



City of Seattle

# Health and Equity Assessment

June 2016



**future  
wise** 

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*The Equity Analysis was conducted in partnership with King County Department of Natural Resources and Parks and GIS Center.  
The community engagement was conducted in partnership with El Centro de la Raza, FEEST, InterIm CDA and OneAmerica.*





# Executive Summary

**An equitable, healthy city is one in which all residents have access to those essential elements which enable them to live up to their full potential.** In an equitable city, all residents can afford safe, quality housing, have access to stable jobs with living wages, live and work in a healthy environment, depend on a reliable transportation system, enjoy easy access to parks and recreation, and can learn in a school system which gives all residents the tools they need to thrive.

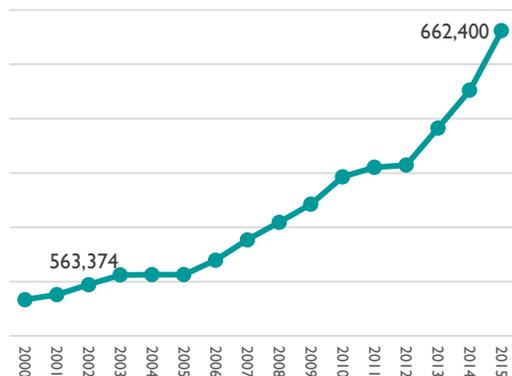
**Without a deep understanding of where we are failing to live up to this vision, we cannot improve.** Futurewise has developed the *City of Seattle Health and Equity Assessment* to identify the health and equity disparities in our city, to report back the needs of our priority communities, and to identify policy solutions which will make Seattle a healthier and more equitable city, one where all residents can live up to their full potential.

The City of Seattle has added almost **100,000** new residents since 2000. We expect **120,000** more by 2035. Attracted by economic opportunity, a high quality of life and our beautiful natural surroundings, people are moving to Seattle from the surrounding region, nation and world. Almost one in five Seattle residents was born in a foreign country.

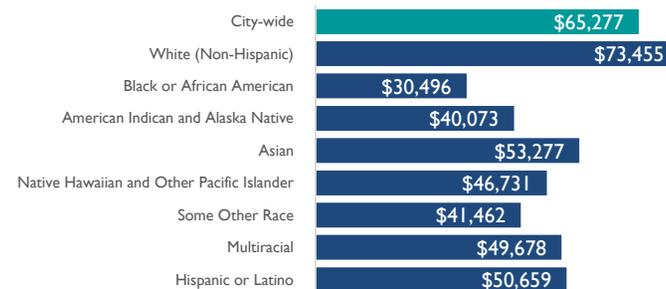
Not everyone is benefiting from the city's growth and prosperity. In Seattle, incomes for households led by African-Americans are **less than half** the incomes of White households. Incomes for every race and ethnicity are lower than White non-Hispanic households.

In Seattle, persons of color, low income households and persons with limited English proficiency are more likely to live in certain parts of the city. **This segregation leads to unfair distribution of investment and a lack of access to opportunity for priority populations.**

Seattle's Population



Household Incomes, 2013





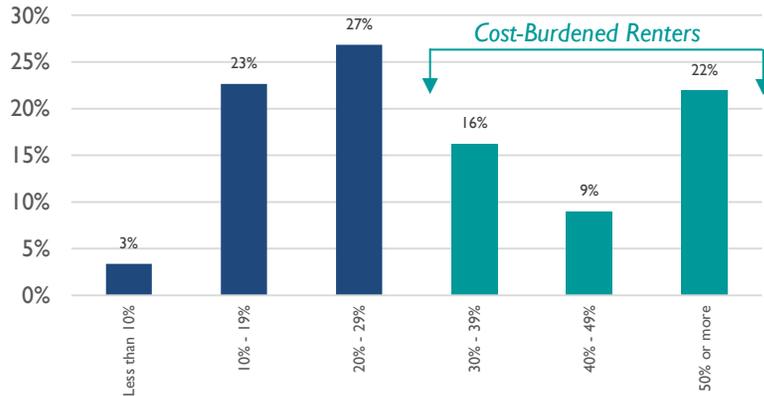
# Housing

Ownership varies by race and ethnicity; more renters are cost-burdened

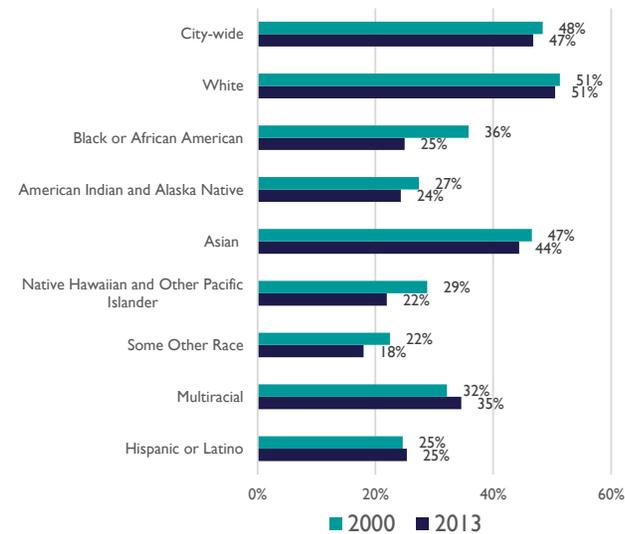
Homeownership, an important source of wealth building and family stability, differs significantly by race and ethnicity. In Seattle, **approximately half** of households own their home. Households led by persons of color have much lower homeownership rates, as low as **one in five** households.

A household is “cost-burdened” when they pay over 30% of their income on housing costs. In the City of Seattle, almost half of renter households are cost-burdened. Additionally, **one in five renter-households is severely cost-burdened**, meaning the household pays over 50% of their income on housing costs.

Percent of Income Spent on Rent



Homeownership Rate, 2013



## Policy Priority Snapshot

- Develop a **comprehensive affordable housing implementation** policy aligned with the Comprehensive Plan and Capital Improvement Plan (CIP).
- Authorize and expand financing tools that **broaden participation** in creating affordable housing.
- Increase multifamily zoning acreage and integrate multifamily and accessory dwelling units into a **broader range of** neighborhoods where appropriate.
- Use public funds and programs to **prioritize units not met by market activity**, such as family sized housing and very-low income housing.
- Measure housing choice and diversity at **neighborhood and city-wide scales**.



# Healthy Eating and Active Living

Food access improving, but choices are limited; access to parks increasing

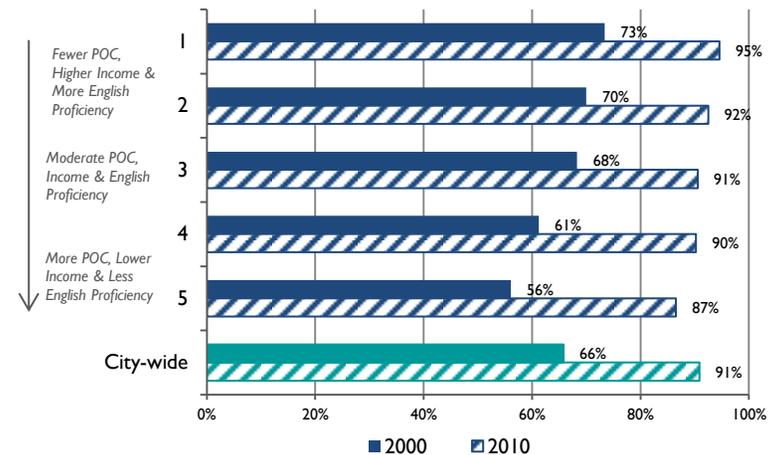
Less than half of Seattle residents live in areas with close proximity to a farmer's market or grocery store. Even with a market nearby, many residents cannot easily find **affordable, culturally appropriate fresh foods**.

Through strategic, thoughtful investments, the City has increased parks proximity for the city as a whole and for priority communities. However, persons of color, low income households and English language learners are **less likely to live close to a park** than other Seattle residents.

Grocery Stores and Farmers Markets, 2010



Proximity to Parks and Recreation



## Policy Priority Snapshot

- Prioritization of policies and investments should be **directly informed by those areas without healthy food and recreation infrastructure**.
- Target food access programs and investments which **balance increasing high-quality food access with discouraging unhealthy food proliferation**.
- Prioritize investments in areas underserved by recreational opportunities and active transportation infrastructure. Expand the ability of people to **engage in healthy activities**.
- Set measurable goals relating to **healthy behavior** and **track progress**.



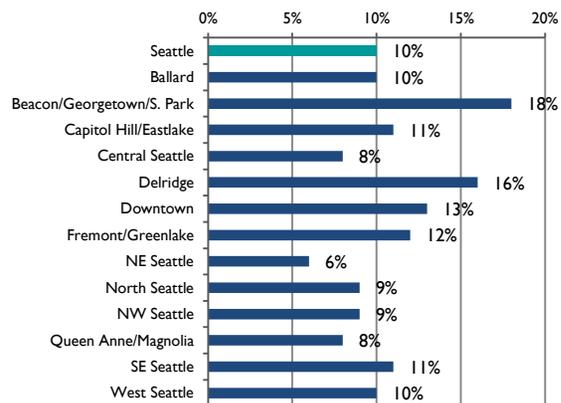
# Public Health and Preventative Services

Access to health facilities is decreasing, leading to unmet medical needs

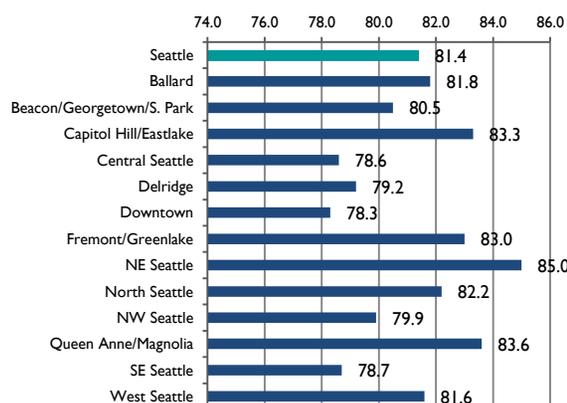
City-wide, access to public health facilities decreased by 10% in one decade. In priority communities, access to public health facilities has decreased by one-third. West Seattle and large portions of Southeast Seattle **do not have access** to a public health facility, which is especially harmful for low-income residents who are transit dependent.

Limited access to affordable healthcare impacts health outcomes. In areas without access to public health facilities, more adults have unmet medical needs and life expectancy for residents is lower.

**Adults with Unmet Medical Needs, 2010**



**Life Expectancy at Birth, 2010**



**Public Health Facilities, 2010**



## Policy Priority Snapshot

- Continue to **examine health outcomes through the lens of race, income and geography** to identify and respond to disparities.
- Prioritize community-identified and **community-led health solutions**.
- Support **innovative service delivery** which is less reliant on limited public health centers.
- **Increase accessibility and availability** of public health services through siting and transit network planning

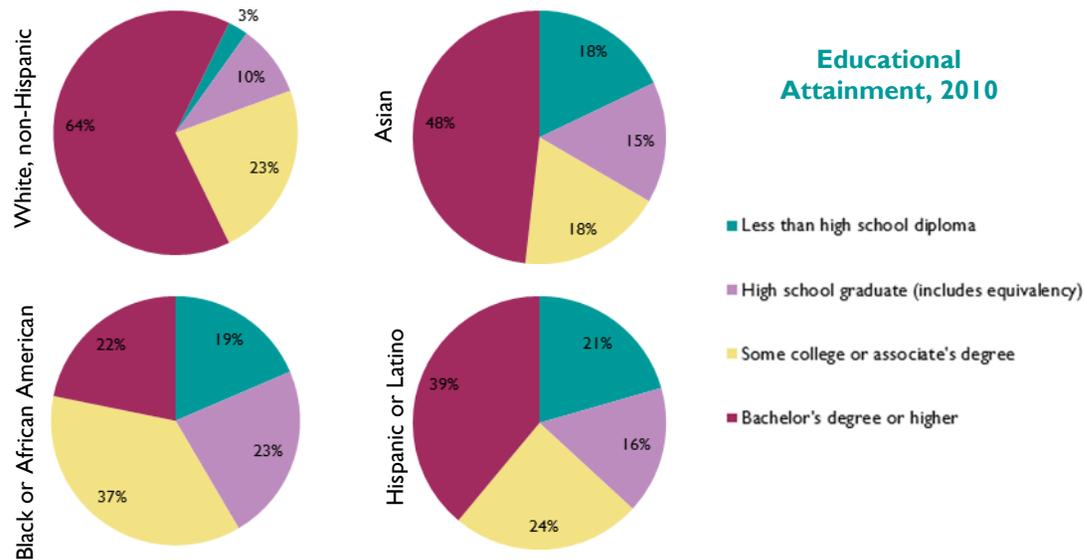


# Education

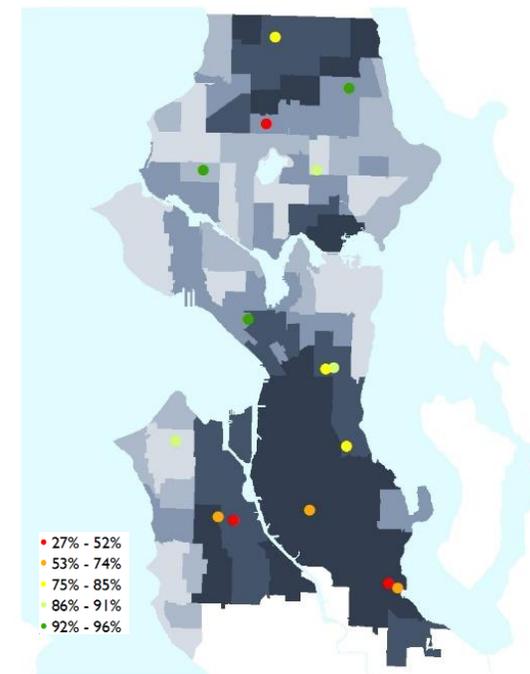
Race impacts disparities in educational attainment

In Seattle, there are severe disparities in educational attainment by race. Amongst African American, Asian and Hispanic or Latino adults, **one in five** do not have a high school diploma.

Many schools in neighborhoods with high proportions of priority populations have lower academic achievement for students, including lower math and reading scores. Schools in areas with high proportions of priority populations are more likely to have **lower on-time graduation rates**.



On-time Graduation Rates, 2010



## Policy Priority Snapshot

- Use schools as a **community development asset**.
- Use school locations to **drive transit investments**.
- Prioritize **new and expanded educational centers** and institutions, including adult education.
- Work with school district to **track and measure student performance** as a community indicator

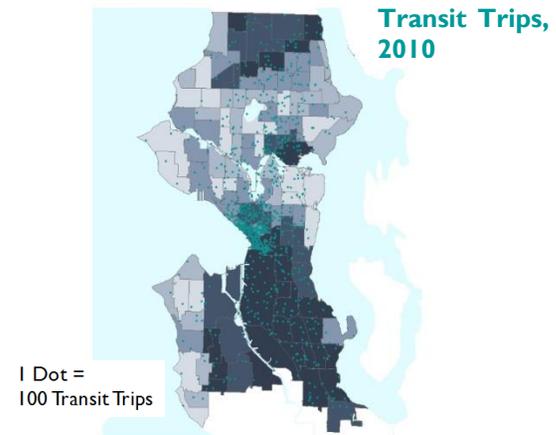


# Transportation

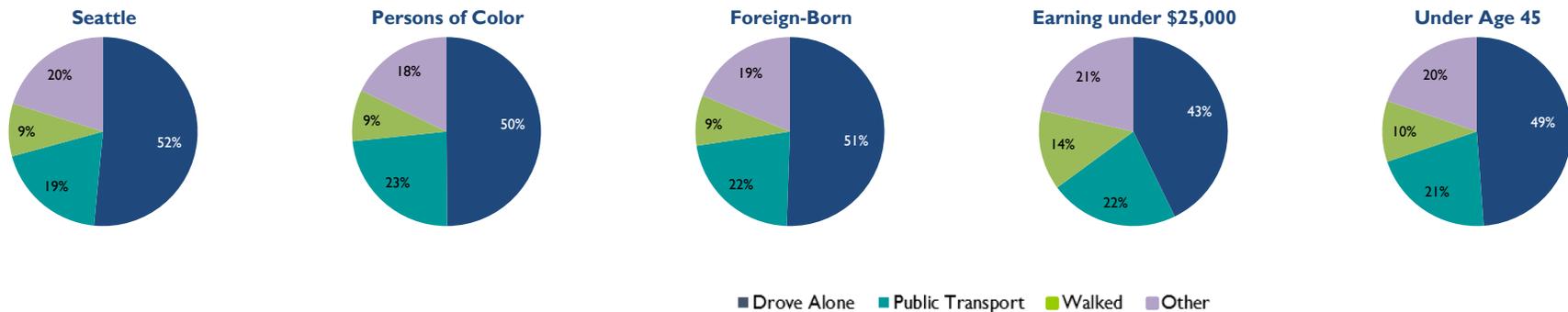
Multi-modal transportation options expanding; system needs efficiency upgrades

Seattle has recently seen significant increases in transit service. From 2000 to 2010, the number of transit trips through communities with high proportions of priority populations increased by **175%**. Additionally, recent ballot measures will increase funding for improved transit service.

Persons of color, foreign-born residents, low-income earners and young people are all **less likely to drive alone to work**. Public investments in improving multi-modal infrastructure are critical to ensuring that our transportation system equitably serves these populations.



## Commute Mode, 2010



### Policy Priority Snapshot

- Expand investment prioritization and decision making to **improve level of service** and include additional health and equity related outcomes.
- Reduce vehicle miles traveled (VMT) through **multimodal improvements** and coordinated land use.
- Expand measurement outcomes** to include safety, mode split and equitable level of service.



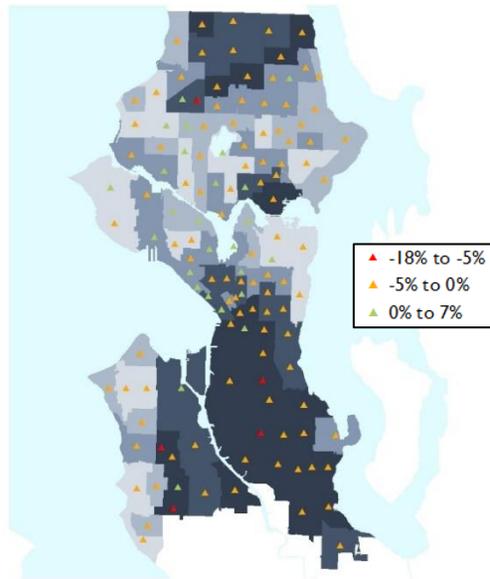
# Vegetation

Vegetation, a key indicator of a healthy environment, is decreasing

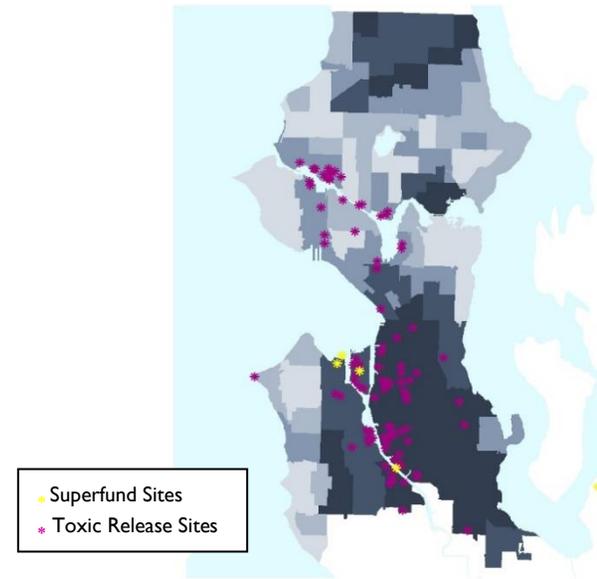
In Seattle, vegetative cover decreased from 0.36 in 2000 to 0.35 in 2010, a 3% rate of decrease over the decade. Areas with higher concentrations of priority populations have **less vegetative cover** and areas where priority populations live are experiencing higher rates of vegetative cover decrease.

Priority populations are more likely to live near **harmful land uses** like factories, waste treatment facilities or other buildings that may pollute the air or water and increase unpleasant smells or noise.

Change in Vegetative Cover, 2000 to 2010



Toxic Release Inventory and Superfund Sites, 2013



## Policy Priority Snapshot

- Continue to **track and monitor** existing and future environmental inequities and critical environmental needs caused by climate change impacts.
- Recognize and prioritize **environmental protection as a key strategy** in addressing health inequity and economic development.
- Focus not just on healthy residential environments, but also **healthy workplace** environments.
- Track environmental factors which have **proven linkages** to negative health outcomes.



# Economic Opportunity

Jobs are increasing overall; moderate wage jobs are decreasing

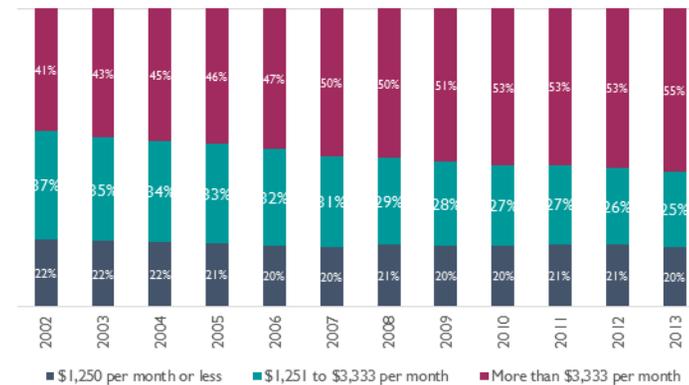
The City of Seattle added over **52,000** new jobs between 2002 and 2013. We expect **115,000** more by 2035.

While the proportion of low-wage jobs in Seattle has remained steady, the proportion of moderate-wage jobs has **decreased significantly** and high-wage jobs has increased.

Seattle's Jobs



Seattle's Jobs' Wages



## Policy Priority Snapshot

- Recognize the **value of small, locally owned businesses** and entrepreneurship.
- Focus on **job training and skills** development.
- Examine existing business regulations to **determine if requirements are effective**, equitable and easily understood.
- Ensure that tracked economic development outcomes **are responsive to community needs** and priorities.



## Key Findings

**When the City of Seattle funds improvements with the intent to improve access equitably, disparities are reduced.**

Through increased funding and targeted investments, low-income communities, persons of color and English Language Learners now have increased proximity to parks, public health facilities and libraries. It is essential to ensure that Seattle's goals, policies and implementation efforts continue to raise the level of service, target investments that address existing needs, and ultimately eliminate disparities in infrastructure and health outcomes throughout the city.

**Geographic proximity should not be the only way to evaluate and improve access.**

We can't take care of places if we don't take care of people, and we can't take care of people if we don't take care of places. This analysis has illustrated the relationships between the places people live, their access to determinants of opportunity, and equity outcomes. Access is not just about land use and transportation or geographic proximity to high-performing neighborhoods. Access is shaped by cost, language, and cultural differences, as well as the distribution of services and amenities.

**Inequities exist in all parts of our built environment and society, and looking for them requires a broader approach.**

Unless one actively searches for connections and asks questions, many disparities will go undiscovered. When looking for disparities, it is critical to ask the right questions. Framing complex health issues broadly (and, in some cases, as a social indicator rather than a health indicator) allows people from all sectors to more easily define their roles and engage in working toward solutions.

**Many social inequities transcend geographic boundaries, and cannot be identified through traditional metrics.**

Though its effects can be difficult to quantify, intersectionality affects issues and programs throughout the city. Seattle has committed to race and social justice principles, and should consider intersectional factors when examining inequities.

**The City should utilize all of its tools in a coordinated effort to build health and equity for all.**

The Comprehensive Plan, Move Seattle, and other efforts may be limited in their capacity to influence social determinants of health if such proposals are not supported by comprehensive, ground-up initiatives at local levels. This local level work facilitates active public participation in community planning and program development, and appears vital to addressing health inequities. Ideally, such initiatives are supported by a funding mechanism and accountability structure that allow the initiatives to ebb and flow as necessary, based on the changing needs of the community.



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## INTRODUCTION

An equitable, healthy city is one in which all residents have access to those essential elements which enable them to live up their full potential. In an equitable city, all residents can afford safe, quality housing, have access to stable jobs with living wages, live and work in a healthy environment, depend on reliable transportation, enjoy easy access to parks and recreation, and rely on a school system which gives all children the tools they need to succeed.

Seattle has the opportunity to improve health and equity for all – now and for future generations. We are currently at a crossroads – the city is preparing its vision for the next twenty years through the Seattle 2035 Comprehensive Planning process. In addition, the city is enacting a bold new comprehensive strategy for housing affordability and expanding its investment in local and regional transportation systems. A broader approach to planning and prioritization of investments and meaningful engagement can change the future of our city for the better and for all residents.

The following report provides an assessment of some of the most important determinants of equity and opportunity in Seattle and examines differences in resident access to those determinants based on location and community characteristics. It shows that while the city as a whole may be thriving, certain populations and certain neighborhoods do not enjoy the prosperity and opportunity of others. By examining Seattle through the lens of health and equity, we can better address systemic land-use related and other resource access disparities so that we can work together to create a thriving Seattle where all residents can live up to their full potential.

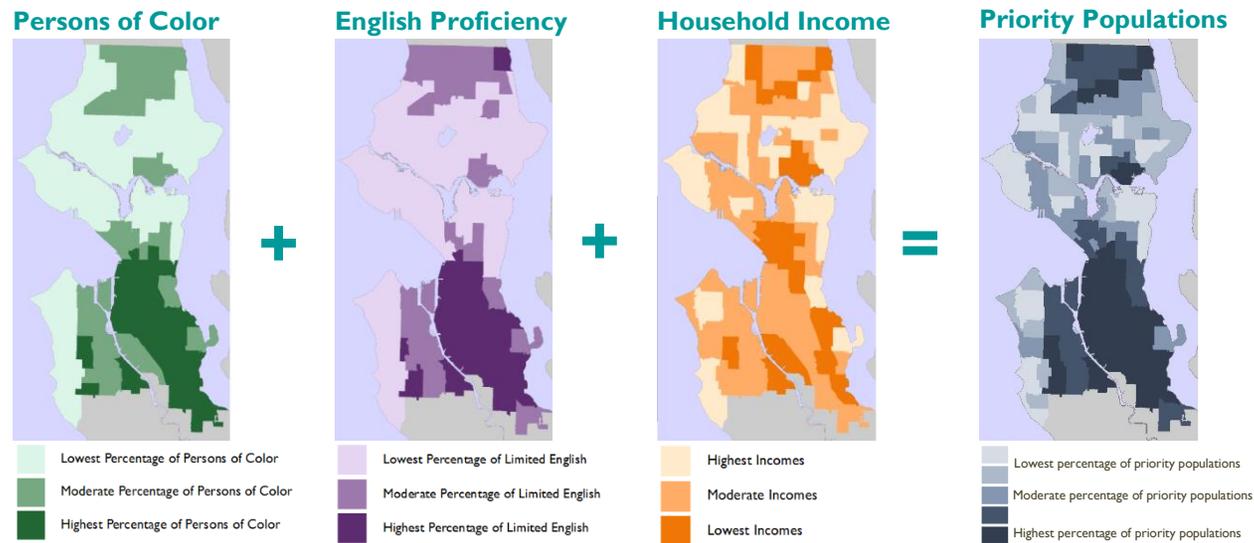
## METHODOLOGY

The objective of this report is to present information about the health and equity conditions in the City of Seattle and to provide priority policy recommendations to improve health and equity in the city. To meet this objective, the report has three different elements: first, an analysis of data relating to community conditions and equity in the city; second, the presentation of the results of an extensive community engagement program focusing on traditionally under-represented residents; and third, an examination of the data and engagement results through a health and equity lens to develop priority policy recommendations and potential barriers to those policies. The following section details the methodology used for each of these elements.

### Equity Analysis

Health and equity is determined by many factors, including access to community assets like quality schools, parks, housing and transit. This

report includes the results of a previous Seattle Equity Analysis conducted by Futurewise in partnership with King County. The Equity Analysis demonstrates the differences in access to certain foundational community assets for different populations or geographic areas with the goal of quantifying disparities, called the “equity predicament.” The purpose of quantifying these disparities is to help set goals that will reduce or eliminate these disparities and to help guide policy development, investments and programs to meet those goals. Finally, the equity assessment provides a baseline to measure progress in meeting these goals and evaluating the policies, investments and programs implemented. Key points from the analysis are incorporated into the data sections for each Community Building Block topic area.



### Calculating Equitable Access

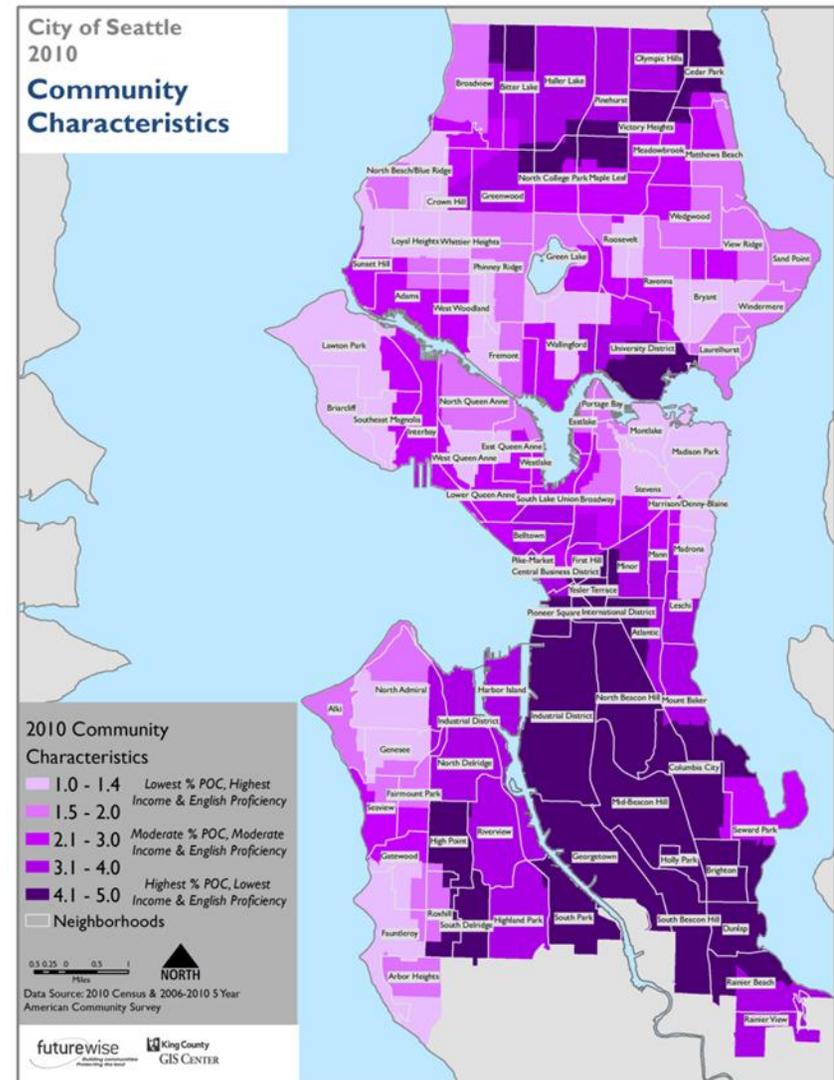
Determining if all neighborhoods or populations have equitable access includes four steps:

**Equity Analysis Step 1: Determine the Geographic Distribution of Priority Populations.** The analysis focuses on access to foundations of health and equity for priority populations which include communities of color, low income populations, and limited-English speaking populations.

In Seattle, there is considerable overlap where these populations live. Due to the overlap in these characteristics, the Equity Analysis combined the three to identify those areas with the highest concentrations of priority populations, defined as those with the most persons of color, lowest incomes and English proficiency. As shown on the Community Characteristics map, priority populations (in the darkest purple) are concentrated in southeast Seattle, with smaller concentrations in High Point, South Delridge, the University District, Cedar Park and Bitter Lake as well as North College Park and Maple Leaf.

**Step 2: Map Geographic Distribution of Foundational Community Assets.** Once the priority population areas were established, the second step was to map the geographic distribution of foundational community assets, or those assets that most impact equitable access to opportunity. For this analysis, eight assets were mapped:

- Vegetative Cover (Tree Canopy)
- Housing and Transportation Costs
- Parks and Recreational Space
- Libraries
- Schools
- Transit Stops
- Transit Frequency
- Access to Healthy Food



For more information and definition of community characteristic quintiles, see Map notes.

**Step 3: Calculate access to Foundational Community Assets for Priority Populations and the Community as a whole.** After foundational community assets were mapped, a buffer was created around that asset. The size of the buffer depends on the population density and that asset. The size of the buffer depends on the population density and type of asset. Then, the number of persons living within that buffer area was calculated – these are the people who live within geographic proximity to a particular asset.

**Step 4: Compare access to Foundational Community Assets to determine how access has changed over time and how access is different for Priority Populations.** Finally, the number of persons living within geographic proximity to that asset was compared to determine which groups have better access to community assets, how that has changed over time and how different areas compare within the City of Seattle as a whole.

