Seattle Public Utilities

# SOCIAL AND ENVIRONMENTAL SYSTEMS ANALYSIS

## Narrative Atlas

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Molly Moon's Parklet. Seattle Department of Transportation, 2014. https://www.flickr.com/photos/sdot_photos/16439890588/

# List of Figures



# List of Appendices

# Abbreviations

| Term | Definition |
|---|---|
| DWW | Drainage and Wastewater Line of Business |
| EJSE | Environmental Justice and Service Equity Division |
| OPCD | Seattle Office of Planning and Community Development |
| SPU | Seattle Public Utilities |

# INTRODUCTION

Figure 1. Photo credit: Seattle Department of Parks and Recreation.

The Social and Environmental Systems Analysis Narrative Atlas provides social and environmental context in Seattle through spatial, quantitative, and qualitative information. Specifically, this Atlas examines the intersection of race and health, wealth, and environmental—both natural and built—conditions. It emphasizes racial equity because race remains the strongest and most consistent predictor of outcomes when assessing various indicators of human well-being. The purpose of this Atlas is to ground SPU's future Visioning and Planning stages of the Integrated System Plan in Seattle's current racial inequities in health, wealth, and environmental quality. This Atlas summarizes relevant environmental conditions, built system conditions, and the best-available socioeconomic data.

This Atlas poses questions about the social and environmental context in which SPU DWW's past, current, and future infrastructure investments have been, are, and will be situated. The subject matter of these questions, that is, the socioeconomic realities of the City of Seattle, are not ones that SPU has historically investigated. However, SPU recognizes that an understanding of how Seattle's DWW systems connect to their broader social and environmental context will better equip the utility to plan for the future, develop strategic and reciprocal partnerships, and move towards fulfilling the core goals of a community-centered utility.

The information presented in this Atlas reflects national and local trends and provides the historical context for understanding those trends. It highlights portions of a recently completed geospatial analysis by the Seattle Office of Planning and Community Development (OPCD), as well as a recent geospatial analysis done by SPU's Environmental Justice and Service Equity division (EJSE) to provide an overview of current spatial inequities in Seattle. The Integrated System Plan will use this information to conduct further analysis to develop a strategy which directs investments that improve the performance and resilience of SPU's DWW system while optimizing social and environmental benefits.

# A NATIONAL VIEW

Where one lives plays a major role in one's well-being and livelihood. Racialized lending practices and housing policies defined much of the 20th century in the United States, determining who could live where. Exclusionary practices through property deeds, neighborhood restrictive covenants, and discriminatory lending known as 'redlining' date back to the 1920's[4]. These practices targeted any non-white group and dictated where people could purchase homes, which subsequently defined the cultural makeup of neighborhoods. These racialized housing patterns directed where investment should and should not occur, and thus created real and tangible consequences. Spatial segregation shaped a landscape where communities of color became under-resourced and their neighborhoods experienced disinvestment in their infrastructure.

Despite the passage of the Open Housing Act in 1968, discrimination continued. The racialized policies and practices contributed to the concentration of wealth in select neighborhoods and households while concentrating poverty in redlined neighborhoods and households for generations[4]. As a result, many cities in the U.S. remain largely segregated today, and the cultural landscape of our nation reflects the entrenched relationship between wealth, health, environmental quality, and one's racial identity.

For example, decades of research illustrate that air pollution in the United States impacts some groups more than others. Specifically, African Americans and Latino populations are exposed to air pollution at higher rates than whites, even though white Americans consume the most pollution-intensive goods and services[4]. Race has also been statistically shown to be the most important factor in determining where toxic waste facilities were located[10]. The strong correlation between communities of color and polluted areas is no coincidence, but instead the intentional consequence of government land-use planning, policies, and practices[10].

Pollution creates various health issues, such as cardiovascular diseases, respiratory diseases, and cancer. However, African Americans and Latinos are more likely than white Americans to be uninsured and are more likely to go without care because of the associated costs[9]. As a result, often those populations with the least access to care are the same ones who could most benefit from it.

The discriminatory lending practices of the past have had a lasting impact for the economic health of neighborhoods and for generations of people. As homeownership remains the dominant means of accumulating wealth, neighborhoods that were negatively impacted by such practices continue to struggle economically today. Moreover, the demographic makeup of these neighborhoods tends to consist of lower-income residents and residents of color, which clearly illustrates that the racialized residential patterns were not by chance[13].

The U.S. Census Bureau's 2019 report Income and Poverty in the US illustrates how distribution of wealth varies across racial groups. For example, in 2018, the median black household earned 59 cents to every dollar that the median white household earned, while the median Latino household earned 73 cents[13]. However, disparities in wealth distribution among U.S. households along racial lines is not new, but rather a trend that has held steady for decades[13].

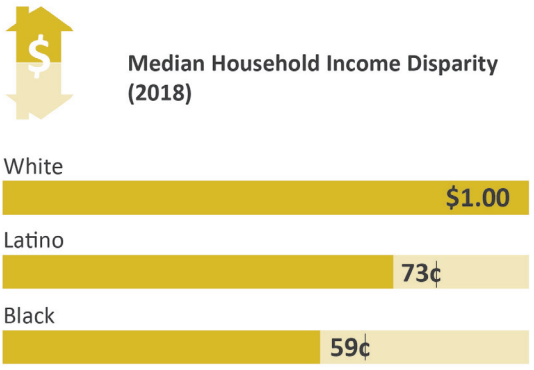



Figure 2. U.S. median household income disparity in 2018.

# RECOGNIZING SEATTLE'S HISTORY

## The Coast Salish People of Puget Sound

The Coast Salish peoples have lived in the Puget Sound region for more than 10,000 years - long before the first white European settlers arrived in 1851[5]. By 1855, local tribes and the U.S. government had signed the Treaty of Point Elliot. This treaty ceded most of the tribes' land to the settlers in exchange for services and payments promised by the federal government while reserving the right of Coast Salish people to "fish at usual and accustomed grounds" as well as "the privilege of hunting and gathering roots and berries on open and unclaimed lands"[5].

But by 1865, the Seattle Board of Trustees had passed an ordinance that called for the removal of Coast Salish people from within city limits, despite their strong cultural ties to the land for thousands of years[5]. When Seattle was dissolved and later re-incorporated in 1869, the ban on native residents was not reinstated. However, the 1865 ordinance is just one example of many historical actions taken by Seattle's government and residents to exclude native people from the city[5]. Figure 3 shows the historic tribal lands in Washington State ceded by treaty and current reservations, with the Seattle area outlined in white[1].

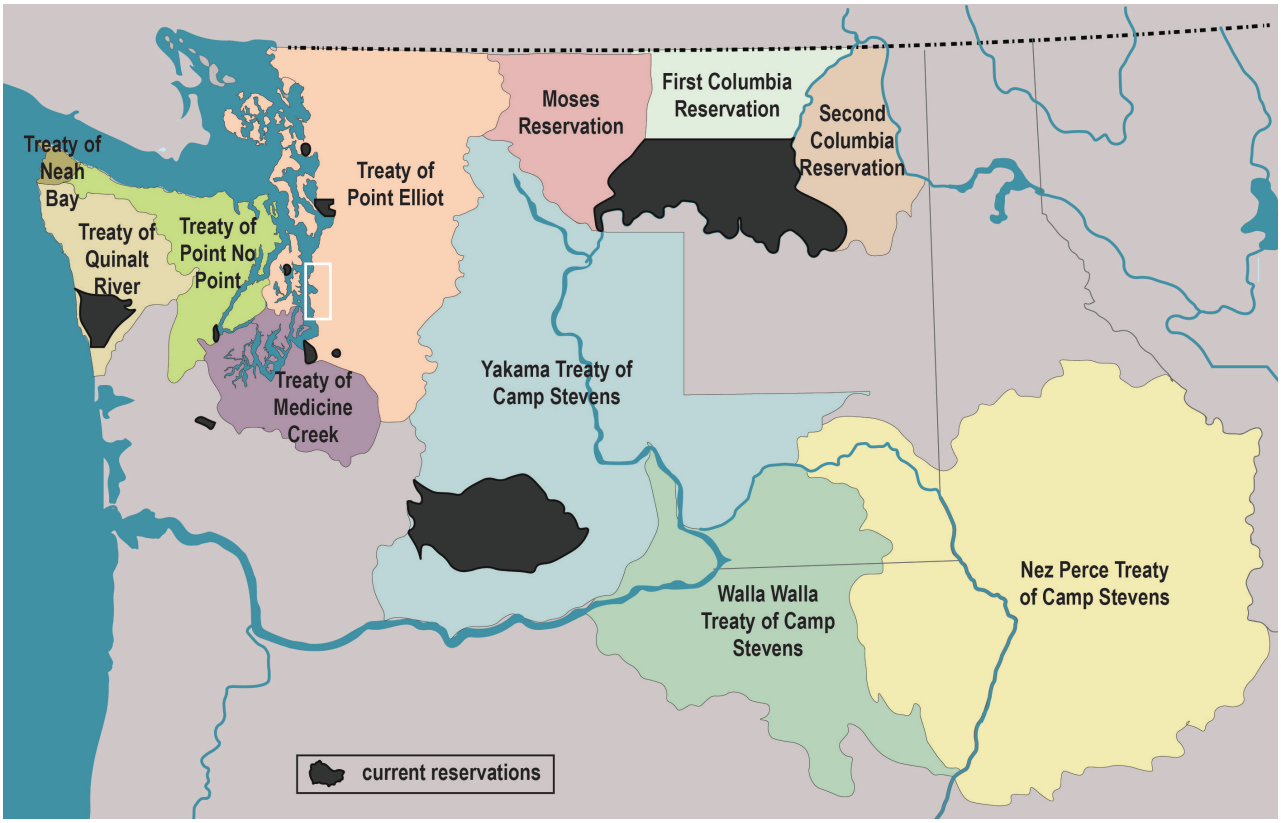



Figure 3: Historic tribal lands in Washington State ceded by treaty and current reservations. Image adapted from Washington State Department of Ecology.

