th Avenue and the land adjacent waterfront. There are of course limitations, as pedestrian-zoned areas restrict drive-through businesses and have minimum Floor to Area Ratios (FAR). Further, street facing facades must meet requirements for active commercial uses, include overhead weather protection and limitations to curb cuts. All of which enhance and encourage pedestrian usage of the street front and patronage of adjacent businesses.



Proposed Neighborhood Commercial Rezone

# Community and Economic Development Strategy #1

## Rezone to Neighborhood Commercial

### Objectives

Neighborhood Commercial Zones with a Pedestrian overlay will help create a “sense of place” and ensure that business serve local residents and the local culture. We hope this will encourage the development of businesses that will serve the neighborhood, as opposed to the regional market, mitigating the sense of “psychological displacement” which can exacerbate economic displacement. Furthermore, NC2 zones will facilitate mixed use residential structures, which in turn will provide additional shoppers for businesses and ease market pressures on local housing costs. This rezone strategy will enable us to achieve the following objectives:

- Reduce Neighborhood Displacement Risk
- Promote Pedestrian Mobility
- Develop a Vibrant Business District

### Constraints

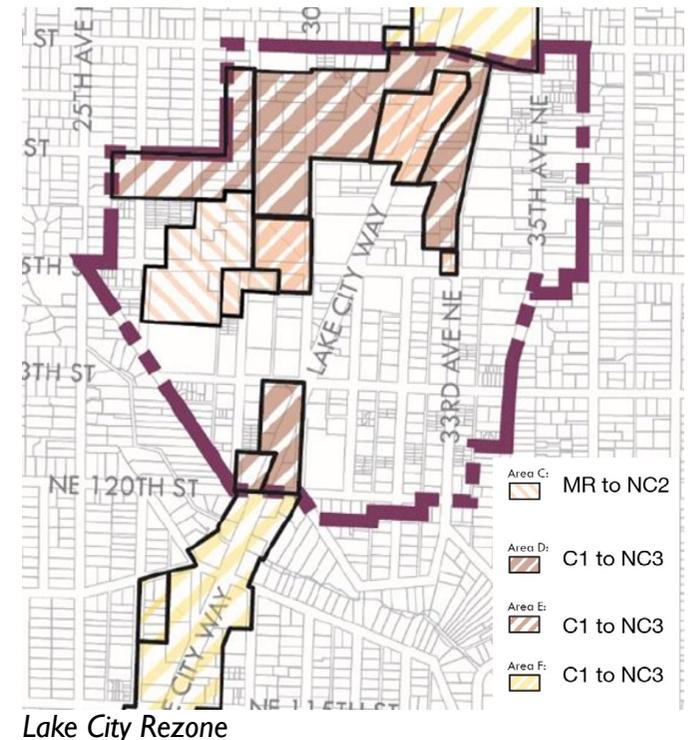
At the time of this report, the commercial district is partially divided between two different jurisdictions. Furthermore, while a re-zone will facilitate an urban form conducive to pedestrian interaction, neighborhood serving businesses and mixed use; these changes will require redevelopment of the existing structures.

### Case Studies

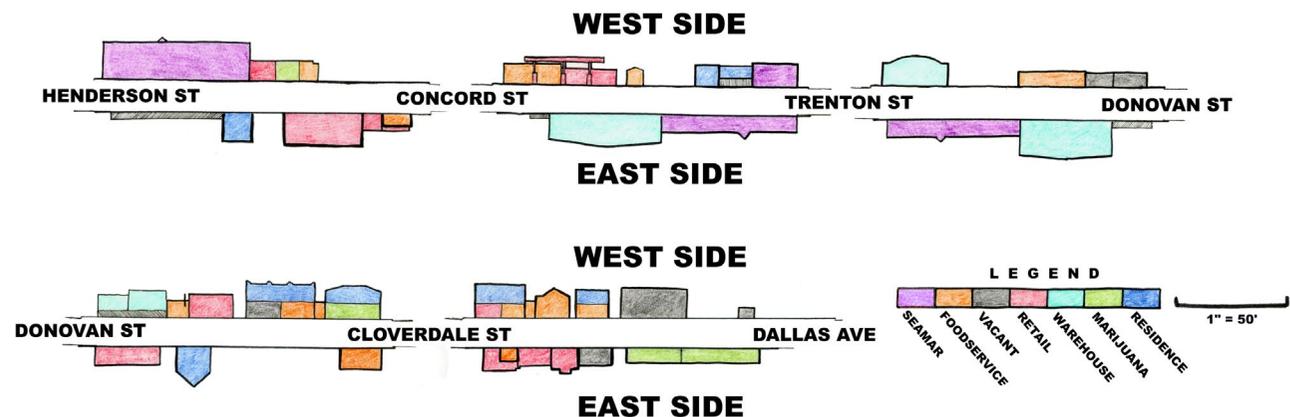
Ballard, Seattle, WA. The Office of Planning and Community Development (OPCD) is proposing

a rezone of areas within the Ballard urban village which are currently zoned General Commercial (C1), be re-zoned to Neighborhood Commercial 3 (NC3). OPCD is also proposing an expansion of the Pedestrian Overlay. These proposals are meant to ensure new development reflects the active pedestrian environment, encourages mixed use, and creates public spaces which foster interaction. This proposal also includes Residential Commercial suffix zoning to be added to some Low Rise (LR) zones.

Lake City, Seattle, WA. A proposed rezone of existing commercial and residential multifamily zones to Neighborhood Commercial with a pedestrian overlay without increasing height limits. These zoning changes will facilitate a more pedestrian friendly environments and reflect the cities trend towards Neighborhood Commercial zoning in its urban villages.



### Existing Uses Along 14th Ave S in South Park



# Community and Economic Development Strategy #2

## Host a Street Fair

### Current Conditions

The South Park community doesn't have many weekly vending events, such as street fairs and farmer's markets. Many other neighborhoods, such as the University District, Ballard, and South Lake Union have weekly farmers' markets put on by urban agriculture organizations that promotes community involvement. South Park has one annual Latin American street fair called Fiestas Patrias, put on by the community and SeaMar. This street fair is well-known within the neighborhood and includes a parade along 14th Ave S followed by a family friendly festival with music and food. The festival also presents local artists and food vendors.

### Problem

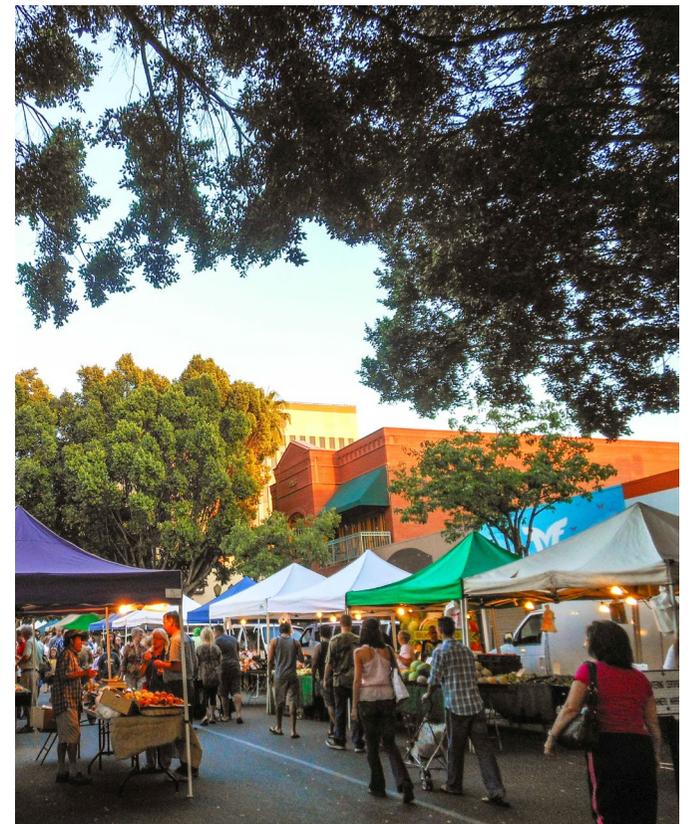
The lack of a weekly event within the neighborhood causes the community's ties to weaken. The absence of a continual event is a missed opportunity for a neighborhood that cares about its community. Furthermore, there is a problem with food access in the community. With the current lack of access to a full supermarket, the opportunity for food vending that aligns with the neighborhood's food culture would be an optimal event. Based on the American Community Survey (ACS) 2014 Five year survey estimate 28.1% of residents are on food stamps, compared to 9.9% in Seattle As a whole.. A street market has the opportunity to take EBT stamps, which would accommodate the South Park population.

### Proposal

In the short term, implementing a street market every other Sunday. This will occur for a certain amount of time before assessing whether it should occur every week to make it a more frequent community event. Based on success, the city can make a decision as to whether it should occur every week, or keep it at the current occurrence. The plan is to have this take place on 14th ave and Cloverdale intersections, which is already shut down every September for the annual Fiestas Patrias. This plan can be accomplished through community engagement by the City of Seattle Department of Neighborhoods. A street market in South Park meet multiple needs of this neighborhood, namely commercial productivity and community building, while allowing the community to maintain the cultural fabric as is. Further, a street market will build the local economy as community business owners have the opportunity to sell their products to new customers. Selling homemade foods, goods, crafts, and art would supply residents with supplemental income. Additionally, a farmer's market aligns with values set forth in the Seattle Food Action Plan, which are Healthy food for all, growing local, and strengthening the local economy.



