THE IMPACT OF WALKABILITY ON HOME VALUES: FINDINGS FROM NEIGHBORHOODS IN THREE BAY AREA CITIES

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DETERMINANTS OF VALUE IN WALKABLE COMMUNITIES

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Chapter 1: Background and Context

1.1 Introduction

Buying a home is the single most important purchase that most people will ever make. It occurs when a prospective buyer has decided to invest much of their earnings into a property for an extended period of time (typically 30 years). When this decision is made, it is done very cautiously to ensure that the purchase is the correct choice. The price that a homeowner pays is dependent on what aspects of location they value and what they can afford.

Home values are determined by a multitude of factors with location and safety being arguably the most important. In some cities throughout the United States, value is placed directly on neighborhood exclusiveness. Homes in neighborhoods such as New York's Central Park or Los Angeles's Beverly Hills have historically commanded a premium while homes in neighborhoods such as SoHo and South Beach have just recently begun to command such a premium. Some of the most expensive neighborhoods in the United States are also some of the most walkable. Having access to public transit, schools, recreation, shopping, dining, and other social activities within walking distance increases neighborhood desirability.

The focus of this project is to analyze the correlation between neighborhoods that embody principles of New Urbanism (particularly amenity mix) and its effect on home values in three Bay Area cities: San Francisco, Oakland, and San Jose. New Urbanism is the push for the revival of traditional neighborhood characteristics including walkability and mixed land uses. The goal is to conduct a comparative analysis to better understand how the intersections of race and walkability affect home value. Although the Bay Area is a distinctive housing market, parallels can be drawn to other U.S. cities of similar size and design.

Why is it important?

Understanding the correlation between home value and walkability is important because it provides deeper knowledge of the factors that the determine desirability of location. Knowing what attracts people to a particular neighborhood influences development. It is also fundamental to understanding the racial composition of neighborhoods. Additionally, it is used by various groups such as city planners and real estate developers to build new neighborhoods or to guide the type of housing they build in existing neighborhoods. The relationship between home value and walkability is stronger in some cities than in others but establishing the connection allows for a better understanding of what people desire in a neighborhood and how much they are willing to pay for it in home price.

1.2 Methodology

Measuring the connection between walkability and home values will be conducted through a four-part analysis:

1. A description of each city and its geographic setting to provide context for the analysis which follows.

2. Four neighborhoods, comprised of one predominant racial group with similar levels of walkability will be examined.

3. Findings will be analyzed to highlight the main influences on home values.

4. The implications of the findings will conclude this work and a set of recommendations for next steps in future research will be established

1.3 Walk Score

Walk Score measures the walkability of any address and analyzes hundreds of walking routes to nearby amenities. Points are awarded based on the distance to amenities in each category. Amenities within a 5 minute walk (.25 miles) are given maximum points. A decay function is used to give points to more distant amenities, with no points given after a 30 minute walk. Walk Score also measures pedestrian friendliness by analyzing population density and road metrics such as block length and intersection density. Data sources include Google, Education.com, Open Street Map, the U.S. Census, Localeze, and places added by the Walk Score user community (walkscore.com, 2017).

While Walk Score is the most comprehensive data available, there are some limitations to its calculations. Walk Score rankings do not account for sidewalk width, topography, or weather, all of which may influence how much people choose to walk in a given neighborhood and how much they rely on cars. Perhaps more important, Walk Score does not take into consideration proximity to transit; instead this information is provided in a separate Transit Score (Washington, 2013). Additionally, it does not consider factors such as median pedestrian route directness, sidewalk completeness and average speed limit (Duncan, et.al, 2013). Nonetheless, Walk Score is found to be valid as it measures density of retail destinations, density of recreational open space, intersection density, residential density and density of subway stops. Areas with higher densities of such features are more walkable neighborhoods. Even with its limitations, the validity of Walk Score has still been used by many researchers.

1.4 Historical Evolution of Diverse City Forms

Oakland

The City of Oakland's population exploded after residents migrated from San Francisco following the Great Quake of 1906. Previously, most of Oakland's development had occurred along its waterfront and was related to the port which responded to the needs of the shipping industry. After the earthquake, however, the city size grew to 60 square miles and the population doubled to 150,000. The physical character of the city then changed to include boulevards, picturesque parks, other civic improvements, and connectivity to surrounding cities. Foreign immigrants were drawn to Oakland for these reasons and as a result, Chinatown was created adding to the city's diversity. By the mid-20th century, Oakland's population was about 400,000 and included Blacks who migrated from the south, Whites, Japanese, Chinese, Spanish, and Native Americans. Each racial group has influenced development within the city, resulting in neighborhoods that feature diverse characteristics. Areas such as the Fruitvale, Prescott, and Crocker Highlands exemplify this relationship through their differences created by racial composition. Still, most of Oakland is developed in a traditional grid pattern which has the strongest influence on its walkability.