# Institutionalized Discrimination in the 20th Century

Like much of the nation, the City of Seattle has been segregated for most of its history. Racial restrictive covenants and deed restrictions prevented people of color from renting, buying, or occupying property in most areas of the city[3]. While no longer legal to enforce, white-only clauses and other restrictions can still be found in property deeds for many neighborhoods today, especially those north of downtown, such as Queen Anne, Magnolia, and Madison Valley, for example[3]. As a result, these neighborhoods remain predominantly white.

Figure 4, the Home Owners Loan Corporation "Residential Security" Map of Seattle from 1936, also known as a redlining map, showed the areas of the city where banks should or should not give out housing loans, defining neighborhoods where people of color were living as "definitely declining" (yellow) or "hazardous" (red).

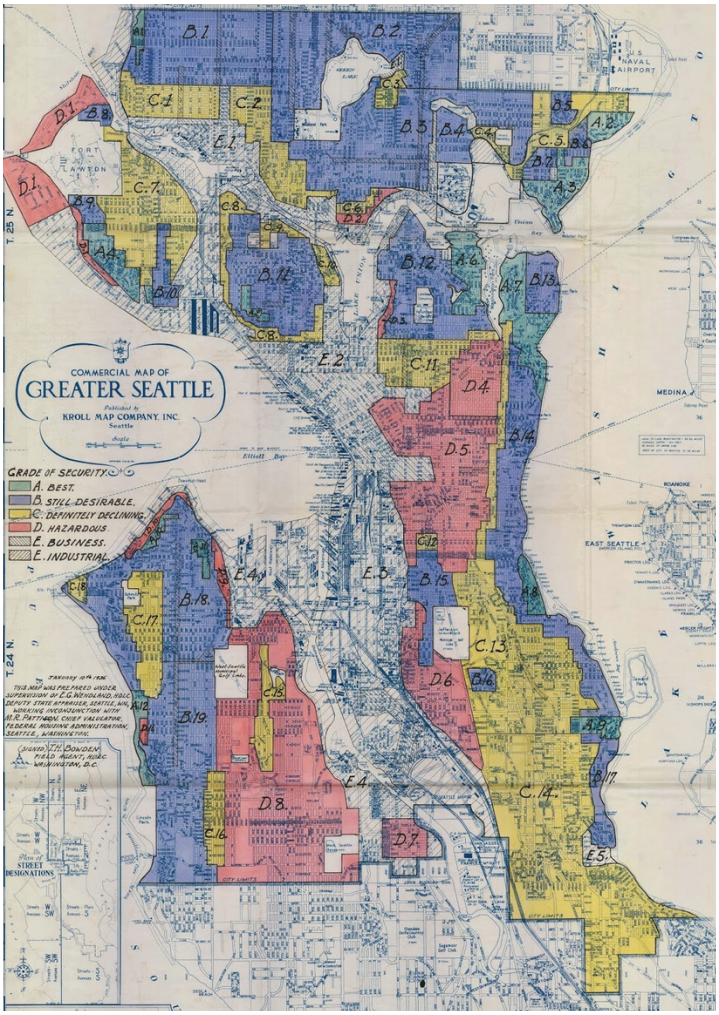



Figure 4: Home Owners Loan Corporation "Residential Security" Map of Seattle, 1936.

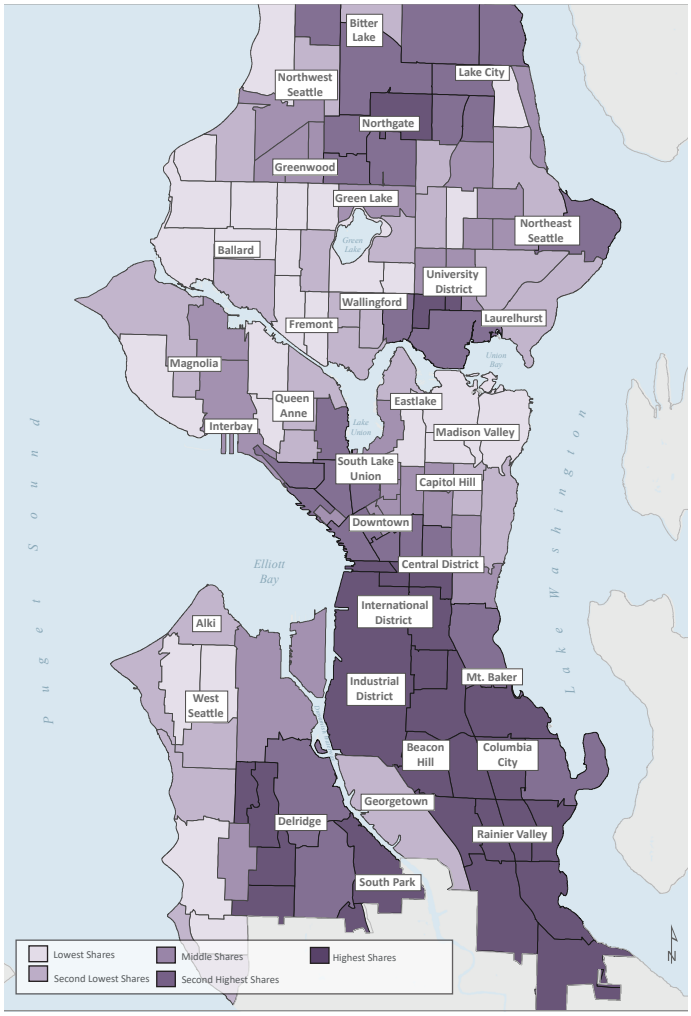



Figure 5: Race, English Language Learners, and Origins Index with Seattle neighborhoods.

As is the case in many American cities, most neighborhoods in Seattle that were redlined are still the areas where the majority of the city's residents of color live today, such as the Central District, the International District, Rainier Valley and Delridge neighborhoods. Figure 5 shows Seattle's major neighborhoods.

The lasting impacts of historical disinvestment in Seattle are evident through a variety of quality of life measures, as illustrated by the maps in the following section. As SPU plans for the next 50 years, it is critical to understand how the legacy of racialized policies and practices continues to disenfranchise communities today.