Grocery options in South Park



Ballard Farmer's Market

# Community and Economic Development Strategy #2

## Host a Street Fair

### Objectives

A weekly community event would increase equity by giving South Park opportunity to become a destination within Seattle, as well as increase social interactions. Many neighborhoods within Seattle have weekly street markets, supported by organizations such as the Seattle Neighborhood Farmers' Markets Alliance. In order to increase equity in South Park, levels of community activities should match with the rest of Seattle. Thus, this strategy achieves the following objectives:

- Develop a vibrant business district
- Engage youth and facilitate community connections
- Develop accessible, aesthetically pleasing spaces

### Constraints

A Special Events Street Use permit will be required by SDOT. If this is accepted, the permit fees are \$232/event. If this is a weekly occurrence, it could incur costs. Furthermore, it may be difficult to have a large event so frequently in South Park due to its location, population size, and economic class. Setting up a street fair or farmers' market requires significant upfront and starter costs. Furthermore, it's unlikely that vendors will want to participate in a farmers' market that isn't well known and serves a small community because they won't make a profit. More so, organizations that put on farmers' markets want to make sure their farmers are sent to successful farmers

market, and will only promote a farmers' market if they can guarantee a profit and success. However, the City could subsidize the cost of a street fair or farmers' market, or the community could obtain funding from a corporate sponsor. Another alternative is to lessen the scale of a street fair and implement a "mobile farmers' market". This would entail a few food trucks and one or two tables selling various goods from local vendors. The market would take place in a private or public lot, such as the parking lot of the Red Apple Market. While this is a much smaller scale, it could still achieve the objectives of community building

### Case Study

White Center, Seattle, WA. Jubilee Days is a street fair located on a commercial street at 17th SW and Roxbury. There are vendors, bands, a kids zone, a beer garden, and live entertainment. There are frequent public meetings regarding the event, which inevitably brings the community together by getting involved. The event is promoted through social media and newspaper, with slogans such as "This is YOUR event, White Center!", instilling excitement around the neighborhood's identity.

Redlands, CA. The city puts on "Market Night" every Thursday evening since 1988. The event is located downtown and is known as the "most successful farmers' market in Southern California". It attracts many people due to its inviting aesthetics of lighted trees, brick walls, historic

buildings. The market hosts over 150 local vendors who sell a variety of goods, such as seasonal fruits and vegetables from local farmers, flowers, baked goods, crafts, and art, and also welcomes business promoters. SNAP/EBT is accepted at the market and is sponsored by Downtown Redlands Business Association.



*White Center hosts Jubilee Days, an annual summer celebration and street fair*

# Community and Economic Development Strategy #3

## Create Neighborhood Design Guidelines

### Conditions

South Park has a unique character all its own -- the brightly-colored wood-sided homes and vibrant murals create a warm, friendly community spirit that celebrates local culture. Our analysis found that South Park has development capacity for nearly double the current housing stock. With 34.7% of the housing constructed before 1939, South Park, South Park has an older housing stock than the city overall which contributes to its small-town community feel. As development expands in South Park, new styles of development will bring a more diverse aesthetic. Newer building styles may not necessarily complement existing styles or celebrate local culture and history in the same way. South Park's environmental context is unique from many neighborhoods in Seattle. In particular, liquefaction risks call for specific construction techniques and practices in order to safeguard homes in the event of a shallow earthquake along the Seattle fault. In addition, South Park's has a relatively low percentage of tree canopy cover; this is important for developers to consider as their designs impact the public realm.

Seattle's city-wide design guidelines are a tool used by the Design Review Board to evaluate new development proposed for the city. The goal of the guidelines is to "foster design excellence in private development of new multifamily and commercial projects throughout the city", ensure that new development reflects community values

and priorities, and promote public participation in discussions on new projects in the community. Neighborhood-specific guidelines promote the character of the given neighborhood as embraced by its residents and business owners. These guidelines help reinforce existing character and prioritize the qualities that the neighborhood values most highly when new development occurs



South Park, Seattle, WA

### Problem

Twenty-one neighborhoods throughout Seattle have neighborhood-specific guidelines, which work in tandem with the Seattle guidelines and supercede if there is a conflict. South Park does not have its own design guidelines. Development that does not demonstrate concern for neighborhood character and values may create an antagonistic relationship between new arrivals and existing residents. While it is not a given

that these unique characteristics will be lost if as development continues in South Park, design guidelines can ensure that new development does not erase the history and culture

### Proposal

Create neighborhood design guidelines for South Park. Use this process as an opportunity to engage the South Park community and create a set of design guidelines that infuse the design process with a concern for equity and social justice.

The process of developing design guidelines allows neighborhood stakeholders to articulate their vision for the community before development occurs. While design guidelines cannot eliminate the threat of displacement, they can hold developers more accountable to a community vision and increase their awareness about community priorities. Design guidelines promote equity by elevating the voice of the community in the design process of developments that will impact the community. While industrial developments do not need to adhere to design guidelines, it is recommended that developments in the industrial buffer align with guidelines, as they border residential areas.

Developing design guidelines will require time and money from the city to produce a truly community-based document.

# Community and Economic Development Strategy #3

## Create Neighborhood Design Guidelines

The Department of Neighborhoods' Outreach and Engagement Liaisons and Neighborhood District Coordinators may be able to assist with the design guideline development process to ensure effective communication between the city and the neighborhood. South Park represents a unique opportunity to create innovative design guidelines that leverage the power of design to promote equity.

### Objectives

Engaging with community members to create design guidelines will strengthen community connections among residents as well as build relationships between the neighborhood and the City. Neighborhood design guidelines that reflect the community values and vision will help developers design accessible and aesthetically pleasing developments in line with community priorities such as safety, sustainability and mobility.

- Safe and secure community
- Youth and community connections
- Promote pedestrian mobility
- Accessible and aesthetically pleasing places
- Resilient built environment
- Healthy environment

### Constraints

Chief constraints of creating design guidelines are time and financial resources: the development of a guideline process that does not simply recreate the Seattle Design Guidelines may take significant time

and financial investment in order to ensure that the guidelines are reflective of the neighborhood priorities.

Another constraint may be engagement fatigue: we heard from some residents that they are tired of “planning and planning” and want to see things happen for South Park. Residents have participated in workshops for the South Park Action Agenda, the South Park Green Space Plan, Seattle’s comprehensive plans, and attend South Park Neighborhood Association meetings. As a working class neighborhood, residents may have time constraints that prevent them from attending meetings, or may simply be tired of attending community meetings if it does not appear that they result in meaningful outcomes.

### Case Study

North Beacon Hill, Seattle, WA. North Beacon Hill’s design guidelines were revised in 2013 and reflect the priorities of a community in transition. Goals of the North Beacon Hill design guidelines are to preserve and enhance the existing scale and character of North Beacon Hill, maintain the unique features of the neighborhood’s mixed use housing and commercial neighborhood, improve the pedestrian environment, and provide the opportunity for community involvement in the design process.



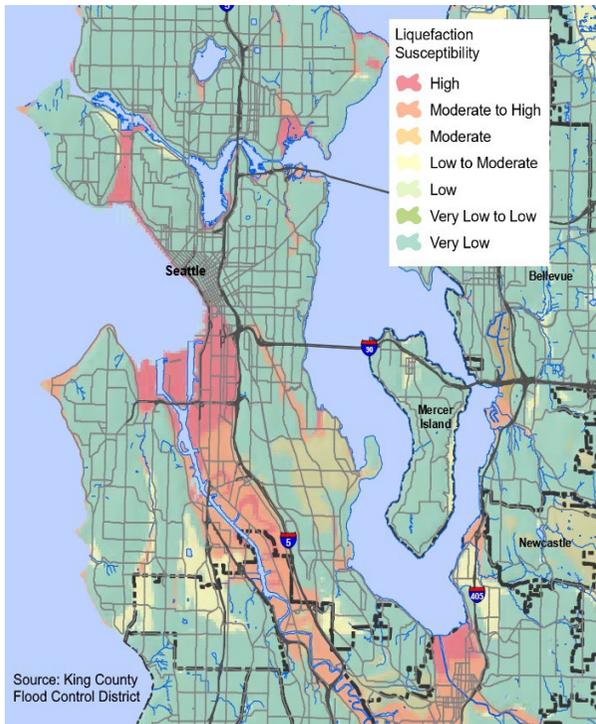
Beacon Hill, Seattle, WA

# Community and Economic Development Strategy #4

## Develop an Emergency Preparation Program

### Current Conditions

South Park is located in an area of Seattle that is severely exposed to liquefaction caused by earthquakes, especially a shallow Seattle Fault earthquake. Liquefaction can be extremely destructive, even in earthquakes with only moderate shaking. South Park faces a some of the highest risk of liquefaction of any neighborhood in Seattle.



King County Liquefaction Zone Map

Seattle has two local emergency response organizing programs, Seattle Neighborhoods

Actively Prepare, which gives small groups of neighbors tools to collectively prepare for disasters, and Community Emergency Hubs which are “made up of a group of people who agree to meet at a pre-determined locations following a major disaster to share information, resources, problem solve and support each other”. However, there are no Community Emergency Hubs located in South Park.

### Problem

In the event of a Seattle fault earthquake many of the buildings, streets, and utilities in South Park will be unusable. Communication and transportation will be extremely difficult. Other disasters such as landslides, flooding, or tsunami could also wreak havoc and confusion. Without proactive planning and organizing specific to South Park, residents could face unnecessarily high risks in such emergencies

The lack of Community Emergency Hubs or other designated meeting places in South Park could result in residents being isolated and disorganized. If the City of Seattle continues to permit South Park to exist as a residential neighborhood, it has the responsibility to mitigate the increased risk and potential isolation faced by the neighborhood in the event of a disaster.

### Proposal

The City should develop an emergency response

program and plan specific to the South Park neighborhood. The plan would identify the most significant risks to the neighborhood and areas likely to be most at risk. The plan would also identify safe gathering points and emergency supply depots where residents and disaster response officials will be able to distribute supplies and tend to wounded. The program would involve regular training events and drills and organize community members to take active roles in emergency response.

The City should actively support and promote the development of a Community Emergency Hub in South Park. This would involve working with local organizations to survey available resources and establish community outreach strategies. The SeaMar facilities located on Catholic Hill are potentially an ideal location for an Emergency Hub, as they are located outside of the liquefaction zone, are centrally located, and are well known to the community.