## Community Engagement

Community engagement and participation is the foundation of equitable decision making. Without the full participation of all members of a community, the benefits and burdens of policy decisions, programs and investment become disproportionately advantageous to those who participate and who are heard.

Traditionally, some communities have been excluded from full engagement and participation, particularly low-income residents, persons of color, immigrants, English language learners and youth. These residents may face higher barriers to participation than other groups, which results in limiting their influence over the decisions which will impact their neighborhoods and their lives. These barriers can range from practical or logistical considerations to power imbalances which are deeply entrenched in our local institutions. Some examples of barriers to participation include:

- **Limited resources and capacity.** Many underrepresented communities have limited resources and capacity to participate in community planning, particularly when participation requires going to a special event or meeting. This can range from a lack of time due to multiple jobs, a lack of transportation to the meeting, lack of availability of childcare, or other practical concerns.
- **Distrust or pessimism about the efficacy of participation.** Many marginalized communities are reluctant to participate in community engagement due to distrust of public institutions from previous experience or a lack of belief that their participation will result in positive outcomes or change.
- **Lack of permanence and stability decreases personal investment in a particular community.** Many low-income residents are especially vulnerable to displacement and, as a result, move more often than the general population.<sup>1</sup> This movement can make it more difficult to form a connection to a particular place or to create the motivation to invest time and energy into engagement in that community. In some public processes, the voice of “new”

<sup>1</sup> Cohen, 2011.

residents or even renters is not as valued as that of long-term residents or homeowners.

- **Insecurity about lack of technical understanding of complex analysis, policy and planning “jargon.”** Much of planning discourse is highly technical and difficult for non-planners or policy makers to understand, making people reluctant to participate in discussions about their community.



Youth Workshop. Photo credit: Derrick Belgarde

Cities have the capability of providing something for everybody, only because, and only when, they are created by everybody.

-Jane Jacobs, *the Death and Life of Great American Cities*, 1961

In order to combat these barriers, it is important that traditional community engagement and outreach efforts be improved in the following ways:

- **Eliminate as many practical barriers as possible.** Events should be planned with the participants' needs in mind, meaning that a meeting must be transit accessible, provide childcare and food, and be held at a convenient time and place. Relevant translation should be provided and the content should be culturally competent and with limited technical jargon or excessive complexity.
- **“Meet People Where They Are.”** While organizing an improved meeting is important, it is even better to not have a meeting at all, instead taking the engagement to the people where they already are. This can be achieved by incorporating outreach into community festivals, civic gatherings, cultural or religious institutions and similar existing social networks.
- **Build on community partnerships.** For many marginalized or underserved communities, there is distrust of government. Therefore, it is important that trusted intermediaries be involved in community engagement. Community Based Organizations (CBOs), religious or cultural leaders, or other community partners who have established ties with underserved communities can make residents feel more comfortable in attending and participating in the public process. In addition, these leaders can give policy makers and staff important advice about the best approaches to engagement, appropriate and culturally competent content and other information to make the program more successful.
- **Make it fun.** Long meetings filled with presentations can be tedious for both attendees and those organizing outreach efforts. Building engagement around interactive activities, discussions and games can generate quality input while creating a more collaborative, fun environment.
- **Show results.** Engagement which does not produce results can disincentivize future participation. Therefore, it is critical that all participants see a direct correlation between their input and policy or program decision making. While not all community concerns can be addressed or fixed quickly, it is important to show that residents are heard and that their participation has influenced change.



## Walkshops

As an alternative approach to gain on-the-ground input from community members, the team deployed walkshops in the First Hill neighborhood. The idea behind walkshops is that by slowly walking as a group through a neighborhood and taking photos about what community members like and don't like, as well as providing comments to those photos and what they experience, community members can directly identify positive and negative aspects of their community.

## Focus Groups and Work Shops

**Youth Workshop.** InterIm CDA along with community partners conducted a Youth Workshop for teens and young adults from South Seattle and Southwest King County. The workshop was organized and developed primarily by the youth of the InterIm CDA WILD program. The workshop focused particularly on crime, safety and transit accessibility, which have been highlighted by the youth as issues of importance to them.

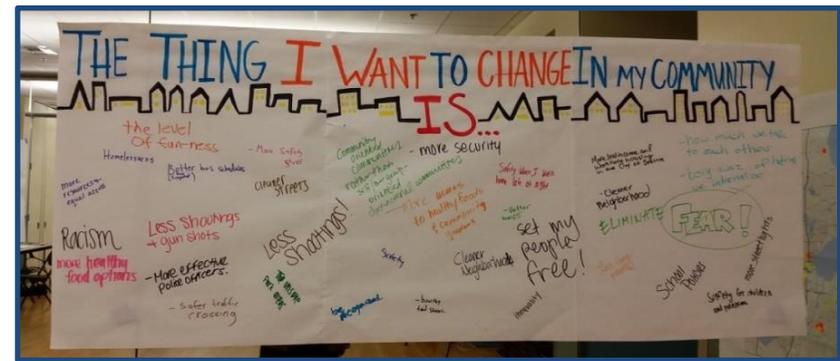
**FEEST Focus Groups.** FEEST worked with the project as a community-based partner to engage youth. In addition to helping plan and execute the Youth Summit, they worked with youth at three high schools on topics that the Project Team generated related to the Seattle Comprehensive Plan using a focus group-style approach. Focus groups began with games and a lesson on equity vs. equality. The participants then commented on and discussed five subject areas selected by youth interns as the most important.

**El Centro de la Raza Youth Workshop.** Based on their previous work as well as some of the materials developed for the Youth Summit, El Centro de la Raza staff developed and conducted a Youth Workshop.

**East African Leaders Workshops.** OneAmerica and Futurewise convened two workshops for East African leaders living in Seattle and South King County. The leaders represented immigrants from Ethiopia, Somalia, Turkey and other East African countries, many of whom work in Education, Human Services and Community Development. The primary topic areas included housing affordability, education and economic

development, and mental health and addiction issues within the community.

**Hispanic and Latino Focus Groups.** El Centro de la Raza conducted four discussions with Spanish-speaking participants of their social service programming including their COMADRES group of Hispanic or Latino mothers with small children and their youth skills development program. These discussions focused primarily on housing choice and affordability, transit access and public safety.



Youth Workshop panel. Photo credit: Spencer Williams

## Priority Policy Recommendations

In order to develop the priority policy recommendations found in this report, the team reviewed the data gathered, the results of the equity analysis and the concerns and issues that were heard in our community engagement process to highlight priority needs and potential solutions. We then developed priority policy recommendations based on the following:

**Impact.** Prioritizing those policies which will have the most benefit for underserved populations, including persons of color, low-income households and persons with limited English with the aim of reducing the disparities and inequities seen in Seattle.

**Scale.** Many of the issues and concerns seen in the data analysis and engagement can be addressed with a wide variety of solutions, ranging from increased funding from Federal or State sources to small programs implemented by community based organizations. The priorities highlighted in this report focus on policies which can be set by local jurisdictions, particularly through their Comprehensive Plans. These policies set the foundation on which future investment and program decisions will be made.

## Report Format

The report begins with an in-depth look at the **Community Characteristics** of the City of Seattle, focusing on the demographic changes that have been occurring through the city and which are impacting health, equity and access for residents.

The majority of the report focuses on seven **Community Building Blocks**: Housing, Healthy Eating and Active Living, Public Health and Preventative Services, Education, Transportation, Environment and Economic Development. These seven topic areas provide a wide range of information on many of the most important elements of opportunity and equity.

Within each of these Community Building Blocks, there are five sections.

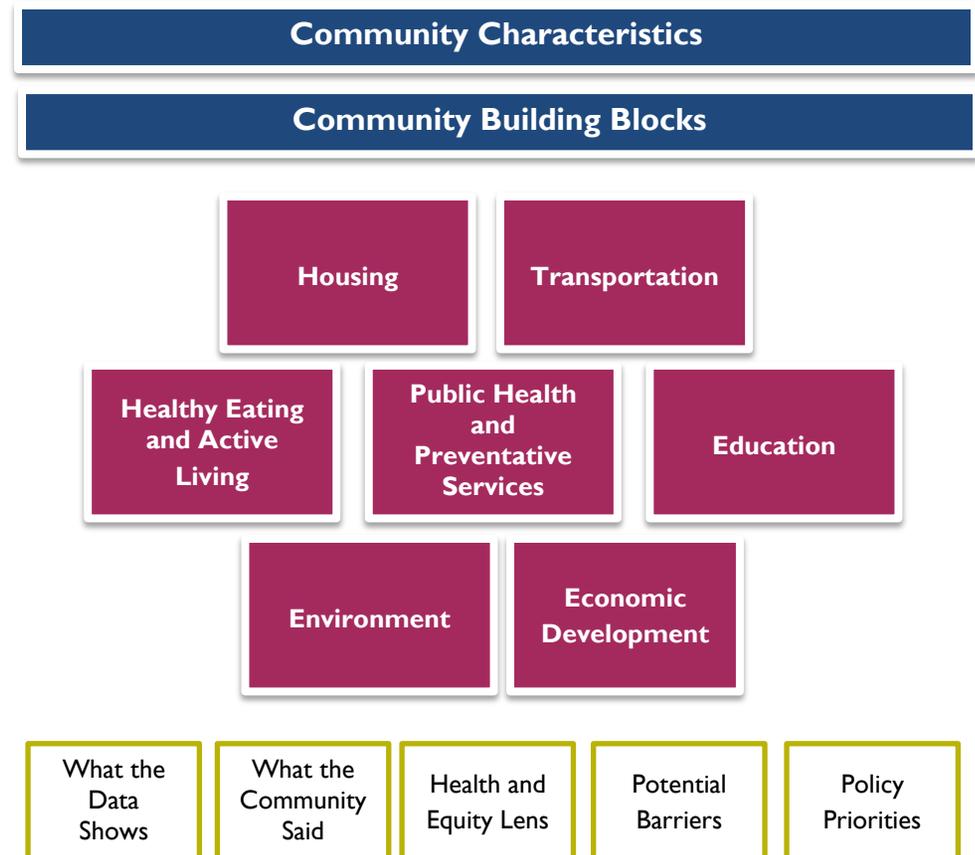
First, **What the Data Shows** presents data related to that topic, particularly highlighting disparities and differences seen based on race, ethnicity, income, English proficiency and geography.

Second, **What the Community Said** summarizes the major themes heard during the community engagement process to provide a richer understanding of the topic area, particularly community perceptions and experiences in their daily lives.

Third, **Health and Equity Lens** highlights disparities and concerns and examines the linkage between disparity and existing and potential policies.

Fourth, **Potential Barriers** includes some of the largest difficulties or obstacles to achieving equity within each Community Building Block topic area.

Finally, **Priority Policy Recommendations** takes the four preceding sections and gives a series of policy directions in response the needs demonstrated by the data, equity analysis and community engagement.





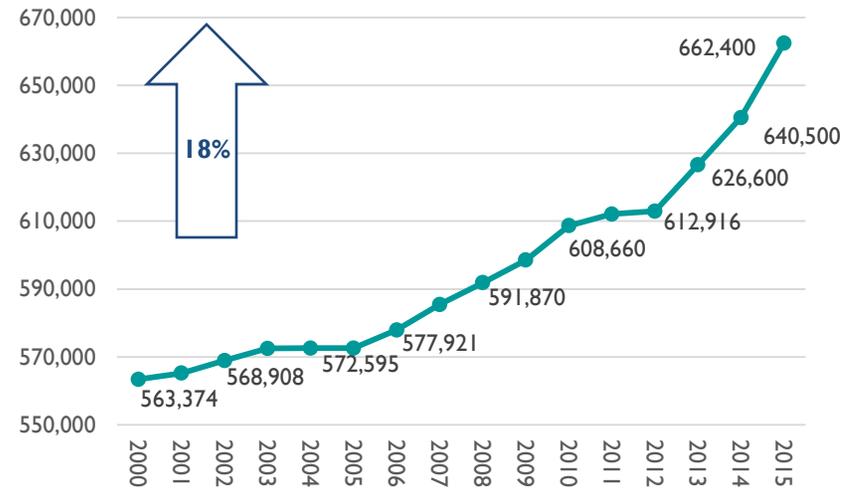
# COMMUNITY CHARACTERISTICS

A city's most important asset is its people. The following section gives an overview of the residents of Seattle and examines how the city has grown and changed from 2000 to 2013. It includes information on population characteristics like growth, race and ethnicity, and educational attainment, as well as information about households including household type, size and income.

## Population Growth

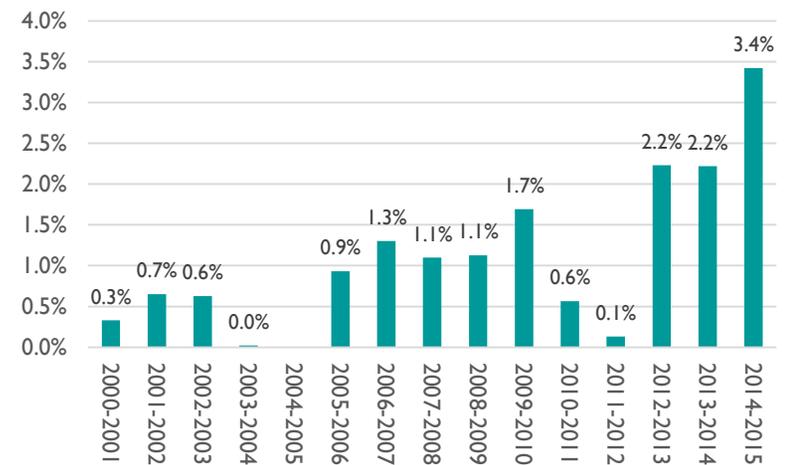
The City of Seattle has seen significant population growth since 2000. The most recent population estimate for the City of Seattle was a total of 662,400 residents in 2015. The city added over 99,000 residents from 2000 to 2015, a growth rate of 18%.

**Chart 1**  
Population Growth in Seattle from 2000 to 2015

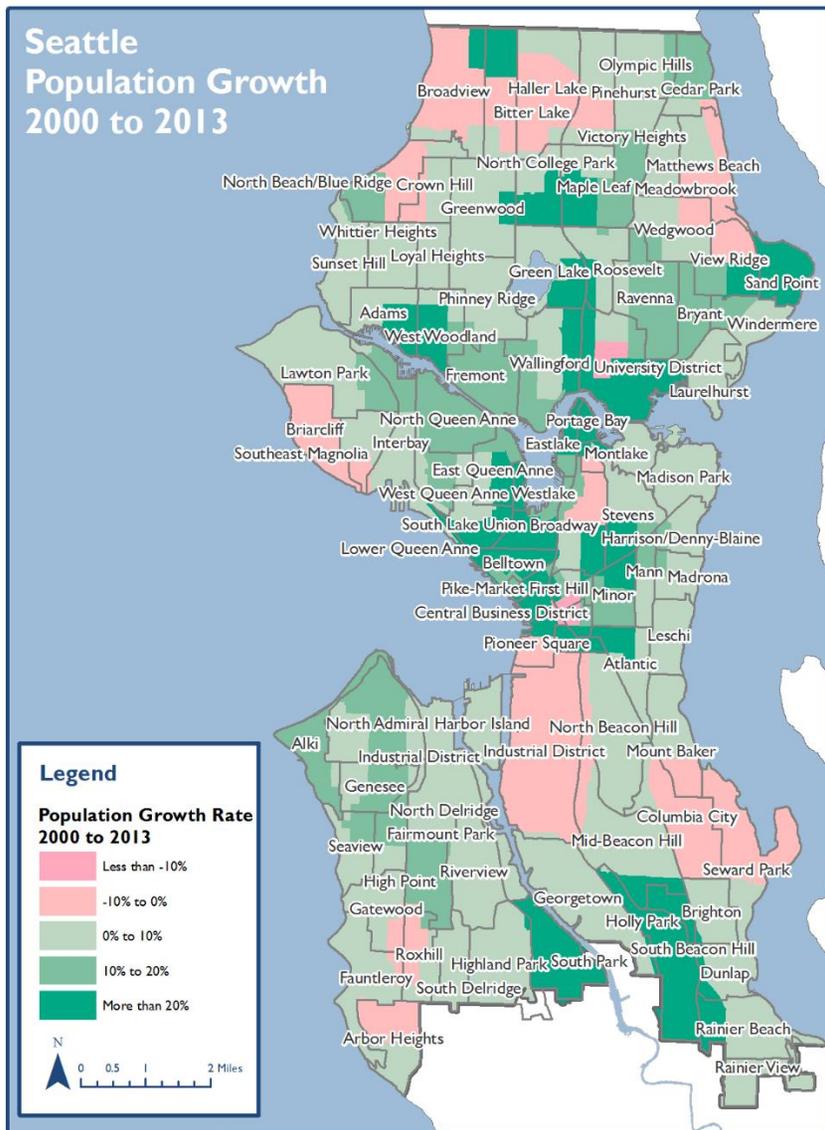


Population growth has accelerated significantly since 2012. The average annual growth rate since 2012 is estimated to be 2.6% per year. In the past three years, the city has had annual growth higher than any other period since 2000 in which the highest growth rate of any year was 1.7%.

**Chart 2**  
Annual Population Growth Rate in Seattle from 2000 to 2015



Note: Population estimates for the City of Seattle are from the Washington Office of Financial Management through 2015. The remainder of this section focuses on data from the US Census and the most recent data available is for 2013.



Source: 2000 Census SF3 P01, 2013 ACS 5-Year Estimates B01003

**This population growth has not occurred evenly throughout the city** – some areas are growing much faster than others. The map shows neighborhoods of Seattle with their population growth from 2000 to 2013. From 2000 to 2013, population change in the city varied from a loss of 31% to a growth of 123%.

Population loss was greatest in two areas – Yesler Terrace, where redevelopment of the housing project by Seattle Housing Authority required temporary relocation of many families, and in the northwest portion of the University of Washington, where dormitories like Eliot Hall were replaced by housing in the central campus. However, many other areas had a slight loss of population, including Seward Park, Columbia city, South Mount Baker, Broadview, Bitter Lake and North Green Lake.

Population growth was highest in the southern portion of the University of Washington where the university and private developers increased housing units significantly over the period. Additionally, some parts of South Lake Union saw a population increase of 117% from 2000 to 2013. Strong growth (over 20%) also occurred in South Beacon Hill, Holly Park, South Park, Sand Point, the Adams and West Woodland areas of Ballard and throughout the downtown core.

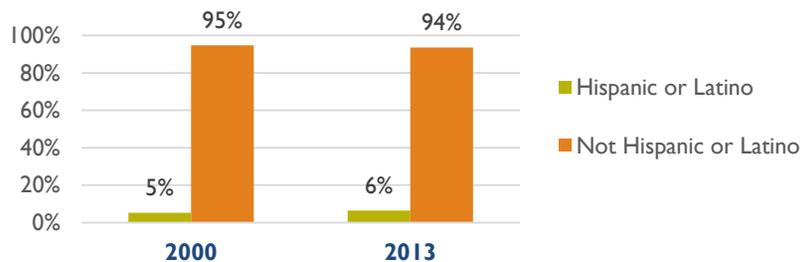
## Population Race and Ethnicity

The percentage of residents that identify as **White** was about the same in 2000 and 2013. In 2000, 70.0% of City of Seattle residents identified as White. In 2013, 70.6% of residents identified as White, virtually no change. In 2013, 14.1% identified as Asian, 7.4% as Black or African American, 5.2% as multiracial, 1.6% as some other race, 0.7% as American Indian and Alaska Native and 0.4% as Native Hawaiian and Other Pacific Islander and 0.4% as Native Hawaiian and Other Pacific Islander.

Some racial groups are decreasing as a percentage of the total population. From 2000 to 2013 the percentage of residents identifying as Black or African American, American Indian/Alaska Native, and “some other race” decreased. Residents who identify as Asian, however, increased from 13.1 to 14.1%.

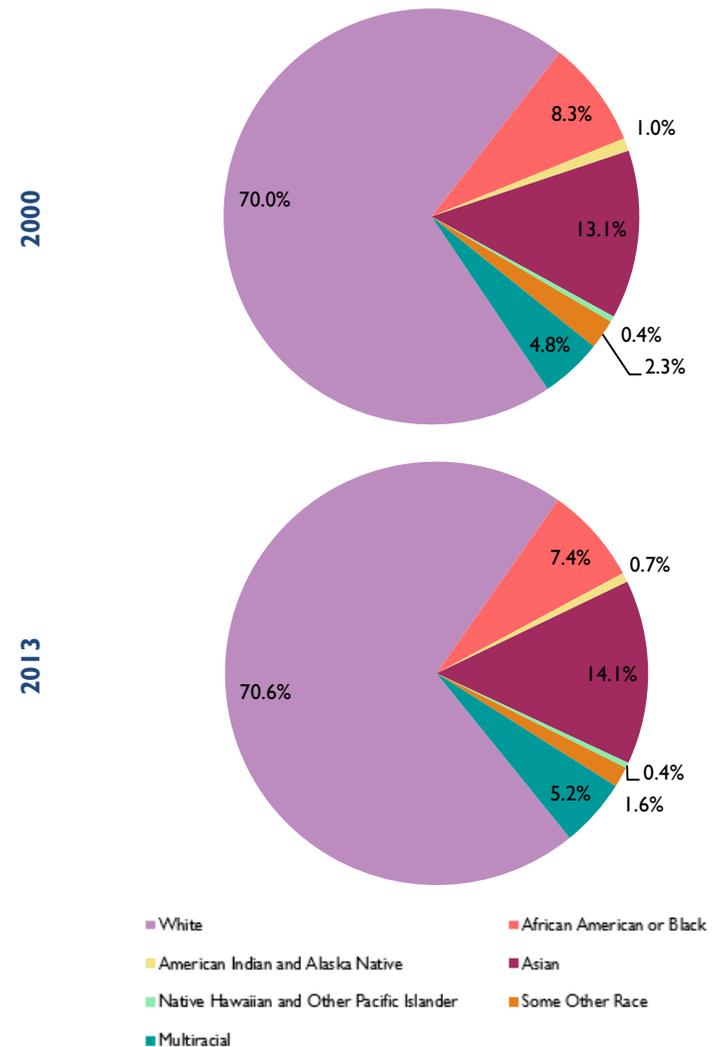
Ethnically, there was a slight increase in the population of residents who identify as **Hispanic or Latino**. In the City of Seattle, the population of residents identifying themselves as Hispanic or Latino increased from 5.3% in 2000 to an estimated 6.4% in 2013. This includes Hispanic or Latino residents of all races.

**Chart 3**  
Population Ethnicity in Seattle in 2000 and 2013



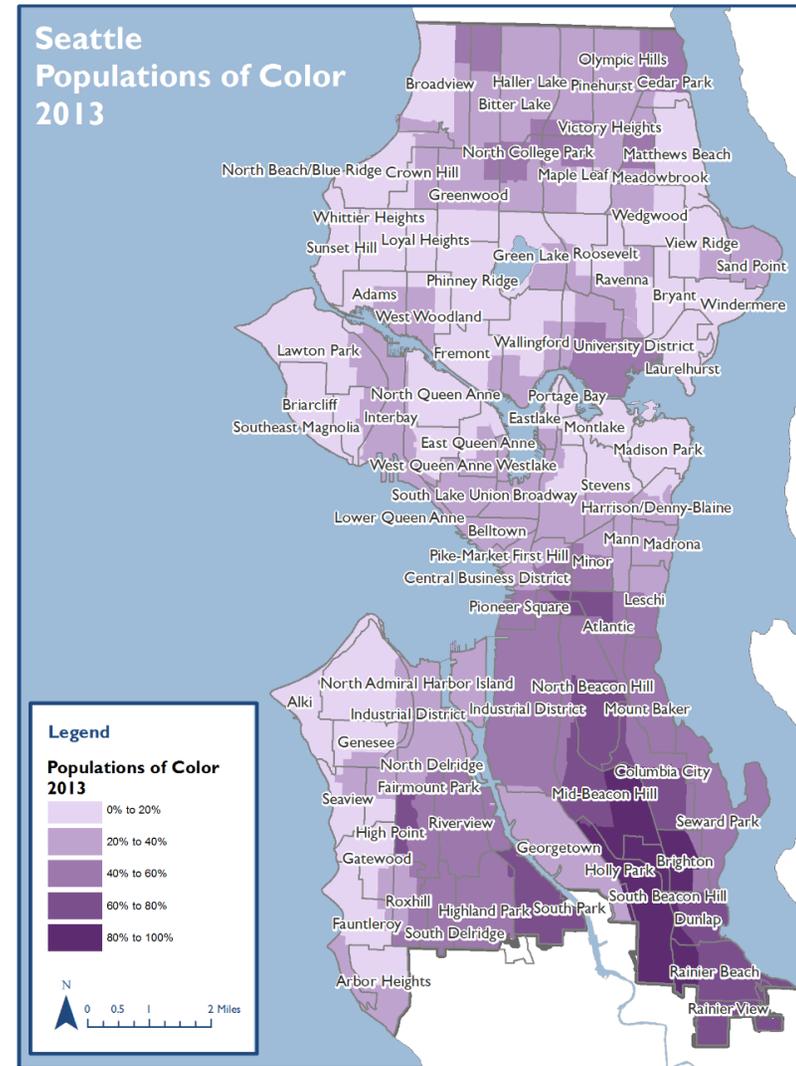
Note: The population race and ethnicity data is from 2013 American Community Survey 5-Year Estimates. Estimates for population and race vary slightly even between 5-year estimates and 1-year estimates. Analysis of long-term trends related to race and ethnicity will require additional data in the coming years.

**Chart 4**  
Population Race in Seattle in 2000 and 2013



Source: 2000 Census SF3 P03, 2013 ACS 5-Year Estimates B02001

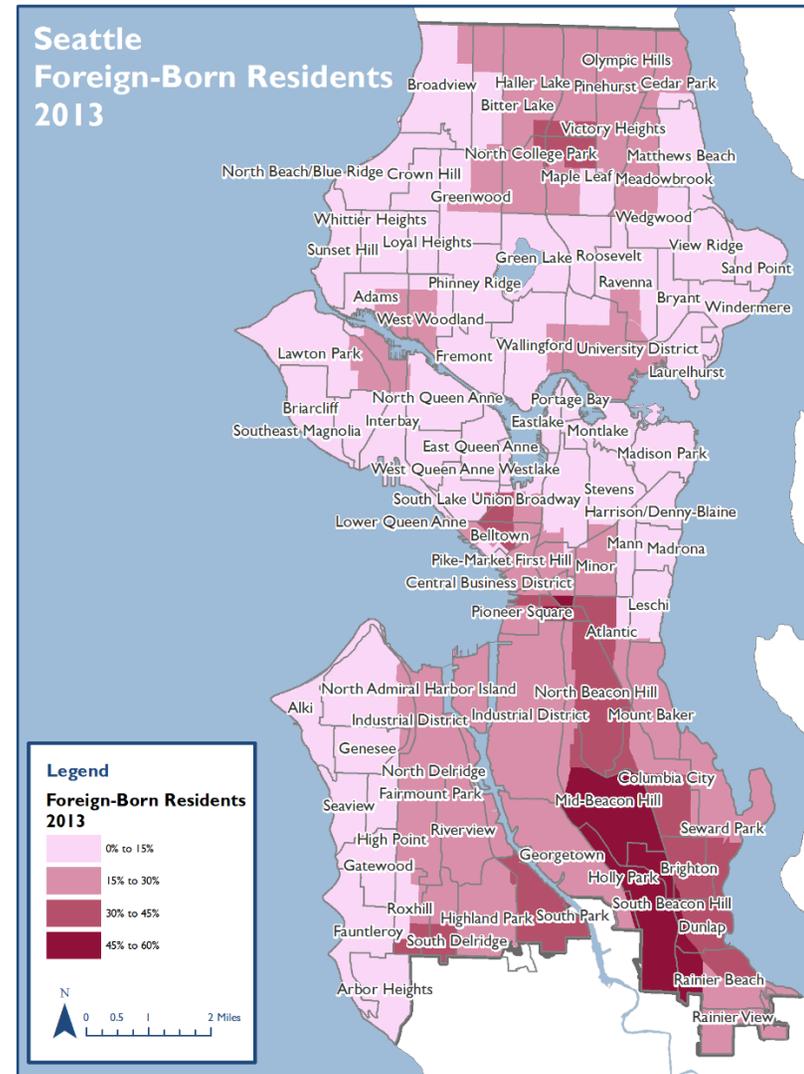
Seattle's populations of color are not evenly distributed around the city. The map shows the distribution of Seattle's population by race and ethnicity. There is still segregation in the city – persons of color are significantly concentrated in the southeast portion of the city through Beacon Hill, South Park and Rainier Valley.



Source: 2013 ACS 5-Year Estimates B02001 and B03002

## Nativity

In the City of Seattle, the percent of residents born in a foreign country has increased slightly, from 17% in 2000 to 18% in 2013. Seattle's foreign-born residents are primarily concentrated in southeast Seattle, particularly in the International District, Beacon Hill, Holly Park and Brighton. In addition, there are significant concentrations of foreign-born residents in South Lake Union, Belltown, South Park, North Collage Park and Maple Leaf.

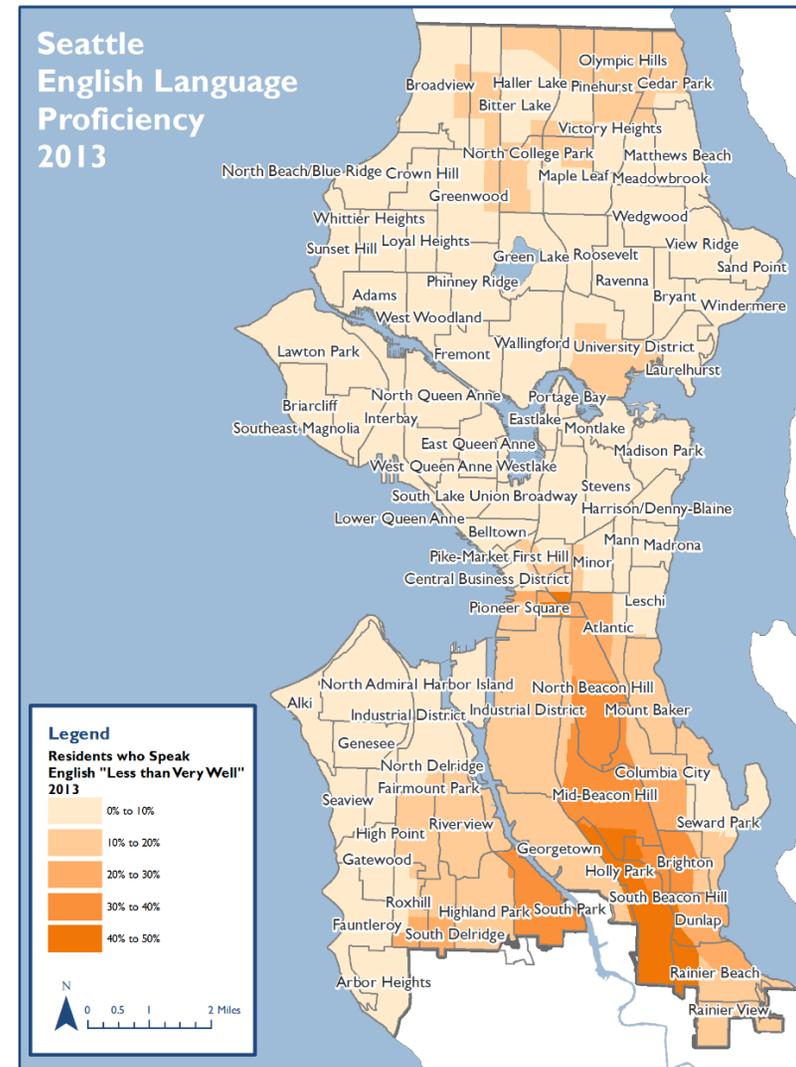


Source: 2013 ACS 5-Year Estimates B05002

## English Language Proficiency

Approximately one in ten Seattle residents report that they speak English “less than very well.” In 2013, of the population aged five and over, 78% reported that they speak only English, a slight decrease from 80% in 2000. Of those persons who primarily speak another language, the proportion who reported that they speak English “very well” increased from 11% in 2000 to 13% in 2013. The population in Seattle which reported that they speak English less than very well remained 9% from 2000 to 2013.

As with many population characteristics, the distribution of English language proficiency varies throughout the City of Seattle. As seen on the map, residents who have lower English language proficiency are concentrated in the International District, South Beacon Hill, South Park, Rainier Valley and other southeast Seattle neighborhoods.