# NARRATIVE ATLAS:
# TABLE OF CONTENTS

# Racial & Social Equity Index

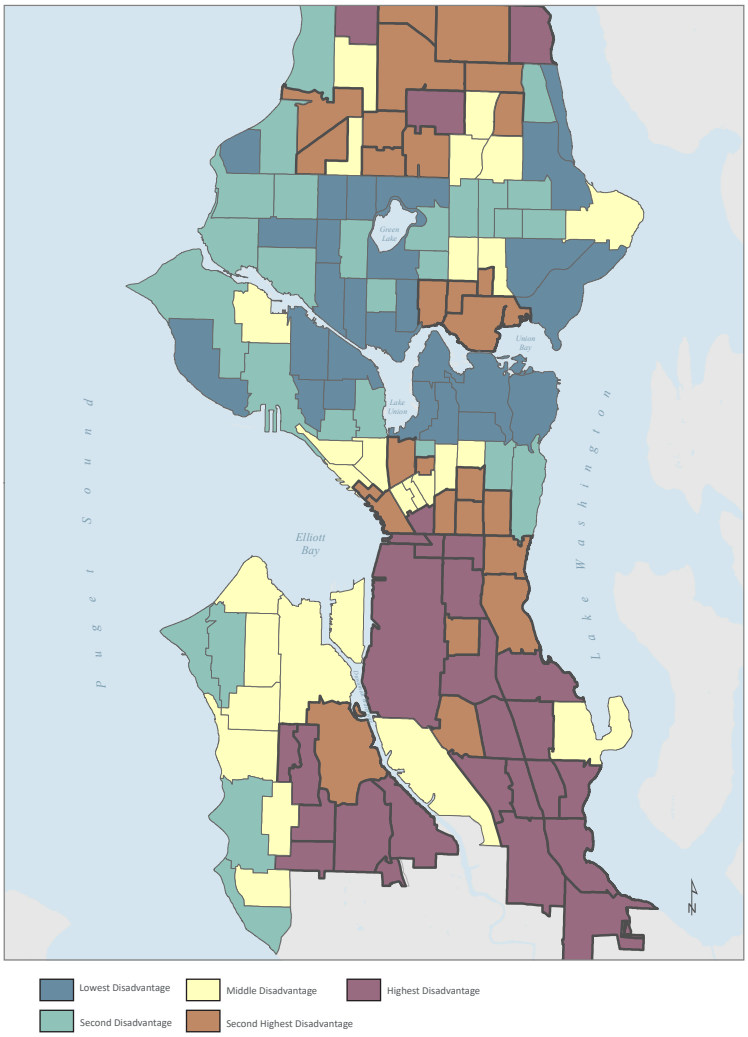


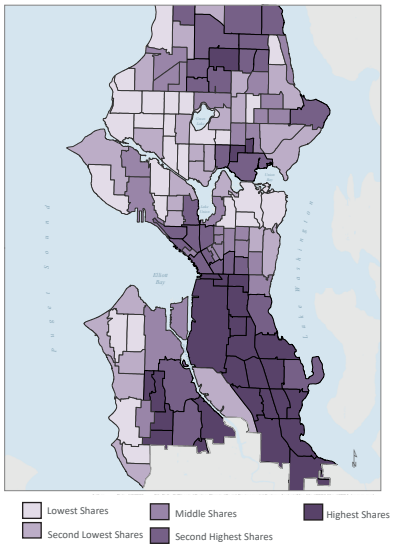

Figure 6. Racial & Social Equity Index map, 2018.

The maps in the following sections utilize information from the Racial and Social Equity Index map (Figure 6). This map shows a combination of the Socioeconomic Disadvantage Index (Figure 7), the Race, English Language Learners, and Origins Index (Figure 8), and the Health Disadvantage Index (Figure 9), all based on census tracts.

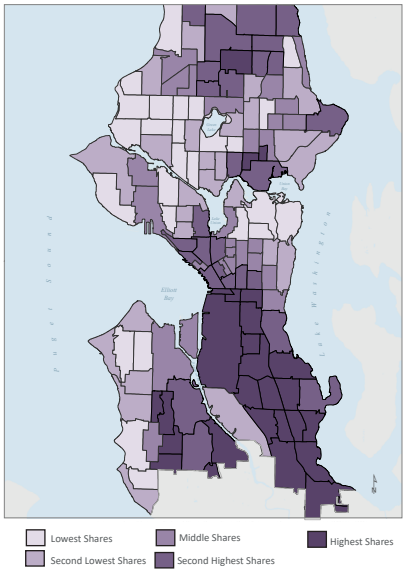
While the Racial and Social Equity Index map is a combination of the three maps to the right, it should be noted that the majority of those census tracts with the highest and second highest shares of residents of color are the same census tracts that have the second highest and highest socioeconomic disadvantage, and the second highest and highest health disadvantage as well.

In the following pages, the second highest and highest disadvantage census tracts in the Racial and Social Equity Index, shown in purple and brown, are superimposed atop a variety of "heat maps" to demonstrate the spatial relationship between race and several quality of life measures. The history of redlining in Seattle caused racial segregation that is still evident today.

## Race, English Language Learners, Origins Index




## Socioeconomic Disadvantage Index




## Health Disadvantage Index

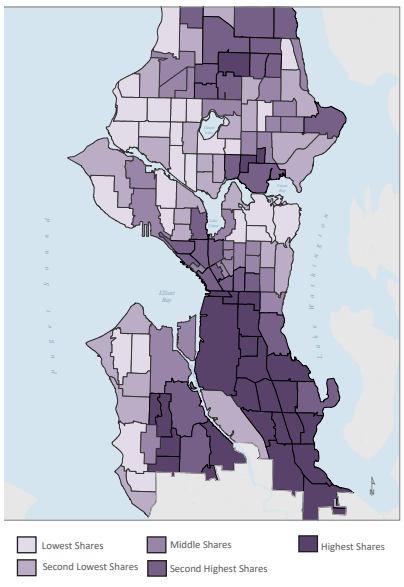



Figure 7, 8, 9: Socioeconomic Index map, 2018; Race, ELL, Origins Index, 2018; Health Disadvantage Index, 2018.

# Density and Growth

- Population Growth
- Employment Growth
- Housing Unit Growth
- Future Sound Transit Stations
- Future Bus Rapid Transit Routes
- Increase in Urban Village Area
- Population
- Covered Employment
- Housing Units

*For more information, please visit: seattle.gov/opcd/community-planning and seattle.gov/opcd/outsidecitywide*

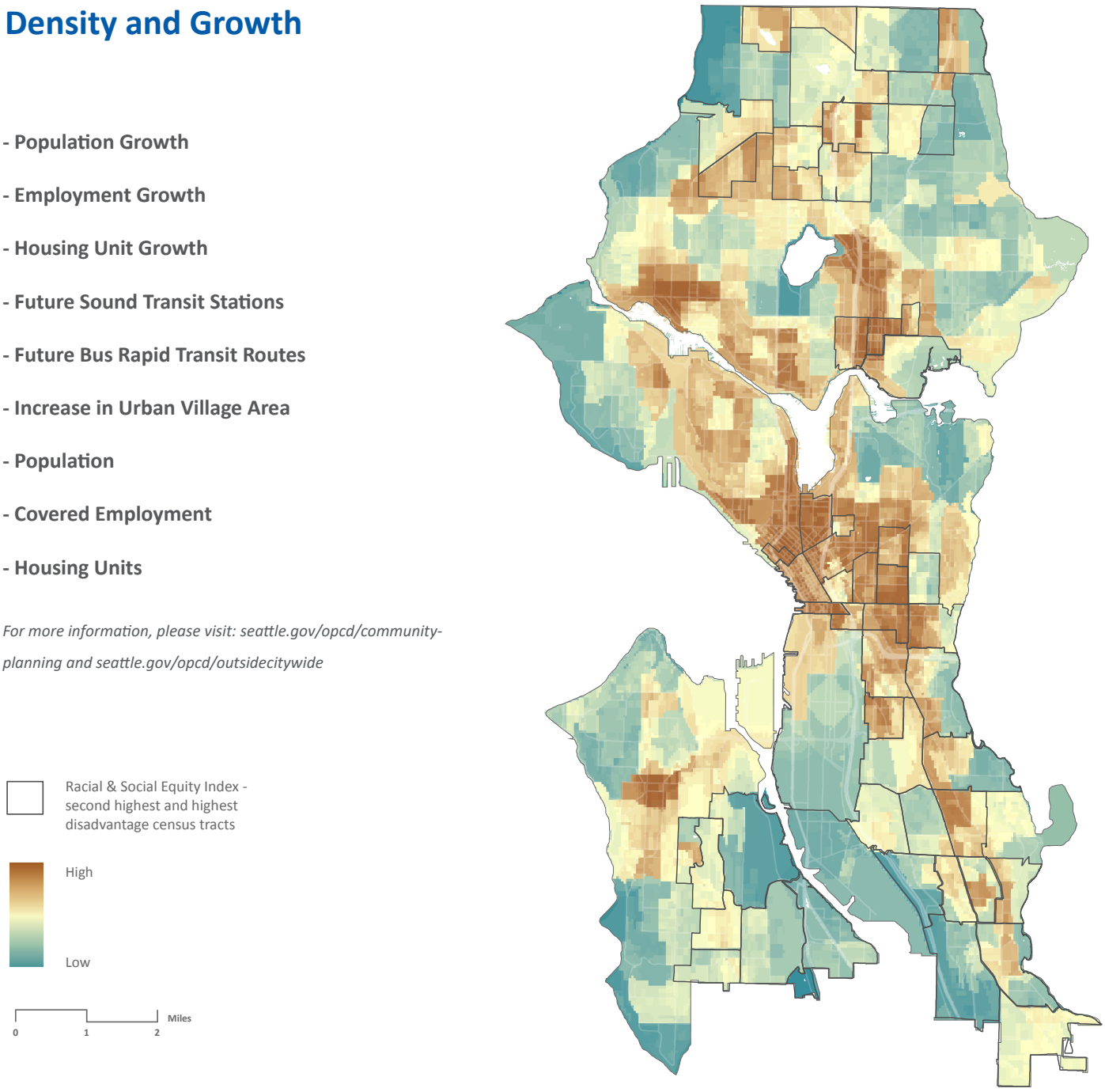



Figure 10. Map created by the Seattle Office of Planning and Community Development, 2016.