The creation of a specialized program, that would assess natural hazards in other neighborhoods as well as concentrate on those areas most at risk, is advised. This can be accomplished through programs like SNAP (Seattle Neighborhoods Actively Prepare), Community Emergency Hubs, and CERT (Community Emergency Response Team) training, which is organized by FEMA (Federal Emergency Management Agency).

# Community and Economic Development Strategy #4

## Develop an Emergency Preparation Program

### Objectives

The concentration of racial and ethnic minorities in areas that are exposed to environmental hazards is a key equity issue. This is true in the case of South Park, one of the most ethnically diverse neighborhoods in Seattle, which is exposed to some of the highest earthquake risks. The city must pair such an unusually high risk with an unusually high level of involvement and investment in emergency response planning, rather than relying on community-lead processes. This will accomplish the following objectives:

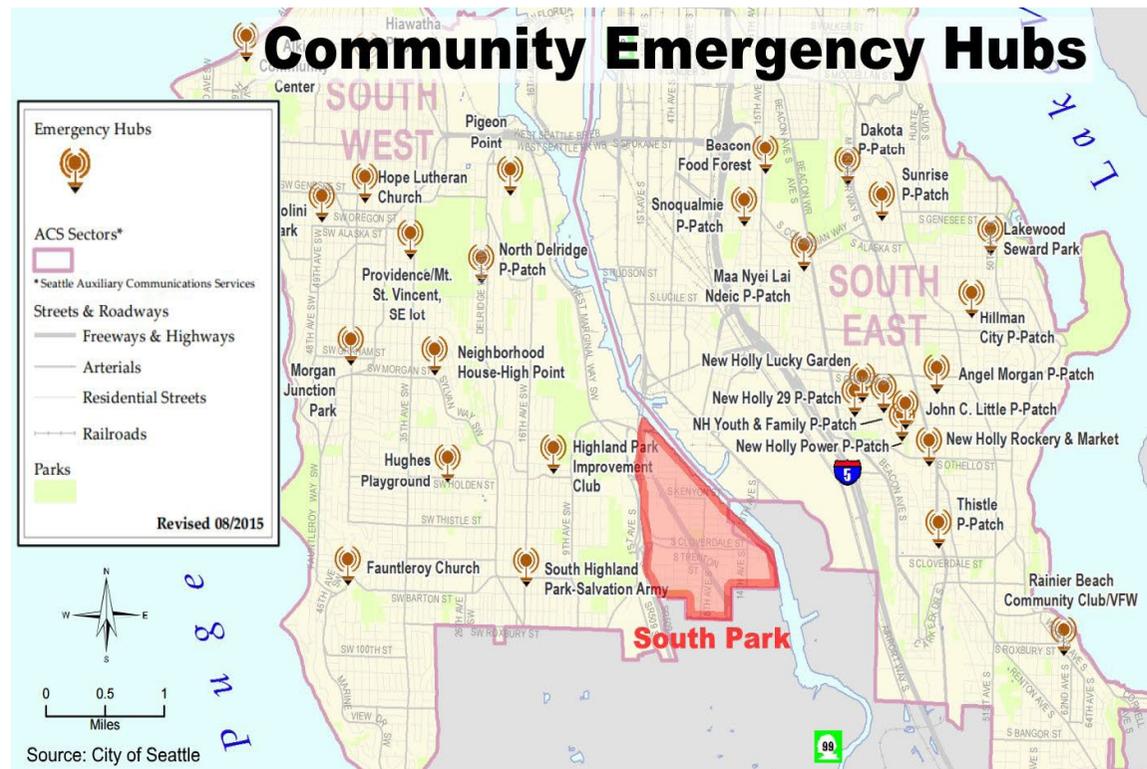
- Resilient built environment
- Youth and community connections
- Safe and secure community

### Constraints

Without a neighborhood-level emergency preparation program that could deal with the issues specific to South Park the City will need to create one. Due to the increased public understanding of the earthquake risk faced by our region, such a program may see popular support. Public outreach is difficult for long-term abstract threats, and without broad public participation such a program will not be successful. However, with engaging communication, collaboration with local organizations and involvement in local events, a neighborhood level emergency preparation program could bring in many community members.

### Case Study

City of Orting, Washington. Lahar evacuation program. The City of Orting and other cities located near Mt. Rainier have developed lahar emergency management programs to mitigate that risk of catastrophic mudslides coming off of an erupting Mt. Rainier. These programs include sirens, marked evacuation routes, designated meetup points, and regular drills. These program are a result of collaboration with the Pierce County Office of Emergency Management.



Source: City of Seattle  
Emergency Hub Map

# Community and Economic Development Strategy #5

## Start a Trades District

### Current Conditions

South Park is a mixed use neighborhood, with about 4,000 residents and 6,000 jobs. Most residents of the neighborhood live within the South Park Residential Urban Village, with is completely surrounded by industrial land. South Park is Seattle's lowest income neighborhood, with high unemployment and a large number of service sector jobs. Youth and young adults lack opportunities for personal and professional development.

### Problem

Residents of South Park bear the burdens of living in an industrial area, from reduced life expectancy, to isolation from needed services, to a lack of greenspace, along with added noise and traffic. The industrial businesses in South Park contribute enormously to City revenues through the Business and Occupation tax. However, South Park residents remain underemployed and underpaid.

### Proposal

We propose the establishment of a special "trades" district in South Park. This district would serve as an organizing structure to establish job-training and apprenticeship programs in the neighborhood. Relationships with local employers would be established, and their needs for skilled trades evaluated. Funded internships and apprenticeships would give youth opportunities to work in real-life job settings, an introduction to the formal

economy, and valuable skills. The district would include partners of conventional, industrial, and healthcare, industries located in South Park.

The district would serve primarily as an organizing framework for contractual relationships between business partners and sponsoring community organizations. Potential partners include the many small manufacturing, warehousing, brewing, and other craft business in South Park. SeaMar, whose organization spans many sectors, already has apprenticeship-style and job-training programs in place, would be a key partner. The district would be an opportunity to support and expand existing programs such as DRCC's SuperFund Job Training Initiative and King County's WorkSource program.

Such a program could be funded by the Seattle Foundation's Communities of Opportunity grant program, which was initiated last year with the goal of supporting "community-identified goals that increase equity – health, social, racial and economic – and positively influence policies, systems and practices within and across these communities" and will be awarded in "multi-year investments in specific geographic areas (neighborhoods or cities) within King County to increase health, social, racial, and economic equity". The first three receiving areas were White Center, Rainier Valley, and SeaTac/Tukwila, areas with similar demographics and economic challenges to South Park. The role for the City in this proposal involves working

with community partners to craft a project that is compatible with City laws and processes, and in approving necessary changes to the neighborhood plan and other planning documents. This proposal could be expanded to include or be pursued jointly with the Community Design Guideline recommendation. This could be accomplished through the c Communities of Opportunities Grant, supported by The Seattle Foundation and encouraged by the South Park Neighborhood Plan Update.



*South Park's manufacturing and production industries provide a large number of living-wage jobs to the community.*

# Community and Economic Development Strategy #5

## Start a Trades District

### Objectives

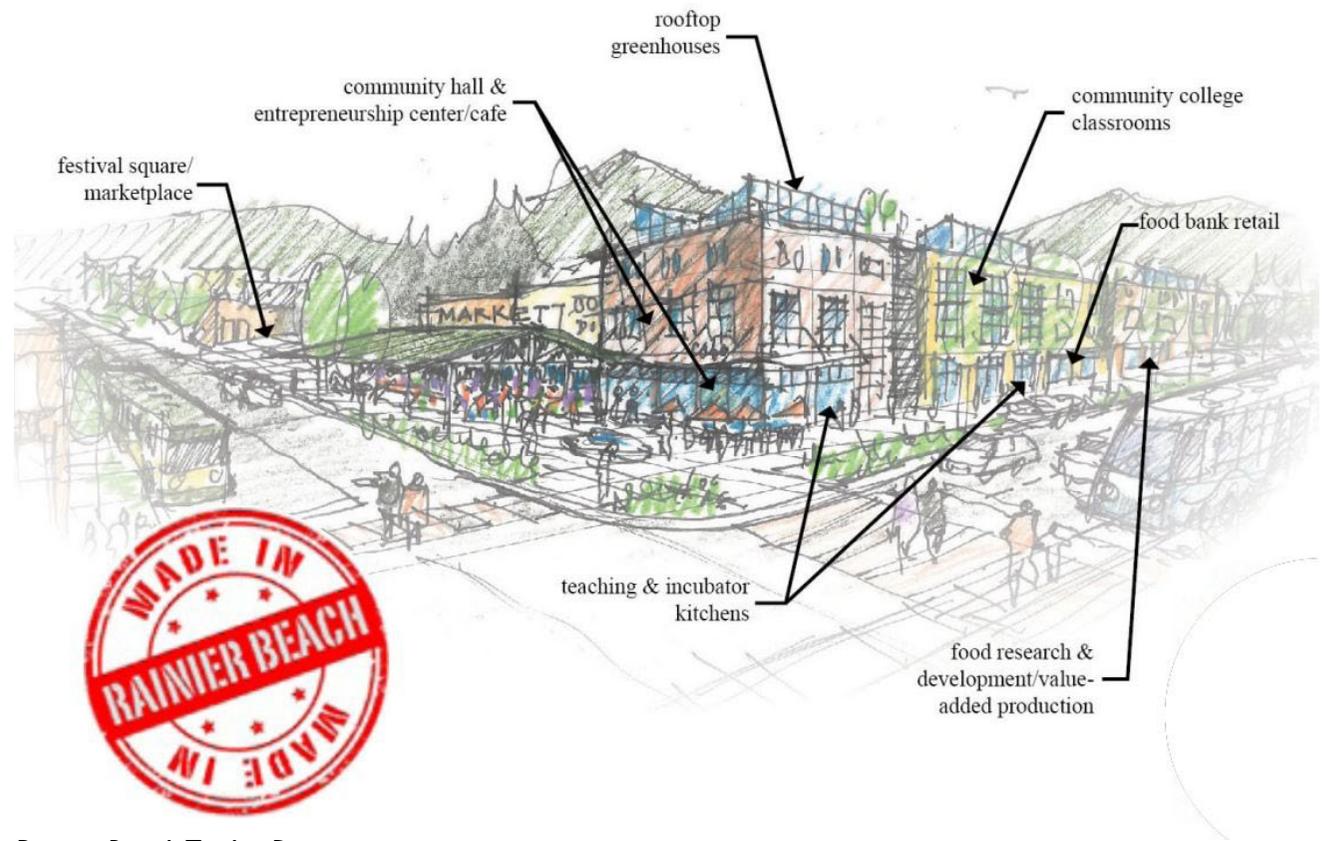
This policy would improve equity by creating new employment and personal development opportunities for South Park youth. Targeted youth will be able to expand their skills and find an easier entry into the job market. By increasing incomes and probability of future success in the job-market, the future prospects for these youth are improved and their risk of being displaced to other neighborhoods is decreased. This will enable the following objectives to be achieved:

- Economically Sustainable Future
- Youth and Community Connections
- Reduce Displacement Risk

### Case Study:

Rainier Beach, Seattle, WA. Funded by Seattle Foundation through 2015 Communities of Opportunity Grant, the Food Innovation District is a plan for employment, infrastructure development, youth development, and entrepreneurial innovation, which has been developed in coordination with community stakeholders by several organizations. The Communities of Opportunity Grant recipient is HomeSight, which will be used to further work done by the Multicultural Community Center, On Board Othello, South Communities Organizing for Racial/Regional Equity, and the Regional Equity Network, and will be leveraged by other grants.

The City can help by coordinating with the many partners through the Rainier Beach Action Coalition which meets monthly, a Neighborhood Plan update, Comprehensive Plan amendments, creation of a Station Area Urban Design and Development Framework, and Zoning and Land Use code amendments.



Rainier Beach Trades District

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## 4.4 Strategies for Equitable Growth and Development: *Sustainable Growth*

The following strategies address our stated objectives through community and economic development.

- Create a Community Land Trust
- Promote Backyard Cottages
- Rezone Southwest Industrial to Residential

# Sustainable Growth Strategy #1

## Create a Community Land Trust

### Current Conditions

There is a housing supply of roughly 1,500 units for a population of 4,000. The median household income in South Park is \$38,875. Single family detached houses make up about 52% of the housing in the neighborhood. Approximately 40% of housing units are owner occupied which is both lower than Seattle as a whole (46%) and uniquely low for a primarily single family residential neighborhood. The housing supply is also relatively old, with 35% of units having been built prior to 1939.

### Problem

Rents in South Park are much lower than in the city as a whole, with 50% estimated to fall below \$750 per month, compared to just 17% in the city as a whole. Despite these lower rents, most of the renting population is severely rent-burdened, with 54% of the population estimated to pay more than a third of their monthly income on rent. In the city as a whole 37% are estimated to pay a third or more of their income on rent. As a result of this the City of Seattle has identified the South Park neighborhood as having a “High Displacement Risk.” Due to the high rent burden, the necessary neighborhood improvements identified by this report, combined with increasing city wide housing expenses, could result in the economic displacement of the current residents. To create an equitable neighborhood we must ensure that these recommended improvements benefit the existing

residents and that the fragile existing community fabric is not torn asunder.

### Proposal

Partner with a non profit organization such as Habitat for Humanity or the Low-Income Housing Institute to establish a Community Land Trust. Typically, community members serve on the board of directors for the land trust to ensure the land trust aligns with community values and ensuring local control of community assets. The land would be owned by the non-profit organization while the homes would be owned privately. There would be limitations on profits derived from the sale of these homes. This would allow for home prices to be stabilized and provided an avenue for individuals who would otherwise be renters to have stable long term residency with the pride of ownership in their community.



*Members of a community land trust*

# Sustainable Growth Strategy #1

## Create a Community Land Trust

### Objectives

To reduce the displacement risk we must develop creative means to allow for more residents to enjoy the benefits of homeownership, such as long term housing certainty. This will build a lasting sense of community and enable neighborhood improvements to benefit existing residents with a diminished risk of gentrification. This will aid in achieving the following objectives:

- Reduce Neighborhood Displacement Risk
- Promote an Economically Sustainable Future

### Constraints:

Operating a community land trust requires a great deal of logistical operations and organizational capacity, as well as significant start-up costs in terms of money, land, and time. While there are many examples of successful land trusts throughout the United States, each land trust is tailored to the specific context; a land trust for South Park would need to consider the unique economic, social, geographic, and political context of the neighborhood. The aging housing stock of South Park

### Case Studies:

Seattle, WA. The low-income residents in the Central District and South Seattle formed the Homestead Community Land Trust in 1992 to preserve affordable housing for low-income families in the city. Homestead partners with moderate income residents earning 80% of

the area median income to help them become homeowners. Through this strategy, Homestead strives to mitigate the risks of displacement faced by rent-burdened individuals and families in Seattle's changing neighborhood landscape. In addition to acquiring housing through homeownership assistance grants, Homestead also partners with developers such as Habitat for Humanity and the Low-Income Housing Institute to develop new housing units. As of 2013, Homestead had added its 150th home to its housing portfolio. Through this strategy, Homestead has managed to maintain affordability of its homes for each new buyer.

Portland, OR. Proud Ground Community Land Trust in Portland, OR is a preeminent example of government leadership in establishment of a community land trust. Proud Ground formed in 1999. The City of Portland spearheaded the community land trust initiative, led by the Office of Housing and Community Development. Proud Ground, then the Portland Community Land Trust, was the first entity to make permanently affordable homeownership available to the community. In 2010, Proud Ground expanded to serve Multnomah County, becoming one of the largest community land trusts in the Northwest.



A House

# Sustainable Growth Strategy #2

## Promote Backyard Cottages

### Current Conditions

Since 2010, the City of Seattle has allowed the construction of accessory dwelling units, also known as backyard cottages. In 2014, the City Council adopted Resolution 31547, which asks the City to examine the existing regulations with the purpose of trying to make the process accessory dwelling unit process easier for homeowners.

The City encourages accessory dwelling units or backyard cottages, as a way to increase the number of housing options in a more affordable way. Although, South Park has remained relatively insulated from rapid development the neighborhood is not protected from displacement risk. In fact, South Park is one of the neighborhoods most at risk for displacement identified by the City of Seattle in the Seattle 2035 Final Equity Analysis (EIS) and the subsequent Displacement Risk Index map on page 59.

Currently, most of South Park's residential area is zoned Single Family residential. Of those homes approximately 668 meet the minimum lot requirement of 4,000 square feet required to build backyard cottages. However, due to other requirements and regulations, it is estimated that 240 homes are actually eligible for accessory dwelling units or backyard cottages.

### Problem

South Park is a community that faces high risk of

displacement. In order to ensure that residents are not displaced, we must be proactive in working against the market forces that increase rent prices, as well as create high demand and low supply for housing. Accessory dwelling units add additional units to the housing stock of South Park while also creating an opportunity for homeowners to earn extra income-both of which help decrease the risk of displacement. Lastly, natural hazard risks, like liquefaction and flooding, are a constraints that limit the potential development intensity, and adds a challenge when considering increasing density in South Park. Therefore, backyard cottages are a better option for South Park rather than increasing density by building up.

### Proposal

Backyard cottages provide a good alternative for increasing density in a way that fits in with the single family character of the neighborhood, providing a variety of housing options. Moreover, the addition of backyard cottages means more income for the homeowner. A backyard cottage could generate \$900-2000 per month; that is \$10,800 to \$24,000 a year in additional income. Backyard cottages are also a good option for multi-generational or extended families.

Making this strategy a reality will require extensive involvement from the City of Seattle, as well as local non-profits in the neighborhood. This is due in part to time constraints and working with the

Office of Planning and Community Development (OPCD) , but also securing funding for any project. With limited financing available, the City may have to help identify additional funding sources for homeowners. Currently the only financing options available are home equity loans. Homeowners are finding it difficult to secure loans for accessory dwelling units; banks are weary of lending to homeowners for the construction of backyard cottages because of the homeowner occupancy requirement.



DADU Example

# Sustainable Growth Strategy #2

## Promote Backyard Cottages

### Objectives

The City should promote and encourage backyard cottages or attached accessory dwelling units on existing single family residential lots in South Park. As a community at high risk for displacement, backyard cottages not only alleviate some of the market pressures by adding units, it also can provide additional income for homeowners in a way that fits into the built form fabric and recognizes natural hazard risks.