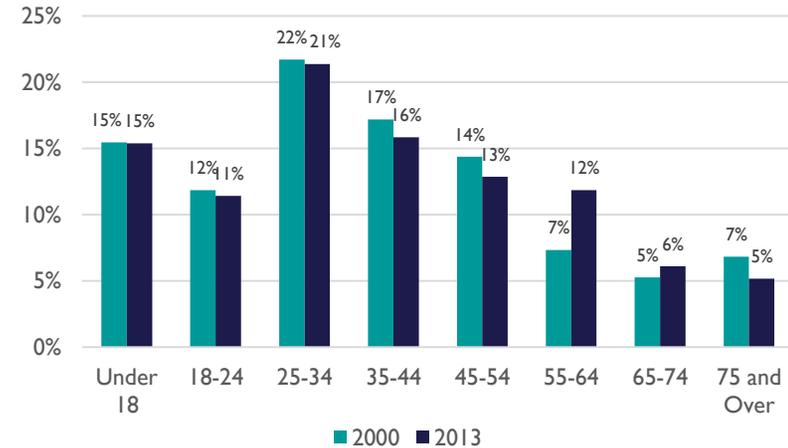
Source: 2013 ACS 5-Year Estimates B16001

## Population Age Distribution

The city's median age is lower than the national median and showed a slight shift to an older population from 2000 to 2013. In 2013, the median age in the City of Seattle was 36.1 years, slightly higher than the median age in 2000 (35.4 years), but still lower than the national median age of 37.2 years. In Seattle, the proportion of people under the age of 35 was 47% which is lower than 49% in 2000. The population aged 35 and over shifted from 50% in 2000 to 52% in 2013. The proportion of the population between the ages of 55 and 64 increased significantly from 7% in 2000 to 12% in 2013.

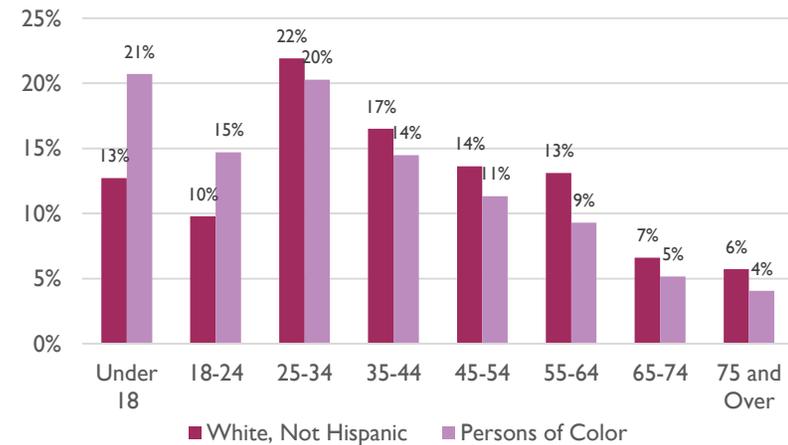
There is a significant difference between the age distribution of Seattle residents by race and ethnicity. In general, white, non-Hispanic residents are older and persons of color are younger. For example, 36% of persons of color are under the age of 24 compared to 23% of white, non-Hispanic residents.

**Chart 5**  
**Age Distribution in Seattle**  
**2000 and 2013**



Source: 2000 Census SF3 P08 and 2013 ACS 5-Year Estimates S0101

**Chart 6**  
**Age Distribution by Race and Ethnicity**  
**2013**



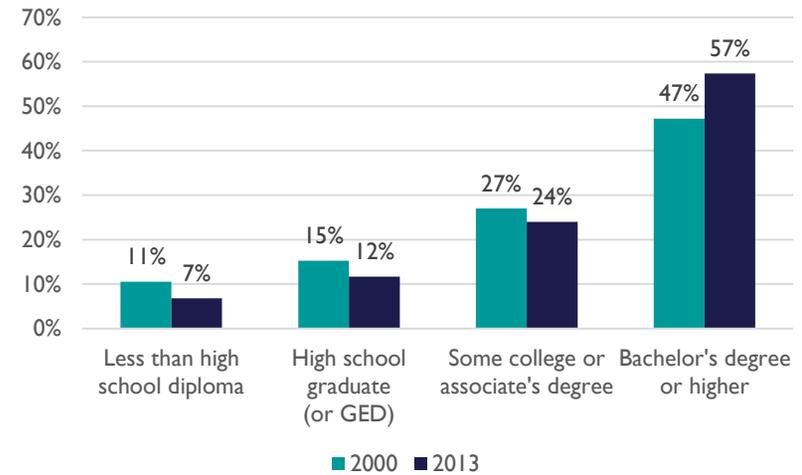
Source: 2013 ACS 5-Year Estimates B01001A-B010011

## Educational Attainment

**Overall, residents of Seattle are well-educated and educational attainment is increasing.** The population of the City of Seattle has increased in its educational attainment significantly from 2000 to 2013. In 2000, 11% of city residents had no high school diploma, which decreased to 7% in 2013. The proportion of residents with only a high school diploma (or GED) decreased from 15% in 2000 to 12% in 2013. Those residents with a Bachelor's degree or higher increased from 47% in 2000 to 57% in 2013.

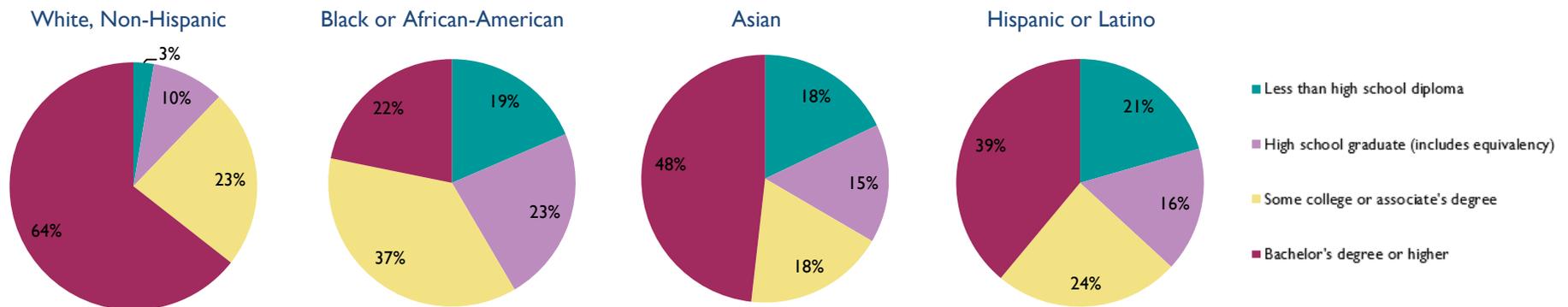
**Different races and ethnicity groups in Seattle have varied levels educational attainment.** In 2013, 64% of white, non-Hispanic residents had a Bachelor's degree or higher compared to 22% of Black or African-American residents, 48% of Asian residents and 39% of Hispanic or Latino residents. Conversely, only 3% of white residents lacked a high school diploma compared to 19% of African-American residents, 18% of Asian residents, and 21% of Hispanic or Latino residents.

**Chart 7**  
Population Educational Attainment in Seattle (Age 25+) 2000 and 2013



Source: 2013 ACS 5-Year Estimates C15002A-C15002I

**Chart 8**  
Population Educational Attainment in Seattle for Selected Races and Ethnicities (Age 25+) 2013



Source: 2000 Census SF3 P037, 2013 ACS 5-Year Estimates S1501

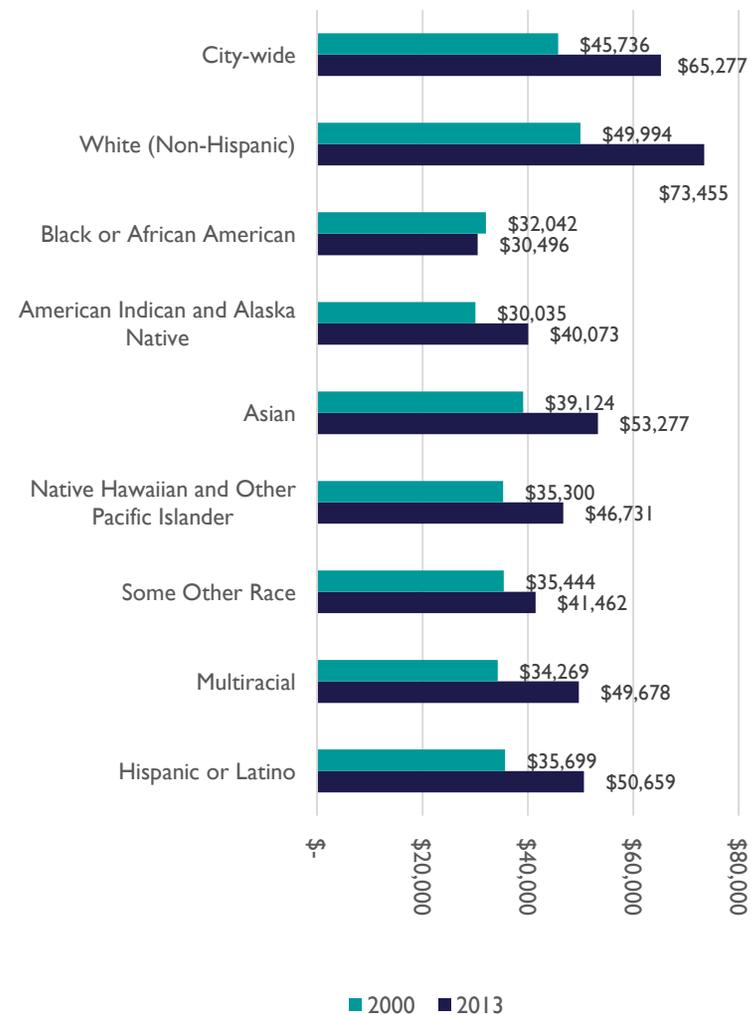
## Household Income

**While overall incomes in the city are high, there is significant disparity in incomes by race and ethnicity.** In 2013, the median household income in Seattle was \$65,277. In 2013, the median household income for white, non-Hispanic households was \$73,455, significantly higher than any other race or ethnicity. The median household income for African American householders was \$30,496, or less than half of the median household income for white householders. Every other race and ethnicity had a median household income over \$20,000 less than white, non-Hispanic household incomes.

**In addition to this stark disparity in household incomes in 2013, the change in incomes for households varied significantly by race and ethnicity.** The median income in the City of Seattle increased from \$45,736 in 2000 to \$65,277 in 2013, an increase of 43%. During that time period, incomes for white, non-Hispanic households increased at a faster rate, by 47%. Incomes for Multiracial and Hispanic or Latino households were comparable, at 45% and 42%, respectively. Median household incomes for “other” households increased only 17% over the period and median incomes for black or African-American households decreased 5% during the time period.

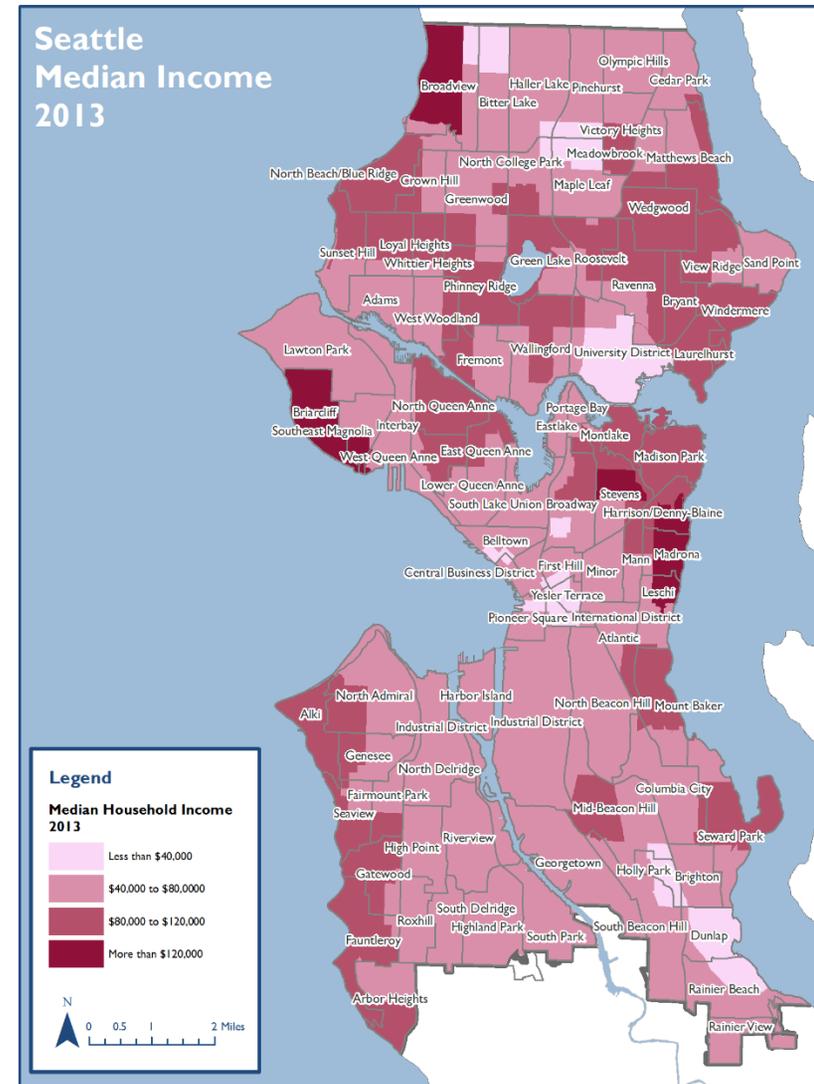
Note: Census information about household income is collected by the race and ethnicity of the “head of household” and does not account for interracial households.

**Chart 9**  
**Household Income by Race and Ethnicity**  
**2000 and 2013**



Source: 2000 Census SF3 P152A-P152I, 2013 ACS 5-Year Estimates S1903

**Median Incomes range widely by location in Seattle.** In 2013, median incomes ranged significantly in the City of Seattle, from a low of \$4,643 in the University District (due to the large presence of students with little to no income) to a high of over \$150,000 in the Madrona and Leschi neighborhoods. Other neighborhoods with low median incomes (under \$40,000 per household) included north Bitter Lake, Belltown, south First Hill, Yesler Terrace, Pioneer Square, the International District, Holly Park, Dunlap and Rainier Beach.



Source: 2013 ACS 5-Year Estimates B19013

## COMMUNITY BUILDING BLOCKS OVERVIEW

There are many important elements of a community which influence quality of life and opportunity – the building blocks of a healthy and equitable community. The following section focuses on seven of these building blocks: Housing, Healthy Eating and Active Living (HEAL), Public Health and Preventative Services, Education, Transportation, Environment and Economic Development.

Within each of these community building blocks, there are data and analysis regarding existing conditions which are supplemented by what was heard from the community during the engagement process, an examination of the health and equity implications of these findings, and potential barriers to policy implementation. These create the foundation for priority policy recommendations.



**Housing**



**Healthy Eating and Active Living**



**Public Health and Preventative Health**



**Education**



**Transportation**



**Environment**



**Economic Opportunity**



# HOUSING

Having an adequate supply of quality housing at various sizes, types, and levels of affordability is integral to creating a vital, thriving city. It remains a significant challenge for the city and a primary concern for residents. The following section gives an overview of the change in Seattle's housing stock, including information about the growth in housing units, home ownership, housing age, housing type and affordability.



### What the Data Shows

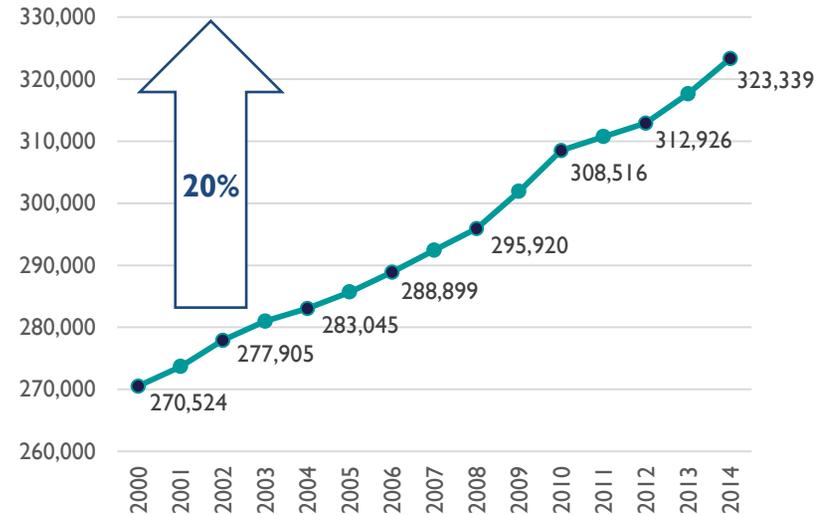
#### Housing Growth

The City of Seattle has seen significant housing growth since 2000. The most recent housing estimate for the City of Seattle was a total of 323,339 units in 2014. The City of Seattle added almost 53,000 housing units from 2000 to 2014, a growth rate of 20%.

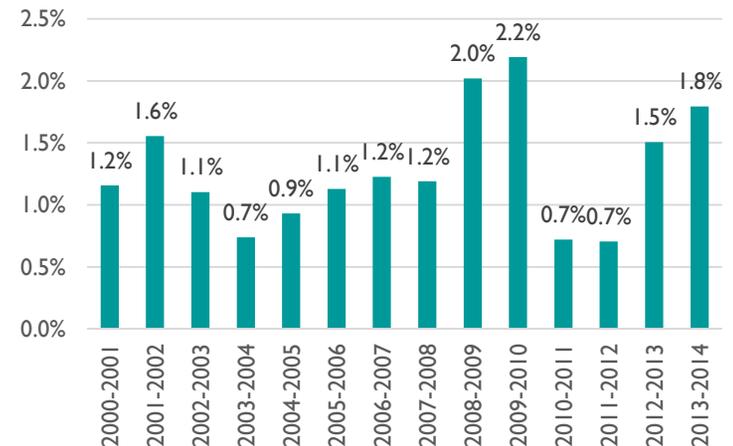
Housing growth rate has remained steadier than the population growth rate. Housing growth was highest from 2008 to 2010, but has rebounded to a growth rate of 1.8% in 2014.

Note: Housing estimates for the City of Seattle are from the Washington Office of Financial Management through 2014. The remainder of this section focuses on data from the US Census and the most recent data available is for 2013.

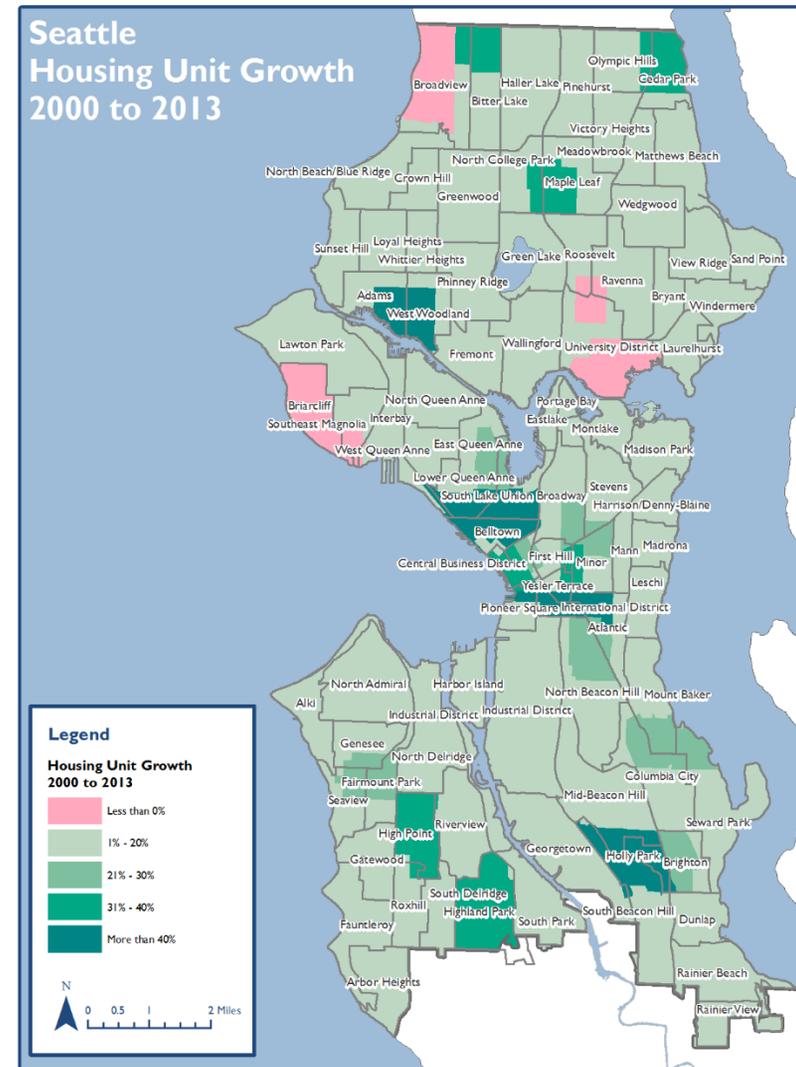
**Chart 10**  
Housing Growth in Seattle from 2000 to 2014



**Chart 11**  
Annual Housing Growth Rate in Seattle from 2000 to 2014



**Housing growth from 2000 to 2013 varied significantly by neighborhood.** While the housing growth rate in the city overall was 20% from 2000 to 2013, housing growth was significantly faster in some neighborhoods, including the Adams and West Woodland areas of Ballard, South Lake Union and Belltown, Yesler Terrace, the International District and Holly Park.



Source: 2000 Census H001, 2013 ACS 5-Year Estimates B01003

## Homeownership

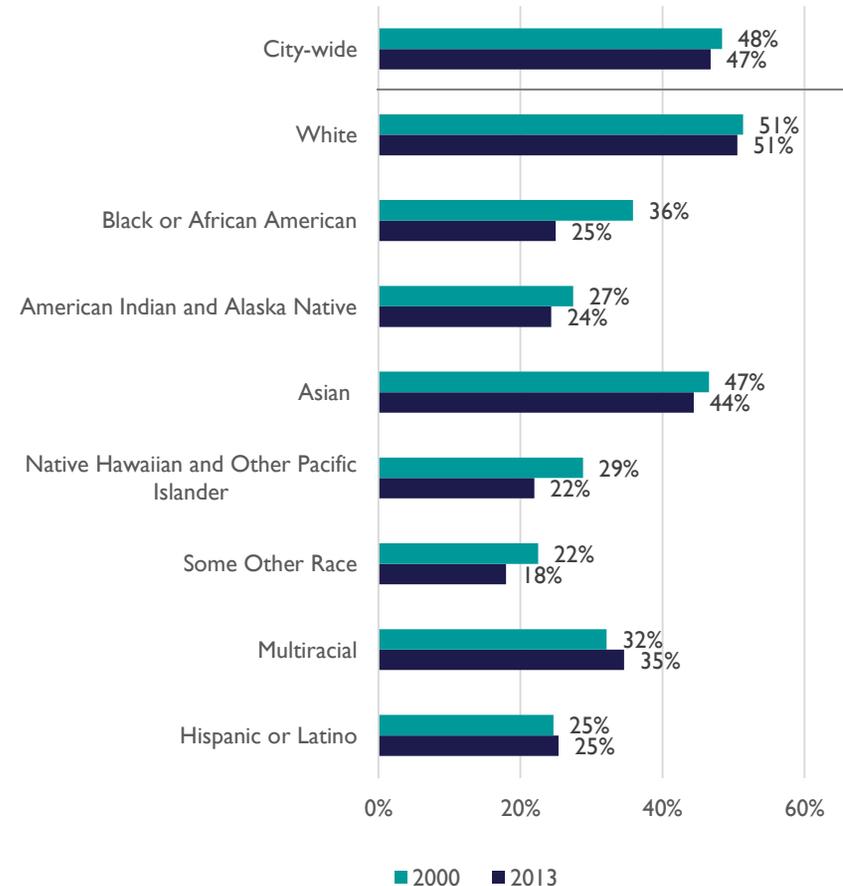
**Overall in the City of Seattle, homeownership remained steady from 2000 to 2013.** In 2000, 48% of households owned their homes, decreasing slightly to 47% in 2013.

**Homeownership rates in the city vary significantly by race and ethnicity.** In 2013, 51% of white households owned their homes, more than any other race or ethnicity. By contrast, 25% of Black or African American households, 22% of Native Hawaiian and Other Pacific Islanders, 18% of Some Other Race owned their homes and only 25% of Hispanic or Latino households owned their homes.

**Homeownership decreased for some races and ethnicities over the period.** Notably, the percentage of Black or African-American led households that own their homes decreased from 36% to 25%. Native Hawaiian and Other Pacific Islander households that own their homes decreased from 29% to 22%.

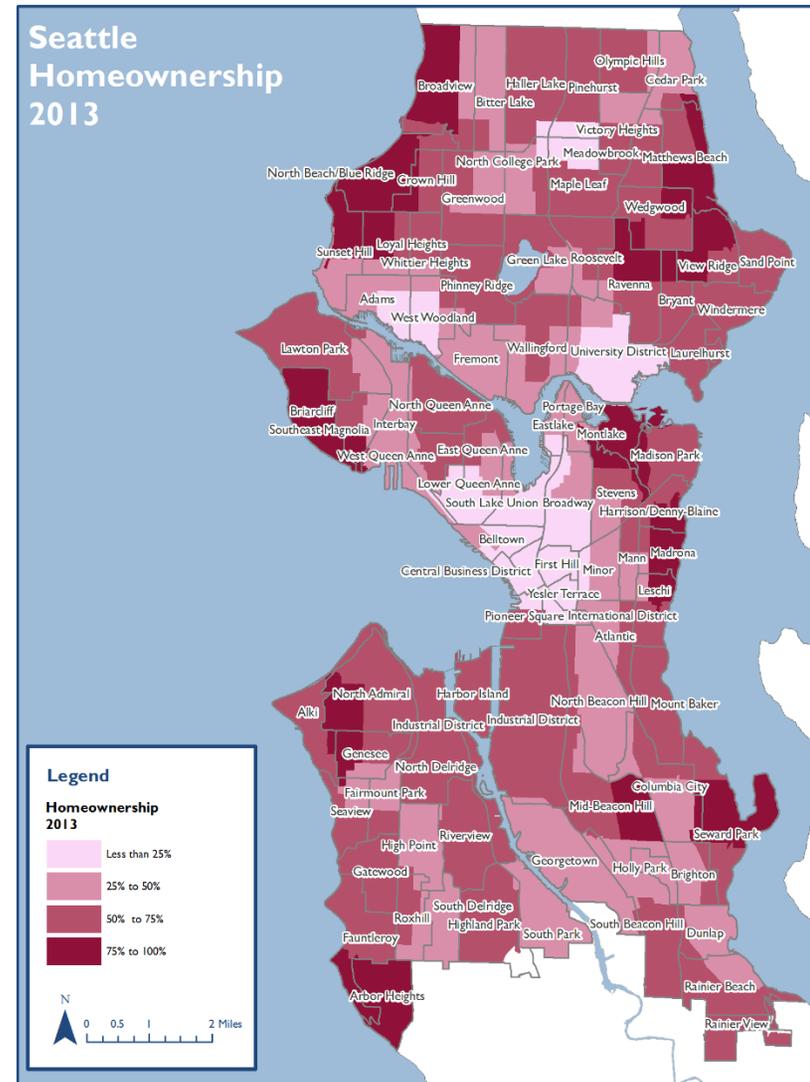
Note: Census information about homeownership is collected by the race and ethnicity of the “head of household” and does not account for interracial households.

**Chart 12**  
**Seattle Homeownership Rates by Race and Ethnicity**  
**2000 and 2013**



Source: 2000 Census SF3 H007, H011, H012 and 2013 ACS 5-Year Estimates B25003A-B25003I  
Note: Labels are rounded.

**Homeownership rates vary throughout the city.** In 2013, homeownership rates were lowest in the the downtown core, including South Lake Union, Belltown, First Hill and Yesler Terrace. Additional areas without strong homeownership included Ballard, the University District and Meadowbrook. Homeownership rates were highest in many areas with higher income households, including Briarcliff, North Beach, Broadview and Arbor Heights.



Source: 2013 ACS 5-Year Estimates B25003

## Housing Type

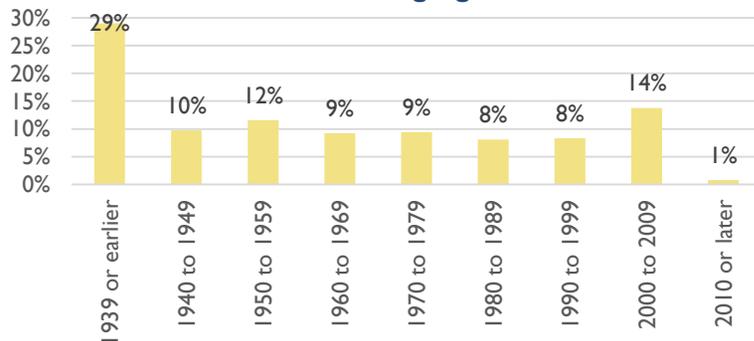
**There is a wide variety of housing types in the city.** In 2013, 45% of housing units in the city were single family detached homes. The remainder of homes are multifamily of different sizes, including units in small buildings (18%), units in moderate-sized (21%) and units in larger multifamily buildings (16%). There were a small number of other types of housing units, including boats and mobile homes.

**From 2000 to 2013, the number of units in all types of housing increased in Seattle, with greatest growth in larger multifamily buildings.** During the period, the number of single family homes in the city increased by over 4,800 units, or 4%. Multifamily in small buildings increased by 8,500 units (18%) and multifamily in moderately-sized buildings increased by 6,000 units (10%). The greatest growth in units was in larger multifamily buildings, which increased by 19,000 units (60% increase) resulting in a change from 12% to 16% of the overall housing type in the city from 2000 to 2013.

## Housing Age

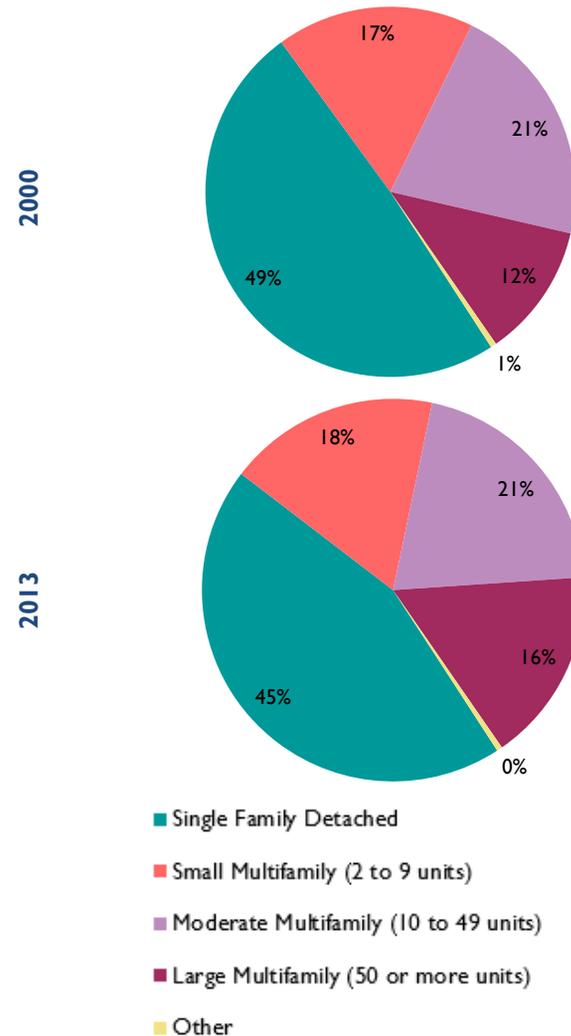
In 2013, the average age of housing units in the city was 55 years old. Almost one-third of housing units in the city were built before 1940. The growth in housing units after 2000 has created an increase in the proportion of new housing units in the city.

**Chart 13**  
Seattle Housing Age in 2013



Source: 2000 Census H030, 2013 ACS 5-Year Estimates B25024

**Chart 14**  
Mix of Seattle Housing Types  
2000 and 2013



Source: 2013 ACS 5-Year Estimates DP04

## Housing Affordability

Housing affordability is a key component of a healthy, vital city. The section below examines housing affordability as measured by self-reported data in the 2000 and 2013 census as well as housing and transportation costs as measured by the Location Affordability Index from the US Department of Housing and Urban Development (HUD).