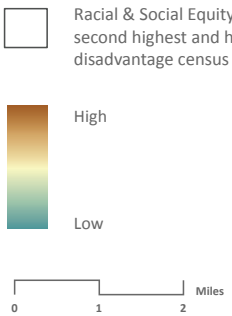
Seattle is currently one of the fastest growing cities in the United States, accruing an average of 7,000 people annually between 2008 and 2018[8]. The most significant changes are occurring in urban centers and urban villages, which are "appealing mixed-use neighborhoods that serve as the cores of broader communities" where growth and density is being concentrated via changes in zoning as a result of the Comprehensive Plan's Urban Village Strategy[7]. This map shows that many areas of high density and growth - urban centers and urban villages - are located within the two highest disadvantage census tracts. Neighborhood growth presents multiple challenges, such as how to preserve open space, ensure affordable housing, and increase drainage and wastewater infrastructure capacity.

SPU's investments in densifying neighborhoods can turn challenges into opportunities. Depending on community priorities, SPU could fund water management strategies that also create new green and blue public spaces, contributing to resident health and well-being in a densifying urban environment, or partner with developers to build affordable housing in conjunction with green infrastructure.

# Displacement Risk

- People of color
- Linguistic isolation
- Low educational attainment
- Rental tenancy
- Housing cost-burdened households
- Median rent
- Household income
- Development capacity
- Proximity to:
    - transit
    - light rail and street car
    - core businesses
    - civic infrastructure
    - already-gentrified/affluent neighborhood
    - regional job center

*For more information, please visit: seattle.gov/opcd/community-planning and seattle.gov/opcd/outsidecitywide*



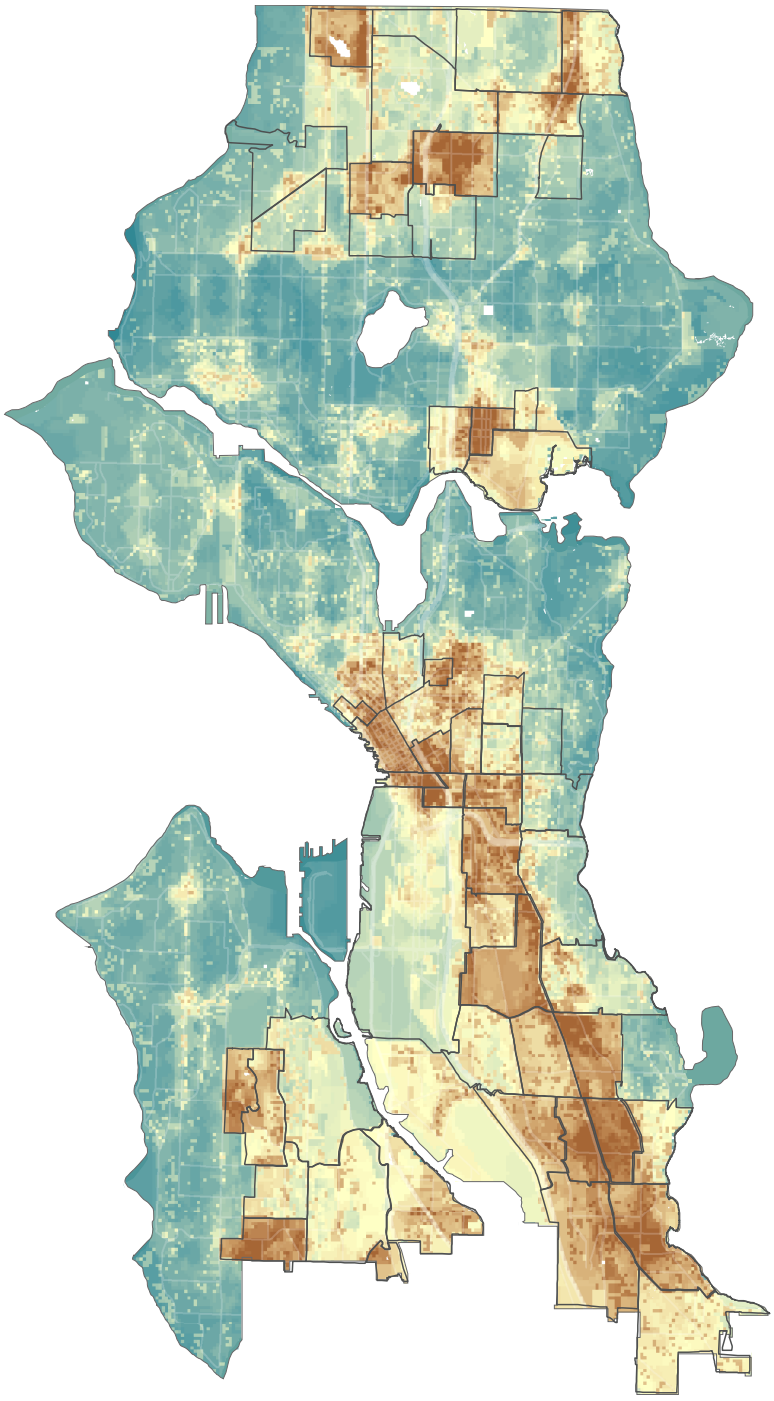



Figure 11. Map created by the Seattle Office of Planning and Community Development, 2016.

Significant growth in cities can adversely impact some existing residents. Higher rent prices and an increasing cost of living may force low income people out of certain neighborhoods, or out of the city entirely. This map shows that areas of high displacement risk occur mostly within or near urban villages. As these areas grow, all community members residing there are at higher risk of displacement, but people of color, low-income residents, and renters are particularly vulnerable. (It should be noted that this map includes race as an indicator of displacement risk, which contributes in part to the occurence of high risk in the highest and second highest disadvantage census tracts).

As SPU plans for the next 50 years the utility must ensure that infrastructure investments resulting in neighborhood improvements do not have unintended consequences, such as contributing to displacement. Working directly with communities most at risk, SPU can help develop anti-displacement strategies that allow residents to thrive in place. For example, as part of Los Angeles County's Safe Clean Water Program, which will add green space to the landscape to protect residents from the negative health effects of contaminated stormwater, projects located within low-income communities or communities of color will be required to solicit and incorporate stakeholder input and outline how the project will benefit that community, including measures taken to avoid displacement[11].