- Reduce Neighborhood Displacement Risk
- Promote an Economically Sustainable Future
- Cultivate a Resilient Built Environment

### Constraints

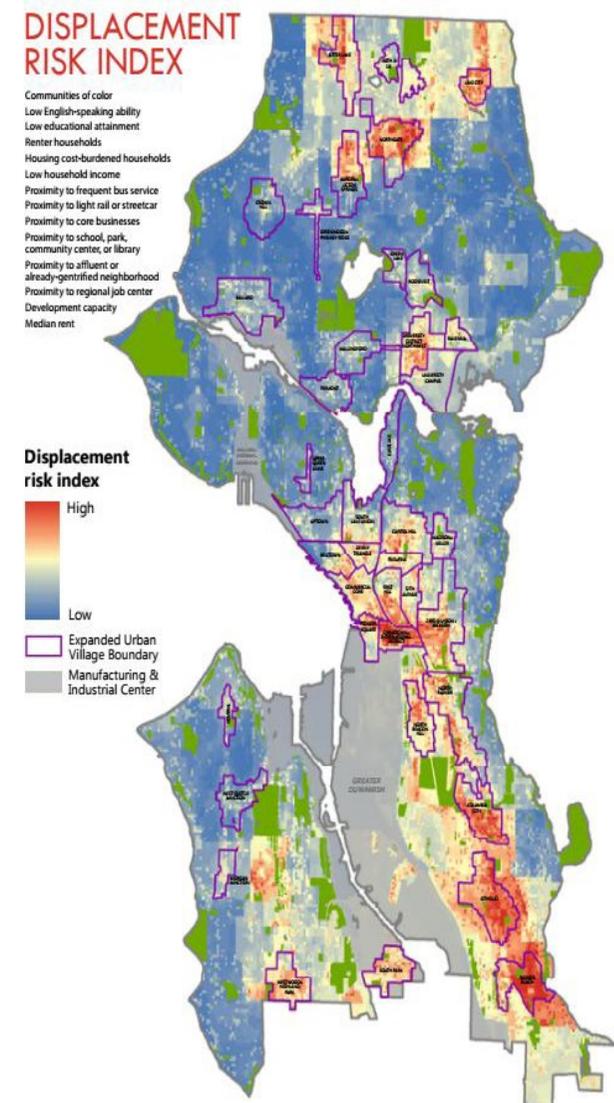
Currently, the City of Seattle requires homeowner occupancy as well as off street parking as requirements for the building of backyard cottages. These requirements along with height limits, setbacks and rear coverage requirements are institutional barriers to constructing backyard cottages. For example, constructing suitable parking space can cost upwards of \$10,000 in addition to permitting costs and the cost of building the backyard cottage in the first place. The City of Seattle has recognized these additional costs and is currently in a review process to consider removing or relaxing some of the requirements.

for homeowners looking to add a backyard cottage. The cost to construct a backyard cottage depends on many things such as if there is an existing structure like a garage to build on or convert, and the permitting fees. The cost of a backyard cottage ranges from \$9,000-\$300,000, with the mean being \$98,000, which calculates to an average \$151 per square foot. Attached accessory dwelling units, cost a little less averaging \$53,000, \$82 per square foot.

### Case Study

Vancouver, British Columbia, Canada. Vancouver has seen much success with accessory dwelling units. They have 26,650 units, which represent approximately 35% share of single family homes, compared to Seattle's 1,396 a 1% share of single family homes, see table 3 in the appendices. Additionally, Vancouver has fewer requirements, which make constructing these backyard cottages much cheaper. Unlike Seattle, Vancouver does not require off street parking or owner occupancy. There is a true opportunity in Seattle, and South Park especially- where single family residential housing is a strength- to accommodate housing demand in an affordable way through the use of accessory dwelling units.

Furthermore, financing may be the biggest obstacle



Seattle Displacement Risk Index Map

# Sustainable Growth Strategy #3

## Rezone Southwest Industrial to Residential

### Current Conditions

The area in unincorporated King County directly to the south and southwest of the South Park urban village is currently zoned industrial. The portion of this area to the west of 8th avenue occupies roughly 64 acres and is home to 15 businesses. To the south of this area land is zoned for medium and low-density residential. This land is currently valued at about \$20 per square foot, for a total valuation of \$58.5 million.



Residential and Industrial Mix

### Problem

The South Park Urban Village is completely surrounded by industrial uses, isolating the retail strip from residents of neighboring communities and creating numerous conflict zones between the impacts of industry and residents need for a peaceful, safe and healthy environment.

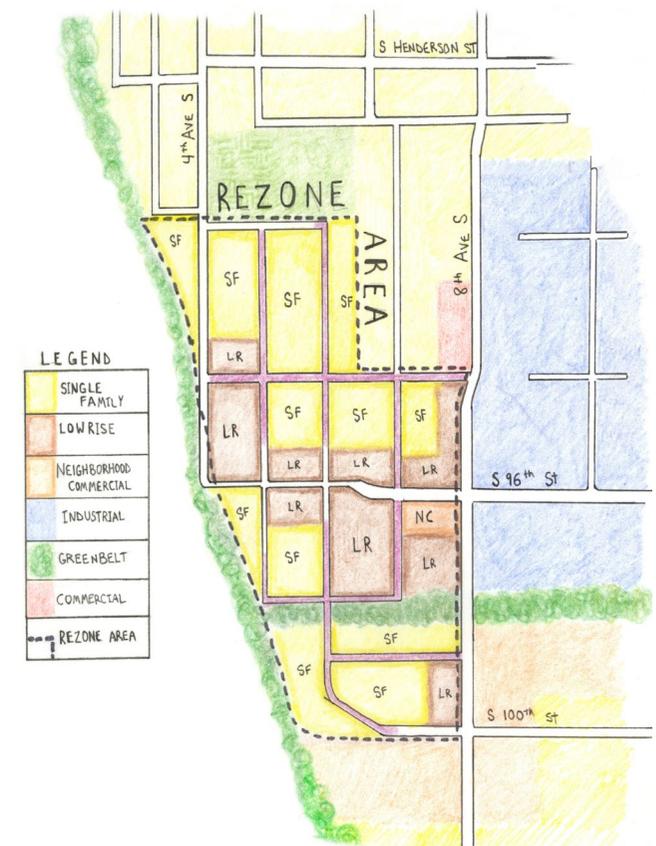
Furthermore, there are hazardous threats of liquefaction in the neighborhood. Lastly, the City is experiencing a city wide housing shortage.

### Proposal

If the City of Seattle annexes the North Highline Potential Annexation Area, the City should consider rezoning the narrow band of industrial land between south of Barton St and west of 8th Ave S. By converting this area to residential uses the City could create a connected band of residential areas from South Park to Glendale/ Boulevard Park to White Center. Doing so would reduce the isolation of the South Park Residential Village, reduce conflicts between incompatible uses, and strengthen retail areas along 14th avenue and Des Moines Memorial Way. The area could accommodate about 1200 new residential units with half at SF5000 densities (8/acre) and half at townhouse densities (30/acre).

Zoning more land for residential uses and better connecting South Park to existing residential areas to the south will strengthen existing retail areas in South Park by increasing the size of the local market. This area is the best suited for adding population in South Park because it is located outside of the liquefaction zone, because existing uses are low-intensity, and because it is relatively isolated from major freight corridors, making it less well suited to industrial uses. This can be supported by policies and reports, such

as King County Brownfields program, Land Use Code, the Seattle Comprehensive Plan, and the North Highline Annexation.



Rezone Map Example

# Sustainable Growth Strategy #3

## Rezone Southwest Industrial to Residential

### Objectives

This strategy will further the goal of equity by helping knit South Park into the fabric of the surrounding city. It will improve the health of the businesses on main street, attracting a greater variety and quality of businesses. It will reduce the negative impacts of pollution, noise, and freight traffic on residents by reducing the number of conflict zones between residential and industrial land uses. By creating new housing options the strategy also provides housing capacity for new residents, reducing the risk of displacement of current residents.

- Reduce Displacement Risk
- Resilient Built Environment
- Healthy Environment

### Constraints

There are several factors that will constrain the feasibility of this change. Pollution levels at the sites in question will need to be evaluated in order to determine the suitability for conversion to residential use, or cleanup operations needed. Due to the relatively short period of time the area has been used for industrial purposes and the low-intensity of the kinds of operations taking place, it is possible that contamination will be limited. The area needs to be incorporated into the City of Seattle. This is expected to happen in the near future, however it is not certain that it will go forward. Existing businesses will also need to be relocated, which could take many years or

be very expensive, depending on how the city moves forward. Unlike many brownfield projects, the businesses in the area in question continues to be operated profitably, bringing the economic expediency of such a strategy into question.

Spokane, WA. Kendall Yards is a major brownfield redevelopment project covering 77 acres across the river from downtown Spokane. The project is proceeding in phases, with a total 2,600 units planned. The area was contaminated from decades of use as a railyard. The density of this project is much higher than our proposal, however it is likely the industrial contamination was higher as well.



*Kendall Yards Townhomes*

### Case Study

# 4.5 GROWTH PROJECTIONS

Restaurants make up approximately one quarter of all retail spaces in South Park. Currently, the retail space vacancy rate is about 10%. Small retail such as convenience stores occupy the majority of existing retail space.

The current population of South Park as of 2010 is 3,991, and is not expected to grow by 2035, according to the Puget Sound Regional Council's projections. However, should the City of Seattle implement our recommendations, our projections indicate that population will nearly double, increasing by 3,022 people. This population growth is calculated based on the number of expected residential units, which we project to grow to 2,799 units from 1,359 currently. This growth is expected as a result of implementing backyard cottages and rezoning the Southwest Industrial area, along with PSRC's projection of a slight growth in residential units to 1,628 units.

Currently, South Park 0.43 acres of green space per 100 people. This does not satisfy Seattle's green space goal of 1 acre per 100 people. In comparison, Seattle residents have an average of 0.75 acres of parkland per 100 residents. South Park needs to not only meet the standard of green space for residents, but should be on par with the rest of the city as a whole in order to achieve equity. Our projections for future green space are based on the riverfront restoration project on the Duwamish and the green space obtained from the SW industrial rezone. We recognize that our

recommendations for South Park will fail to meet the City's green space goal. Increased planning and development for the neighborhood will need to address this issue in order to assess land allocation for green and open spaces.

Per the 2007 U.S. Economic Census, there was roughly 14.2 billion square feet of retail space in Seattle, about 46 square feet of retail space per consumer. Currently, South Park has about 18 square feet of retail space per resident, with 71,520 square feet of occupied retail space. With our recommendations, we hope to maximize the occupancy of vacant retail space at 79,760 square feet. This can be accomplished with our recommendations for complete streets, thereby increasing walkability and the likelihood of visitors and residents patronizing businesses.

## Growth Projections

Item	Current	As projected for 2035 by PSRC	Recommendations 50%	With Full Recommendations
Population	3,991	3,936	5,731	7,013
Residential Units	1,359	1,628	2,079	2,799
Employment (# of Jobs)	5,646	7,152	7,152	7,152
Green Space (acres)	17.5	17.5	20.5	23.5
Retail Area (sq ft)	71,520	71,520	79,760	79,760
Industrial Area (acres)	417	417	354	292

Additionally, safe walkways on SR 99 will create connectivity between business districts, increasing patronage of businesses along South Park's main corridors.