### Rental Housing Affordability

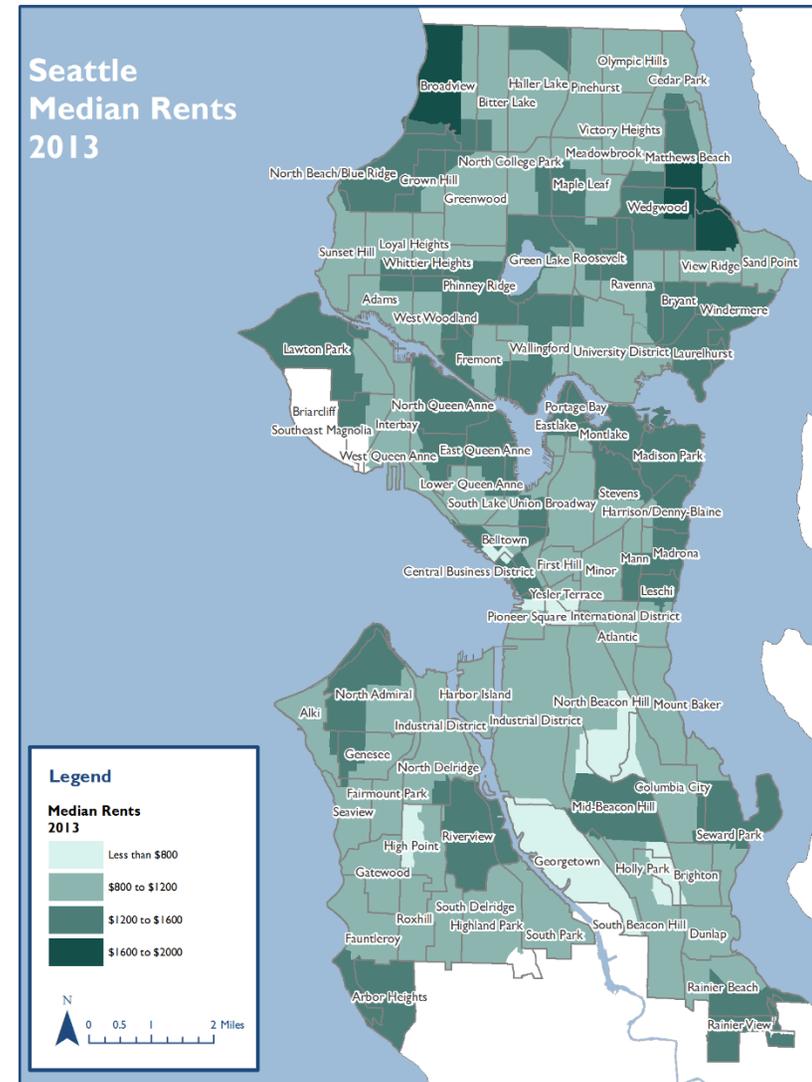
Median rents in Seattle increased significantly from a median of \$721 in 2000 to \$1091 in 2013, an increase of 51%. Over the period, housing units with rents less than \$500 per month decreased from 19% of units to 9% of units and units with rents under \$1000 per month decreased from 61% of units to 34% of units.

**Chart 15**  
**Seattle Rents**  
**2000 and 2013**



Source: 2000 Census H062, 2013 ACS 5-Year Estimates B25063

Note: This information comes from the US Census. It is self-reported and does not account for inflation. Some tracts do not have sufficient data points for reporting (shown in white).

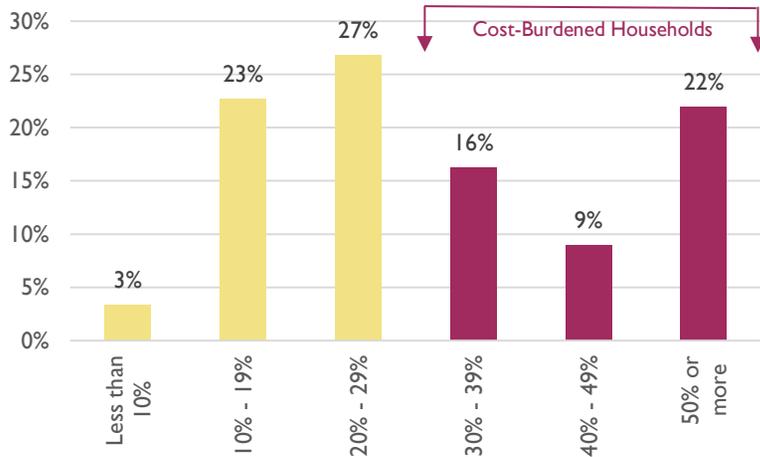


Source: 2013 ACS 5-Year Estimates B25064

**Renter Cost Burden**

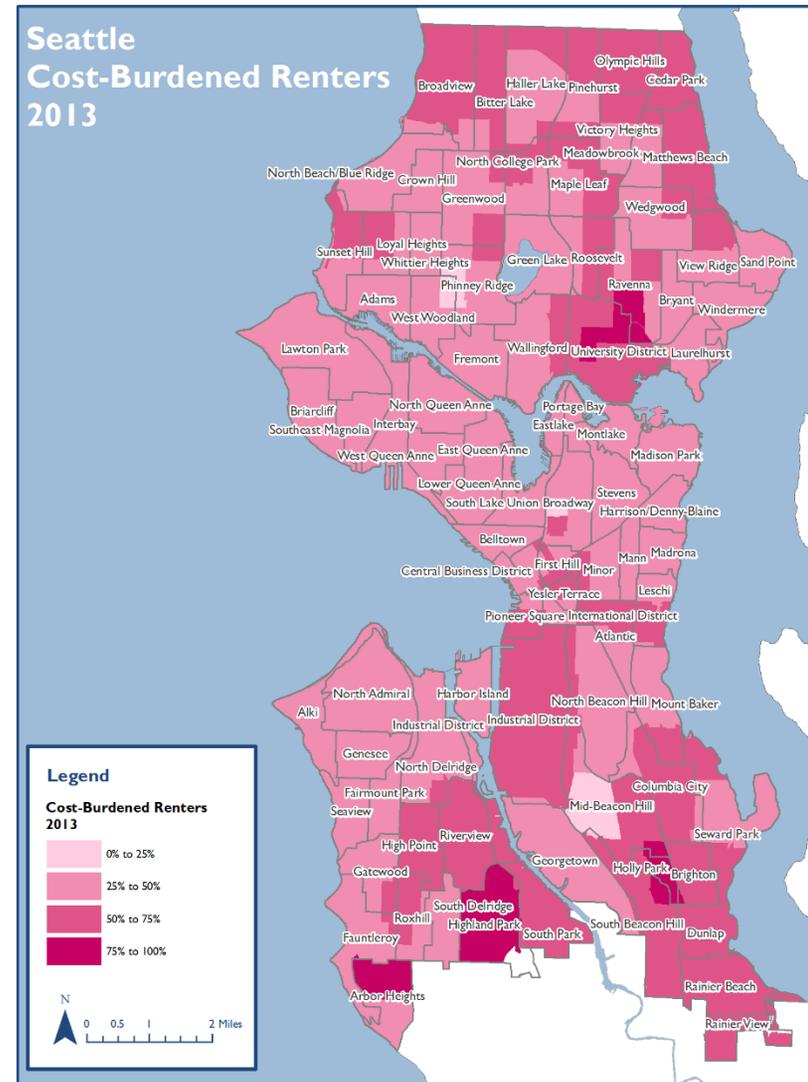
A household is “cost-burdened” when they pay over 30% of their income on housing costs. In the City of Seattle, almost half of renter households were cost-burdened in 2013. Additionally, one in five renter-households was severely cost-burdened, meaning they pay over 50% of their income on housing costs. Within Seattle, young households (aged 15 to 24) and older households (over age 65) are more likely to be cost-burdened (70% and 64%, respectively).

**Chart 16**  
**Percent of Income Spent on Rent**  
**2013**



Source: 2013 ACS 5-Year Estimates B25070

**In certain areas of the city, many more renter households are cost-burdened.** In the University District, Holly Park, Highland Park and Arbor Heights, as many as three of every four renter households are paying over 30% of their income on housing.



Source: 2013 ACS 5-Year Estimates B25070

### Owner Housing Affordability

**Home values in Seattle have increased significantly.** The median value of owner-occupied housing units in Seattle increased from \$270,379 in 2000 to \$433,800 in 2013, a rate of increase of 60%. Over the period, housing units with values less than \$300,000 decreased from 63% of housing units to 21% of housing units. Those units valued above \$500,000 increased from 11% of the housing stock to 37% of the housing stock, making homeownership increasingly difficult for lower-income families.

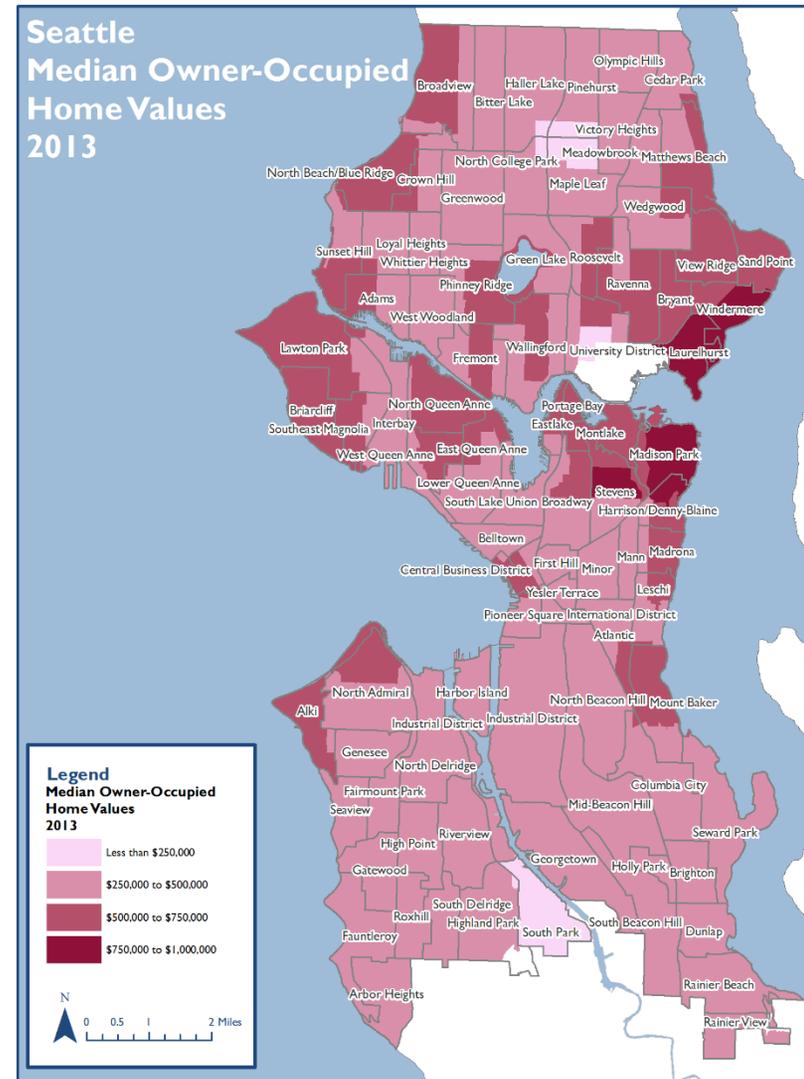
**Chart 17**  
**Seattle Owner-Occupied Housing Unit Value**  
**2000 and 2013**



Source: 2000 Census H074, 2013 ACS 5-Year Estimates B25075

**Median home values range significantly by geography.** The highest median home values (over \$750,000) are located in Madison Park, Lauelhurst and Windemere. The lowest value homes are found in South Park and Meadowbrook.

Note: This information comes from the US Census. It is self-reported and does not account for inflation. Some tracts do not have sufficient data points for reporting (shown in white).

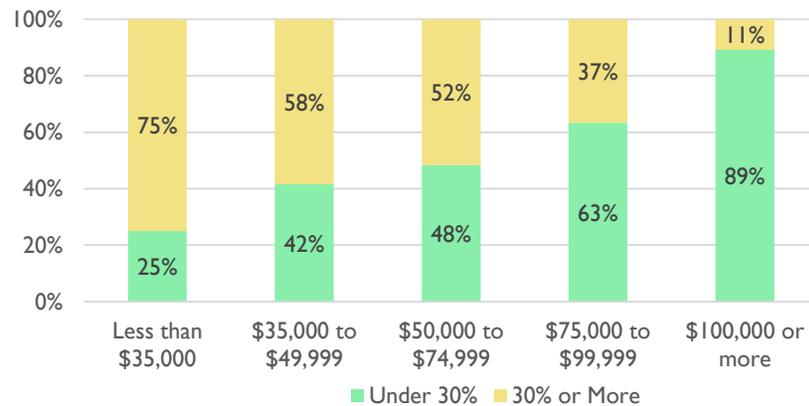


Source: 2013 ACS 5-Year Estimates B25088

**Owner Cost Burden**

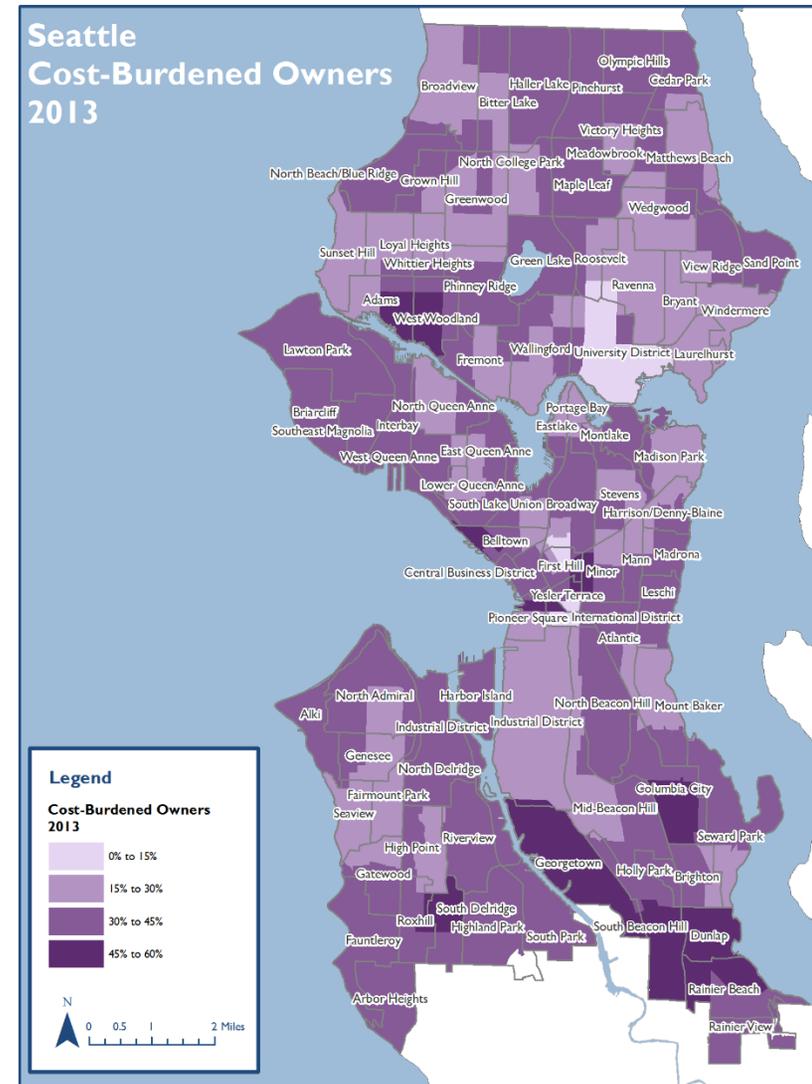
**Overall, one in three Seattle owner households is cost-burdened, or paying more than 30% of their income on their mortgage.** Unsurprisingly, low-income households are much more likely to be cost-burdened. For households earning less than \$35,000 per year, 75% are cost burdened. Even for more moderate-income households earning between \$50,000 and \$74,999, half of households are cost-burdened.

**Chart 18**  
**Percent of Income Spent on Mortgage and Other Costs**  
**2013**



Source: 2013 ACS 5-Year Estimates B25092

**In certain areas of the city, many more owner households are cost-burdened.** In the Adams, West Woodland, Belltown, Pioneer Square, Yesler Terrace, Columbia city, Georgetown South Beacon Hill, Dunlap and Rainier Beach neighborhoods, as many over half of owner-occupied households are paying over 30% of their income on housing.



Source: 2013 ACS 5-Year Estimates B25091



## What the Community Said

**Housing affordability is a key concern.** Throughout engagement activities in the City of Seattle, housing affordability was a primary issue brought up by a broad-range of community members. Additionally, many residents living in Southwest King County lived there due to lower cost housing. Residents are seeing increases in housing costs that concern them and make people feel that they have limited housing choices for them and for their families.

**Housing near religious or cultural communities is a priority.** Many residents highlighted the diversity of their neighborhoods as an important factor in their quality of life. Living near family or religious communities, having access to culturally-appropriate services like specialty grocery stores or markets is particularly appreciated and valued. For those residents fearful of displacement, the loss of this proximity is a key concern.

**Residents struggle to find affordable family housing.** Particularly among immigrant communities who have more children on average and who prefer to live in inter-generational households, finding housing units with enough bedrooms is difficult. Some engagement participants indicated that they felt that some landlords were reluctant or unwilling to rent to larger families. Housing size is also challenging for residents who live in public housing. People living in public housing often wait for many years before a unit becomes available, however, the available unit may be too small for their family and once in that unit they are not eligible to move into a larger unit. Families may turn down that unit in the hopes that if they remain on the list a larger unit will become available. Therefore, they remain in market-rate housing which is beyond their financial means.

**In addition to affordability, there are several factors which influence housing choice.** Some factors related to housing choices which were highlighted in our engagement include quality schools, accessible stores and services, parks, neighborhood safety, lack of discrimination and access to religious and cultural communities.



## The Health and Equity Lens

Housing affordability is a significant challenge for a growing number of households in the city. Many Seattle households are cost-burdened and a household which is paying 30%, 50% or 80% of their income on housing has less money available for other critical needs like healthy food, medical care, education and savings.

Many cities, particularly growing cities, face challenges in housing affordability – it is a sign of a growing, healthy economy which is attracting new residents and creating increased demand for existing housing as well as building new housing which is typically more expensive than older housing stock. It will be difficult, therefore, to completely stop increases in housing costs. It is key to recognize that increasing affordable housing supply is only one way to help ease housing burden for households. For example, the second highest cost for most households is transportation. By decreasing transportation costs through transit accessibility or better proximity to jobs and services, the dual burden of housing and transportation can be decreased overall.

Housing choice is directly impacted by economic opportunity and stability. By increasing economic opportunity, including access to living-wage, stable jobs, residents have better housing access and choice.

There is a significant disparity in homeownership rates by race. While homeownership is not an appropriate choice for all households and can increase cost-burden and limit mobility, homeownership does provide benefits which are not being distributed equitably in Seattle. For example, homeownership can lead to better education outcomes for children because they do not have to change schools with frequent moves. It allows households to invest in their home and home value appreciation generates wealth. Because homeownership rates are lower for persons of color, they are not enjoying these benefits as much as white households.



## Potential Barriers

**The supply and cost of housing is dependent on the private housing developers and market conditions.** Because the majority of housing is built by private sector developers, there is a limited amount of influence that a city can have on the supply of new housing. Even when a city has done everything ‘right’ in creating favorable conditions for development, it still requires the private sector to fulfill that vision.

**The City of Seattle has a limited supply of land.** The City of Seattle is bordered by two bodies of water and cities to the south and north, therefore the supply of land is finite and largely built out. Creative policies which increase the capacity of the existing land supply are the only way to increase overall development capacity and housing supply.

**Some residents are subject to discriminatory practices from landlords, lenders and other institutions.** Discrimination on the basis of race, religion, culture and sexual preference is still creating barriers to equitable housing in Washington State. For example, a recently completed Seattle Fair Housing Assessment found significant disparities in treatment of a wide-range of minorities. While all residents are protected against discrimination in housing by both the Federal and state governments, it is difficult for smaller jurisdictions to test for discrimination and enforce fair housing laws.

\*For a more detailed examination of housing policy, see our February, 2015 report “Affordable Housing Strategies for Seattle” at [www.futurewise.org](http://www.futurewise.org).



## Priority Policy Recommendations

### Identify and Prioritize

**Housing affordability is one of the Seattle’s biggest challenges. Affordable, healthy housing is the most critical component to creating a more equitable Seattle. The city’s actions and investments must be proactive and aggressive.**

*Housing policy must prioritize those housing types and sizes which are currently not being produced by the market.*

Develop a concrete understanding of their housing affordability – both supply and demand and a sense of the trends which will influence the housing affordability “gap.” This should be the foundation for housing policies and investments and be updated periodically.

The city’s affordable housing policies, programs and investments should prioritize two critical needs:

- 1) Prevent displacement of marginalized populations throughout the city.
- 2) Expand affordable housing options in ‘high opportunity’ neighborhoods with good access to transit, quality schools, parks and economic opportunity.

**Invest and Implement**

**Develop a comprehensive affordable housing implementation policy.**

*The tools and programs currently in place are not adequately addressing Seattle’s rising housing costs.*

Develop a broader range of programs and policies to address rising costs of land and construction, inadequate supply at all levels of affordability and the risk of displacement due to increased housing costs.

**Work within the existing policy framework.**

Use the Seattle Comprehensive Plan to set forth housing goals and implementation measures.

Incorporate affordable housing goals and strategies into neighborhood plans, transit and station area plans.

**Increase effectiveness of existing programs and past investments.**

Expand the scope of the Multifamily Tax Exemption Program (MFTE).

Leverage existing publicly owned property.

Establish preservation incentives for existing property owners.

Prioritize the preservation of existing affordable units in existing housing programs.

**Authorize and expand financing tools that broaden participation in creating affordable housing.**

Expand the city’s financial commitment to affordable housing through a routine budget appropriation.

Create a Growth Fund which uses new tax revenues from development for affordable housing.

Work to expand local taxing authority through value capture financing and Real Estate Excise Tax.

Reauthorize and expand Seattle Housing Levy.

**Ensure land use and other policies support increasing housing supply overall, including affordable units.**

Work with the Puget Sound Regional Council (PSRC) to establish a regional loan fund for equitable Transit Oriented Development.

*Housing supply is directly related to a city’s zoning and land use policies. If a city does not have a sufficient supply of land for housing, new units cannot be built at a fast enough rate to keep up with demand, which leads to increased housing costs at all income levels. Therefore, increasing the supply of land for housing and the density which can be built on that land is a critical component of ensuring affordability and growth in the community.*

Allow innovative housing types and construction strategies such as micro-housing, flexible housing, modular construction, innovative building materials and streamlined design.

Examine development regulations and building codes for changes which could reduce construction costs without jeopardizing public safety or labor standards.

**Increase multifamily zoning acreage and integrate multifamily and accessory dwelling units into a broader range of neighborhoods where appropriate.**

*Segregating multifamily housing from single family housing can decrease access opportunity.*

Determine location zoning for multifamily housing in order to increase the supply of multifamily land with access to amenities and services, particularly transportation, schools and jobs

**Work with Non-Profit Organizations which supply housing and supportive services.**

*The private development market cannot provide adequate affordable housing, especially in high costs areas like Seattle.*

As part of overall housing strategy, work with non-profit organizations which build or manage affordable housing. By working in cooperation with these organizations, a city can provide its residents with low-cost housing unavailable in the private housing market.

## Track and Measure

### **Measure housing choice and diversity at neighborhood and city-wide scales.**

*Affordability should be tracked for very-low income, low-income, workforce, and market rate housing. Housing supply and demand should be understood at a neighborhood scale – where change and displacement can be better seen rather than at the city scale.*

Track housing type and size (number of bedrooms), both in terms of new construction and demolition to ensure that the balance of units in the city addresses housing need for all family types, at both neighborhood and city-scale.

In addition to absolute costs of housing, examine cost burden as well as the impact of transportation costs on total affordability when considering in policy decisions, program development and project investment.



# HEALTHY EATING AND ACTIVE LIVING

Healthy eating and active living are the foundations of physical, emotional and mental well-being. There is growing awareness of the importance of access to healthy, fresh foods for everyone and in many neighborhoods a variety of economic and landuse conditions result in residents being underserved with regard to healthy food access. Active living can be encouraged through active transportation choices, increased access to parks and recreational facilities and programs which support use of these facilities. Active living can improve physical health outcomes as well as mental and emotional well-being, community cohesiveness and overall quality of life.



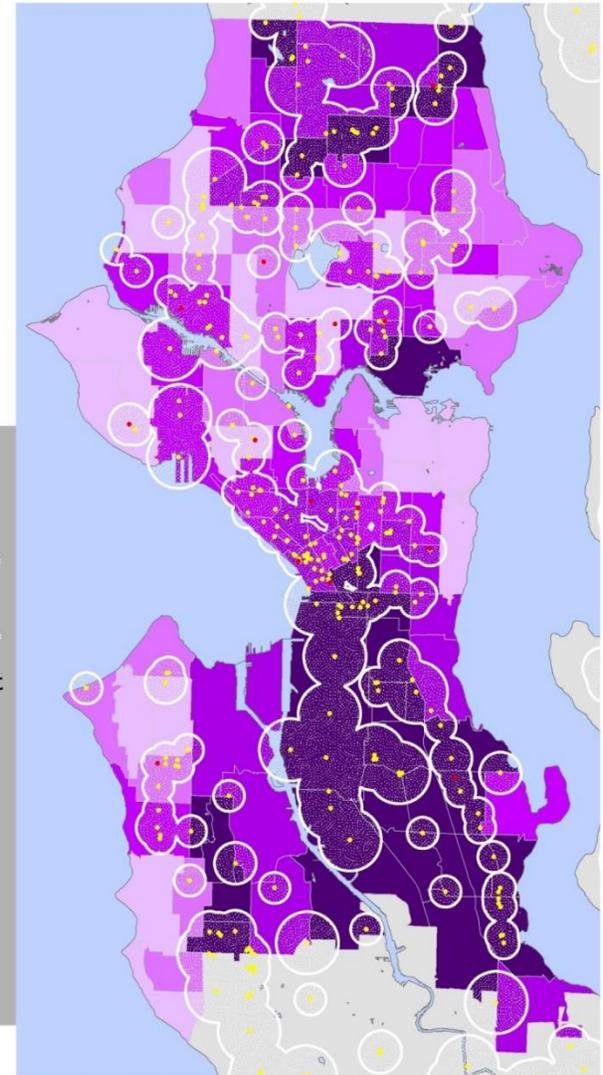
## What the Data Shows

### Healthy Food Access

In 2010, only 49% of city residents lived in areas with close proximity to a farmers market or grocery store.<sup>2</sup> Access to fresh food was lowest in areas with the highest income, least diverse populations, where only 30% of residents lived in close proximity to a farmers market or grocery store. In those areas with the most diverse populations and lowest incomes, access was higher than the city as a whole with 59% of areas having access to a grocery store or farmers market. While these low-income, diverse areas do have greater proximity to stores, many of these markets are may be smaller with less fresh produce and higher prices than larger grocery stores found in affluent neighborhoods. Lack of access in diverse, lower income areas is most notable in Georgetown, South Beacon Hill and the University District.

### What areas of Seattle are served by close proximity to healthy food?

This map depicts areas with close proximity to farmers markets and grocery stores in 2010 related to diversity, income and English proficiency at the census tract level in Seattle.

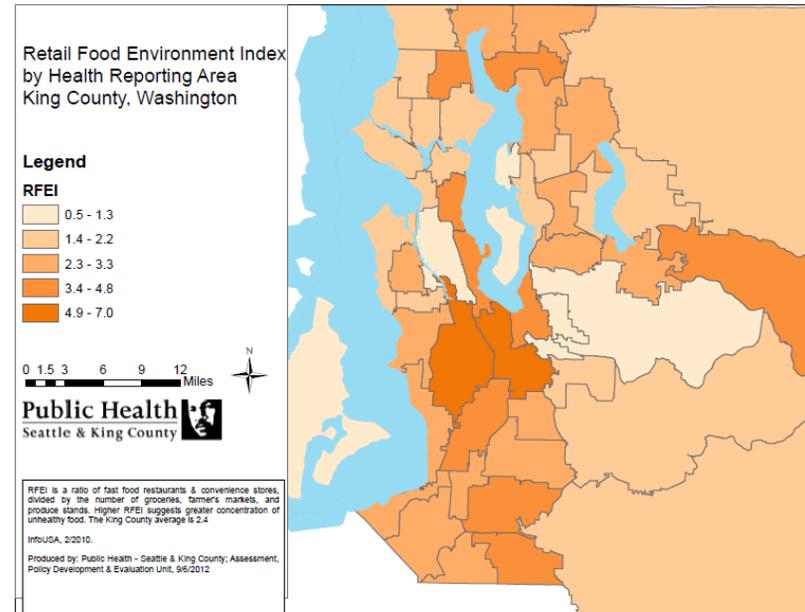


For more information and definition of community characteristic quintiles, see Map notes.

<sup>2</sup> Data for farmers markets and grocery stores in 2000 is not available.

**In addition to a lack of healthy food, some areas are more likely to have greater supply of unhealthy food.** Seattle and King County Public Health conducted a study to calculate the Retail Food Environment Index (RFEI) for all of King County. The RFEI shows the ratio of available healthy food to unhealthy food. The higher the index, the more unhealthy food is available compared to healthy food. As shown below, areas in Seattle, particularly the southeast and northernmost areas have higher RFEI scores.

**Even with close proximity to a market or grocery store, priority populations may still have less access to healthy food.** Factors such as transit dependency, financial means, and a lack of culturally appropriate food can decrease food access.



Source: Seattle King County Public Health

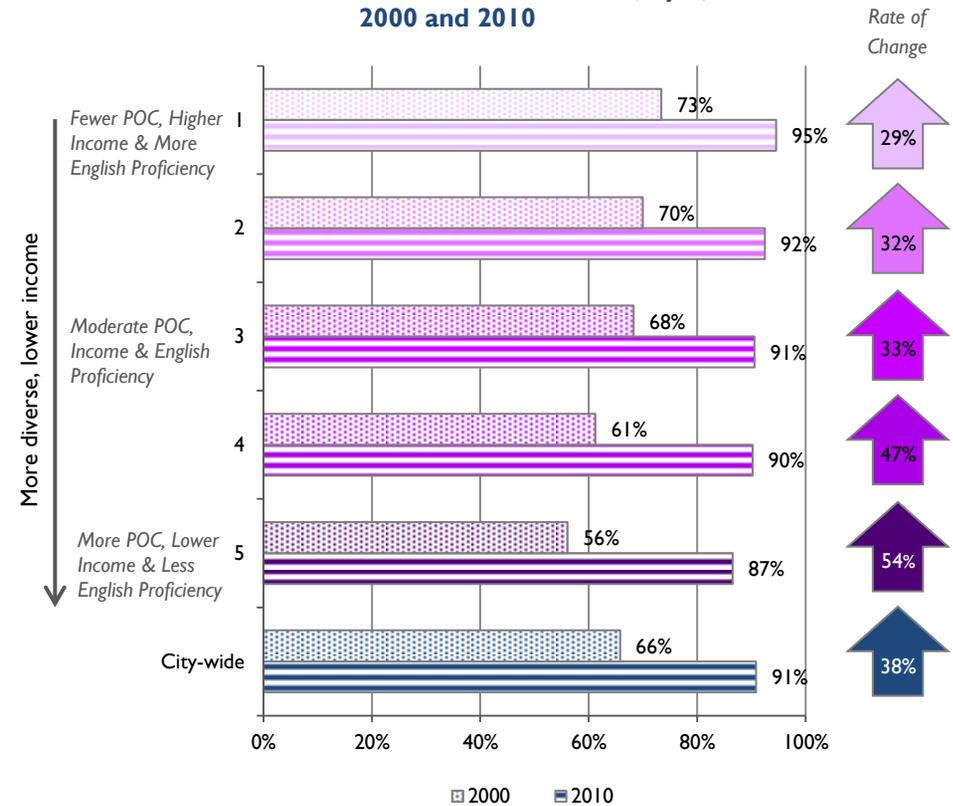
### Access to Parks and Recreation

The City of Seattle’s investment in parks and recreation space through recent Parks Levies has significantly increased access to parks and recreation for all communities of the city. Overall, access to parks increased from 66% in 2000 to 91% in 2010, a rate of increase of 38%.

**Access to parks and recreational facilities increased the most for priority equity communities from 2000 to 2010, but these communities still have the lowest access rate in the city.** Parks access increased for all areas, regardless of community characteristics of its residents. The increase in parks access was highest in the city’s lowest income, most diverse communities. In those areas, parks access increased from 56% in 2000, to 87% in 2010, an increase of 54%. While this was a significant increase, areas with the most diverse, lowest-income and least English proficient communities still have the lowest access to parks and recreation compared to other areas of the city.

As shown on the maps on the next page, while most areas of the city have close proximity to parks and recreational facilities, there are portions of some neighborhoods with priority equity populations which do not have close access to a park, including Delridge, Roxhill South, Highpoint, North College Park and South Beacon Hill.

**Chart 19**  
**Access to Parks and Recreational Facilities, by Quintile**  
**2000 and 2010**



For definition of community characteristic quintiles, see Map notes.