# Residential Water Shutoffs: Unpaid Utility Bills

**- Residential water shutoff locations**

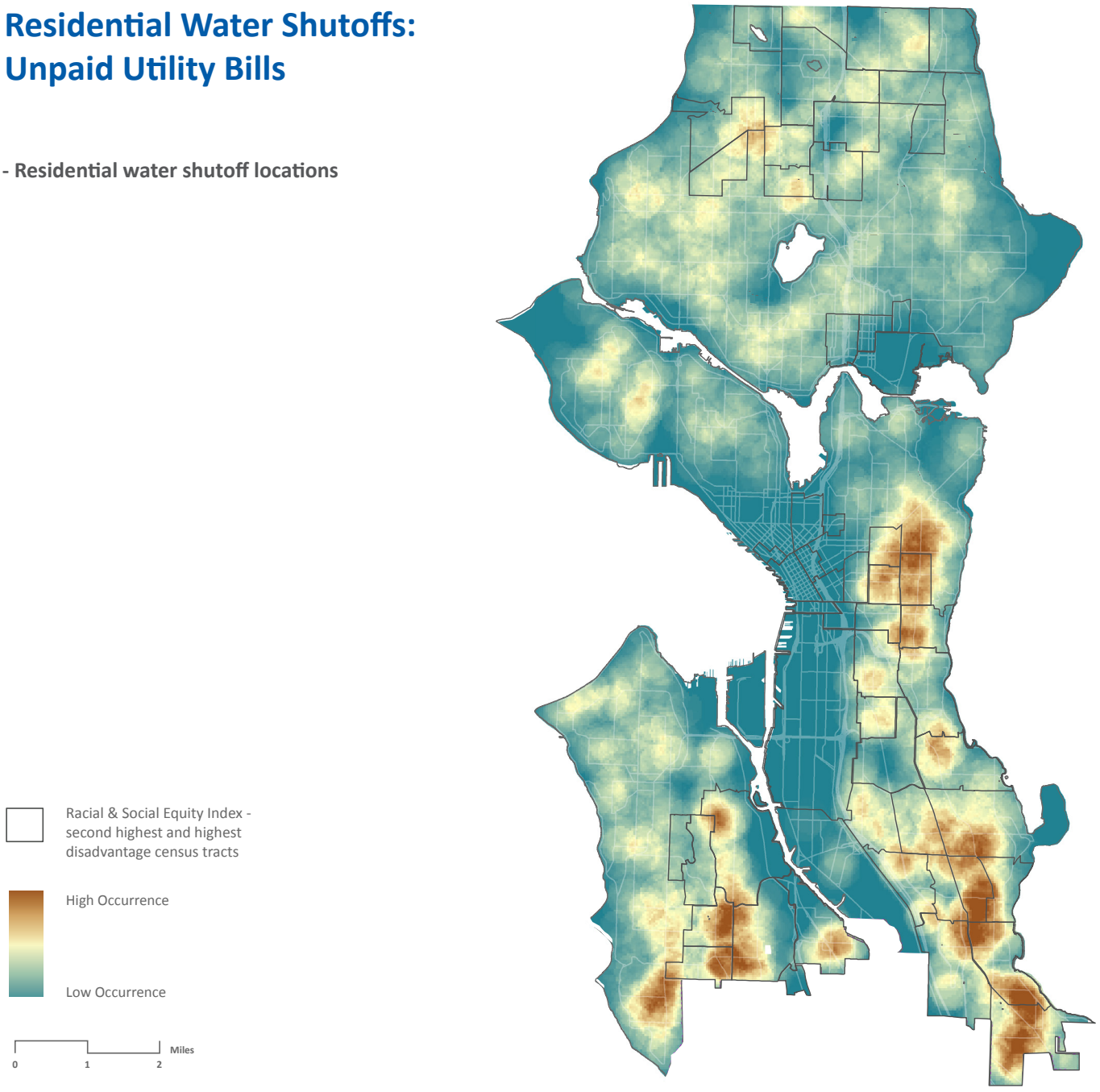



Figure 12. Map created by SPU's Environmental Justice and Service Equity Division, 2019.

SPU's Water Line of Business provides drinking water services to residential customers throughout the city. However, if utility bills go unpaid, this can lead to water shutoffs. This map shows where SPU residential water shutoffs are concentrated due to long-standing unpaid utility bills. The majority of shutoffs occur within the census tracts where the city's largest shares of low-income people and people of color are living. SPU's current policy is to restore water service only after payment is received in full. SPU also charges for the water shutoff itself, so the customer must pay even more than their past-due amount in order to have their water turned back on[2]. While some residents make payment immediately, other, more financially distressed residents are unable to, and thus go without access to water until they can pay in full[2].

As SPU plans for the next 50 years, this policy and others like it represent an opportunity to re-evaluate how a City department can utilize its institutional power to develop new plans, policies and programs that acknowledge and account for how historical discrimination has led to disparate socioeconomic outcomes.

# Environmental Burden

**- Contaminated Sites**

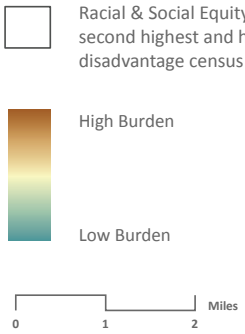
**- Superfund Sites**

**- Freight/Major Transportation Corridors**

**- Landfills**

**- Coal/oil train route**

*For more information, please visit: seattle.gov/opcd/community-planning and seattle.gov/opcd/outsidecitywide*



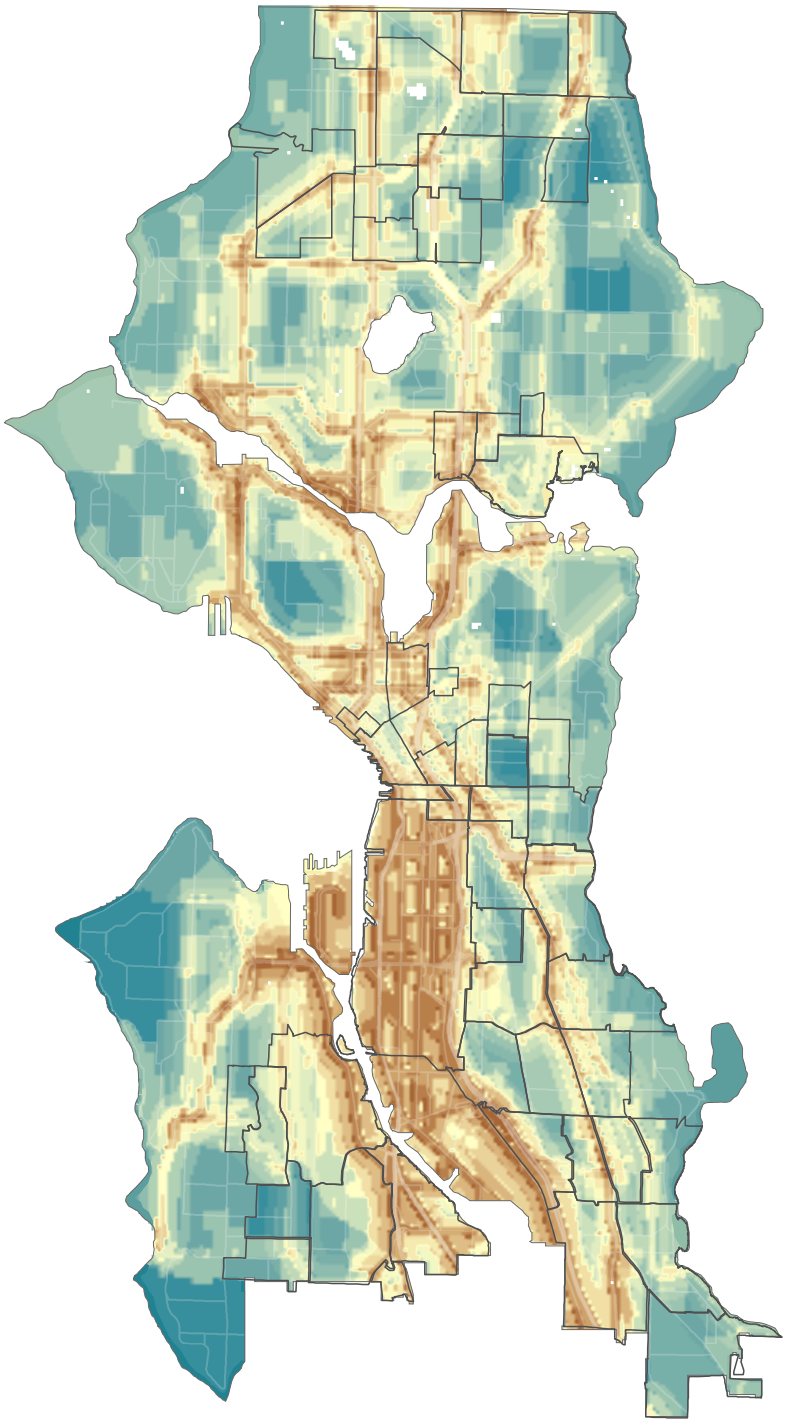



Figure 13. Map created by the Seattle Office of Planning and Community Development, 2016.

Environmental justice begins with the recognition that the benefits, risks, and burdens of our physical surroundings are not evenly distributed. Residents that live near a contaminated site, superfund site, landfill, major transportation corridor, or coal/oil train route are subjected to a higher rate of environmental risk exposure through the pollution that is generated by such places. The ongoing environmental burden imposed through the national historical trend of siting industrial developments, landfills, or major infrastructure such as highways within communities of color further demonstrates how legacies of institutional inequity continue to impact people of color and low-income residents today. (It should be noted that while other valid sources of environmental burden exist, this map features only a selection due to data and resource limitations.)

This map shows that Seattle is no exception to this trend: the majority of areas with highest environmental burden correspond with where the largest shares of residents of color and low-income residents live. As SPU plans for the next 50 years, it's crucial that the utility is aware of which parts of the city have been more negatively affected by pollution than others in order to take advantage of potential opportunities to pair infrastructure improvements with Superfund cleanup efforts, for example.