South Park's 417 acres of industrial area is projected to remain constant in 2035. However, with our recommendation to rezone the southwest industrial area, we expect to decrease the industrial area by 125 acres. The impacts of this proposal on employment as well as the benefits to the neighborhood are explored in the recommendations section.

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# SOURCES

1998 South Park Neighborhood Plan.

<http://www.seattle.gov/Documents/Departments/Neighborhoods/Planning/Plan/South-Park-plan.pdf>

Accessible Natural Green Space Standards in Towns and Cities: A Review and Toolkit for their

Implementation - ENRR526. (n.d.). Retrieved from <http://publications.naturalengland.org.uk/publication/65021>

Burden, D. (n.d.). Urban Street Trees. Retrieved from

[https://www.michigan.gov/documents/dnr/22\\_benefits\\_208084\\_7.pdf](https://www.michigan.gov/documents/dnr/22_benefits_208084_7.pdf)

City of Seattle. 2035 Equity Analysis. <http://2035.seattle.gov/>. 2015

Community Emergency Hubs. (n.d.). Retrieved from

<http://www.seattle.gov/emergency-management/working-together/community-emergency-hubs>

Conduit Blvd. (n.d.). Retrieved from

<http://www.nyc.gov/html/dot/downloads/pdf/conduit-blvd-atlantic-sutter-may2016.pdf>

Costs for Pedestrian and Bicyclist Infrastructure Improvements. (n.d.). Retrieved from

[http://www.wsdot.wa.gov/NR/rdonlyres/BI7848CF-3D69-4151-972A-2C66DECDC2EC/0/CountermeasureCosts\\_Report\\_Nov2013.pdf](http://www.wsdot.wa.gov/NR/rdonlyres/BI7848CF-3D69-4151-972A-2C66DECDC2EC/0/CountermeasureCosts_Report_Nov2013.pdf)

Draft Urban Village Maps. Retrieved from <http://2035.seattle.gov/draft-urban->

[village-maps/](#)

Duwamish Tree Canopy Project. (n.d.). Retrieved from

<https://www.seattleparksfoundation.org/Duwamish-Tree-Canopy>

Environmental Coalition of South Seattle. Duwamish Riverfront Revival; A Waterfront for Salmon and

People in South Park. July 2001.

Interchange Will Solve Bottleneck. (1966, May 31). Seattle Times.

Kambuj, Aditi (OPCD-Ballard- Rep). Ballard Re-Zone and Development Standards. Draft 3/30/2016.

Kendall Yards Brownfields Team Wins National Award; Cleanup Project Largest in the Nation. (n.d.).

Retrieved from <http://www.businesswire.com/news/home/20060406006012/en/Kendall-Yards-Brownfields-Team-Wins-National-Award>

King County Department of Assessments. (n.d.). Retrieved from

<http://info.kingcounty.gov/assessor/DataDownload/default.aspx>

King County Metro Route 60 Schedule. Retrieved from

<http://kingcounty.gov/depts/transportation/metro/schedules-maps/060.aspx#weekday>

King County Parcel Viewer. (n.d.). Retrieved from

<http://www.kingcounty.gov/services/gis/Maps/parcel-viewer.aspx>

- Lahar Information. (n.d.). Retrieved from <http://cityoforting.org/services/emergency-management/lahar-information/>
- Lower Duwamish Waterway Superfund Site. (n.d.). Retrieved from <https://yosemite.epa.gov/r10/cleanup.nsf/sites/lduwamish>
- Miro-Quesada, V. (2016, April 7). Interview with Veronica Miro-Quesada [Personal interview].
- M., Sweeny. (1974, August 11). South Park: A Square Mile of Defiance. *Seattle Post-Intelligencer*.
- Newark Riverfront Revival. (n.d.). Retrieved from <https://newarkriverfront.org/>
- North Beacon Hill Neighborhood Design Guidelines. Retrieved from [http://www.seattle.gov/dpd/cs/groups/pan/@pan/documents/web\\_informational](http://www.seattle.gov/dpd/cs/groups/pan/@pan/documents/web_informational)
- Puget Sound Regional Council. Vision 2040. <http://www.psrc.org>. Restoring natural shoreline and beach access. (n.d.). Retrieved from <http://www.burienwa.gov/DocumentCenter/View/4606>
- Safe Streets. (n.d.). Retrieved from [https://depts.washington.edu/hhwb/Thm\\_SafeStreets.html](https://depts.washington.edu/hhwb/Thm_SafeStreets.html)
- SeaMar. SeaMar History. Retrieved May 27, 2016, from [http://www.seamar.org/static\\_pages/history.php#v1](http://www.seamar.org/static_pages/history.php#v1)
- Seattle DPD - 2014 Backyard Cottages Annual Report. (n.d.). Retrieved from [http://www.seattle.gov/dpd/cs/groups/pan/@pan/documents/web\\_informational/s010014.pdf](http://www.seattle.gov/dpd/cs/groups/pan/@pan/documents/web_informational/s010014.pdf)
- Seattle Office of Emergency Management. "Seattle Hazard Identification and Vulnerability Analysis."
- Seattle.gov. Accessed May 25, 2016. [http://www.seattle.gov/Documents/Departments/Emergency/PlansOEM/SHIVA/2014-04-23\\_Flooding.pdf](http://www.seattle.gov/Documents/Departments/Emergency/PlansOEM/SHIVA/2014-04-23_Flooding.pdf).
- Sheehy, Katie. OPCD Lake City Zoning Change RPT Appendix A
- South Park 14th & Concord Sewer Improvement. (n.d.). Retrieved from <http://www.seattle.gov/util/EnvironmentConservation/Projects/SouthParkSewerImprovement/index.htm>
- South Park Populated Place Profile. (n.d.). Retrieved from <http://washington.hometownlocator.com/wa/king/south-park.cfm>
- Stradivarius violins and cigar box guitars (Making sense of ADU construction costs). (2014). Retrieved June, from <https://accessorydwellings.org/2014/05/01/stradivarius-violins-and-cigar-box-guitars-how-much-does-an-adu-cost/>
- Subramanian, M. (2014). Oysters, Sand Dunes, and Other Revolutionary Plans to Save the Post-Sandy

The Seattle Foundation and King County to Invest \$1.5 Million to Confront Increasing Inequity . (n.d.).

Retrieved from <http://www.seattlefoundation.org/news/Pages/The-Seattle-Foundation-and-King-County-to-Invest-15million-to-Expand-Successful-Community-Efforts.aspx>

Thompson, Lynn. "South Park Faces Long Sewer Project After Bridge Construction." The Seattle Times.

2012. Accessed May 25, 2016.

<http://www.seattletimes.com/seattle-news/south-park-faces-long-sewer-project-after-bridge-construction/>

Urban Land Institute. Strategic Advice for Urban Resilience on the Lower Duwamish River. June 2015.

USA, City of Seattle, Office of Planning and Community Development. (2014). Development Capacity

Report (p. 12). <https://www.seattlehousing.org/housing/senior/locations/south-park-manor/>

U.S. Census Bureau. (2010). US Census. Age Groups and Sex 2010: Census Tract 112. Retrieved from

[http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10\\_SF1/QTPI/1400000US53033011200](http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10_SF1/QTPI/1400000US53033011200)

U.S. Census Bureau. (2014) American Community Survey 5-year estimates. Educational Attainment

Margin of Error: Census Tract 112 (South Park) +/- 4.8%, Seattle 0.6%.

U.S. Census Bureau. (2014). American Community Survey. Selected Housing Characteristics. 5-year

estimates. Retrieved from

[http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14\\_5YR/DP04/1400000US53033011200](http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14_5YR/DP04/1400000US53033011200)

Margin of Error: Census tract 112 (South Park) +/- 7%, Seattle +/- 0.5%

Washington State Office of the Superintendent of Public Instruction School Report Card, Concord

International School. [https://www.seattleschools.org/directory/elementary\\_schools/concord/](https://www.seattleschools.org/directory/elementary_schools/concord/)

Work - All About South Park. (n.d.). Retrieved from <http://allaboutsouthpark.com/work/>

Zahler, A., Marti, A., & Thomsen, G. (2006). Seattle's South Park. Charleston, SC: Arcadia Pub

# Appendix A

## South Park – Scope of Work

### **Project Background:**

The South Park Studio is collaboration between the City of Seattle, Office of Planning and Community Development (OPCD) and the University of Washington’s Masters of Urban Design and Planning (MUP) Program. The aim of the studio is to address the level of equity in the neighborhood of South Park, so that the community has programs and services at a level comparable to the City of Seattle.

### **Definitions:**

- CBO – Community Based Organization/Non-profit
- Community Meetings – Are meetings with South Park Studio students and individual non-profits or members from South Park Community
- Equity – as defined by students, encompasses services, access, and outcomes
- **Anything else relevant?**

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### **Task 1: Project Management/Administration**

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The students in the South Park studio shall manage and coordinate the necessary scheduling for this scope of work. This task will include:

- Timely communication with client, Lyle Bicknell.
- Review and compile research about South Park and relevant projects to be included in the final report.
- **Anything else?**

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### **Task 2: Project Design and Outreach Methodology**

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The South Park studio will work to develop a relevant project that meets the needs of South Park residents and businesses.

### **Project Design**

- Determine topics to be addressed
- Determine the type of outreach necessary and/or tools that will be created and used

### **Outreach Methods**

South Park Studio will arrange 3-5 community meetings to target stakeholders and members of the community.

**Documentation**

- Report of outreach documents (email format, questions for CBOs) in hard copy and/or electronic format.

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**Task 4: Final Report**

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The South Park Studio will prepare a final report. This task shall include:

**Analysis of Data**

South Park studio will compile quantitative and qualitative research and other relevant project information on project planning, methods, and recommendations. The class will analyze the data collected and use this information to create the final report. The following things are to be collected and analyzed:

- Information on best ways to engage people living in South Park
- Any anecdotal information regarding this project
- Demographic data
- Photos and other documentation of project process (electronic, hard copy, etc.)