**Parks and Recreational Facilities  
2000**

**What areas of Seattle are served by close proximity to recreational facilities?**

*This map depicts areas in 2000 with close proximity to recreational facilities related to diversity, income and English proficiency at the census tract level in Seattle.*

**Legend**

**Community Characteristics**

- Less Diverse, Higher Income, & Higher English Proficiency
- Moderate Diversity, Income, & English Proficiency
- More Diverse, Lower Income, & Lower English Proficiency

**Access Area**

Buffer size based on population density at service point

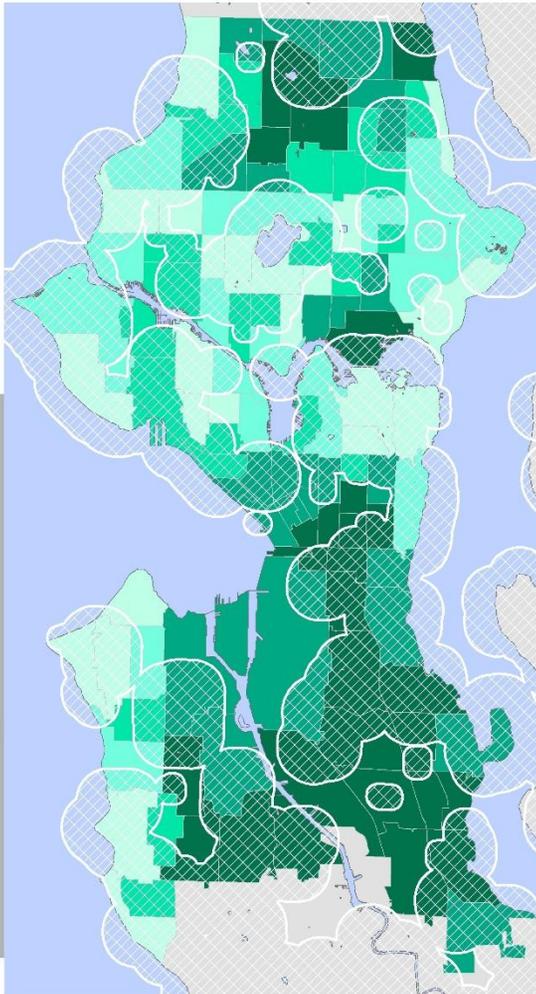
- 1 mile buffer intermediate - low & low density
- 3/4 mile buffer intermediate - high density
- 1/2 mile buffer high density

0.5 0.25 0 0.5 1 Miles

**NORTH**

Data Source: 2000 Census & 2004-2010 5 Year American Community Survey  
For detailed methodology and data sources see Map Notes section

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**Parks and Recreational Facilities  
2010**

**What areas of Seattle are served by close proximity to recreational facilities?**

*This map depicts areas with close proximity to recreational facilities in 2010 related to diversity, income and English proficiency at the census tract level in Seattle.*

**Legend**

**Community Characteristics**

- Less Diverse, Higher Income, & Higher English Proficiency
- Moderate Diversity, Income, & English Proficiency
- More Diverse, Lower Income, & Lower English Proficiency

**Parks**

**Access Area**

Buffer size based on population density at service point

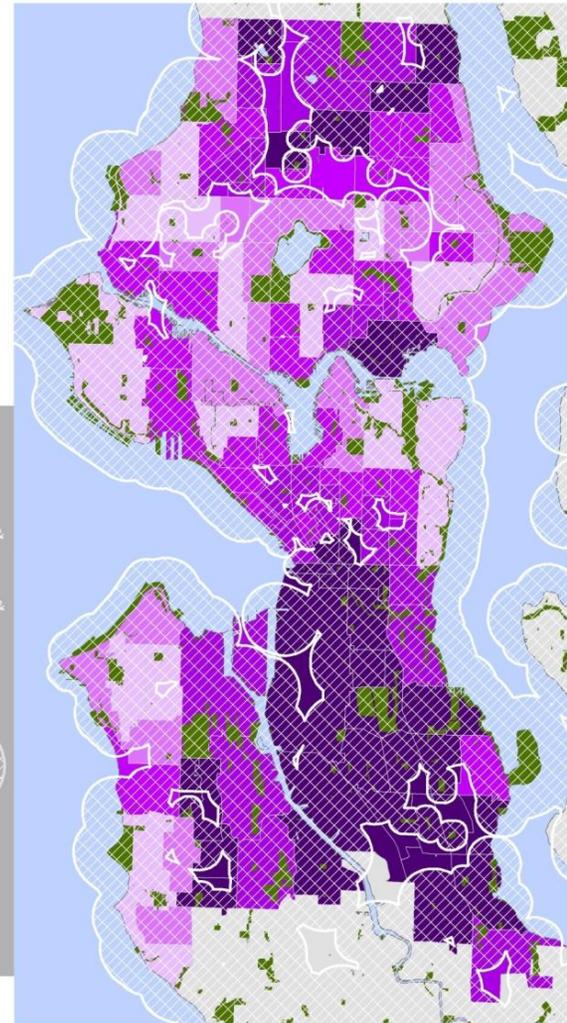
- 1 mile buffer intermediate - low & low density
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0.5 0.25 0 0.5 1 Miles

**NORTH**

Data Source: 2010 Census & 2004-2010 5 Year American Community Survey  
For detailed methodology and data sources see Map Notes section

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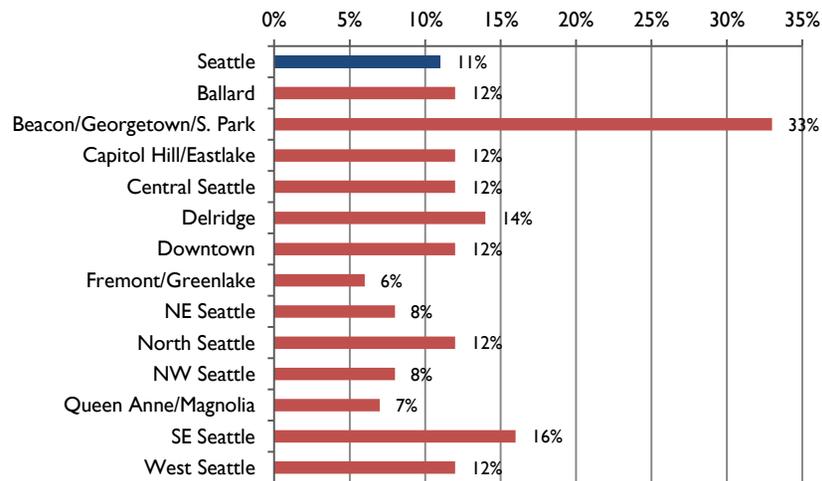


For more information and definition of community characteristic quintiles, see Map notes.

**Physical Activity**

**Lowest physical activity was reported by residents in Beacon Hill, Georgetown and South Park.** In 2010, 11% of Seattle adults reported that they had no leisure physical activity, an integral factor in both physical and mental health. In the neighborhoods of Beacon Hill, Georgetown and South Park, the percent of residents reporting no leisure physical activity was 33%, three times the city-wide average. Other neighborhoods with less physically active residents included Southeast Seattle (16%) and Delridge (14%). The proportion of adults reporting no leisure physical activity was lowest in Fremont and Greenlake (6%).

**Chart 20**  
**Percent of Adults Who Report No Leisure Physical Activity in 2010**



Source: King County Public Health



## What the Community Said

**Even residents living within close proximity to healthy food options felt that the quality and affordability of that food was lacking.** Residents reported that the food available at locations close to them were either unaffordable or not as fresh as food at larger chains which may be farther away. Those residents were traveling to stores farther away in search of better food choices.

**There is a greater need for programming at recreational facilities, particularly for youth.** Residents reported that even those living close to a park or community center did not feel that there was enough programming for youth at these facilities. Other limitations to using the facilities included short hours of operation, expense or a lack of staff able to communicate with non-English speaking youth and their parents.

**Safety in and around parks is a concern for residents.** Residents reported that many of the parks closest to them did not feel safe for a number of reasons, including poor lighting and maintenance, criminal activity or loitering at the parks. In addition, walking or biking to the parks was not considered safe due to a lack of bike and pedestrian infrastructure.

**Parks and recreational programming are not culturally appropriate for all residents.** Community engagement participants reported that some of the parks which are closest to them do not fulfill their recreation needs. For example, parks with a focus on children's playgrounds rather than sportsfields for youth or adults, fields for sports like baseball rather than soccer, programming which was not mixed-gender rather than single sex or lack of culturally relevant programming (for example, dance classes related to their country of origin).



## The Health and Equity Lens

Healthy Eating, Active Living (HEAL) is an approach that addresses major chronic diseases through policy development and advocacy rather than through provision of direct services. For example, HEAL promotes equitable access to healthy, affordable food and increases opportunities for active recreation and exercise. Planners using HEAL examine how health may be affected by the built environment and ultimately promotes convenient access to local food options and encourages increased physical activity through daily routines and within target communities. Healthy eating and regular physical activity can prevent injury, disability, and early death from many chronic conditions, including obesity, heart disease, stroke, some cancers, diabetes, depression, and osteoporosis. Improved health may be encouraged through a variety of methods including programming, policy and individual behavior change.

The neighborhoods individuals live in and the choices available through day-to-day activities directly influence their health and well-being. The equity element of a HEAL approach examines how access and opportunities vary in different segments of a community. The community may be examined through different geographies and different traits of the population such as by race/ethnicity, age, English-proficiency, and socio-economic status. Areas with greater densities (more multi-family housing) often have higher percentages of priority populations than single-family neighborhoods. These areas of higher density may be able to support a grocery store but have difficulty in attracting larger, established grocery chains as a result of perceptions of buying power related to demographic traits. As a result, many local stores may offer goods and services, but at higher prices than large grocery stores. These denser areas also lack the small recreation areas that often go unlooked in single-family neighborhoods, like side and rear yards. Similarly, many neighborhood parks were developed on the interior of neighborhoods to provide access to the immediate houses. Newer, multifamily areas may be further from these assets and have higher costs for land which make acquisition and development of new park lands more difficult.

### **Neighborhoods impact safety, inactivity, and social cohesion.**

Promoting community-based agriculture through community gardens and edible landscaping can help promote safety in public spaces, opportunities for social interaction, and access to affordable, healthy, and culturally-appropriate food.

### **Smart land use decisions can support healthy eating and active living.**

Planning, zoning, and infrastructure investment can not only have a positive effect on health but can also foster community and keep some of our most vulnerable populations engaged, active and healthy. It is important to ensure that more neighborhoods are designed to promote everyday activity through urban design, mix of uses and infrastructure. Schools, often located in single family areas can serve as community centers year round through coordinated programming, including opportunities for learning for all ages (including job development and vocational skills for adults, summer library hours, and youth programs). These established facilities can be pivotal in increasing access to programming for intergenerational members of households.

Increasing density in lower density areas through the form of skinny houses, townhomes, or duplexes can increase housing choices in areas that are park-rich and easy to bike and walk. Focusing infrastructure improvements on denser areas can mitigate the impacts of higher vehicle congestion and make these places better for pedestrians. Given the difficulty and cost associated with acquiring and developing new park facilities, the public realm provides opportunities to support activity and space for community.

### **The workplace environment and active transportation commute are critical to healthy environments and behaviors.**

Cities can reduce the burden of worker healthcare costs by helping workers overcome obesity and achieve a healthy weight. Activity breaks, nutrition standards policies for vending machines and city- or employer-sponsored meetings, walking groups and stations are all important strategies to ensuring a happier, healthier and more productive workforce. Many of these existing proactive employer policies are not provided for low-wage workers. Active transportation elements (i.e., protected bike lanes and enhanced crossings, etc.) that support work/commuting trips should be coordinated with end of trip facilities (i.e., bike storage and parking, showers, building amenities, etc.).

**Private businesses can be slow or unable to respond to amenity needs in low-income neighborhoods.** Market-provided community amenities may be slow to come as perceptions of buying power in lower income, low-English proficient, and higher percentage communities of color may not lead to a newer grocery store being sited in a low-access neighborhood. The burden then falls to smaller, neighborhood grocers to provide affordable, culturally appropriate foods. The scale may make it difficult to provide low cost and high quality produce that can compete with more distant, lower cost, larger markets. The city should encourage food assistance programs for small and large grocers and develop business support programs to assist compliance with regulations for accepting or increasing the purchasing power of food benefits (like Seattle's "Freshbucks" program).

Cities have planning, economic development, and public relations tools for attracting and supporting healthy food retailers, farmers markets and community gardens. When prioritized and funded, communities can increase park access in priority areas. By taking the steps to identify these components, communities can set strategic direction to:

1. Maximize the impact of high-performing actions on priority populations;
2. Minimize the influence of stressors on personal choices and community health; and
3. Focus amenities and investments in areas with priority populations.

The HEAL approach can help create a healthier Seattle, as measured through longer life spans, prevented illnesses and factors of disease, and quality of life. Within the priority populations identified, a special focus is given to immigrants and refugees; youth; and community elders and differently-abled persons. A special emphasis on these groups will have far reaching impacts on the success of all persons/groups.

**Barriers to healthy eating and active living can be greater for immigrants and refugees.** Immigrants and refugees moving the area also face health risks, including stresses of adjusting to a new life, and sometimes, a new diet. Language, literacy, income and cultural differences may prevent some newcomers from getting information on where to access healthy foods, social support, or culturally appropriate forms of physical activity to improve or maintain their health. Each culture has food

customs and traditions that must be included in HEAL policies or strategies.

**Youth and teens have special eating and activity needs which differ from that of adults.** When it comes to physical activity, people have different abilities and needs at each age and stage of life. Healthy eating and physical activity are foundational components in child development. Habits and attitudes developed and practiced in childhood can influence behavior at later stages of life. A special focus is needed to ensure that teens have adequate park, recreation, and gathering spaces that are not dependent on spending money.

**The needs of aging residents are particularly important when considering healthy eating and active living.** Older-aged groups may experience barriers to HEAL including mobility, cost of activities, design of facilities, and impact of stress. Land use and transportation policies that support short, well-connected trips to key destinations will increase access for all users.



## Potential Barriers

The influence of the built environment on physical activity and healthy eating behavior is an important issue. Many aspects of built environment barriers to physical activity and healthy eating are common to both suburban and denser, mixed-use areas, including cost of accessible food and recreation, access to healthy foods, and the walkability and bikeability of communities. Priority populations may face affordability challenges to existing areas that are well served for food, park, and recreational opportunities. In addition to expanding the affordability of these areas, jurisdictions must also increase the level of access in underperforming areas.

Assessing access to healthy food and recreation opportunities are important steps before setting strategic direction. By providing citizens with healthy, affordable, easily-accessible choices for healthy food and activities, cities can lead by example in the fight against obesity and chronic illnesses related to excess weight and limited exercise.

### **The cost of healthy food can be a barrier for low-income families.**

The cost of fresh food was identified as a barrier to eating healthy, especially among low-income members of the community. Purchasing produce at the local farmers market was costly and the Supplemental Nutrition Assistance Program (SNAP) benefits were not accepted at some markets.

### **Many neighborhoods have access and geographic isolation barriers.**

Priority populations face obstacles, such as travel distances to recreational facilities and lack of facilities themselves. In some areas, those who aim to exercise outside may face safety issues such as busy roads, lack of sidewalks and lighting on streets, and competing demands on limited facilities. Likewise, healthy food may be available in a close market but at a higher cost than a longer distance, larger store.

### **Some families lack affordable and accessible fitness venues.**

Access to affordable physical activity venues contributes to the promotion of physical activity within communities. The cost of recreational opportunities came up throughout community engagement as impacting recreational participation. While many community centers and leagues cater to low-income communities, for some residents, the fees are still too high. Assistance programs, if available, are not always well publicized or used.

### **There is a lack of time and competing priorities which impede healthy eating and active living.**

The time required to shop and prepare food was identified as a major barrier for people who already struggle with busy family and work schedules. Commute time can compound the issue, particularly for people who must live farther from work to find affordable housing or for people who rely on long transit commutes. Eating out or relying on quick microwave meals often took the place of eating a home-cooked meal. While there may be varied access to healthy, affordable foods, the presence of low-nutrition/high calorie foods and fast food establishments can be a barrier as persons and households chose these establishments for convenience, cost and availability.



## Priority Policy Recommendations

The following policies are recommended throughout Seattle to promote active living and health eating for priority populations.

### Identify and Prioritize

#### **Prioritize policies and investments based on assessment to identify areas without healthy food and recreation infrastructure.**

Identify areas without access to everyday physical activity such as walking and biking, including availability of open space and recreational facilities, and those without close proximity to healthy food choices.

Specifically, identify areas with higher crime rates, that lack parks and sidewalks, commercial areas and other common destinations, and areas with higher densities of unhealthy food. Map the cost and availability of high quality produce.

Identify the level of choice for food and recreation by place through mapping and community engagement.

### Invest and Implement

#### **Target food access programs and investments which balance increasing high-quality food access with discouraging unhealthy food proliferation.**

Consider the role of transitional/flexible zones and accompanying land uses in more dense areas, commercial corridors, and mixed-use nodes to increase areas that can accommodate food retailers.

Target bonuses and development incentives to promote citing of new parks, libraries, grocery stores.

Provide density bonuses or economic incentives for improved healthy food offerings in existing corner or convenience stores.

Expand education and support for existing and new programs and resources for food access and recreation.

Limit drive-through opportunities and allowances within the zoning code.

Strengthen and expand operational hours of farmers markets and support the locating, expansion, and development of additional markets, particularly in underserved neighborhoods.

Provide additional public space and support for community gardens and food programs.

### Invest and Implement

#### **Prioritize investments in areas underserved by recreational opportunities and active transportation infrastructure. Expand the ability of people to engage in healthy activities.**

Encourage and incentivize healthy workplaces and employer supported strategies including on-site amenities such as bike racks, showers and change facilities, and gyms.

Consider active transportation as a recreation opportunity and community gardens as gathering spaces.

Evaluate impact of fees for community spaces which provide opportunities for gathering and programming,

Identify common languages spoken and coordinate staff and community volunteers to expand reach of programs.

Expand walkable and bikeable neighborhoods. Ensure a connected sidewalk and bicycle path network especially with slower vehicle speeds and traffic calming.

Promote public safety and crime prevention through environmental design.

Encourage pedestrian friendly street environments.

## Track and Measure

### Set measurable goals relating to healthy behavior and track progress.

Increase geographic proximity to parks and recreation for all residents. Eliminate disparities in proximity by race, income and geography.

Track usage of parks and recreational facilities by race and income through surveys and community data gathering.

Reduce percentage of adults who report they do not participate in physical activity.

Increase the percentage of high school students that are physically active for 60 minutes per day on 5 or more days

Increase the percentage of public schools that require some form of physical activity daily, such as physical education classes or recess.

Increase percentage of residents within a walkable 1/4-mile of a healthful food retail outlet.

Increase ratio of healthy food outlets to unhealthy food at neighborhood scale.

Monitor the reach and access of transportation choices including walking, transit, biking, and car share systems to ensure equitable access to healthy food outlets and recreation opportunities.



# PUBLIC HEALTH AND PREVENTATIVE SERVICES

Public health facilities provide critical medical care as well as provide programming for preventative care and improving public health outcomes. Access to preventative care can allow residents to seek medical care at early stages, before a health issue worsens and becomes much more problematic. Access to proper medical care remains difficult for many in the City of Seattle.



## What the Data Shows

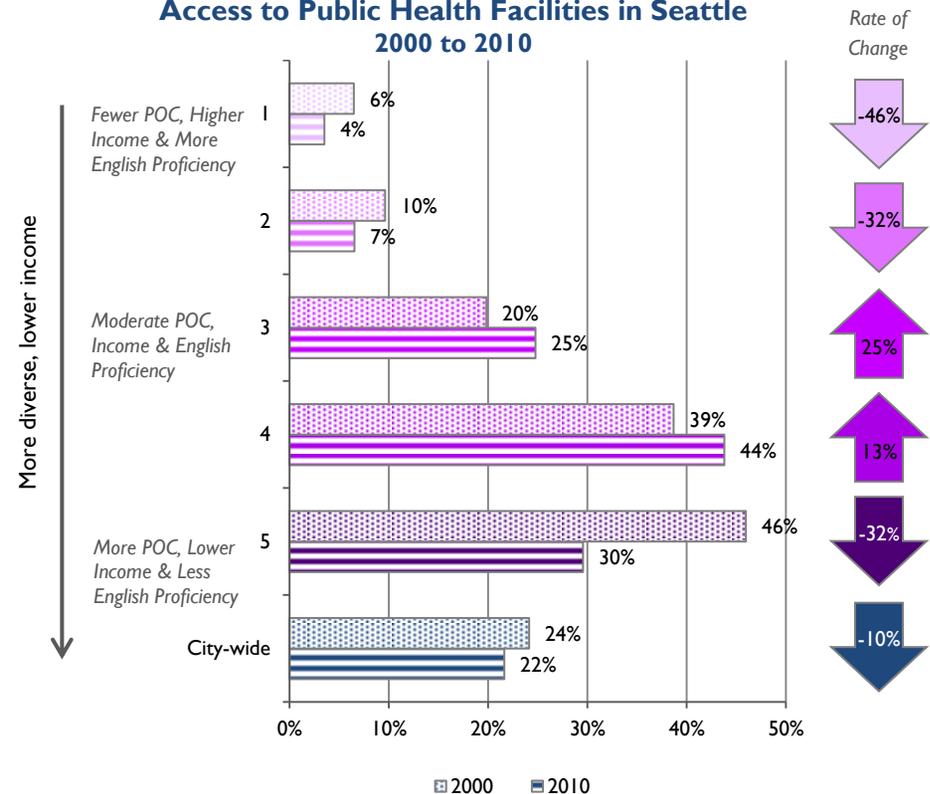
### Access to Public Health Facilities

**Access to public health facilities in Seattle decreased by 10% from 2000 to 2010.** Public health facilities provide critical medical care as well as provide programming for preventative care and improving public health outcomes. However, due to budgetary constraints and policy decisions, access to these facilities has decreased in the city from 24% in 2000 to 22% in 2010, a rate of decrease of 10%.

**Access to public health facilities decreased by 32% in diverse, lower income areas.** In the city’s neighborhoods with the lowest income residents, the most diversity, and the greatest number of persons lacking English skills -- those who have most need of public health facilities – access has decreased significantly. In 2000, 46% of these areas were served by public health facilities. In 2010, access had decreased to just 30%, an overall rate of decrease of 32%. Access to public health facilities did increase for some neighborhoods – those with moderate levels of diversity, incomes and English proficiency. While these residents will benefit from increased access, it is important to note the significant decrease for areas which are most likely to rely on these services and without the resources to find medical services and preventative care elsewhere. Notably, there is only one public health facility south of downtown, where many of Seattle’s lowest income residents live.

As shown on the map below, there is a significant lack of access to public health facilities throughout southeast Seattle as well as the neighborhoods of Delridge and Roxhill South.

**Chart 21**  
**Access to Public Health Facilities in Seattle**  
**2000 to 2010**



For definition of community characteristic quintiles, see Map notes.

Public Health Facilities  
2000

What areas of Seattle have access to public health facilities?

This map depicts areas in 2000 with close proximity to public health facilities related to diversity, income and English proficiency at the census tract level in Seattle.

**Legend**

**Community Characteristics**

- Less Diverse, Higher Income, & Higher English Proficiency
- Moderate Diversity, Income, & English Proficiency
- More Diverse, Lower Income, & Lower English Proficiency

**+ Facility**

**Access Area**

Buffer size based on population density at service point

- 1 mile buffer intermediate - low & low density
- 3/4 mile buffer intermediate - high density
- 1/2 mile buffer high density

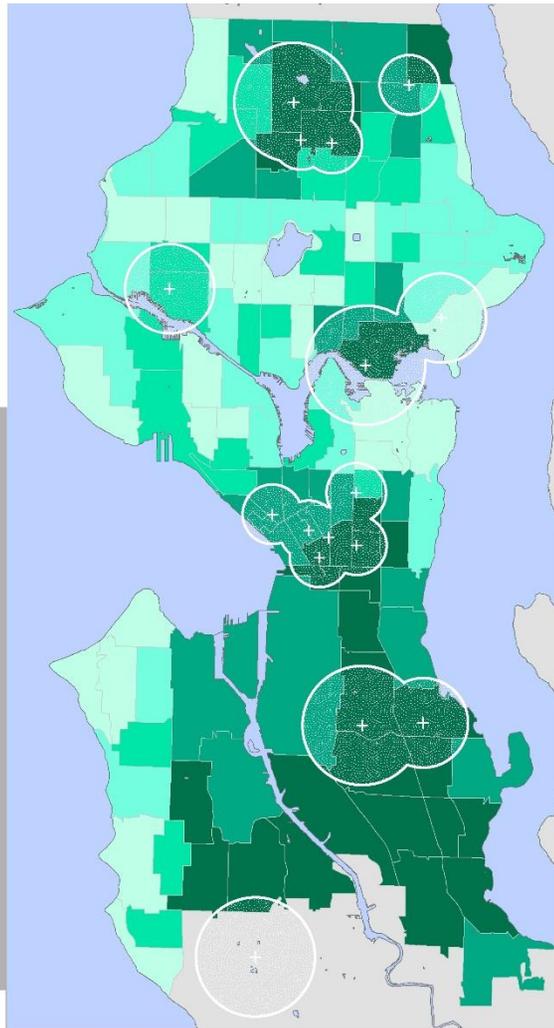
0.5 0.25 0 0.5 Miles

**NORTH**

Data Source: 2010 Census & 2004-2010 5 Year American Community Survey  
For detailed methodology and data sources see Map Notes section.

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Public Health Facilities  
2010

What areas of Seattle have access to public health facilities?

This map depicts areas in 2010 with close proximity to public health facilities related to diversity, income and English proficiency at the census tract level in Seattle.

**Legend**

**Community Characteristics**

- Less Diverse, Higher Income, & Higher English Proficiency
- Moderate Diversity, Income, & English Proficiency
- More Diverse, Lower Income, & Lower English Proficiency

**+ Facility**

**Access Area**

Buffer size based on population density at service point

- 1 mile buffer intermediate - low & low density
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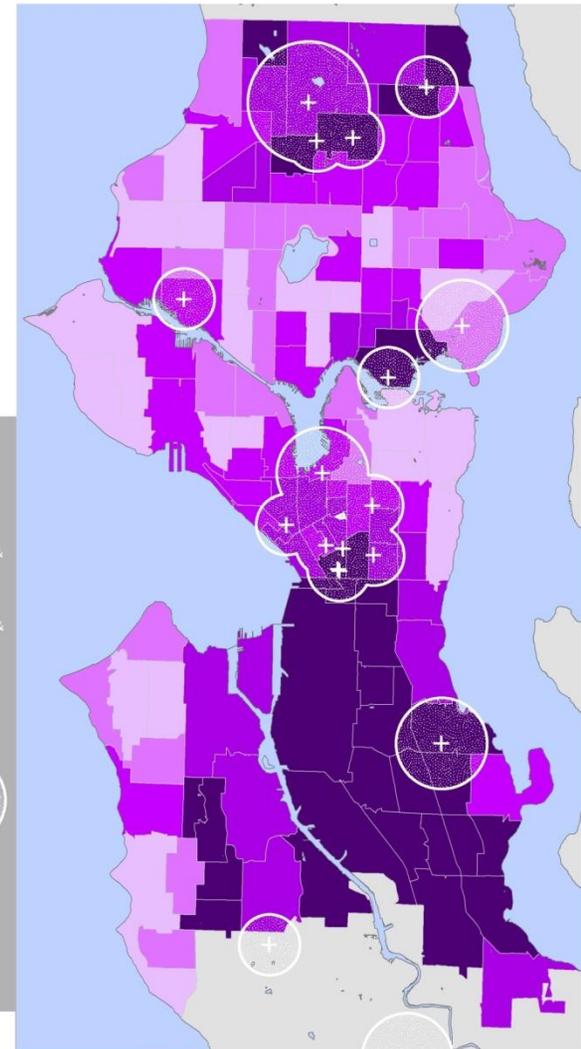
0.5 0.25 0 0.5 Miles

**NORTH**

Data Source: 2010 Census & 2004-2010 5 Year American Community Survey  
For detailed methodology and data sources see Map Notes section.

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For more information and definition of community characteristic quintiles, see Map notes.

## Access to Preventative Care

Access to preventative care is an integral part to individual and community health. Based on data from King County Public Health, neighborhoods in Seattle have varying access to preventative care. This section presents three measures of preventative care: adults with unmet medical needs, adults who did not receive a flu shot and mothers who received late or no prenatal care.

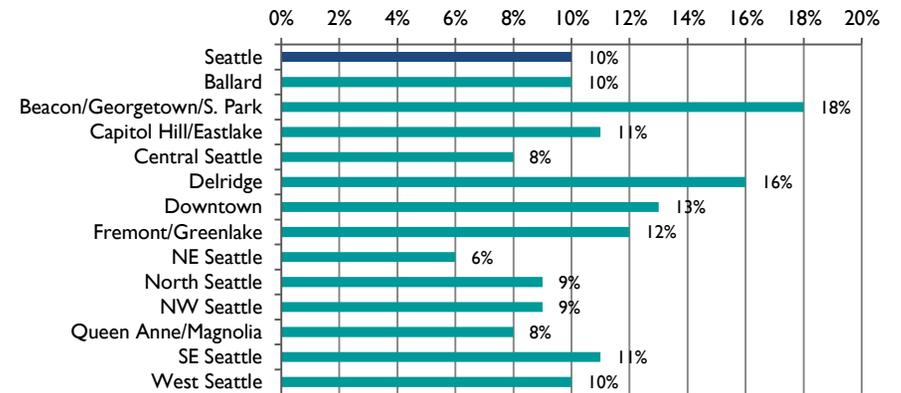
### Unmet Medical Needs

**In 2010, the highest levels of reported unmet medical needs were in Beacon Hill, Georgetown and South Park.** In 2010, 10% of Seattle adults reported having unmet medical needs. In Beacon Hill, Georgetown and South Park, 18% of adults reported unmet medical needs. Other areas with higher than average rates of unmet medical needs included Delridge (16%), Downtown (13%), Fremont and Greenlake (12%), Southeast Seattle (11%) and Capitol Hill and Eastlake (11%). The area with the lowest proportion of adults with unmet medical needs was Northeast Seattle (6%).

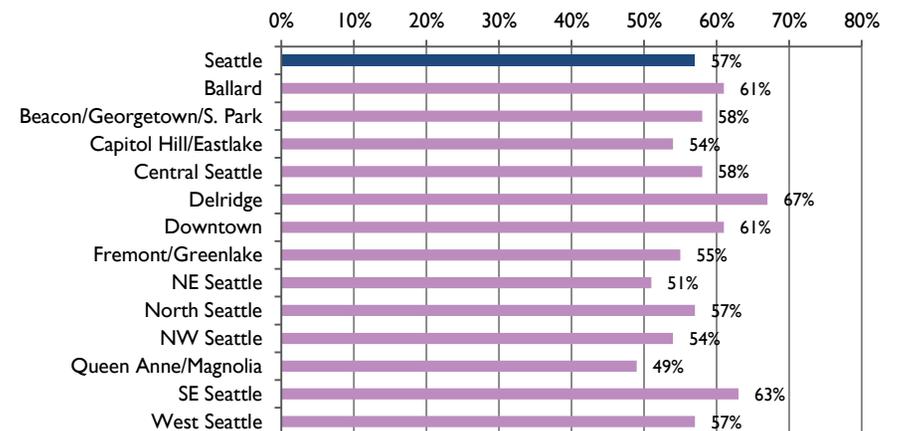
### Adults Who Did Not Receive a Flu Shot

**In 2011, 57% of Seattle adults did not receive a flu shot, with the highest rate being Delridge (67%).** In 2011, 57% of Seattle adults did not receive a flu shot, leaving them more vulnerable to illness, medical bills and days missing work. This rate was significantly higher in the neighborhoods of Delridge (67%), Southeast Seattle (63%), Downtown (61%) and Ballard (61%), while the proportion of adults who did not receive a flu shot was lowest in the Queen Anne and Magnolia neighborhoods (49%).

**Chart 22**  
**Adults with Unmet Medical Needs in 2010**



**Chart 23**  
**Seattle Adults Who Did Not Receive a Flu Shot in 2011**

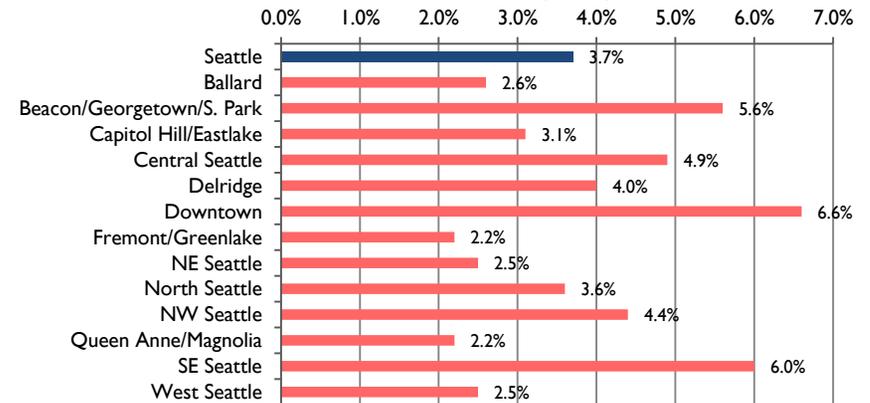


Source: King County Public Health

### Prenatal Care

**In 2010, lowest rates of women receiving late or no prenatal care were from downtown, SE Seattle and Beacon Hill, Georgetown and South Park.** Prenatal care is a critical component of fetal development and can have significant positive impacts for mother and child, with positive impacts reaching well into childhood. In 2010, 3.7% of women who gave birth in Seattle did not receive prenatal care, or received prenatal care late in the pregnancy. The proportion of mothers receiving late or no prenatal care was as high as 6.6% in Downtown, 6.0% in Southeast Seattle and 5.6% in Beacon Hill, Georgetown and South Park. Access to prenatal care was highest in Queen Anne, Magnolia, Fremont and Greenlake, where only 2.2% of mothers received late or no prenatal care.