# Public Health

- Asthma
- No leisure time physical activity
- Diabetes
- Poor mental health
- Life expectancy

*For more information, please visit: seattle.gov/opcd/community-planning and seattle.gov/opcd/outsidecitywide*

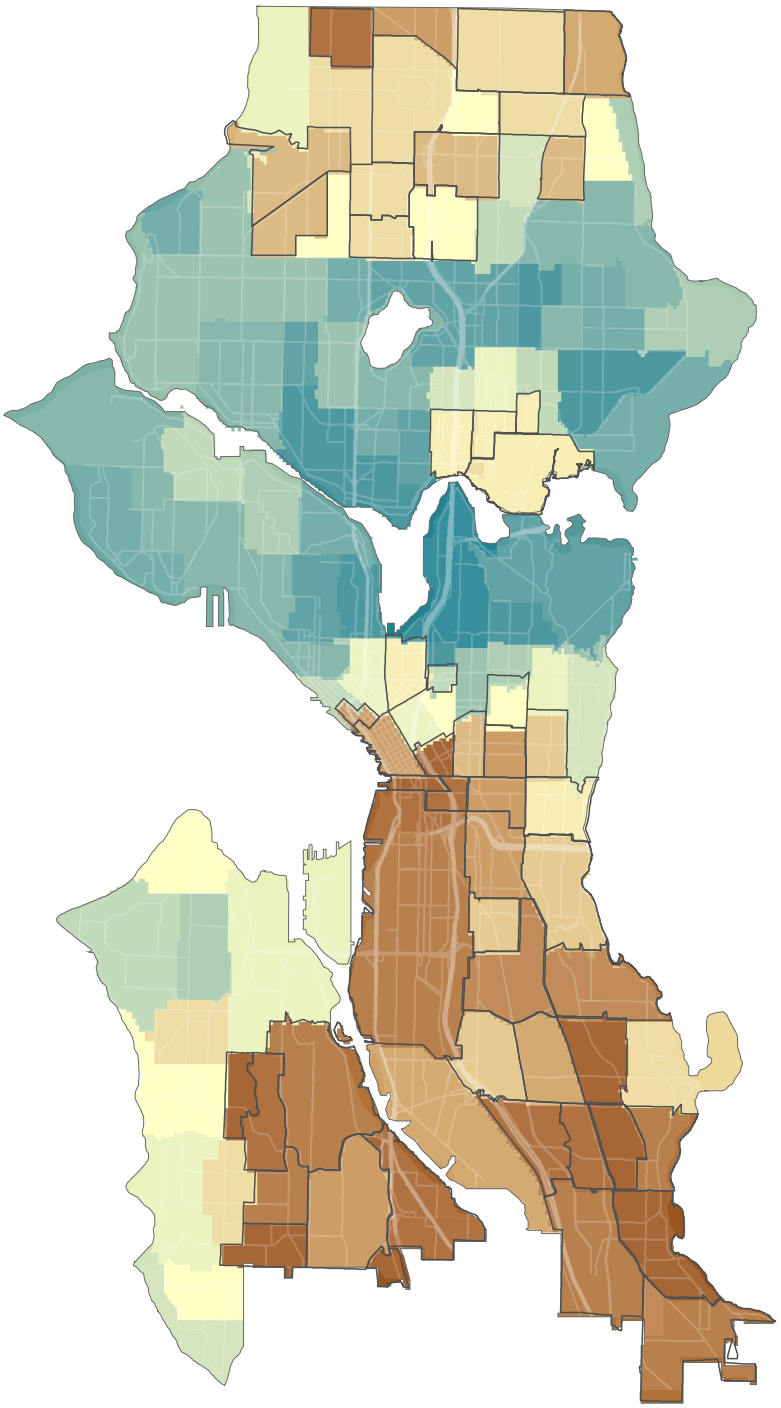



Figure 14. Heat map created by the Seattle Office of Planning and Community Development, 2016.

Public health outcomes depend on a variety of social and environmental influences. This map shows that indicators of public health disadvantage are significantly higher in those areas with the highest shares of low-income residents and residents of color, which in some cases can be attributed to the presence of the polluting industries or toxic waste sites disproportionately located in such communities. However, disparate public health outcomes are also related to economic disparities: people of color are more likely to go without health insurance due to cost[4].

As SPU embarks on a long-range planning effort to make investments that offer the greatest environmental and social benefit, the utility must be aware of how environmental and economic burdens have resulted in poorer health outcomes for some communities. SPU's infrastructure investments have the potential to elevate community priorities and respond to public health challenges. For example, infrastructure built in the right-of-way could involve the planting of trees and other vegetation that pull pollutants from the air to help improve air quality.

# Public Safety

**- Police Reports**

**- Pedestrian Collisons**

*For more information, please visit: seattle.gov/opcd/community-planning and seattle.gov/opcd/outsidecitywide*

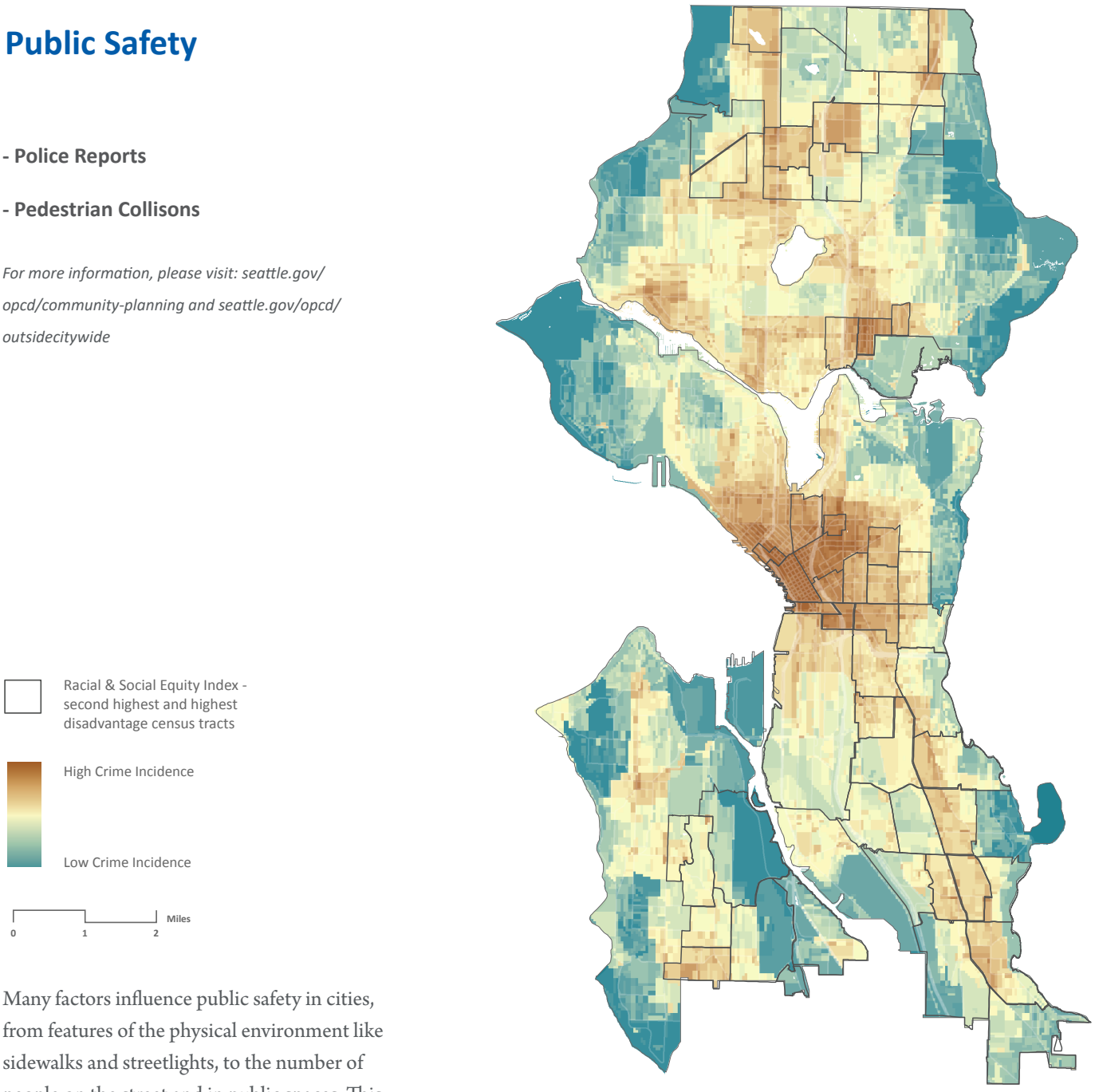



Figure 15. Map created by the Seattle Office of Planning and Community Development, 2016.

Many factors influence public safety in cities, from features of the physical environment like sidewalks and streetlights, to the number of people on the street and in public spaces. This map shows, with only a few exceptions, that areas of highest crime incidence overlap with where highest shares of residents of color are living in Seattle. Urban centers, as well as several hub and residential urban villages, also overlap with higher incidence of police reports and pedestrian collisions when compared to other areas of the city. Urban centers and villages generally feature denser pedestrian and transit-oriented communities, and at least one high-traffic street intersects with each urban center or village. The combination of dense pedestrian activity with high traffic activity may contribute to the higher incidence of pedestrian collisions there. (It is important to note that data collected on safety and crime is dependent on the accuracy and occurence of reporting.)

As is true with disparities in public health outcomes, awareness of disparities in public safety and what factors might contribute to them is crucial information to incorporate when planning infrastructure projects. For example, an SPU project in the right-of-way of an area unsafe for pedestrians may utilize this information to inform potential urban design interventions that work to make streets safer for multi-modal traffic.