**Preparation of Final Report**

Using the information gathered, the SP studio will prepare a final project report. The final report shall include the following:

- Recommendations for future outreach efforts, applications, and possible next steps for the project.
- Recommendations for equity as it pertains to education, housing, economic development, and the environment in South Park

**Deliverables and Schedule**

<b>Final Report</b>	<b>June, 10<sup>th</sup>, 2016</b>
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**Task 5: Presentation of Findings**

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SP Studio shall create and conduct a “Presentation of Findings” at an event arranged by the client, Lyle Bicknell.



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College of Built Environments

- SP Studio will create a presentation and present an overview of the project, showcasing recommendations, project development, and best management practices to help inform outreach.
- Project leads will attend all "Presentations of Findings".

**Deliverables and Schedule**

Final Report
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June 2016
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# Appendix B

## *Introduction*

Liquefaction occurs when the strength of soil is weakened due to the soil becoming saturated with water and at the same time facing increasing pressure. Earthquakes cause this intense spike in water pressure, causing soils to become more mobile, thereby reducing the ability to provide a foundation for structures. Liquefaction is more prone in low-lying alluvial valleys, river deltas, and man-made fills. Softer soils are more prone to liquefaction than denser ones, as water pressure has a greater opportunity to infiltrate these soils. Further, land with a greater peak ground acceleration, which is the measurement of the ground's acceleration during an earthquake, is more susceptible to liquefaction. Deep earthquakes and shallow earthquakes have different effects on liquefying susceptibility. Deep earthquakes do not have as many aftershocks and cause less damage than shallow earthquakes, which can cause significant damage, ground shaking, and have many aftershocks.

A relevant example of the effects of earthquakes and subsequent liquefaction is the case of Christchurch, New Zealand in 2011. The earthquake and following liquefaction in Christchurch, New Zealand occurred when the streets and ground turned into liquefied soil and land following a shallow earthquake. The structures were not as affected as the land, which was the leading cause of the major destruction. The earthquake was reported as a 6.3 on the Richter scale, and only lasted 10 seconds; the real cause of the destruction was not the earthquake but the land being prone to liquefaction. An additional example is the Nisqually earthquake, which occurred in Seattle in 2001, this measured at 6.8 on the Richter scale, and was a deep earthquake, causing liquefaction in particular areas. However, the Nisqually earthquake was also an example of how mitigating hazards in the Puget Sound Region can pay off. Homeowners who had engineered their homes in preparation for earthquake damage were well off, as well as companies that were housed in updated buildings.

The neighborhood of South Park lies very near the Seattle fault, a crustal fault that causes shallow earthquakes. According to the Seattle Office of Emergency Management (OEM), Hazard Identification and Vulnerability Analysis, earthquakes on this fault of at least magnitude 5.5 could occur approximately every 100 years, and quakes of at least magnitude 6.5 every 1000 years.<sup>1</sup> The area is moderately prone to liquefaction, as shown on King County's liquefaction susceptibility map. However, there are areas within Seattle, such as SODO, that are more prone to liquefaction. Furthermore, a peak ground acceleration map shows that the area of South Park has about .75-peak ground acceleration, which indicates a high number. This high peak ground acceleration puts the neighborhood of South Park at a risk, and is an indication of susceptibility to liquefaction depending on soil softness or hardness.

## *Mitigation*

There are three ways to mitigate the hazard of liquefaction in South Park. One method is to prevent development in the liquefaction prone area altogether. Another method is to reinforce and/or improve the soil. The third method is to construct liquefaction resistant structures. A substantial share of South Park is currently at moderate to high risk of liquefaction, however, we do not believe that the first option of avoiding development in the neighborhood is viable. In light of the current population and avoiding displacement, development should continue. Therefore, this brief report focuses on the other two options, providing an overview of each and an explanation of tradeoffs. A limitation of this report is that due to

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<sup>1</sup> <http://www.seattle.gov/Documents/Departments/Emergency/PlansOEM/SHIVA/2014-04->

time restraints exact information on the costs and benefits associated with each of the two options was not considered or included.

### *Neighborhood and Regional Risk*

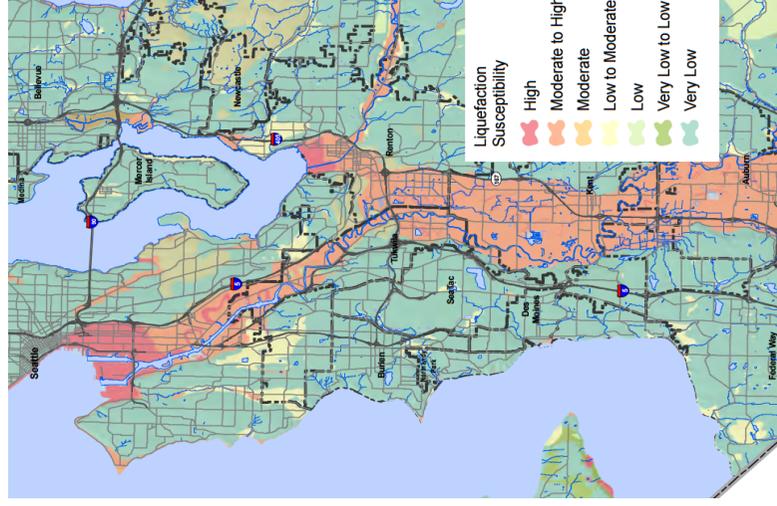
The danger of liquefaction is real and must be taken seriously moving forward. However, as stated above ceasing development in South Park due to the risk of liquefaction is not a viable option. Further there are additional neighborhoods in the Puget Sound Region that are facing a level of risk similar to that of South Park. In that way, substantial portions of many cities, including Renton, Issaquah, Kent and Auburn all face risk equal to or greater than South Park. Within the City of Seattle, nearly all of the Duwamish Manufacturing Industrial Center (DMIC) faces even greater liquefaction risk than does South Park.

Although there are few residences in the DMIC (1,317 residents in 2010), there are nearly 60,000 jobs located in the area meaning there is a substantial population that is exposed to this risk during the working week.<sup>2</sup> Any argument that calls for liquefaction prone areas to be vacated of residences must account for the similar risks posed to the working population. Other residential neighborhoods in the city that also face risk to liquefaction are: Alki, Georgetown, and Rainier Valley. The risks of liquefaction should be mitigated where possible using the following strategies, and specific preparation and emergency response programs should be tailored to South Park and other liquefaction-prone neighborhoods in the city.

### *Soil Improvement*

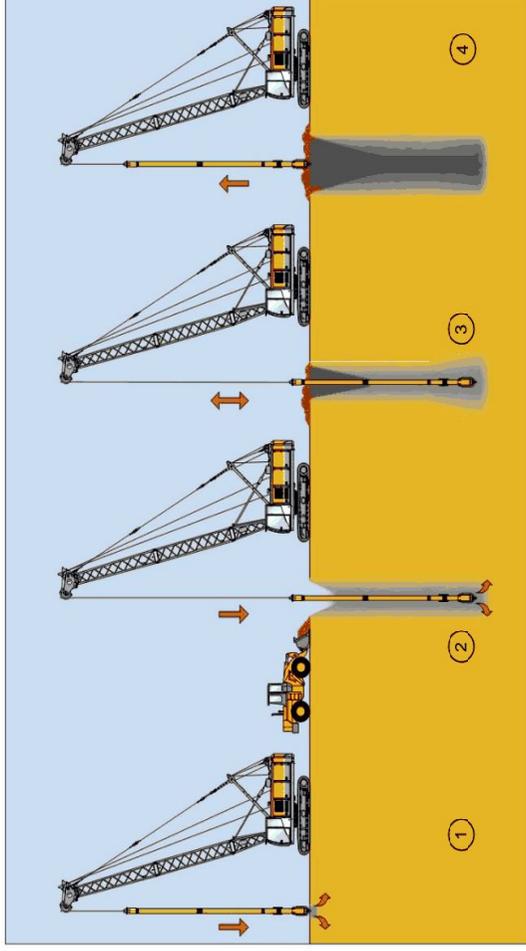
There are four ways to reinforce and improve the soil. One way is through vibroflotation. Vibroflotation improves bearing capacity by using a vibrating probe that can penetrate granular soil to depths of over 100 feet. The vibrations and the soil humidification cause the soil to collapse. Gradually dirt is placed on top of the probe and falls along the probe, which densifies the soil (see figure below). Vibro replacement stone columns are constructed with either the wet top feed process, or the dry bottom feed process.

The wet top feed process is used more often. The vibrating probe penetrates the ground with water jets located on it. Crushed stone or recycled concrete is then introduced at the ground surface to the annular space around the vibrator created by the jetting water. The stone falls through the annular space to the vibrator tip, and fills the void created as the vibrator is lifted several feet. The vibrator is lowered, densifying and displacing the underlying stone. The vibro replacement process is repeated until a dense



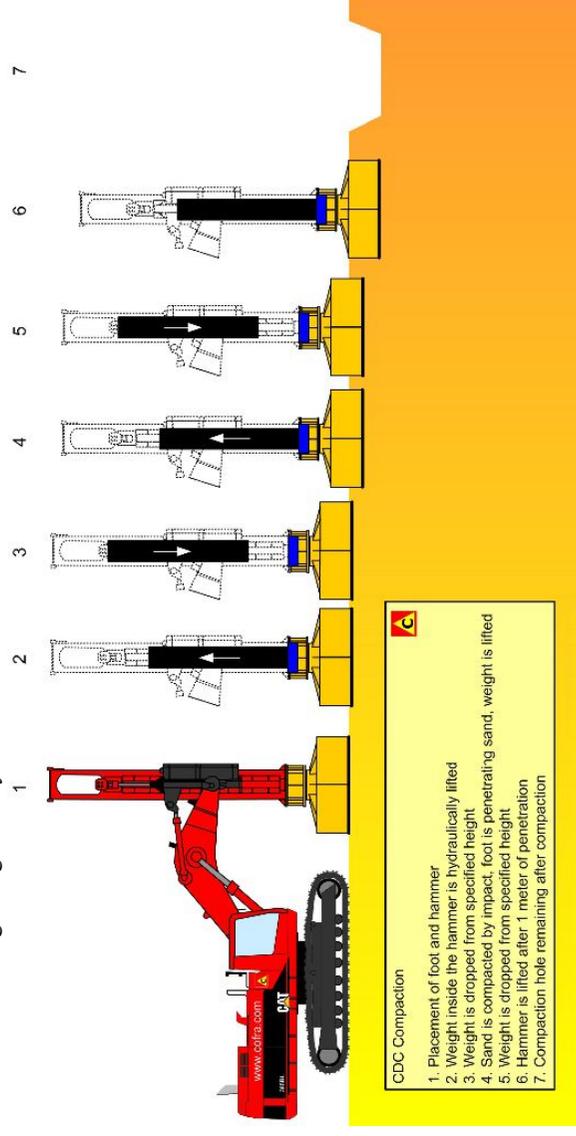
<sup>2</sup> <http://www.psrc.org/assets/270/mic-profile-Seattle-Duwamish.pdf?processed=true>

stone column is constructed to the ground surface. The dry bottom feed process is similar but no water jets are used. The stone is fed to the vibrator tip through a feed pipe attached to the vibrator. Predrilling of dense strata at the column location may be required for the vibrator to penetrate to the design depth.