**Chart 24**  
**Late or No Prenatal Care (2010)**



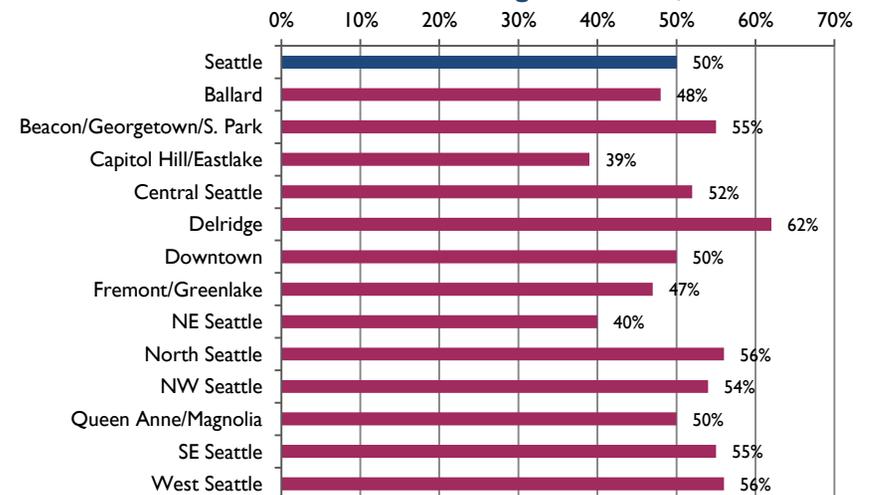
### Healthy Behaviors

In addition to access to care, healthy behaviors are critical to the health and well-being of Seattle residents. The section below explores neighborhood differences in some of those behaviors affecting individual health, including physical activity, obesity, and smoking.

### Healthy Weight

**In 2011, 50% of Seattle adults were overweight or obese with the highest rate being Delridge (62%).** In 2011, 50% of Seattle adults were overweight or obese, putting them at risk for a variety of preventable diseases. The rate of overweight or obese adults was highest in Delridge (62%), West Seattle (56%) and North Seattle (56%). Seattle neighborhoods with the lowest rates of obesity were Capitol Hill and Eastlake (39%) and Northeast Seattle (40%).

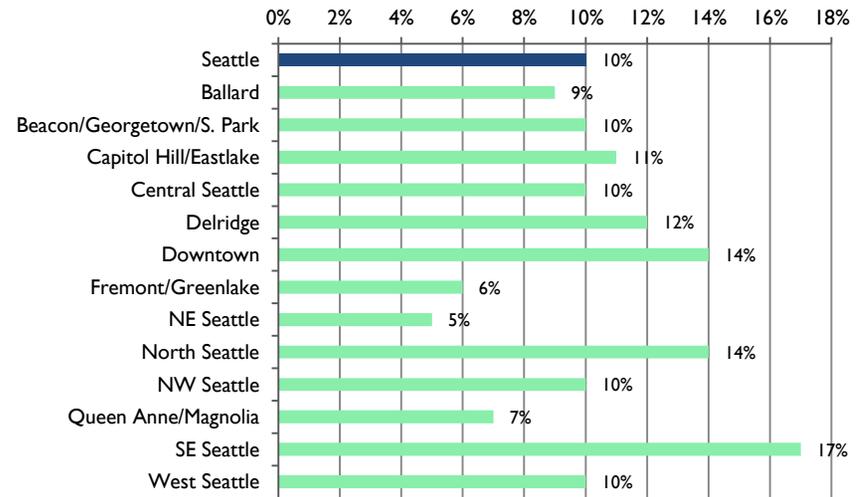
**Chart 25**  
**Percent of Adults who are Overweight or Obese, 2011**



**Smoking**

**In 2011, 10% of Seattle adults were current smokers, with the highest rate being SE Seattle (17%).** In 2011, 10% of Seattle adults were current smokers, putting them at increased risk for emphysema, coronary heart disease and stroke and a variety of cancers. According to the Centers for Disease Control and Prevention (CDC), smoking also results in increased self-reported poor health, absenteeism from work, and health care utilization and cost. Rates of adult smoking were significantly higher in Southeast Seattle (17%) than in the remainder of the city. In addition, 14% of adults smoked in Downtown and North Seattle. Smoking rates were lowest in Northeast Seattle (5%), Fremont and Greenlake (6%) and Queen Anne and Magnolia (7%).

**Chart 26**  
**Percent of Adult Smokers, 2011**



Source: Seattle-King County Public Health

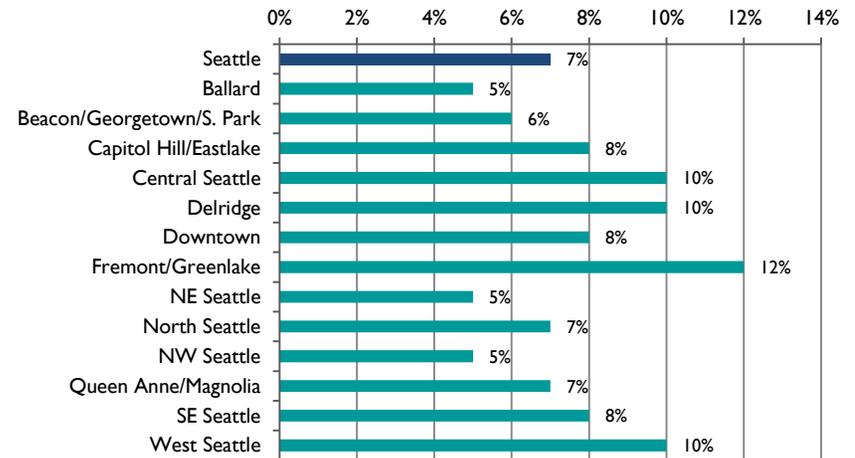
### Health Outcomes

Disparities in access and behaviors described above, as well as environmental factors like clean air and water, lead to significant disparities in health outcomes such as asthma, diabetes, general poor health and lifespan.

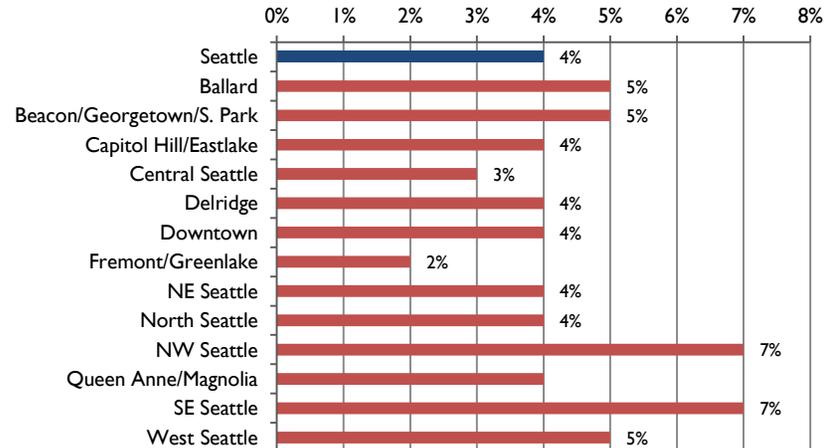
#### Asthma

**In 2011, 7% of Seattle adults had been diagnosed with asthma, with the highest rate being Fremont and Greenlake (12%).** In 2011, 7% of adults in the City of Seattle had been diagnosed with asthma. Rates were highest in Fremont and Greenlake (12%) and Central Seattle, Delridge and West Seattle, where 10% of adults had asthma. Rates of asthma were lowest in Ballard, Northeast Seattle and Northwest Seattle, where 5% of adults had asthma.

**Chart 27  
Adults with Asthma, 2011**



**Chart 28  
Diabetes Prevalence, 2010**



Source: Seattle-King County Public Health

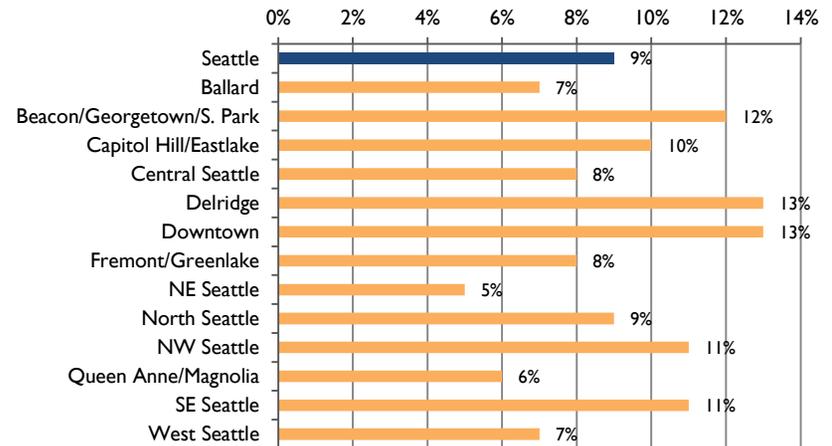
#### Diabetes

**In 2010, 7% of Seattle residents had been diagnosed with diabetes, with the highest rate being NW Seattle and SE Seattle (7% each).** In 2010, 4% of Seattle residents were diabetic. Rates of diabetes were highest in Northwest Seattle (7%) and Southeast Seattle (7%) and lowest in Central Seattle (3%) and Fremont and Greenlake (2%).

**Fair or Poor Health**

**In 2011, 9% of Seattle adults reported “fair” or “poor” health, with the highest rate being generally priority equity neighborhoods.** In 2011, 9% of Seattle adults reported that their health was “fair” or “poor.” The neighborhoods with highest rates were Delridge (13%), Downtown (13%), Beacon Hill, Georgetown and South Park(12%), NW Seattle 11%) and SE Seattle (12%). NE Seattle, residents had the lowest percentage of adults who reported their health as fair or poor (5%).

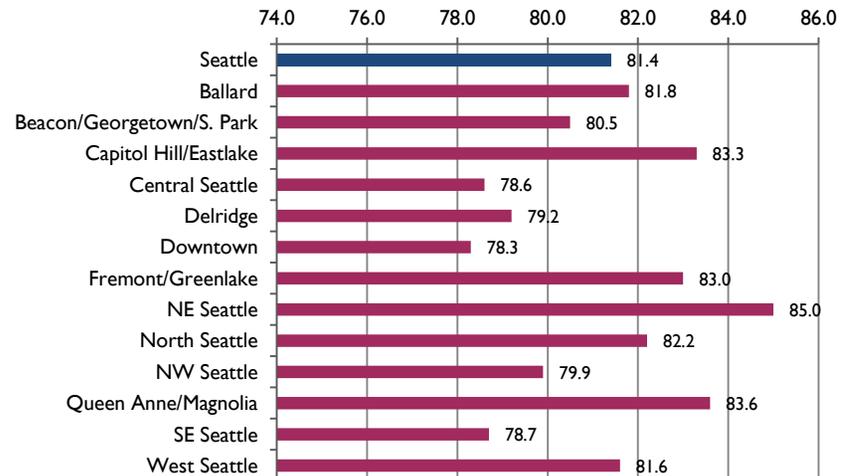
**Chart 29**  
**Fair or Poor Health for Adults, 2011**



**Life Expectancy**

**In 2010, Seattle-born residents had a life expectancy of 81.4 years. Those born in Downtown, Central or SE Seattle had life expectancies of less than 79 years.** In 2010, the average life expectancy for those born in Seattle was 81.4 years. However, life expectancy ranged significantly, from a low of 78.3 years in Downtown, to a high of 85.0 years in Northeast Seattle, a difference of almost seven years based only on the neighborhood where a person is born.

**Chart 30**  
**Life Expectancy at Birth, 2010**



Source: Seattle-King County Public Health



## What the Community Said

**There is a need to focus on mental health and addiction in appropriate ways.** In many priority equity communities, particularly among immigrants, speaking openly about mental health and addiction issues remains taboo and persons new to the country may not know what type of help is available or feel comfortable seeking that help. Persons who are undocumented may feel that they cannot seek help for themselves or family members for fear of arrest or deportation.

**The community has concerns around marijuana legalization.** For those communities with religious or cultural prohibitions against drinking and recreational drug use, the legalization of marijuana has produced anxiety, particularly around the impact to their neighborhood if a marijuana dispensary opens, as well as increased difficulty in keeping the children and youth of their community from using marijuana.

**Residents want improvements in physical safety and reduce crime and violence.** Throughout the community engagement process, residents highlighted concerns about physical safety, crime and violence. Residents reported feeling unsafe from both crime as well as challenges in the built environment, such as dangers from vehicle accidents. They felt that their communities were not safe for pedestrians and cyclists. Increasing cross walks, sidewalks and other amenities for active transportation was a priority.

**Physical safety and crime is especially of concern to Seattle youth.** Through our engagement with youth, we heard that safety was a central concern. Safety in schools and crime in neighborhoods and on transit were highlighted as a significant problem. Additionally, youth of color and immigrants tended to feel that discrimination and targeting by police contributed to a distrust of police and city officials in their community.



## The Health and Equity Lens

Health is a critical component of equity. Disparities in public health can have significant impacts on many other foundations of opportunity. For example, illness and poor health can affect educational attainment for children, can impact economic opportunity due to missed work or difficulty finding a job, or can make healthy eating and active living more difficult.

There are significant health disparities in the City of Seattle when assessed by geography, income, race and nationality. Access to care is limited for some by geographic proximity, transit accessibility, cost, and cultural differences and comfort related to health issues.



## Potential Barriers

For many Seattle residents, even free health care can be out of reach. To take time off of work, to find childcare, to find transportation to and from a health facility and other logistical concerns can be prohibitive.

As discussed, there are also cultural and religious barriers for some communities in seeking public health and preventative services. This can include language barriers, distrust of government, or for undocumented residents, a fear of reprisal. Additionally, many communities have cultural or religious taboos relating to mental illness and addiction.



## Priority Policy Recommendations

### Identify and Prioritize

#### **Continue to examine health outcomes through the lens of race, income and geography to identify and respond to disparities.**

Continue to measure and acknowledge health disparities and the barriers for public health and preventative services in certain areas and geographies.

Work with cultural and religious leaders to better identify barriers to health access.

Ensure health care access for areas with low car ownership and high transit dependence, especially areas with higher household size.

Identify structural barriers in program delivery, procedures and services.

Track health disparities for other special populations including elderly, LGBTQ, youth, or persons with disabilities with the understanding that they may have unique considerations for mobility, past bias, costs, or other factors.

### Invest and Implement

#### **Prioritize community-identified and community-led solutions related to health care access.**

Work with partners to expand facilities and service delivery to areas without close proximity to existing public health facilities.

Work with community-based organizations and community leaders from priority populations to expand understanding of barriers to accessing public health facilities, including cultural differences. Work with community leaders as

bridges and trusted liaisons to community members.

#### **Support innovative service delivery which is less reliant on limited public health centers.**

Explore and support alternative delivery systems, such as community health workers, who can be more mobile, culturally responsive and with progressive fee structures.

Incorporate health service into existing neighborhood, educational, cultural and religious institutions, creating or expanding place-based health centers.

Provide cultural competency training to public health providers.

#### **Increase accessibility and availability of public health services.**

Prioritize expanding health services siting of facilities with superior transit accessibility and prioritize transit service to existing facilities.

### Track and Measure

#### **Continue to track health behaviors and outcomes by race, income, geography and other impacted groups.**

Work to eliminate disparities in health outcomes within Seattle by geography and race and income.

Increase percentage of households within walking or easy transit access to public health facilities.

Improve quantifiable preventative behaviors, such as flu shots and other screenings.

Continue to improve overall health outcomes such as lowering the rate of unhealthy body mass index and life expectancy.



# EDUCATION

Education is a key community building block which can reduce economic inequality by providing expanded opportunities for youth to break the cycle of poverty. In addition, physical access to a school can provide a neighborhood with an important center of community with amenities like libraries, meeting space and recreational opportunities.

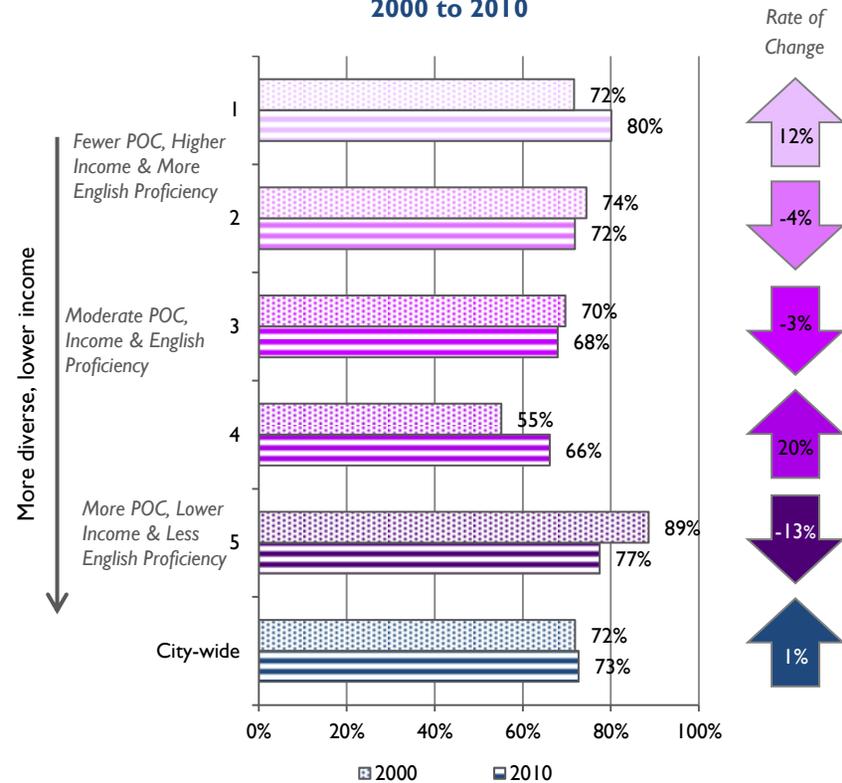


## What the Data Shows

### Access to Schools

**Access to elementary school decreased by 13% in the most diverse lowest income areas of Seattle.** In 2000, 72% of residents in the city lived in close proximity to an elementary school. This increased slightly to 73% in 2010. However, at the community level, access to elementary schools changed significantly in some neighborhoods. In the most diverse, lowest income areas of the city, proximity to an elementary school decreased from 89% to 77%, a rate of decrease of 13%.

**Chart 31**  
**Access to Neighborhood Elementary Schools, by Quintile**  
**2000 to 2010**



For definition of community characteristic quintiles, see Map notes.

### School Access 2000

**What areas in Seattle have access to elementary schools?**

*This map depicts areas in 2000 with close proximity to elementary schools related to diversity, income and English proficiency at the census tract level in Seattle.*

**Legend**

**Community Characteristics**

- Less Diverse, Higher Income, & Higher English Proficiency
- Moderate Diversity, Income, & English Proficiency
- More Diverse, Lower Income, & Lower English Proficiency

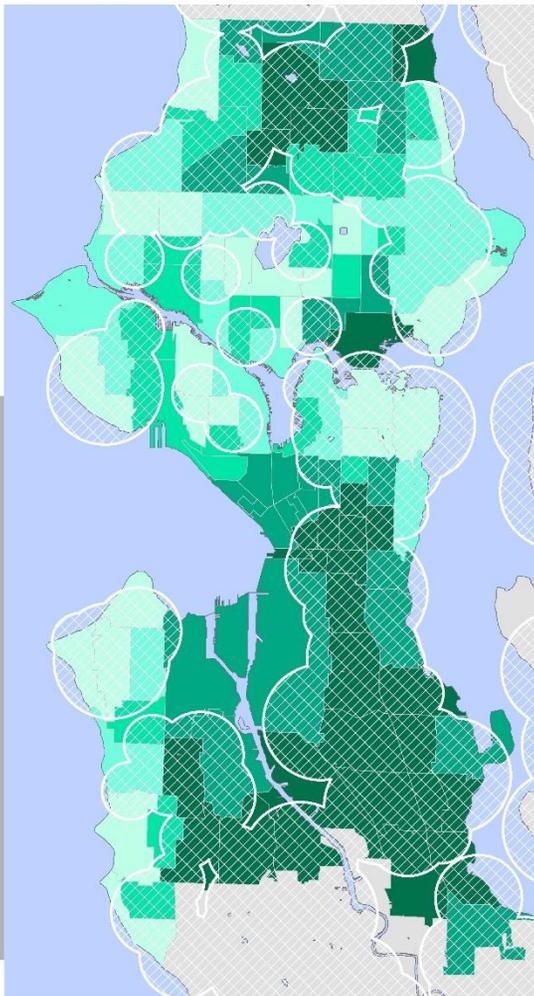
Access Area

0.5 0.25 0 0.25 0.5 Miles

**NORTH**

Data Source: 2000 Census & 2004-2010 5-Year American Community Survey  
For detailed methodology and data sources see Map Notes section.

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### School Access 2010

**What areas in Seattle have access to elementary schools?**

*This map depicts areas in 2010 with close proximity to elementary schools related to diversity, income and English proficiency at the census tract level in Seattle.*

**Legend**

**Community Characteristics**

- Less Diverse, Higher Income, & Higher English Proficiency
- Moderate Diversity, Income, & English Proficiency
- More Diverse, Lower Income, & Lower English Proficiency

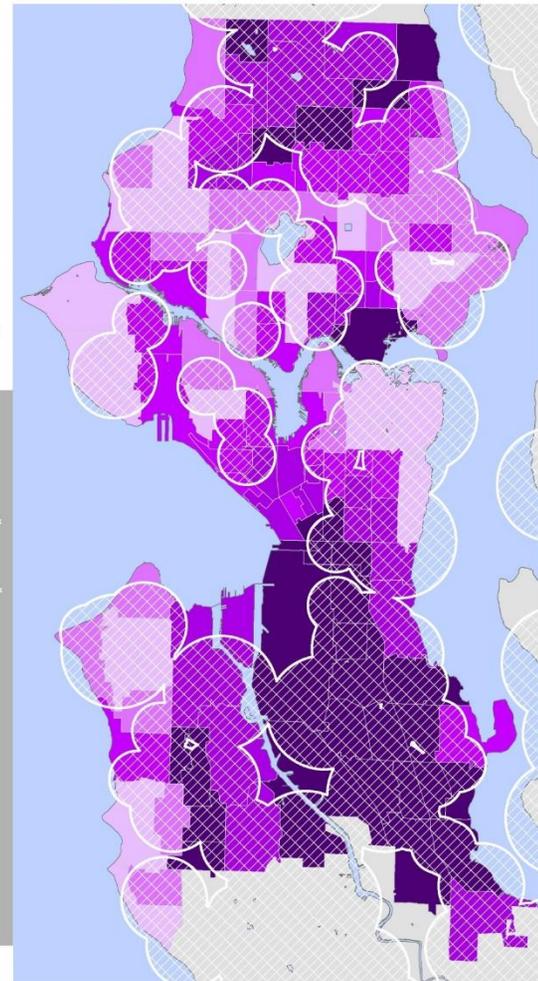
Access Area

0.5 0.25 0 0.25 0.5 Miles

**NORTH**

Data Source: 2010 Census & 2004-2010 5-Year American Community Survey  
For detailed methodology and data sources see Map Notes section.

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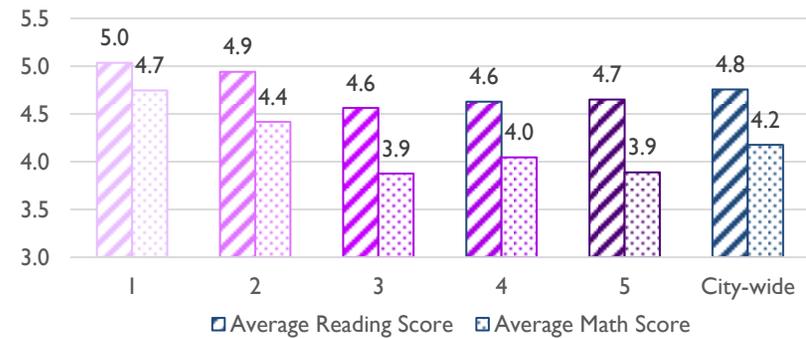
For more information and definition of community characteristic quintiles, see Map notes.

## School Performance

In general, schools in neighborhoods with greater diversity, lower incomes and less English proficiency are likely to have lower educational performance. As a result, students of color score lower on standardized tests administered.

**Average reading and math scores were lower in diverse, lower income areas compared to Seattle as a whole.** In 2010, the city-wide average indexed reading score was 4.8, however this score was lower in areas with greater diversity, lower incomes and less English proficiency. Similarly, city-wide average math scores were 4.2, compared to 3.9 in schools in diverse, lower income areas.

**Chart 32**  
2010 Seattle Reading and Math Scores, by Quintile



For more information and definition of community characteristic quintiles, see Map notes.

**What are the on-time high school graduation rates in different areas of Seattle?**

This map displays on-time high school graduation rates in 2010 related to diversity, income and English proficiency at the census tract level in Seattle.

**Legend**

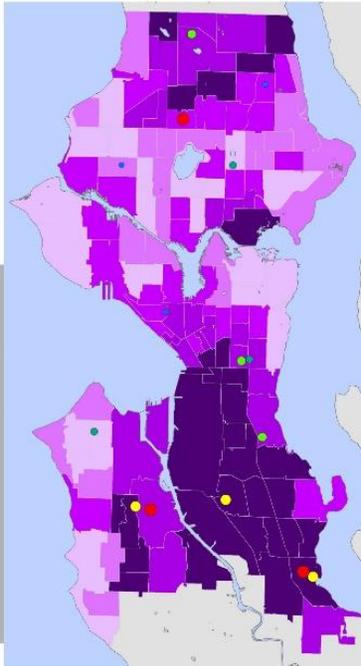
**Community Characteristics**

- Light Purple: Less Diverse, Higher Income, & Higher English Proficiency
- Medium Purple: Moderate Diversity, Income, & English Proficiency
- Dark Purple: More Diverse, Lower Income, & Lower English Proficiency

**2010 On-Time Graduation Rate**

- Red: 26% - 59.9%
- Orange: 60% - 74.9%
- Yellow: 75% - 84.9%
- Green: 85% - 91.9%
- Blue: 92% - 98%

Scale: 0 to 0.5 Miles. Includes logos for futurewise and Equity Center.



**What are the average reading scores for different schools in Seattle?**

This map displays reading performance in 2010 related to diversity, income and English proficiency at the census tract level in Seattle.

**Legend**

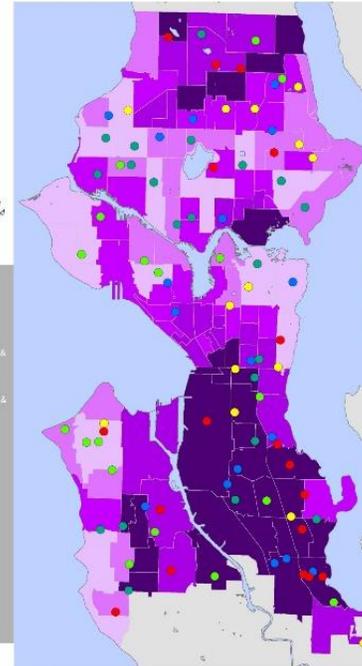
**Community Characteristics**

- Light Purple: Less Diverse, Higher Income, & Higher English Proficiency
- Medium Purple: Moderate Diversity, Income, & English Proficiency
- Dark Purple: More Diverse, Lower Income, & Lower English Proficiency

**Average Reading Score**

- Red: 1.75 - 4.00 Low
- Orange: 4.01 - 4.50
- Yellow: 4.51 - 5.00
- Green: 5.01 - 5.75
- Blue: 5.76 - 6.75 High

Scale: 0 to 0.5 Miles. Includes logos for futurewise and Equity Center.



**What are the average math scores for different schools in Seattle?**

This map displays mathematics performance in 2010 related to diversity, income and English proficiency at the census tract level in Seattle.

**Legend**

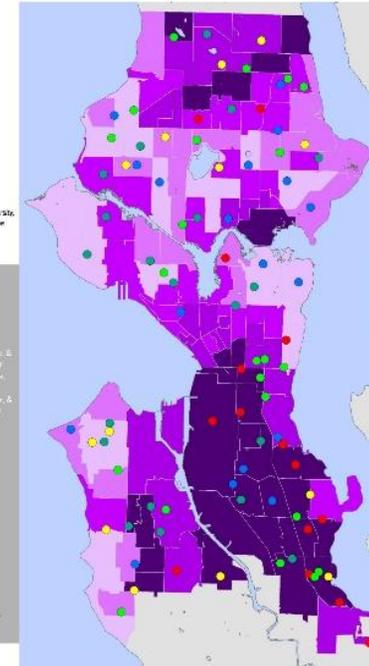
**Community Characteristics**

- Light Purple: Less Diverse, Higher Income, & Higher English Proficiency
- Medium Purple: Moderate Diversity, Income, & English Proficiency
- Dark Purple: More Diverse, Lower Income, & Lower English Proficiency

**Average Math Score**

- Red: 1.25 - 3.00 Low
- Orange: 3.01 - 3.75
- Yellow: 3.76 - 4.67
- Green: 4.68 - 5.35
- Blue: 5.36 - 6.35 High

Scale: 0 to 0.5 Miles. Includes logos for futurewise and Equity Center.



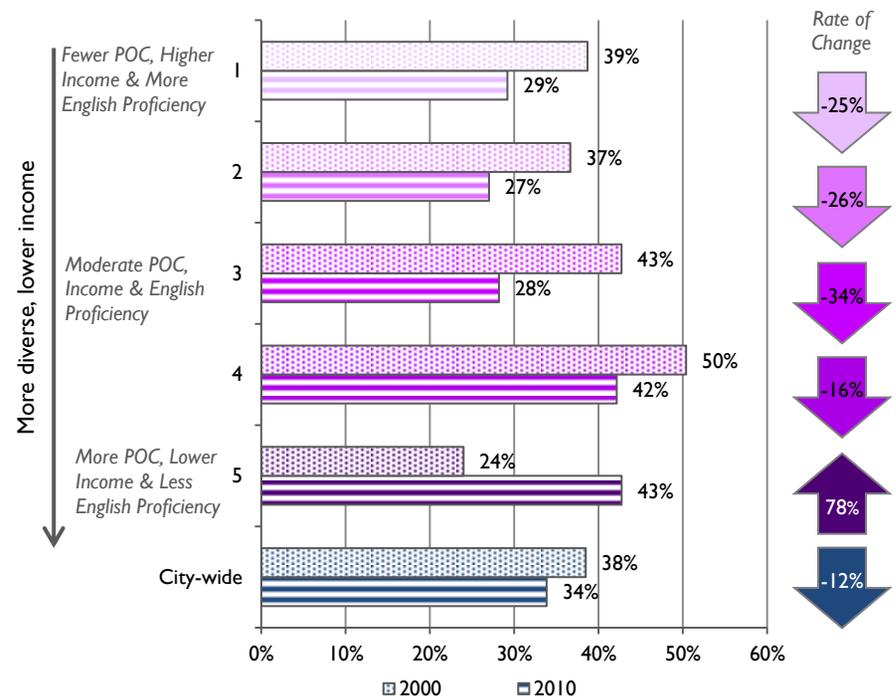
### Library Access

For more information, see Map Notes.

The City of Seattle has invested significantly in library access. In Seattle, the “Libraries for All” initiative was supported by voter-approved \$196 million in bond funding, which paid for the construction of four new libraries.

**From 2000 to 2010, access to public libraries decreased citywide, but increased by 78% in the most diverse, lowest income areas of Seattle.** Even with new bond funding, access to libraries in the city overall decreased from 2000 to 2010, from 38% to 34%, due to the consolidation of libraries and increasing population density. Access significantly increased, however, for those residents with the highest need for library services. In 2000, city areas with the most diverse, lowest income and least English language proficiency residents had the lowest level of access to libraries. While 38% of city residents had access to libraries, only 24% of the highest need population had access. The investment in libraries increased access for these populations from 24% in 2000 to 43% in 2010, a rate of increase of 78% over the decade and resulting in these areas having the highest access in the city.

**Chart 33**  
**Access to Libraries in Seattle, by Quintile**  
**2000 to 2010**



For definition of community characteristic quintiles, see Map notes.

Library Access  
2000

What areas of Seattle have access to libraries?

This map depicts areas close proximity to a library in 2000 related to diversity, income and English proficiency at the census tract level in Seattle.