# Walkability and Access to Opportunity

- Proximity to:
    - Light rail and street car
    - Community center
    - Parks
    - Healthcare facility
    - Location that sells produce
    - Library
    - Employment
    - Frequent bus service
- Sidewalk completeness
- School performance
- Graduation rate
- College/university access
- Property appreciation
- Sidewalk density
- Block length
- Number of amenities
- Speed limit

*For more information, please visit: seattle.gov/opcd/community-planning and seattle.gov/opcd/outsidecitywide*

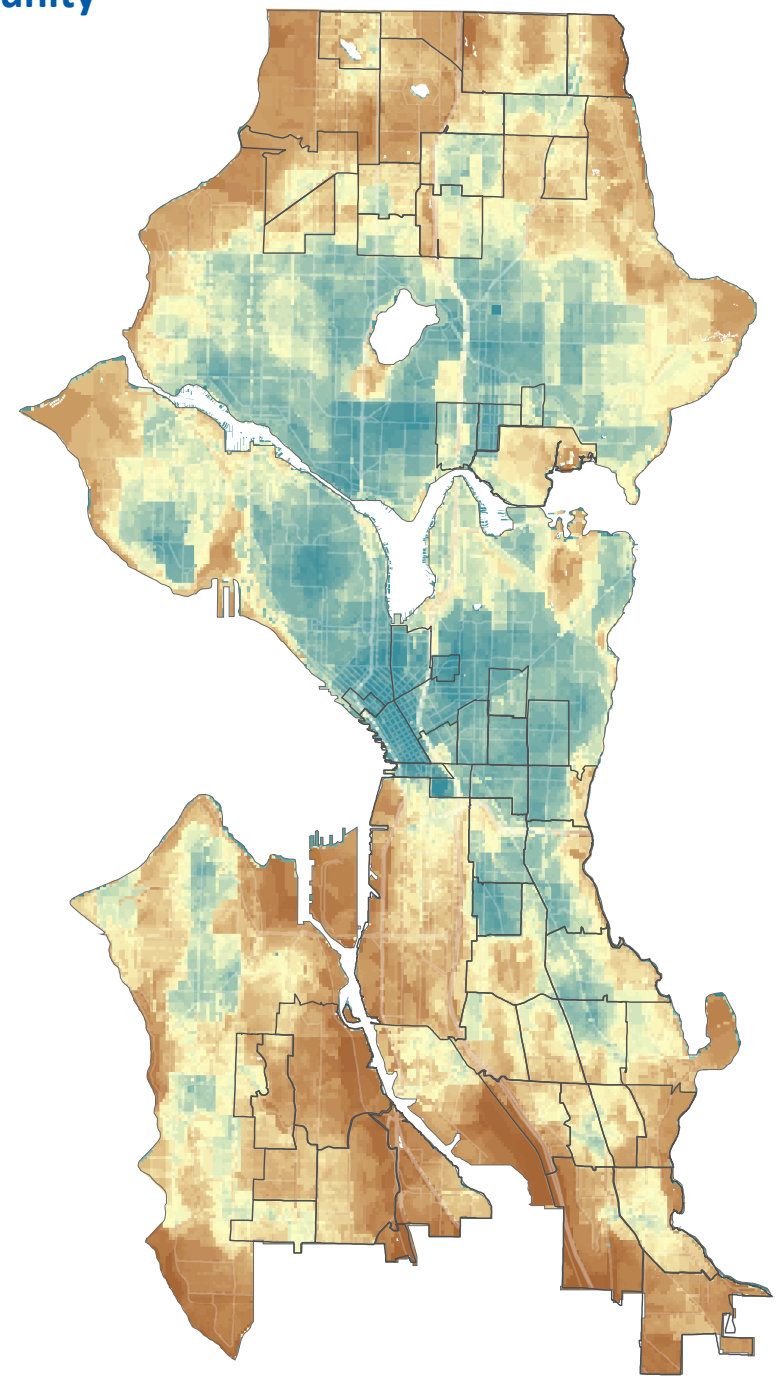



Figure 16. Map created by the Seattle Office of Planning and Community Development, 2016.

One's quality of life in the city can vary widely depending on where one lives. Some city dwellers enjoy the conveniences of accessibility and walkability that denser areas provide, but such conveniences do not reach all areas of the city. This map shows proximity to social, civic, and physical infrastructure. The majority of high quality and high access areas lie within the more affluent census tracts, and areas with larger concentrations of residents of color and low-income residents correspond with the majority of lower access areas. Poor environmental quality and access to opportunity has a disproportionate impact on residents of color and low-income residents, whereas more affluent residents living in areas of poor environmental quality and access are more likely to have the resources to overcome such barriers.

Assessing the quality of the built environment aids SPU in determining how and where built infrastructure can play a role in improving and increasing benefits to communities that have been traditionally disenfranchised. For example, a SPU infrastructure need in an area of poor environmental quality may also involve the establishment of a park or the improvement of a sidewalk, depending on community priorities.

# CONCLUSION

Figure 16. Photo credit: Seattle Department of Parks and Recreation.

Each of the maps on the previous pages show that there is a relationship between race, socioeconomic status, and various measures of quality of life, demonstrating that the history of institutionalized discrimination continues to have impacts on residents of color and low-income residents today.

We acknowledge that past City policies and investment decisions have helped create and perpetuate significant racial disparities in multiple ways, such as access to green space and safety from environmental harms. Environmental and health challenges, including vulnerability to climate impacts, disproportionately impact communities of color and lower-income residents[6]. Future investments must center the voices and needs of communities of color and other historically disadvantaged communities to start addressing these disparities and build a more just future, with clean air and water and culturally-appropriate places for everyone[6].

However, as SPU plans for the next 50 years, the utility must also be thoughtful and intentional as we make investments that result in neighborhood improvements, helping ensure that they do not increase displacement risk for residents facing higher rents and property values[6]. "Environmental gentrification" can be defined as "a process in which cleaning up pollution or providing green amenities increases local property values and attracts wealthier residents to a previously polluted, disenfranchised neighborhood[12]". While SPU has limited ability to control the housing market, which is at the core of this phenomenon, interdepartmental and intergovernmental collaboration and co-creating solutions with residents can help communities thrive in place, with career opportunities, affordable housing, and small business support[6].

# REFERENCES


1. Dalton, Mote, Snover. (2013). Climate Change in the Northwest: Implications for our Landscapes, Waters, and Communities. Accessed from https://www.researchgate.net/publication/318866194_Climate_change_in_the_northwest_Implications_for_our_landscapes_waters_and_communities

2. Hamai, Steve. (2019). SPU Water Shut Off Thoughts and Observations.

3. James, Gregory. (2018). The Seattle Civil Rights and Labor History Project. Accessed from https://depts.washington.edu/civilr/segregated.htm

4. Jan, Tracy. (2018). Redlining was banned 50 years ago. It's still hurting minorities today. Accessed from https://www.washingtonpost.com/news/wonk/wp/2018/03/28/redlining-was-banned-50-years-ago-its-still-hurting-minorities-today/

5. Ott, Jennifer. (2014). Seattle Board of Trustees passes ordinance, calling for removal of all Indians from the town, on February 7, 1865. HistoryLink. Accessed from https://www.historylink.org/File/10979

6. The Seattle Office of Planning and Community Development. (2020). Outside Citywide. Accessed from https://www.seattle.gov/opcd/outsidecitywide

7. The Seattle Office of Planning and Community Development. (2016). Seattle 2035: Growth and Equity. Analyzing Impacts on Displacement and Opportunity Related to Seattle's Growth Strategy. Accessed from https://www.seattle.gov/Documents/Departments/OPCD/OngoingInitiatives/SeattlesComprehensivePlan/FinalGrowthandEquityAnalysis.pdf

8. Seattle Parks and Recreation. (2017). Parks and Open Space Plan. Accessed from http://www.seattle.gov/parks/about-us/policies-and-plans/2017-parks-and-open-space-plan

9. Semega et al. Income and Poverty in the United States: 2018. (2019). Accessed from https://www.census.gov/content/dam/Census/library/publications/2019/demo/p60-266.pdf

10. Skelton, Miller. The Environmental Justice Movement. (2016). The Natural Resources Defense Council. Accessed from https://www.nrdc.org/stories/environmental-justice-movement

11. Trinh, Beesley, Zappella. (2019). Scaling Equitable Development Across Regions: Los Angeles. Presentation for the University of Washington Sustaining Communities Symposium Event

12. University of California Humanities Research Institute. (2019). Critical Sustainabilities: Environmental Gentrification. Accessed from https://critical-sustainabilities.ucsc.edu/environmental-gentrification/

13. Wilson, Williams. (2019). Racial and ethnic income gaps persist amid uneven growth in household incomes. The Economic Policy Institute. Acessed from https://www.epi.org/blog/racial-and-ethnic-income-gaps-persist-amid-uneven-growth-in-household-incomes/