Construction sequence, Source: [www.geoengineer.org](http://www.geoengineer.org)

Dynamic compaction is another way to improve the soil. Dynamic compaction densifies soils and fills by using a drop weight. Hardened steel plates are repeatedly dropped on the ground surface. The drop locations are located on a grid pattern; the spacing is determined by the subsurface conditions and foundation loading and geometry.



Dynamic compaction, Source: <http://cofra.com/activities/rapid-impact-compaction/>

Compaction grouting and low-mobility grouting is a measure that can be applied to an existing building. The process consists in inserting pipes along a building at a certain distance from each other.

(Around 10ft). Then they pour grout in the pipes, which consolidates the underground contour of the property.

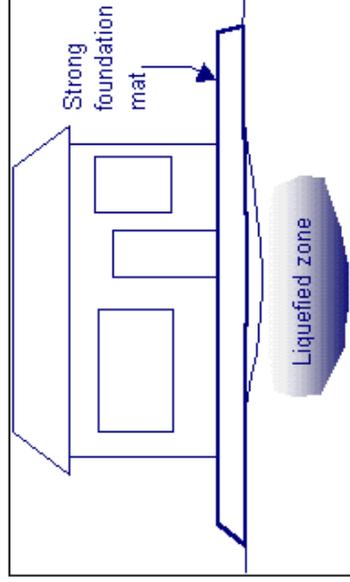


Compaction grouting, Source: <http://www.uretek.co.nz/pages/home.asp>

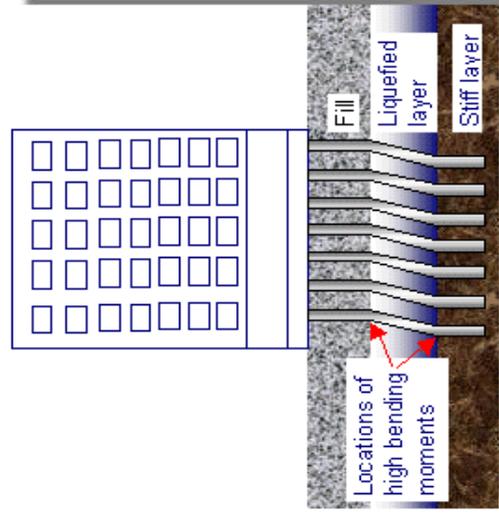
Additionally, we can reduce liquefaction hazard by increasing the drainage ability of the soil. The buildup of excess water pressure will be reduced, if the pore water within the soil can drain freely. Drainage techniques include installation drains of sand, gravel or synthetic material. Gravel and sand can only be installed vertically, whereas synthetic wick drains can be installed at any angle. This technique is generally paired with another soil improvement technique for more effective liquefaction mitigation.

#### *Resistant Structures*

There are two aspects to building liquefaction resistant structures. One way is shallow foundations aspects. The other is deep foundation aspects. A strong foundation mat is a type of shallow foundation that can locally shift loads from locally liquefied zones to adjacent stronger terrain. This aspect would work for light structures, like homes, where there will a floating foundation underneath. It is imperative that all foundation elements, like utilities, in a shallow foundation are connected to ensure that the foundation moves uniformly, thereby reducing the strain on the structural components resting on top of the foundation.



Heavier structures require a different kind of engineering, like deep foundation aspects. Liquefaction can cause considerable lateral loads on pile foundations. Piles should be driven through weak, or liquefaction prone soil, to stronger soil. In addition, these piles not only need to be able to handle vertical loads from



the weight of the building, but it also must be able to withstand horizontal loads and high bending moments caused by lateral movements, if the weak soil liquefies. Moreover, the piles should be connected to the cap in a pliable way permitting gyration to occur so that the piles will not disconnect.



### *Emergency Preparedness*

A large portion of the risk associated with liquefaction stems from shallow earthquakes, which is most likely along the Seattle fault. Damage from such a quake would be fairly localized and regional emergency response systems will be able to respond quickly to badly stricken areas. That said, due to the significant risk of liquefaction in South Park during a shallow earthquake, any mitigation measures should be paired with a well-developed emergency preparedness program. The resident population should be fully involved in such a program, and knowledgeable about what to do in the worst-case scenario, what resources are available, and what response measures will be put in place.

Fortunately the liquefaction prone area does not include the entirety of the South Park neighborhood. Several small hills have a reduced risk of severe damage from liquefaction; Concord International School and the SeaMar Community Care facility are located on the two most prominent of these hills. Both facilities would be ideal emergency response staging areas and could be equipped with supplies and staff training to respond to the immediate needs of area residents. The entire residential neighborhood is within ½ mile of these two hills; most within ¼ mile.

### *Emergency Response Plans and Studies*

The City of Seattle has several emergency management plans to implement in case of natural disaster. These include the Comprehensive Emergency Management Plan, the Emergency Operations Plan, All Hazards Mitigation Plan, Recovery Planning Framework, and Department Specific Plans. The Comprehensive Emergency Management Plan (CEMP) is an all-hazards plan describing how the City of Seattle's emergency management system is organized and managed in order to prepare for, prevent, mitigate, respond to, and recover from any emergency that could adversely affect the health and safety of Seattle's residents, visitors, and environment. The CEMP contains the Emergency Operations Plan, which describes how the City will respond to disaster to save lives, protect property, and stabilize the environment.

The Emergency Operations Plan does identify liquefaction as a hazard resulting from an earthquake, however, it does not indicate a specific response to liquefaction. The Seattle All Hazards Mitigation Plan is the guiding document for the city's hazard mitigation program. The plan lays out a strategy for minimizing the risk to people, property and the environment from natural and manmade hazards. The Disaster Recovery Framework was developed to address how the City would partner with the community and coordinate with County, State and Federal agencies in recovering from the effects of disaster using a massive earthquake as the premise.

The Seattle Hazard Identification and Vulnerability Analysis (SHIVA) identifies the biggest threats to the region. SHIVA indicates that liquefaction is a key concern in the event of an earthquake, and that liquefaction will directly impact the area around the Duwamish Valley. In particular, concerns associated with liquefaction include transportation, utilities, housing, and environmental contamination.

The Framework for Recovery concerns the recovery in the event of a massive earthquake. Given the liquefaction effect of earthquakes predicted to occur in the Duwamish Valley, recovery in the areas of transportation, housing, utilities, and environmental contamination identified in the SHIVA are of key concern to planning and development in South Park planning. The Framework for Recovery proposes seven Recovery Support Functions (RSF) to facilitate coordination between national, state, county, and local governments. The RSFs identify key areas that will require attention after a disaster. These areas include community coordination and capacity building; economic recovery; health, social services, and education; housing; infrastructure systems; natural and cultural resources; and buildings and land use planning.

#### *Draft 2035 Comprehensive Plan*

Seattle's Draft 2035 Comprehensive Plan acknowledges the potential natural hazards the City may face, including liquefaction. As part of the Urban Growth Strategy, the City considered goals for Environmentally Critical Areas. The Comprehensive Plan contains several policies specifically directed toward liquefaction-prone areas, which are listed below.

LUG17 Protect the ecological functions and value of environmentally critical areas, including wetlands and fish and wildlife conservation areas; prevent erosion caused by development on steep slopes; and protect public health, safety and welfare in hazard-prone areas, including areas subject to landslides, liquefaction or floods, while permitting development that is reasonable in light of these constraints.

LU 17.9 Identify areas where earthquakes could cause liquefaction, and require new development in those areas to be designed and built to limit property damage and to prevent injury and loss of life during earthquakes.

CF3.4 Seek to avoid siting new facilities in areas known to be prone to the effects of natural or man-made hazards, such as earthquake liquefaction-prone areas.

#### *Recommendations*

Moving forward, South Park should maintain its low density, similar to the current level in liquefaction prone areas. Even an increase of 50% of the population would still categorize this neighborhood as relatively low density. A portion of South Park is safe from liquefaction. These areas have been identified

on the map on page 5. Densification should be focused in these areas. The areas would be better to develop multifamily, mid-rise, apartments to take advantage of safer opportunity for development. Adding these units would help alleviate some of the housing pressures in Seattle, such as the need for affordable housing, which Mayor Murray has identified as a major issue in his Housing Affordability Livability Agenda also known as HALA. Additionally, the City of Seattle should create an Emergency Preparedness Plan for South Park to develop stronger disaster response measures. Lastly, riverfront parcels should be returned to their natural state. For example, these parcels could be rezoned to the point of being unable to use, and allow existing properties to remain non-conforming uses. Another option is to use eminent domain to purchase the land and turn them into parks. This would benefit environmental resiliency, promote social justice by giving the community access to this asset, and help create a sense of place that would be beneficial to small business and economic development.