**Legend**

**Community Characteristics**

- Less Diverse, Higher Income, & Higher English Proficiency
- Moderate Diversity, Income, & English Proficiency
- More Diverse, Lower Income, & Lower English Proficiency

**Access Area**

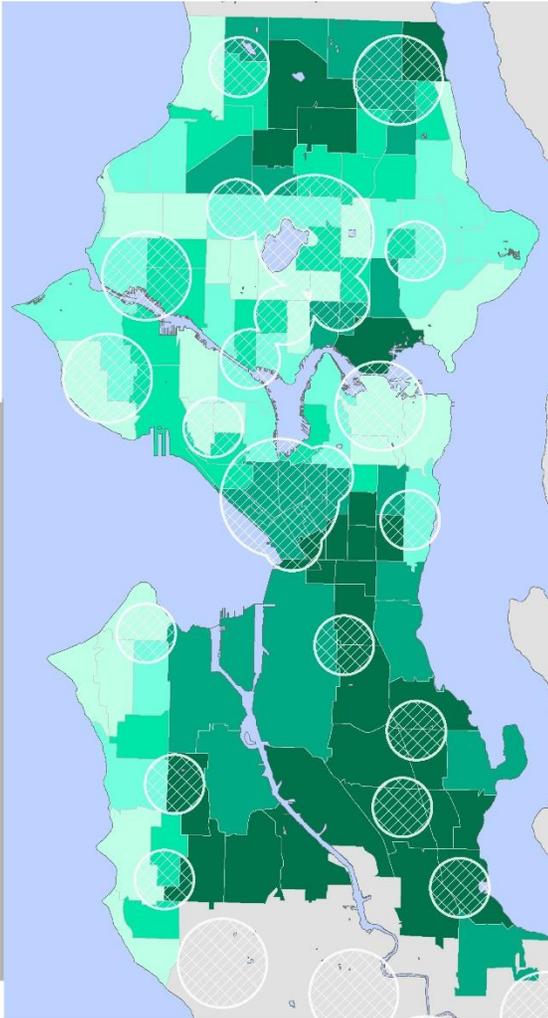
Buffer size based on population density at service point

- 1 mile buffer  
intermediate - low & low density
- 3/4 mile buffer  
intermediate - high density
- 1/2 mile buffer  
high density

0.5 0.25 0 0.5 1 Miles **NORTH**

Data Source: 2000 Census & 2004-2010 5 Year American Community Survey  
For detailed methodology and data sources see Map Notes section.

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Library Access  
2010

What areas of Seattle have access to libraries?

This map depicts areas close proximity to a library in 2010 related to diversity, income and English proficiency at the census tract level in Seattle.

**Legend**

**Community Characteristics**

- Less Diverse, Higher Income, & Higher English Proficiency
- Moderate Diversity, Income, & English Proficiency
- More Diverse, Lower Income, & Lower English Proficiency

**Access Area**

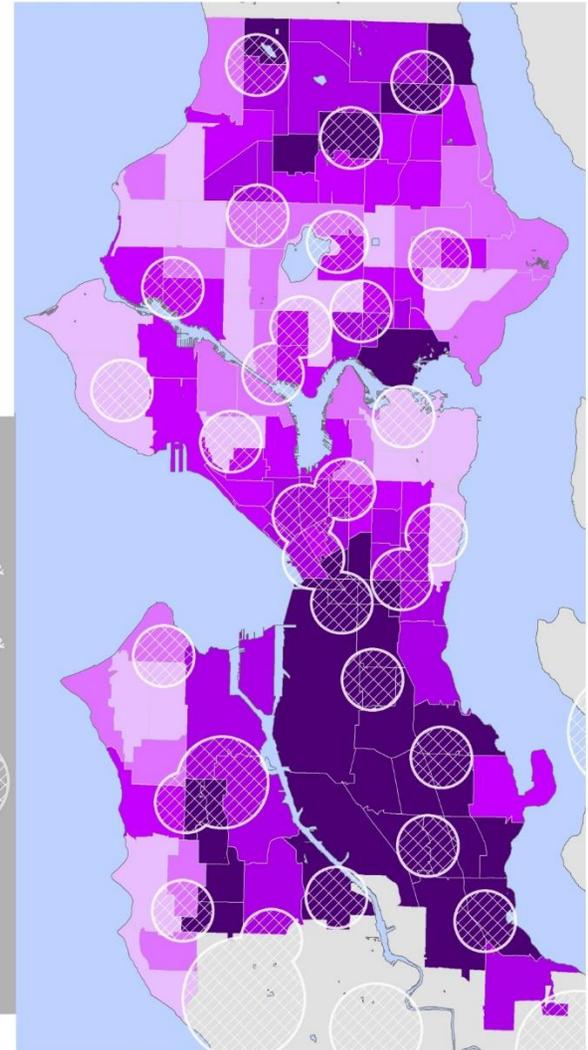
Buffer size based on population density at service point

- 1 mile buffer  
intermediate - low & low density
- 3/4 mile buffer  
intermediate - high density
- 1/2 mile buffer  
high density

0.5 0.25 0 0.5 1 Miles **NORTH**

Data Source: 2010 Census & 2004-2010 5 Year American Community Survey  
For detailed methodology and data sources see Map Notes section.

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For more information and definition of community characteristic quintiles, see Map notes.



## What the Community Said

**Quality schools consistently ranked as one of the highest priorities for residents of Seattle.** Throughout all engagement activities, residents reported that quality schools were one of their key priorities and were a large determinant of where they chose to live, if they had a choice.

**Additional school services for English-language learners and their parents are needed.** Many parents with limited English skills reported needing better services for their children while learning English and getting caught up in school.

**School safety is a significant concern for residents, particularly low income residents and immigrant communities.** In speaking to both youth in schools and to their parents, violence and bullying was highlighted as a problem. Residents reported drug activity and gangs increasing crime in violence in schools and reported that their children knew of students bringing weapons to school.

**There is a need for better technical education.** Residents prioritized technical education, particularly for students who are unable to attend four-year colleges. Residents felt that job preparation and training through short-term programs at community colleges or other avenues would be beneficial to their communities and help residents get better quality jobs.



## The Health and Equity Lens

Quality education is one of the most critical ways that the cycle of poverty can be ended. Providing a quality education is one of the first steps in creating more equitable opportunities for youth.

Educational performance for students is not only determined by the time that they are in school. Even before a child enters school, many factors have already influenced that child's brain development and ability to succeed in an academic environment.

As shown above, schools in neighborhoods with priority populations have lower performance outcomes than other schools. While there are opportunities for students to enroll in outside schools or in charter schools, this is more difficult for priority populations. Barriers to finding better schools include a lack of financial resources to pay for private schools, lack of time to go through a difficult or lengthy process of getting assigned to a higher performing school, a lack of ability to go through that process for parents with limited English skills, or an inability to provide transportation to schools farther away. Additionally, for low-income families, there is less ability to find affordable housing near quality schools. Therefore, many families with limited resources or other challenges will be more likely to go to a low performing school if it is their closest school.



## Potential Barriers

Schools require significant investments from the city (through the school district) and require a relatively large area for their facilities. Adding to the challenge, population and demographic change in neighborhoods can make facility planning for schools difficult. For example, a neighborhood with a sudden influx of younger families with children can create a need for an elementary school. Most school districts do not have the funds or land availability to respond quickly to these types of neighborhood changes, creating a lag between school need and school supply, particularly in rapidly growing or changing neighborhoods.

School performance can be influenced by many factors beyond what occurs within the school, such as prenatal care, childhood nutrition, and a child's environment. Therefore, improving school performance requires a comprehensive strategy which may begin with programming long before a child reaches school age.



## Priority Policy Recommendations

### Identify and Prioritize

#### Measure school performance as part of community planning.

Track school performance by race, income and geography to examine disparities by neighborhood and impacts on health and equity outcomes.

Incorporate a wider variety of measures to track school performance. Beyond standardized testing, schools should be measured by their offerings and participation in enrichment and extra-curricular activities, innovative vocational-driven curriculum or other positive programmatic advancements.

Recognize schools in which students of color and low-income students outperform city-wide averages and target these schools for growth.

### Invest and Implement

#### Use schools as a community development asset.

Reinforce schools as centers of communities.

Expand local schools as a participant in life-long learning to provide community education such as language skills, personal financial literacy, nutrition and health, and civic participation.

Expand affordable housing in high performing school districts.

#### Use school locations to drive transit investments.

Use school locations to inform transit investments and service delivery.

Use school locations as major destination in modal service plans.

Improve transit accessibility of colleges and vocational centers.

**Prioritize new and expanded educational centers and institutions.**

Align school expansion and investment with growth strategies and projected housing change.

**Track and Measure**

**Work with school district to track and measure student performance as a community indicator.**

Track student performance by race, income and geography.

Track and improve student commute to schools by mode. Increase number of students able to commute safely to school by bike or foot.





# TRANSPORTATION

Transportation is the key linkage between all of the other community building blocks and many foundations of opportunity. Transportation includes motor transportation for private vehicles as well as public transportation and active transportation like biking and walking. Balancing all of these elements to provide access and choice for all residents is a critical component to healthy and equitable communities.



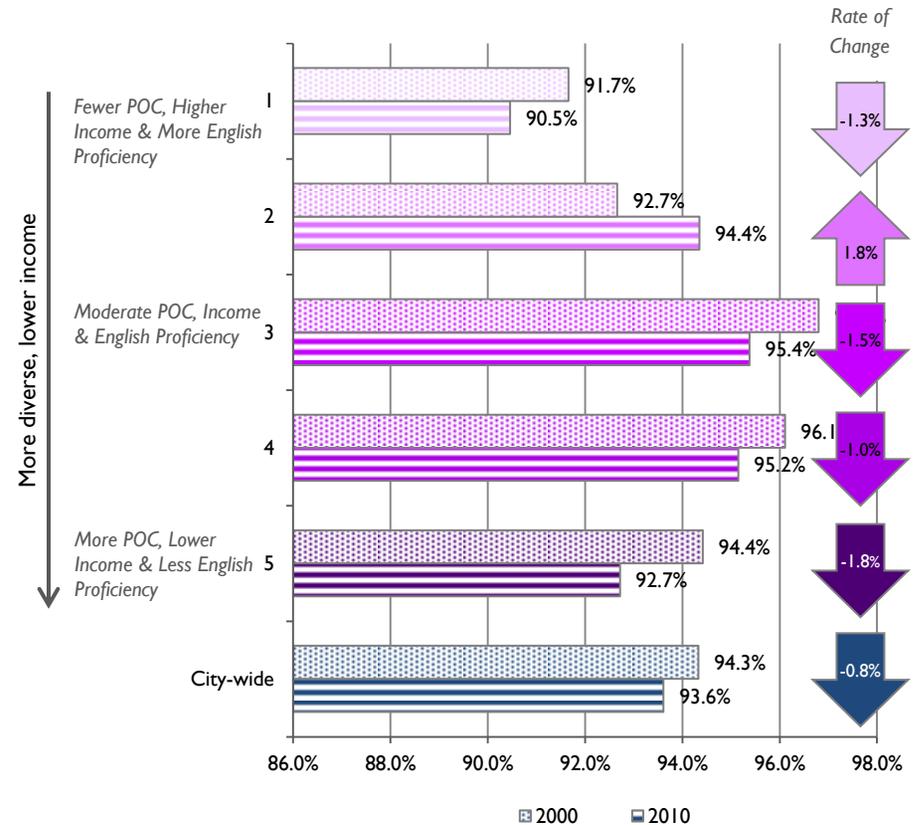
## What the Data Shows

### Access to Bus Service

**In 2010, 93% of residents in the most diverse, lowest income areas of Seattle lived within ¼ mile of a bus stop.** In 2010, 94% of the City of Seattle was within a ¼-mile distance of a bus stop. This access to transit was relatively evenly distributed throughout areas regardless of community characteristics. Areas of the city with the least diverse, highest income and more English proficiency communities had the lowest access to bus service, with 90% of its area within walking distance of a bus stop. In the most diverse areas of the city, 93% of residents were within ¼ mile of a bus stop.

**From 2000 to 2010, residents in the most diverse, lowest income areas of Seattle had a slight decrease in access to bus stops.** Overall, access to bus service decreased slightly in the City of Seattle from 2000 to 2010. In 2000, 94.3% of the city was within a ¼ mile of a bus stop and in 2010, 93.6% of the city was within a ¼ mile of a bus stop; a rate of change of -0.8%. Those areas with the highest numbers of persons of color, low income households and persons lacking English proficiency saw the highest reduction of transit access with a rate decrease of -1.8%. The only areas which saw an increase in access to transit stops over the period were moderately high-income, less diverse areas, where transit access increased by a rate of 1.8% over the period.

**Chart 34**  
**Access to Bus Stops in 2000 and 2010, by Quintile**



For definition of community characteristic quintiles, see Map notes.

**Transit Access  
 2000**

**What areas of Seattle have access to transit stops?**

*This map depicts areas within 1/4 mile of a transit stop in 2000 related to diversity, income and English proficiency at the census tract level in Seattle.*

**Legend**

**Community Characteristics**

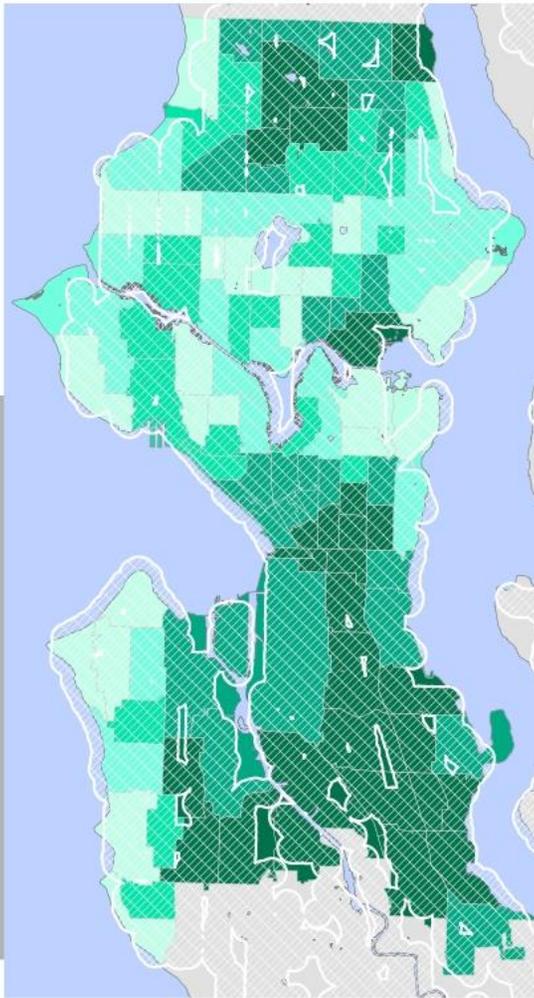
- Less Diverse, Higher Income, & Higher English Proficiency
- Moderate Diversity, Income, & English Proficiency
- More Diverse, Lower Income, & Lower English Proficiency

**Access Area**

Buffer Size:  
 1/4 mile buffer

Data Source: 2000 Census & 2000-2010 Non-American Community Survey  
 For detailed methodology and data sources see Map Notes section.

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**Transit Access  
 2010**

**What areas of Seattle have access to transit stops?**

*This map depicts areas within 1/4 mile of a transit stop in 2010 related to diversity, income and English proficiency at the census tract level in Seattle.*

**Legend**

**Community Characteristics**

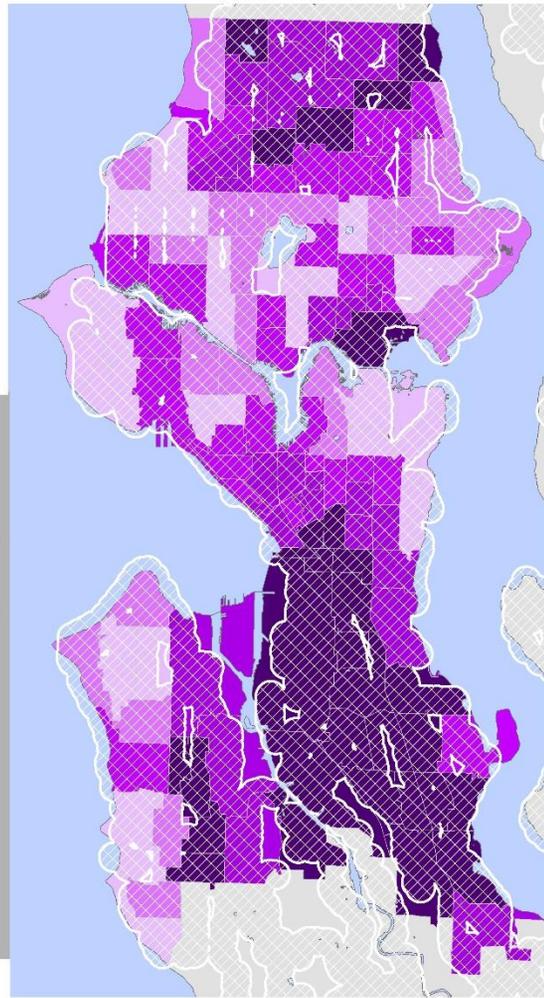
- Less Diverse, Higher Income, & Higher English Proficiency
- Moderate Diversity, Income, & English Proficiency
- More Diverse, Lower Income, & Lower English Proficiency

**Access Area**

Buffer Size:  
 1/4 mile buffer

Data Source: 2010 Census & 2000-2010 Non-American Community Survey  
 For detailed methodology and data sources see Map Notes section.

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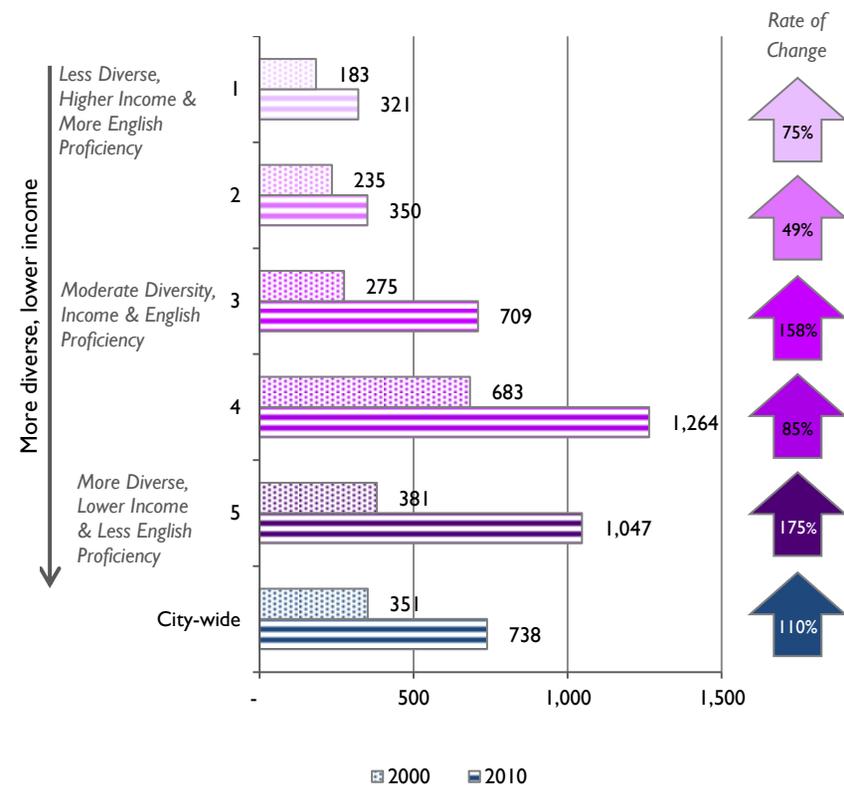
For more information and definition of community characteristic quintiles, see Map notes.

## Transit Frequency

From 2000 to 2010, residents in the most diverse, lowest income areas of Seattle had the largest increase (178%) in frequency of bus service compared to the rest of the city. In spite of the slight decrease in the number of bus stops, frequency of bus service, as measured by the average number of bus trips through a census tract, increased significantly in all areas of the city from 2000 to 2010. In 2000, there were an average of 351 bus trips through each tract city-wide which increased by a rate of 110% to an average of 738 trips in 2010.

Bus service frequency increased most significantly in those areas of the city with greater diversity, lower incomes and less English proficiency. In these areas, bus service increased from an average of 381 trips in 2000 to 1,047 trips in 2010, a rate of change of 175%

**Chart 35**  
Frequency of Bus Service in 2000 and 2010, by Quintile



For definition of community characteristic quintiles, see Map notes.

**Transit Frequency  
2000**

**How many bus trips go through different areas in Seattle?**

*This map depicts the distribution of transit trips in 2000 related to diversity, income and English proficiency at the census tract level in Seattle.*

**Legend**

**Community Characteristics**

- Less Diverse, Higher Income, & Higher English Proficiency
- Moderate Diversity, Income, & English Proficiency
- More Diverse, Lower Income, & Lower English Proficiency

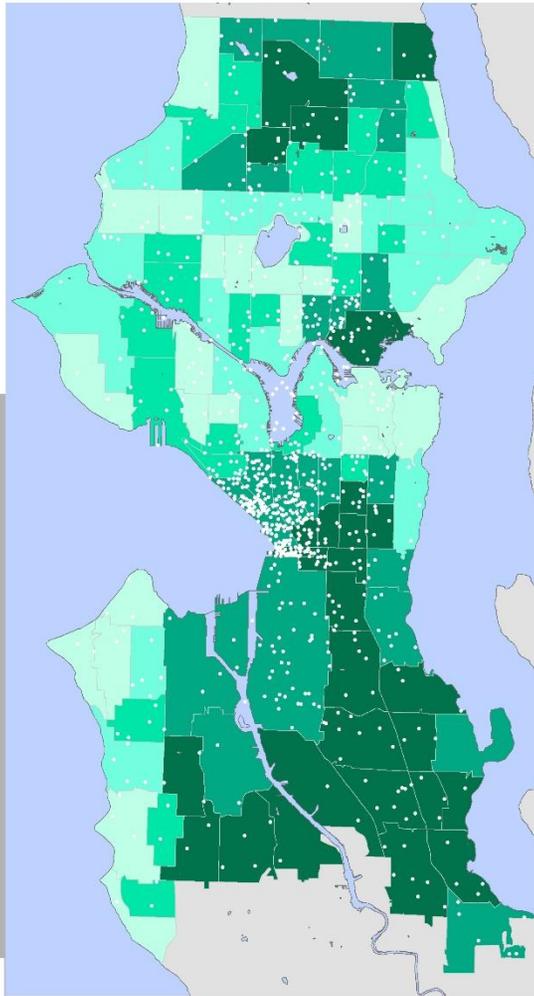
**Transit Trips**

- 1 Dot = 50 Trips

0.5 0.25 0 0.5 1  
MILES

**NORTH**

Data Source: 2000 Census & 2004-2010 5-Year American Community Survey  
For detailed methodology and data sources see Map Notes section.



**Transit Frequency  
2010**

**How many bus trips go through different areas in Seattle?**

*This map depicts the distribution of transit trips in 2010 related to diversity, income and English proficiency at the census tract level in Seattle.*

**Legend**

**Community Characteristics**

- Less Diverse, Higher Income, & Higher English Proficiency
- Moderate Diversity, Income, & English Proficiency
- More Diverse, Lower Income, & Lower English Proficiency

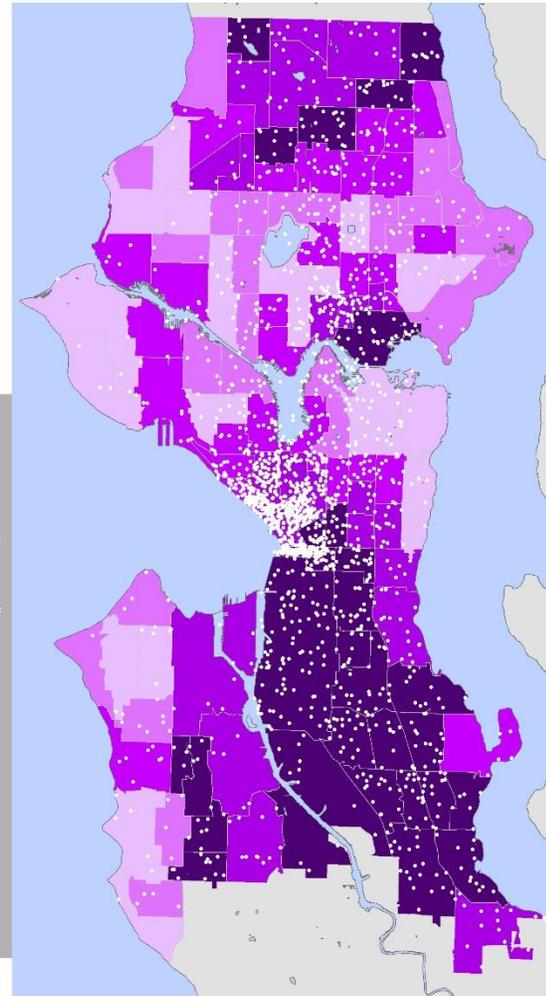
**Transit Trips**

- 1 Dot = 50 Trips

0.5 0.25 0 0.5 1  
MILES

**NORTH**

Data Source: 2010 Census & 2004-2010 5-Year American Community Survey  
For detailed methodology and data sources see Map Notes section.



For more information and definition of community characteristic quintiles, see Map notes.



## What the Community Said

**Transportation is a key concern for many residents of Seattle.** Residents indicated that they would be more likely to take transit if it was more accessible, more frequent and safer.

**Residents need better access and frequency.** Participants in engagement activities throughout Seattle cited infrequent service or a lack of close access to transit as primary reasons for not riding transit. Additionally, safety on transit or at stops was frequently mentioned as a concern.

**Access to transit is limited by factors other than geographic proximity.** Even residents who lived close to transit said they did not take it because of factors such as topography (hills) and rain which make even a short walk to transit unpleasant. Particularly if they were carrying groceries or were with children, residents did not want to take transit.

**Residents wished to see the school revisit the youth bus policy.** Residents felt that students who are required to ride city buses to school should receive free bus fare and that paying for bus service is a financial burden for families. Additionally, parents felt concerned that some children were too young to ride the city bus to school and that it was unsafe for them to do so.



## The Health and Equity Lens

Accessible, affordable transportation is of crucial importance to ensure equitable opportunities to access health care, education, housing, employment, and other essentials of daily life. Beyond housing, transportation is often the second highest household cost for families. Low-income families can find transportation costs to be a significant burden whether they have access to a private vehicle or rely on public transportation.

It is imperative to consider the connection between jobs and housing when considering transportation and transit. Many low-income residents move to suburban locations in search of lower cost housing. This can add to their transportation burden in many ways. First, because there is less transit service and lower-density land use patterns in these areas, people are more likely to need a private vehicle. For those who do have a car, the fluctuating costs of gas, insurance and maintenance can be critical costs and emergency needs can be a catastrophic financial blow for families without disposable income. Second, as people move farther away from their jobs, the increased commute times have significant impacts on mental and physical health. Long commutes can lead to reduced sleep, increased stress and less time for physical activity, healthy cooking and other healthy behaviors.

Traffic safety is an issue in every neighborhood, yet low-income neighborhoods and people of color are particularly susceptible to impacts. People who walk because they do not have transit access or do not own a private vehicle may be more likely to walk on unsafe streets. For people who are walking recreationally or by choice, they can choose not to walk on unsafe streets, or can choose a route with better pedestrian amenities. For someone who is dependent on walking to get food, get to a bus stop or get to a job, they cannot choose not to walk there just because there is not a sidewalk or adequate street lighting.



## Potential Barriers

**Transportation infrastructure is expensive.** Improving transportation infrastructure is expensive for local jurisdictions and usually requires a combination of local, state and federal funds which are highly competitive. Even “small” projects like sidewalk improvements are costly and often left to the private sector to provide as part of new development.

**Unequal investment in transit has created unequal service.** Over the past 70 years, the State of Washington has prioritized expanding roads over expanding public transit and active transit options, resulting in a transit system which can be slower and less convenient than driving a personal vehicle, particularly in suburban locations. Therefore, many people choose automobiles over transit, walking or biking because it is faster or easier. Prioritizing other types of transportation investment will take significant political leadership and many years to create a robust, safe system for people who choose not to drive.

**Limited space for infrastructure leads to competition between modes.** Areas which are already developed have a limited publically owned “right of way” or space to build roads, sidewalks and bike lanes between privately owned lands. Expanding rights of way is expensive, time consuming and requires the purchase of private property from many owners. Therefore, expanding rights of way is typically a difficult undertaking and expansion of pedestrian and bike amenities or bus lanes often must require reductions of lanes for cars, parking, or other auto-oriented infrastructure. Though many studies have shown that these “road diets” can improve congestion, there is significant resistance to many of these types of projects by residents and businesses who feel it will increase congestion or reduce mobility for automobiles.

**Our transportation system is characterized by an incomplete system design and incompatible land uses.** Investments in public transportation which link job centers and affordable housing should be prioritized. Additionally, smaller infrastructure projects like sidewalks,

increased accessibility and lighting should be focused on those areas where people will be likely walking or biking to bus stops.

Encourage equitable transit-oriented development by creating incentives for integrated land use and transportation planning. Transit oriented development must emphasize affordability and accessibility. It also must incorporate affordable housing and commercial properties that provide jobs, services, and essential goods near people’s homes.

**Some investment decisions are using outdated transportation models and project prioritization.** The city and other jurisdictions should create incentives and accountability measures to ensure that transportation plans account for their impacts on health, safety, and equity. New projects must be held accountable for better results. Government investment should support the creation of tools that more sensitively and accurately measure walking and bicycling practices and improved outcomes. Health impact assessments are emerging methodologies to evaluate the effects of policies, programs, and plans on the human health and should be considered important tools for addressing equity issues.

**Infrastructure investments can lead to displacement and other negative outcomes.** Significant transportation projects that improve transit access or even just improve an area’s appearance can increase the desirability of that neighborhood. Because people of all income levels desire to live in walkable neighborhoods and shorter commutes, displacement of longtime neighborhood residents can be an unintended consequence of transit-oriented development. Policymakers must ensure that the local residents guide planning and development and that equity is a goal from day one. When these investments occur in areas with low-cost housing, the increased desirability can lead to increased demand for housing or commercial space which increases costs and risk of displacement. Therefore, infrastructure investments in low-cost areas require extra mitigation and engagement strategies to avoid displacement and increased inequity.



## Priority Policy Recommendations

### Identify and Prioritize

#### Use level of service and outcome-based measurements to target and prioritize investments.

Identify areas with service gaps by comparing levels of service by density (jobs and residences).

Identify areas of congestion and increased collisions, injuries or fatalities.

Identify areas with poor air quality as related to higher traffic volumes, freight, and speed.

Prioritize areas with low car ownership and high transit dependence, especially areas with higher household size.

Prioritize investments in communities with high poverty rates and unemployment to stimulate economic growth and provide access to jobs.

Prioritize investments in public transportation, including regional systems that connect housing and jobs as well as local services that improve access to healthy foods, medical care, and other basic services. Investments should include capital costs as well as costs for maintenance and operations.

### Invest and Implement

#### Reduce Vehicle Miles Traveled (VMT) through multimodal improvements and coordinated land use.

Increase access to automobiles for short trips through car sharing programs integrated with transit.

Shorten trip distance through coordinated land uses that prioritize mixed-use walkable neighborhoods.

Improve pedestrian and bike connectivity to transit, including stop facilities/signage

Expand transportation options and improve use of existing options.

Include improved safety and health outcomes in project scoring and investment.

Educate and work with communities to ensure that new transportation strategies, such as bike lanes, road diets, etc., are responsive to the community and that their objectives and benefits are understood.

Work to ensure that transit investments do not result in unintended consequences of displacement and gentrification. Invest in affordable housing and create incentives near transit stations and hubs.

### Track and Measure

#### Expand measurement outcomes to include safety, mode split and equitable level of service.

Track crime and set goals to increase safety at transit stops and on the transit system.

Increase mode-split for commuters and track mode-split for employment centers beyond the downtown core.

Improve mode-split for non-work trips. Improve transit-frequency and accessibility and eliminate disparities by race and income.



# ENVIRONMENT

The quality of the environment has a significant impact on physical and mental health as well as quality of life. As we develop strategies to prevent and prepare for climate change, the impact of environment on Seattle's residents, particularly those most vulnerable and without resources to adapt easily, must be a key priority.



## What the Data Shows

### Vegetative Cover

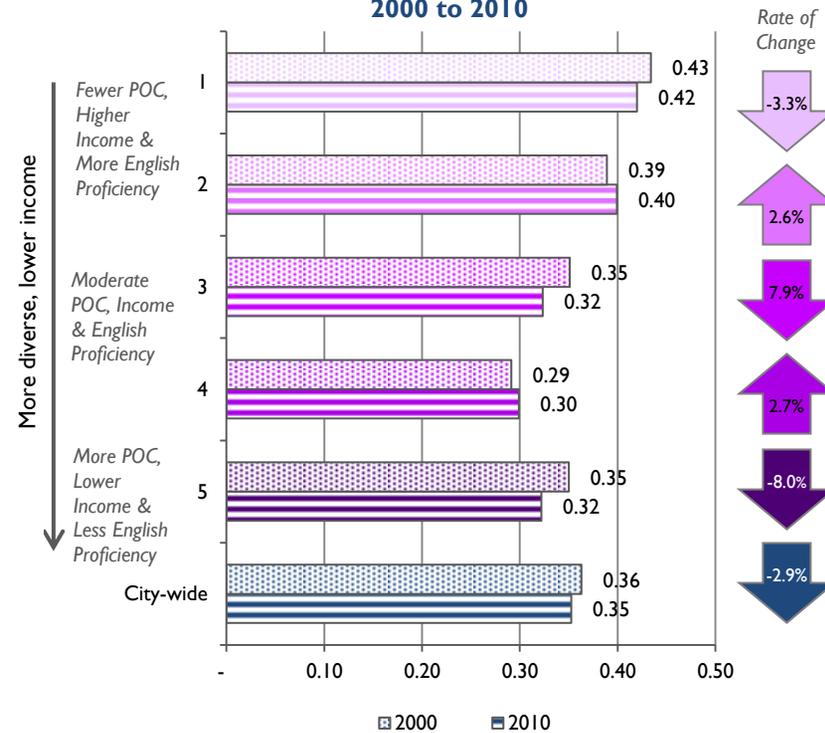
Vegetative cover was chosen for the environment assessment for this report due to its intersection with landuse policy. Trees and vegetation play a crucial role in the quality of a natural environment as well as providing health and economic benefits. Trees reduce the amount of carbon dioxide and lessen the effects of urban heat islands. Trees also help absorb water and reduce run-off to mitigate flooding, a particularly important role in Seattle. Shady areas surrounding homes reduce the need for energy-consuming climate control, reducing the living expenses of residents. It is important that all residents have access to the many benefits which trees and vegetation provide.