# Appendix A: Individual Data Layers and Weighting

| | LAYER | DESCRIPTION | GEOGRAPHY | WEIGHT |
|---|---|---|---|---|
| Public Safety | POLICE REPORTS | Number and type of police reports per acre. (Assaults and homicide ranked 2, property theft and other crimes ranked 1, reports unlikely to negatively impact others ranked 0). | Block, Block Group, Census Tract | 0.33 (each geography type) |
| | PEDESTRIAN COLLISIONS | Number and severity of pedestrian collisions per acre. (Fatalities ranked 4, serious injuries ranked 3, injuries ranked 2, property damage ranked 1). | Block, Block Group, Census Tract | 0.33 (each geography type) |
| Environmental Burden | CONTAMINATED SITES | Suspected or confirmed contaminated sites and leaking underground storage tanks | Census Block, Census Group, Census Tract | 0.25 (each geography type) |
| | SUPERFUND SITES | Areas within a mile of a superfund site | Raster | 0.25 |
| | FREIGHT CORRIDORS | Areas within 500 meters of a freight corridor. Areas within 100 m rated twice as high as those within 300 m, and four times as high as those within500 m. Major freight corridors and highways rated twice as high as minor corridors. | Raster | 0.75 |
| | LANDFILLS (HISTORICAL) | Abandoned landfill sites and a surrounding 1000 foot buffer around methane-producing landfills. These sites were identified by the Seattle-King County Health Department in their 1986 Abandoned Landfill Toxicity/Hazard Assessment Project. | Raster | 0.125 |
| | COAL/OIL TRAIN ROUTE | Areas within 1 mile of a coal/oil train route. (The US Department of Transportation identifies a 0.5-mile evacuation zone for oil train derailments and a 1.0-mile potential impact zone in case of oil train fire. | Raster | 0.0625 |
| Public Health | ASTHMA | Current asthma among adults aged >= 18 years, 2014 | Census Tract | 1 |
| | DIABETES | Diagnosed diabetes among adults aged >= 18 years, 2014. | Census Tract | 1 |
| | POOR MENTAL HEALTH | Mental health not good for > 14 days among adults aged >=18 years, 2014. | Census Tract | 1 |
| | NO LEISURE TIME PHYSICAL ACTIVITY | No leisure time physical activity among adults aged >= 18 years, 2014. | Census Tract | 1 |
| | LIFE EXPECTANCY | Life expectancy, 2010 - 2014. | Health Reporting Area | 1 |
| Quality of Built Environment and Access to Opportunity | PROXIMITY TO LIGHT RAIL + STREET CAR | Location near a current or future light rail station measured by walking distance | Raster | 1 |
| | PROXIMITY TO A COMMUNITY CENTER | Location near a City-owned and City-operated community center, measured by walking distance | Raster | 0.5 |
| | PROXIMITY TO A PARK | Location near a City park, measured by as-the-crow-flies distance. (Proximity determined by the size of the park. Larger parks serve larger areas). | Raster | 0.5 |
| | SIDEWALK COMPLETENESS | Percentage of block faces within a quarter mile missing a sidewalk (excluding those SDOT has not identified should be improved) | Raster | 1 |
| | PROXIMITY TO HEALTH CARE FACILITY | Location near a health care facility, measured by walking distance | Raster | 0.5 |
| | PROXIMITY TO PRODUCE-SELLING LOCATION | Location near a supermarket, produce stand, or farmer's market, measured by walking distance | Urban Village | 1 |
| | SCHOOL PERFORMANCE | Math and reading proficiency for elementary schools and middle schools | Seattle School District Attendance Area | 1 |
| | GRADUATION RATE | Attendance area of high school with above-average graduation rate (87.4%) | Seattle School District Attendance Area | 1 |
| | COLLEGE/UNIVERSITY ACCESS | Within 30 minutes of a college or university by transit (bus and/or light rail) | Seattle School District Attendance Area | 1 |
| | PROXIMITY TO A LIBRARY | Network distance to a library | Raster | 0.5 |
| | PROXIMITY TO EMPLOYMENT | Number of jobs accessible in 30 minutes by transit | Raster | 0.5 |
| | PROXIMITY TO FREQUENT BUS SERVICE | Number of unique transit trips within 0.25 mile walking distance of a location | Raster | 0.5 |
| | SIDEWALK DENSITY | Sidewalks per acre | Block Group | 1 |
| | BLOCK LENGTH | Average block length | Block Group | 2 |
| | NUMBER OF AMENITIES | Number of amenities (daycare facilities, restaurants, stores, etc.) per acre | Block Group | 1 |
| | SPEED LIMIT | Speed limit of nearest street segment | Raster | 1 |
| | ROAD WIDTH | Width of nearest street segment | Raster | 1 |
| Density and Growth | POPULATION GROWTH | Population change 2010-2016, percent change over Seattle median. Lower than average growth given low priority. | Block Group | 1 |
| | EMPLOYMENT GROWTH | Covered employment change 2010-2015, percent change over Seattle median. Lower than average growth given low priority. | Census Tract | 1 |
| | HOUSING UNIT GROWTH | Units built since 2010 and active permits (as of 3/2018) over 2010 total units in block group, percentage over Seattle mean. Lower than average growth given low priority. | Block and Block Group | 0.5, 0.5 |
| | FUTURE SOUND TRANSIT STATIONS | Mile and 1/2 mile walksheds from future light rail stations, weighted by target opening date. | Raster | 2 |
| | FUTURE BUS RAPID TRANSIT ROUTES | 1/2 mile and 1/4 mile buffers from future BRT routes, weighted by target opening date. | Raster | 1 |
| | INCREASE IN URBAN VILLAGE AREA | Urban Village expansions, ranked according to the percentage of the expansion area to the previous area. | Urban Village | 1 |
| | POPULATION | Population per acre, 2016. | Block Group | 1 |
| | COVERED EMPLOYMENT | Jobs per acre, 2016. | Census Tract | 1 |
| | HOUSING UNITS | Total housing units per acre as of 3/2018. | Block Group | 1 |
| Displacement Risk | PEOPLE OF COLOR | Percentage of population that is not non-Hispanic white. | Census Block | 1 |
| | LINGUISTIC ISOLATION | Percentage of households in which no one 14 and over speaks English only or no one 14 and over speaks both English and a langauge other than English. | Census Block | 1 |
| | LOW EDUCATIONAL ATTAINMENT | Percentage of population 25 years and older who lack a bachelor's degree | Census Tract | 1 |
| | RENTAL TENANCY | Percentage of population in occupied housing units that are renters | Census Block | 1 |
| | HOUSING COST-BURDENED HOUSEHOLDS | Percentage of population in occupied housing units that are renters | Census Block | 1 |

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|---|---|---|---|---|
| Displacement Risk | HOUSEHOLD INCOME | Percentage of households with income below 80% of AMT that are cost-burdened (>30% of income on housing), AND Percentage of households with income below80% of AMT that are severely cost-burdened (>50% of income on housing) | Census Tract | 1 |
| | PROXIMITY TO TRANSIT | Number of unique transit trips within a 0.25 mile walking distance of a location | Raster | 0.75 |
| | PROXIMITY TO LIGHT RAIL + STREETCAR | Location near a current and future light rail station measured by walking distance AND location near a current/future streetcar stop measured by walking distance | (not listed) | 1 |
| | PROXIMITY TO CORE BUSINESSES | Location near a current and future light rail station measured by walking distance AND location near a current/future streetcar stop measured by walking distance | Raster | 1 |
| | PROXIMITY TO CIVIC INFRASTRUCTURE | Location within a certain distance of a public or private school (0.25 mi), community center (0.25 mi) or park of at least 0.25 acre (distance varies based on park size), or library (0.5 mi) | Raster | 0.5 |
| | PROXIMITY TO ALREADY-GENTRIFIED OR AFFLUENT NEIGHBORHOOOD | Census tract that (a) has median household income < 80% of AMI and (b) abuts a tract where median household income is > 120% of AMI | Census Tract | 1 |
| | PROXIMITY TO REGIONAL JOB CENTER | Travel time to designated King County Urban Centers and Manufacturing/Industrial Centers | Raster | 1 |
| | DEVELOPMENT CAPACITY | Parcels that allow residential uses identified as likely to redevelop in City development capacity model | Raster | 1 |
| | MEDIAN RENT | Ratio of rent per neighborhood to Seattle average (by unit type in $/nrsf) | (not listed) | 1 |

SPU provides essential water, drainage, sewer, garbage, recycling, and food and yard waste services.

## Thank You


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Seattle Public Utilities

## For more Information, please visit:

**[https://www.seattle.gov/utilities/documents/plans/drainage-and-sewer-plans/system-planning]**