The following data shows urban tree canopy in Seattle as measured by the Normalized Difference Vegetative Index (NDVI). The NDVI uses satellite imagery to calculate the ratio of land which is covered by vegetation like grass, crops or trees. It is calculated to give a range of 0 to 1, with 0 being no vegetation at all and 1 being completely covered with plants of some kind.<sup>3</sup>

**From 2000 to 2010, the most diverse, lowest income areas of Seattle had the highest rate of decrease in vegetation cover (-8%) compared with the rest of the city.** According to the United States Geological Survey, the City of Seattle had an NDVI score of 0.36 in 2000. By 2010, Seattle’s NDVI was 0.35, a 3% rate of decrease in vegetative cover over the decade. In the City of Seattle, areas with higher

concentrations of low-income residents, persons of color and those residents with lower English language proficiency have lower NDVI scores and vegetative cover is decreasing faster than in the city as a whole. From 2000 to 2010, vegetative cover decreased the most in those neighborhoods – from 0.35 to 0.32, a rate of decrease of 8% over the decade. The red and orange dots on the maps on the following pages demonstrate the most critically lacking areas where the NDVI score is less than 0.3.

**Chart 36**  
**Percent Change in Vegetative Cover in Seattle, by Quintile**  
**2000 to 2010**



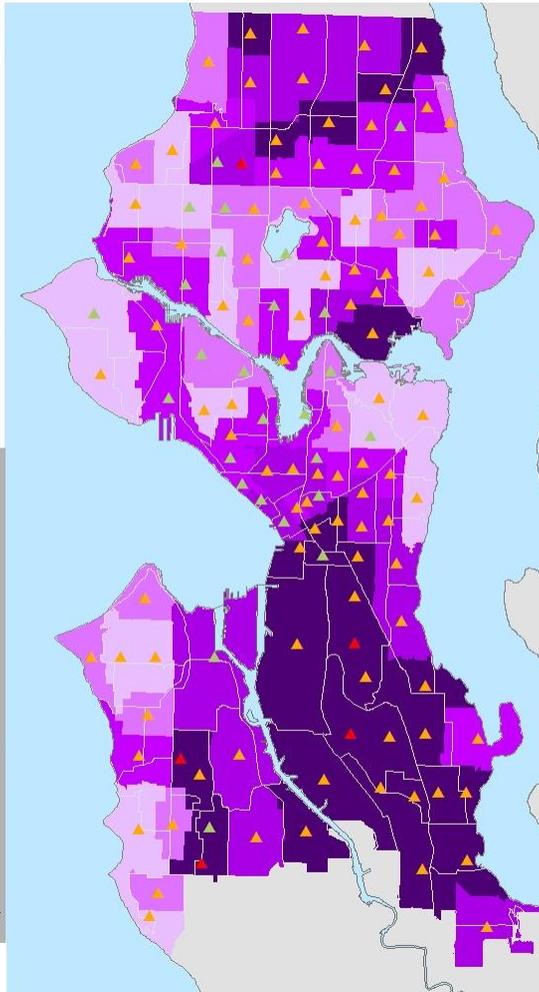
For definition of community characteristic quintiles, see Map notes.

<sup>3</sup> NDVI is calculated using infrared spectrum, which looks at green coverage one-dimensionally. There are other methodologies for measuring density or volume of tree canopy using LiDAR-based assessment of cubic feet of vegetation – which leads to varied assessments of tree canopy. Additionally, the methodology used in this study did not normalize canopy data by land use classification, which can alter data conclusions.

### Vegetative Cover (Tree Canopy) Change 2000 to 2010

How did the vegetative cover in Seattle change from 2000 to 2010?

This map depicts the change in vegetative cover from 2000 to 2010 related to diversity, income and English proficiency at the census tract level in Seattle.



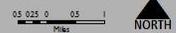
#### Legend

##### 2010 Community Characteristics

- 1.0 - 1.4
- 1.5 - 2.0
- 2.1 - 3.0
- 3.1 - 4.0
- 4.1 - 5.0

Neighborhoods  
NDVI Change 2000 to 2010

- 18% to -5%
- 5% to 0%
- 0% to 7%



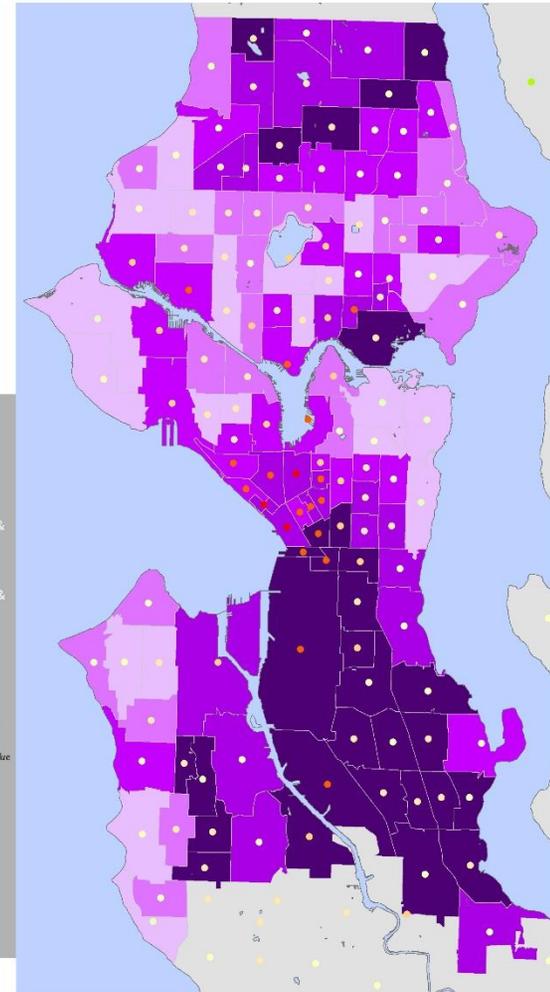
Data Source: 2010 Census & 2006-2010 5 Year American Community Survey



### Vegetative Cover (Tree Canopy) 2010

What is the amount of vegetation in different areas of Seattle?

This map depicts an indexed value for vegetation and canopy cover in 2010 related to diversity, income and English proficiency at the census tract level in Seattle.



#### Legend

##### Community Characteristics

- Less Diverse, Higher Income, & Higher English Proficiency
- Moderate Diversity, Income, & English Proficiency
- More Diverse, Lower Income, & Lower English Proficiency

##### Vegetation Index

- <= 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8

The Normalized Difference Vegetation Index (NDVI) measures relative vegetation coverage on a scale of 0.0 to 1.0. A lower value corresponds to lower vegetation coverage.



Data Source: 2010 Census & 2006-2010 5 Year American Community Survey



For more information and definition of community characteristic quintiles, see Map notes.



## What the Community Said

**Residents want a healthy environment.** While not as often mentioned as the other topics covered throughout engagement, a clean, healthy environment was important to residents. Air quality in particular was discussed as an important influence on health for residents.

**Some residents expressed a sense of powerlessness about the health of their environment.** While recognizing its importance, residents indicated a feeling that most environmental impacts, such as factories and other pollution sources were out of their control.

**Access to natural environmental areas is important for Seattle residents.** Engagement participants noted the need for access to natural areas for both physical and mental health. Easy availability of natural spaces (beyond landscaped parks) was noted by residents to be important. For Seattle residents with access to personal transportation, finding unspoiled, natural areas is just a car-ride away. For those dependent on public transportation, these areas can be more difficult to access.



## The Health and Equity Lens

No segment of the population should, because of its racial or economic makeup, bear a disproportionate share of the risks or consequences of environmental pollution or environmental policies, or be denied equitable access to environmental benefits. Through their ecological functioning, forests and other natural areas provide our region with benefits worth billions of dollars in built infrastructure.

It is important to protect natural areas for public health and safety reasons, as well as for recreational and environmental reasons. Human and natural systems are interrelated, thus when natural systems are threatened, human health and quality of life is threatened.

The pace of development in Seattle has had an impact on the environment, particularly on vegetative cover. Of particular community concern is the amount of street trees on higher-volume mixed-use corridors. As higher density development occurs and more people live along these corridors, it is key to increase tree canopy to improve air quality and improve stormwater. The city should continue to establish specific canopy cover goals, and promote urban forestry programs in order to maintain healthy atmospheric conditions.

As Seattle accommodates a growing population it must balance the goals of compact living, economic expansion, tree canopy cover, natural area protection and performance, and a high quality of life for all residents. Environmental policies will be implemented through investment decisions, natural resource management and planning, critical areas regulations, land use and transportation policies, and incentives for environmental protection. The following recommended policies focus on limiting pollution and preparing for and adapting to climate change. This section will focus on land use and transportation and their relationship to vegetation, natural habitat function, and stormwater management.



## Potential Barriers

**Increased density can lead to loss of trees and vegetative cover.**

Without protections in place, increased density, especially approaches that add more units per parcel, often result in loss of tree canopy and vegetative cover.

**Cumulative impacts are not considered.** Due to existing regulatory frameworks, cumulative impacts of air and water pollution sources are not considered in siting new or permitting existing facilities. Many facilities along with transportation corridors, thus, are concentrated in certain neighborhoods of Seattle resulting in disproportionate adverse health impacts.

**Climate Change adaptation strategies can disproportionately burden priority populations.** Energy saving technology will be out of cost range for low income households. Required upgrades and investments will be a financial burden for many households.

**There will be increasing severe weather hazards.** As severe weather hazards increase with a warming planet, they will disproportionately affect low income households which have limited resources to handle heat waves, flooding, and other weather-related hardships.

**Existing disproportionate burden of adverse uses must be overcome.** Due to low land costs and less political power, adverse uses such as waste disposal facilities, energy production facilities, manufacturing facilities and transportation infrastructures such as highways ports and airports have historically been placed in areas with priority populations. Redistributing this infrastructure or even mitigating the negative impacts will be costly and time consuming.



## Priority Policy Recommendations

### Identify and Prioritize

**Continue to track and monitor environmental inequities and critical environmental needs, both existing and future needs caused by climate change impacts.**

Knowing where environmental inequities and actions are needed is a critical first step in addressing inequities.

Monitor air quality and air and water pollution sources. Identify toxic chemical and hazardous waste cleanup sites.

Maintain an inventory of open spaces and regularly monitor tree canopy coverage.

Identify critical areas which require more proactive protection or rehabilitation related to air quality, water quality, open space and tree canopy.

**Plan for climate change including mitigation and adaptation recognizing potential inequities in climate change impacts.**

Develop a climate change equity assessment identifying critical impacts from climate change, including how priority populations will be impacted.

**Prioritize healthy people and healthy environment.**

Consider relationships between natural environment and health outcomes.

### Invest and Implement

**Recognize and prioritize environmental protection as a key strategy in addressing health inequity and economic development.**

Protect and enhance water quality of surface water resources including the city's lakes, rivers, creeks, and Puget Sound.

Manage water resources for multiple uses including recreation, fish and wildlife, flood

protection, erosion control, water supply, energy production, and open space.

Existing vegetation and tree canopy coverage should be preserved and enhanced in order to protect the integrity of natural drainage systems, existing land forms, and maintain wildlife habitat values.

Create incentives and requirements to reverse tree canopy loss in the most diverse, lowest income neighborhoods of the city.

Limit discharges of pollutants such as chemicals, insecticides, pesticides, and other hazardous wastes to surface waters.

Examine existing environmental conditions (including cumulative impacts) and related public health outcomes before allowing new facilities or commercial enterprises which will contribute to an unhealthy environment.

Land uses in areas subject to geologic hazards should be designed to prevent property damage and environmental degradation before, during, and after construction.

Protect and promote clean air and minimize individual and cumulative noise impacts to ensure a healthful environment. Maintain high air quality standards through efficient land use patterns that promote air quality through reduction in emissions from industry, traffic, commercial, and residential uses.

Incorporate the Race and Social Justice Initiative into analysis and development of climate change mitigation and adaptation policies and investments.

Focus on civic engagement in underrepresented areas which have been left out of traditional planning processes.

**Focus not just on healthy residential environments, but also healthy workplace environments.**

Provide education and training on workplace safety including long term exposure to hazards.

Support workers and businesses in understanding and mitigating health impacts of jobs and industries with historically high negative impacts on health.

Promote programs to reduce poor quality of indoor air.

## Track and Measure

**Track environmental factors which have linkages to negative health outcomes.**

Prioritize linkages between health and environment with existing disparities and target these environmental factors for improvement, particularly in communities with historically high distribution of negative environmental impacts.

Measure intersectionality of places where people live and work recognizing the relationship between low income communities and low-wage work which results in higher exposure to toxic materials and other health hazards.





# ECONOMIC OPPORTUNITY

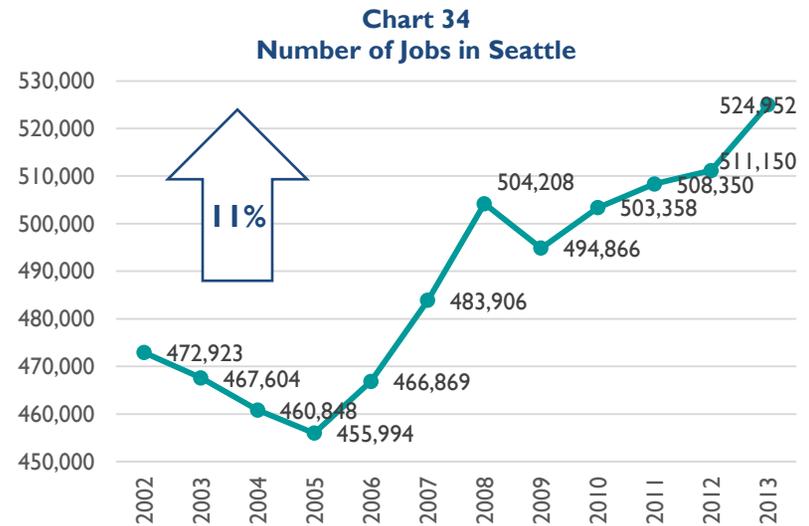
Economic opportunity is the ability for all residents to find well-paying, secure employment which is fulfilling, safe and provides an income which enables them to afford safe, decent housing, healthy food, education and other important components of a healthy life.



### What the Data Shows

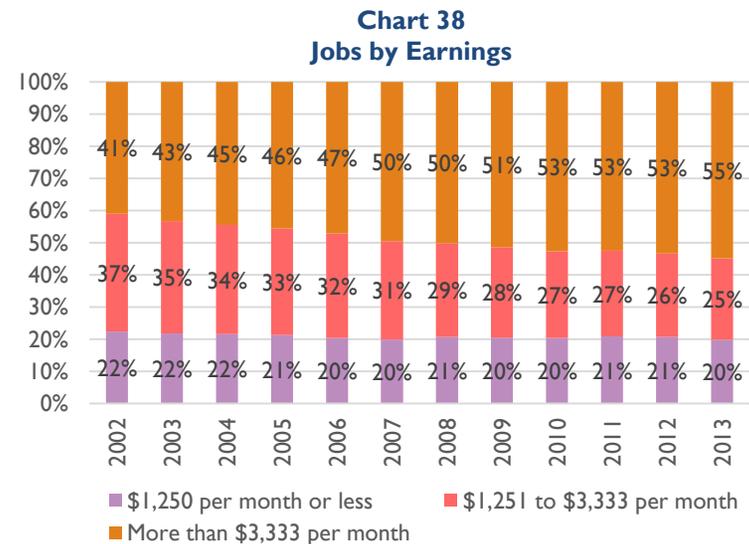
#### Job Growth

**Jobs in Seattle increased by 11% from 2002 to 2013.** In 2013, there were 524,950 jobs in the City of Seattle, an 11% increase from 2002. Unlike population and housing, jobs are directly dependent on the overall economy and therefore are much more variable – the number of jobs in the city can increase or decrease significantly over the course of a year.



#### Earnings

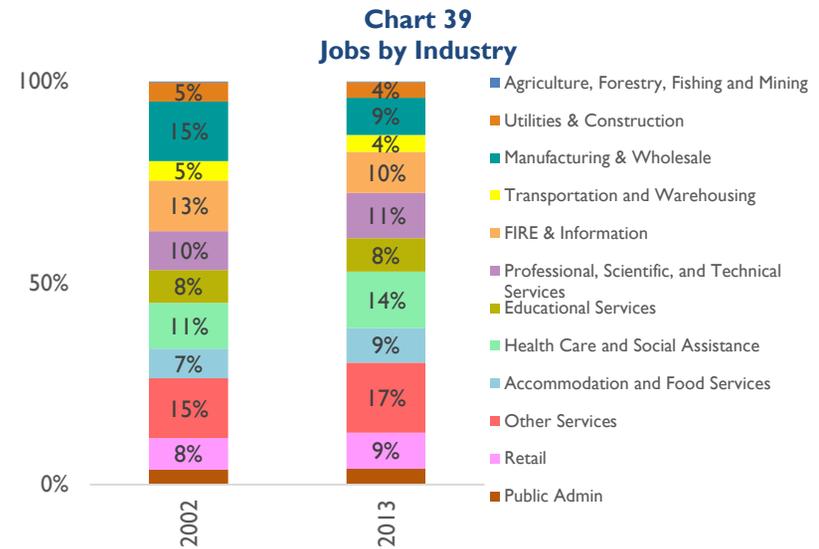
**From 2002 to 2013, the proportion of moderate to higher paying jobs increased while the proportion of lower paying jobs slightly decreased.** From 2002 to 2013, the proportion of jobs in Seattle paying relatively low earnings (less than \$1,250 per month) decreased slightly from 22% to 20%, or approximately one in five jobs. However, the number of jobs paying moderate wages decreased significantly, from 37% in 2002 to 25% in 2013. During the period this number of highest wage jobs (over \$3,333 per month) increased from 41% to 55%.



Source: Census On the Map

## Industry

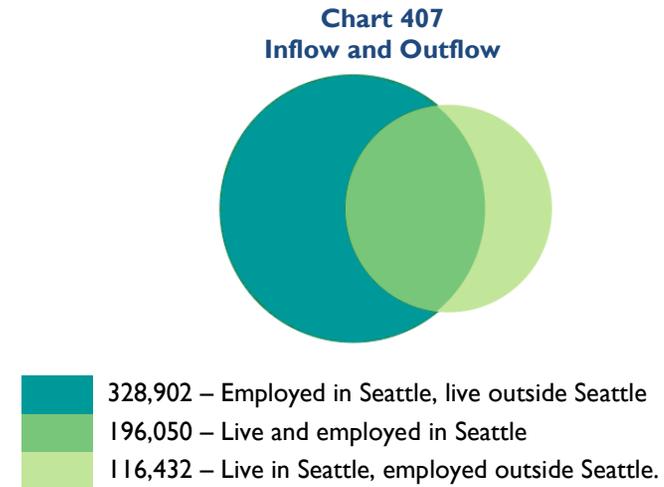
**The jobs mix in Seattle remains diverse but changed over the period from 2002 to 2013.** From 2002 to 2013, the proportion of jobs in the manufacturing sector decreased significantly, from 15% to 10%, and transportation and warehousing jobs decreased from 5% to 4%. Jobs related to services, including professional services, education, healthcare and other services increased. The proportion of retail and hospitality jobs remained about the same.



## Commute Patterns

**In 2013, 63% of Seattle jobs were filled by those commuting in from outside the city.** In 2013, 37% of the 524,952 jobs in Seattle were filled by residents of the city. The remaining jobs (63%) were filled by persons living outside of the city boundaries, including 31% who live in other parts of King County, 12% who live in Snohomish County and 6% who live in Pierce County.

In 2013, 63% of Seattle residents who worked did so in the city. Of those residents who do not work in the city, 26% work in the remainder of King County and 5% commute to Snohomish County.



Source: Census On the Map



## What the Community Said

**There is more need for vocational and skills training.** Many engagement participants highlighted a need for vocational and skills training for their communities. While recognizing there were significant job opportunities in Seattle, participants felt that people need better job training, particularly for skilled manufacturing or transportation jobs which could be found in vocational training or apprenticeship programs.

**There is a lack of information about existing job training programs.** There is a need for better information about existing vocational and job placement programs. In addition, there needs to be more programmatic support for persons who may need these programs but are challenged to take advantage of them. Barriers to using these programs might include a lack of financial resources, a lack of GED or English skills, lack of access due to transportation challenges or existing programming, or a lack of quality childcare.

**Many persons of color, particularly immigrants and refugees, fear hiring and workplace discrimination.** Participants in community engagement workshops, particularly for immigrants, reported that people in their communities feared discrimination in the job market or had experienced discrimination based on their race or religion, leading to a sense of futility in looking for work or building job skills.



## The Health and Equity Lens

Economic Development, including job growth and retention, resident education and skills training, is a critical component to achieving a more equitable, healthy Seattle. Access to quality jobs allows residents to increase their income which increases opportunities for education, housing choice and mobility. Additionally, economic growth for all residents can improve health outcomes by improving access and availability of medical care and insurance, reducing the mental and physical stress of poverty and helps households increase food security and access and can provide disposable income for recreation and fitness activities.



## Potential Barriers

Barriers to economic opportunity are entrenched in the historic racism, classism and xenophobia of our society and range from the small-scale to bias at institutional and social scales. There are prevailing systemic factors which influence economic opportunity and create disparities in jobs access, education, wages, seniority, job security and underemployment. Disparities in economic opportunity begin with educational outcomes which vary by race, geography, income, language proficiency, gender identity and other factors from the earliest age. Disparities grow through variability in access to higher education, quality professional networks, access to capital, and geographic proximity to jobs and inaccessibility to reach quality jobs via transit or other modes.

Barriers to economic opportunity include non-transferability of skills, degrees and accreditation for immigrants and refugees, discrimination due to age, race, religion, culture and gender identity as well as economic exploitation of residents without legal status.



## Priority Policy Recommendations

### Identify and Prioritize

#### Identify opportunities for equitable economic development.

Work with businesses and residents to identify gaps in the local workforce's skills and experience to ensure that training programs are targeted appropriately.

Identify existing and potential business clusters for economic development incentives and support, focusing on small, local business development and entrepreneurship.

Prioritize community supporting businesses.

Support community-identified workforce training and business development programs.

### Invest and Implement

#### Recognize the value of small, locally owned businesses and entrepreneurship within the community.

*In Seattle, particularly in the Central District, International District and Rainier Valley, there is significant growth in immigrant and multicultural residents and businesses. These businesses contribute to the economic strength of the area and some provide needed services and goods for diverse populations.*

Recognize strength of these areas and opportunities as a first step to ensuring that economic development programs and investments sufficiently support these businesses.

#### Ensure that traditional economic development activities are supplemented with small-scale, locally beneficial programs.

*Traditionally, economic development focus has been on large corporations and industries for relocation to a particular jurisdiction. These activities are an important economic development strategy, but can be highly competitive, costly and have limited benefits for existing residents.*

Supplement traditional economic development activities with programs which support smaller, local-owned businesses, either existing or potential, in order to provide residents with needed resources to start or build locally-owned businesses which are more likely to benefit residents and keep money within the community.

#### Focus on job training and skills development.

Work to increase job training and skills among Seattle residents and produce more equitable outcomes by increasing access to jobs by priority populations and by making the area more attractive to businesses looking for highly skilled employees.

Work with local companies and schools to develop apprenticeship programs.

#### Examine existing business regulations to determine if requirements are effective, equitable and easily understood.

*Onerous permitting or other regulations can disproportionately impact smaller businesses which do not have the systems in place to meet those administrative challenges.*

Support small businesses to ensure that regulations are understood and can be met, so that smaller, locally owned businesses will be more likely to meet existing regulations and code compliance issues.

#### Communicate existing job training and access programs more effectively.

*There are many job training programs in Seattle. However, knowledge of these programs can be limited in priority populations who may have limited English or limited access to information about these opportunities.*

Conduct specific, targeted outreach about job

training programs to communities with lower incomes, higher rates of poverty and higher unemployment. Additional attention should be paid to barriers to participation for these programs to be modified with additional financial assistance, more easily accessible locations and specialized support for priority populations.

International workforce – tech visas, skilled labor force. How do we develop programs which transferability of skills, accreditation and degrees international.

## Track and Measure

**Ensure that tracked economic development outcomes are responsive to community needs and priorities.**

Track job creation at the neighborhood scale to determine those areas and communities which are not participating in city-wide job growth.

Track wage disparities by race, gender and other factors with the goal of reducing wage disparity.

Measure number and location of locally owned businesses to identify and prevent business displacement in high-risk neighborhoods.

## APPENDIX A: REFERENCES

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## APPENDIX B: EQUITY MAP NOTES

### Disclaimer

Equity Maps were created through a partnership between Futurewise and King County. The analysis used STAR (Sustainability Tools for Assessing and Rating Communities) methodology ([www.starcommunities.org](http://www.starcommunities.org)). The information included on the maps was compiled by King County staff from a variety of sources and is subject to change without notice. King County makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a survey product. King County shall not be liable for any general, special, indirect, incidental, or consequential damages including, but not limited to, lost revenues or lost profits resulting from the use or misuse of the information contained on the maps. Any sale of the maps or information on the maps is prohibited except by written permission of King County.

### Buffers

Cartesian buffers were used to identify areas served by foundational community assets. Cartesian systems are projections onto a 2 dimensional surface. This project assessed population density and asset characteristics as described below.

Buffers are based on population:

- High density is defined as greater than or equal to 10.9 people per acre.
- Intermediate density is defined as 7.6 to 10.8 people per acre.
- Low density is defined as less than or equal to 7.5 people per acre.

### Community Characteristics

Data Source: 2000 Census, 2010 Census and 2006 – 2010 5 Year American Community Survey, King County GIS Center.

A consolidated demographic score was calculated using the US Census Tracts of Seattle. The source layers for the score were: People of Color (people who don't identify as white and/or are Hispanic or Latino); English Proficiency; and Median Household Income. The 2000 score source layers came from the 2000 US Census data. For the 2010 score, the People of Color demographic data came from the 2010 US Census data while English

Proficiency and Median Household Income data came from the 2006 – 2010 5-Year American Community Survey.

Each demographic source is classified into quintiles. A score is assigned to each Quintile class ranging from 1 to 5. The ESJ score for each tract is the sum of 33.3% of quintile score for each of the three source layers. A lower score indicates less diversity, higher income, and higher English proficiency. A higher score indicates more diversity, lower income, and lower English proficiency.

Because the American Community Survey is a small sample, margins of error are high, and these data should be used with caution.

### Healthy Food Access 2010

Data Source: 2010 Census and 2006 – 2010 5 Year American Community Survey, King County GIS Center.

Buffer - ¼ mile buffer for high, 1/3 mile buffer for intermediate, ½ mile buffer for low density.

Block groups are symbolized by values from this tract based method which does not uniquely represent individual block groups within a tract.

Analysis assumes even distribution of demographics across census tracts. Percentage of tracts served is determined by comparing the area of the service area with the area of the tract that the service area intersects.

### Parks and Recreational Facilities 2000

Data Source: 2000 Census, King County GIS Center.

Buffers: 1,000 foot buffer for high density, 2,000 foot buffer for intermediate density, 3,000 foot buffer for low density

Block groups are symbolized by values from this tract-based method which does not uniquely represent individual block groups within a tract.

Analysis assumes even distribution of demographics across census tracts. Percentage of tracts served is determined by comparing the area of the service area with the area of the tract that the service area intersects.

Recreational Facilities include: baseball field, basketball court, community center, cricket field, equestrian facility, football field, golf course, handball court, multi-purpose court, off-leash dog area, open play field, play equipment area, running track, seasonal soccer field, skateboard park, soccer field, and swimming pool.

#### **Parks and Recreational Facilities 2010**

Data Source: 2010 Census and 2006 – 2010 5 Year American Community Survey, King County GIS Center.

Buffers: 1,000 foot buffer for high density, 2,000 foot buffer for intermediate density, 3,000 foot buffer for low density.

Block groups are symbolized by values from this tract based method which does not uniquely represent individual block groups within a tract.

Analysis assumes even distribution of demographics across census tracts. Percentage of tracts served is determined by comparing the area of the service area with the area of the tract that the service area intersects.

Recreational Facilities include: baseball field, basketball court, community center, cricket field, equestrian facility, football field, golf course, handball court, multi-purpose court, off-leash dog area, open play field, play equipment area, running track, seasonal soccer field, skateboard park, soccer field, and swimming pool.

#### **Public Health Facilities 2000**

Data Source: 2000 Census, Public Health of Seattle and King County, King County GIS Center.

Buffers: ½ mile buffer for high density, ¾ mile buffer for intermediate density, 1 mile buffer for low density.

#### **Public Health Facilities 2010**

Data Source: 2010 Census, 2006-2010 American Community Survey, Public Health of Seattle and King County, King County GIS Center.

Buffers: ½ mile buffer for high density, ¾ mile buffer for intermediate density, 1 mile buffer for low density.

#### **School Access 2000**

Data Source: 2000 Census, King County GIS Center.

Buffers: ½ mile buffer for high density, ¾ mile buffer for intermediate density, 1 mile buffer for low density.

#### **School Access 2010**

Data Source: 2010 Census, 2006-2010 American Community Survey, King County GIS Center.

Buffers: ½ mile buffer for high density, ¾ mile buffer for intermediate density, 1 mile buffer for low density.

#### **On-Time Graduation Rates 2010**

Data Source: 2010 Census, 2006-2010 American Community Survey, King County GIS Center, Washington State Office of Superintendent of Public Instruction.

Block groups are symbolized by values from this tract based method which does not uniquely represent individual block groups within a tract.

#### **Average Reading Scores 2010**

Data Source: 2010 Census, 2006-2010 American Community Survey, King County GIS Center, Washington State Office of Superintendent of Public Instruction.

Block groups are symbolized by values from this tract based method which does not uniquely represent individual block groups within a tract.

#### **Average Math Scores 2010**

Data Source: 2010 Census, 2006-2010 American Community Survey, King County GIS Center, Washington State Office of Superintendent of Public Instruction.

Block groups are symbolized by values from this tract based method which does not uniquely represent individual block groups within a tract.

### **Library Access 2000**

Data Source: 2000 Census, King County GIS Center.

Buffers: Buffer service areas were created ½ mile from libraries in high density areas, ¾ mile from libraries in intermediate density areas, 1 mile from libraries in low density areas

### **Library Access 2010**

Data Source: 2010 Census, 2006-2010 American Community Survey, King County GIS Center.

Buffers: Buffer service areas were created ½ mile from libraries in high density areas, ¾ mile from libraries in intermediate density areas, 1 mile from libraries in low density areas.

### **Transit Access 2000**

Data Source: 2000 Census, King County Metro, King County GIS Center.

Buffers: A ¼ mile buffer service area was created for all Transit Facilities (aka Bus Stops) regardless of block group population density.

Analysis assumes even distribution of demographics across census tracts. Percentage of tracts served is determined by comparing the area of the service area with the area of the tract that the service area intersects.

### **Transit Access 2010**

Data Source: 2010 Census, 2006-2010 American Community Survey, King County Metro, King County GIS Center.

Buffers: A ¼ mile buffer service area was created for all Transit Facilities (i.e., Bus Stops) regardless of block group population density.

Analysis assumes even distribution of demographics across census tracts. Percentage of tracts served is determined by comparing the area of the service area with the area of the tract that the service area intersects.

### **Transit Frequency 2000**

Data Source: 2000 Census, King County Metro, King County GIS Center.

Analysis assumes even distribution of demographics across census tracts. The number of tracts served is determined by whether a transit trip touches the census tract.

### **Transit Frequency 2010**

Data Source: 2010 Census, 2006-2010 American Community Survey, King County Metro, King County GIS Center.

Analysis assumes even distribution of demographics across census tracts. The number of tracts served is determined by whether a transit trip touches the census tract.

### **Vegetative Cover 2000**

Data Source: 2000 Census, US Geological Survey, King County GIS Center.

### **Vegetative Cover 2010**

Data Source: 2009 US Geological Survey, 2010 Census and 2006 - 2010 5 Year American Community Survey, King County GIS Center.

Because the American Community Survey is a small sample, margins of error are high, and these data should be used with caution.

Block groups are symbolized by values from this tract based method which does not uniquely represent individual block groups within a tract.