map of Oakland with city limits

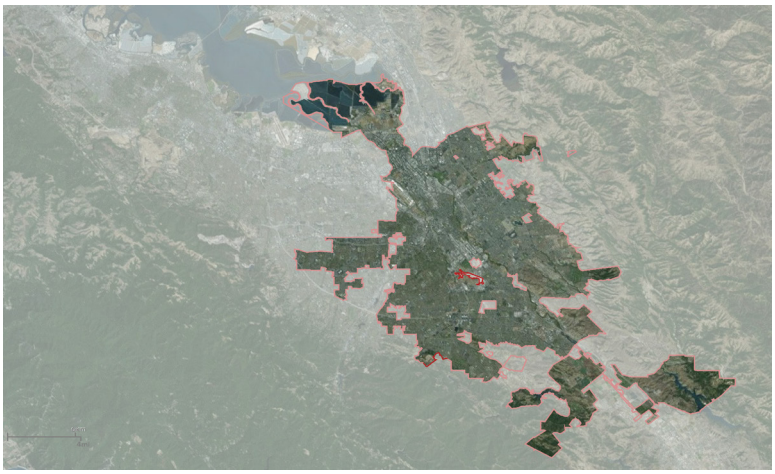
San Francisco

San Francisco began with three distinct neighborhoods, the Military Presidio, Mission Dolores, and Yerba Buena Village. These areas are the foundation for what is known today as San Francisco and with the gold rush of 1849, the stage was set for development within the city. The number of inhabitants grew exponentially resulting in a direct need for efficient mobility throughout the city. Consequently, planners designed San Francisco in a grid pattern and added the cable car to move people quickly through the hilly terrain. The city's downtown had grown extremely dense by the early 1900s and neighborhoods had reached city limits. After the Great Earthquake of 1906, there was a renewed effort to plan San Francisco in terms of creating wider streets, arterial thoroughfares, a below grade subway along market street, and a pedestrian friendly Fisherman's Wharf. Due to the dense population that San Francisco has essentially contained since its founding, walkability has always been an integral facet of the city's culture.

map of San Francisco with city limits

San Jose

The City of San Jose originated as an agricultural community in the southern portion of the Bay Area. It was not until the 1950s when this small and primarily rural city began to expand. San Jose quickly ballooned to become the largest Bay Area city and by 1969 the size had increased from 17 square miles to 136 square miles and the population increased from 95,000 to 446,000. Growth was mostly chatacterized by the suburbanization movement of the time. The city was thus designed drastically different than San Francisco and Oakland. Instead of a traditional grid system, San Jose's urban pattern consisted of cul-de-sac's, collector roads, and inadequate public transportation. This style of city development has presented San Jose with a myriad of challenges with regards to walkability though changes are presently being made in its development towards full urbanization.



map of San Jose with city limits

1.5 Neighborhoods Characterized by Race

The neighborhood characteristics section explores the relationship between race, home values, and its connection to walkability in three distinct geographic settings. Each neighborhood was chosen based on the highest and most populous concentration of a specific racial group and will be used to analyze home values and walkability. The aim is to obtain a better understanding of how racial composition influences the value placed on homes in neighborhoods with similar levels of walkability. The racial groups are separated into four categories that include Asian, Black, Hispanic, or White.

Hispanic

Oakland: Fruitvale

Oakland's Fruitvale neighborhood originally contained vast acres of lush fruit orchards that attracted many tourists to the area. In 1909 the area was annexed into the city after many refugees from the San Francisco Earthquake settled in the neighborhood. From the 1940s through the 1950s, Oakland became heavily populated with African American and Hispanic immigrants who lived mainly in West Oakland. However, by the late 1960s and early 1970s, Fruitvale (East Oakland) became the prominent neighborhood for Hispanic residents following the construction of the Nimitz freeway that destroyed much of West Oakland. At the same time, the Chicano movement had taken a foothold in the area after the murder of a Mexican Resident. The resulting consequence was a stronger Hispanic presence in the neighborhood and the establishment of schools, a free clinic, and a myriad of other cultural icons. By the 1980s, Fruitvale had become a mostly Hispanic neighborhood after much of the African American population moved deeper into East Oakland or completely out of Oakland into the suburbs.

San Francisco: Mission District

The Mission District in San Francisco California had existed long before the city of San Francisco. Originally, the Mission-Dolores neighborhood was founded by the Spanish along with Park Presidio as a military outpost. As a result of the explosion in population during the Gold Rush, the Mission grew into one of the oldest neighborhoods in the newly claimed San Francisco. Although a majority of the Mission was owned by Mexican families granted Ranchos prior to the Spanish-American war, much of the area was inhabited by German and Irish immigrants. After the Great Earthquake, more European immigrants migrated to the area including the Polish.

From the 1940s through the 1960s, a significant population of Mexican immigrants began to settle in the Mission resulting in White Flight. Since this period, additional immigrants from South America, Central America, and the Middle East has also moved into the Mission as well as young professionals and a large gay population. The resulting racial diversity has produced a thriving neighborhood of art and artists.

San Jose: King / Story

The intersection of King and Story was originally considered the city of East San Jose. In 1911, East San Jose was annexed into San Jose's city limits and King/ Story became a neighborhood. In 1930, much of Eastern San Jose consisted of rural agricultural lands. During this time Cesar Chavez and his family became residents of the Alum Rock neighborhood which borders the King/ Story neighborhood. Chavez was extremely active in the promotion of farmworkers rights and began his political career by registering voters and organizing English classes for Mexican residents. Consequentially, East San Jose became the hub for Hispanic affairs in San Jose. Today Hispanic residents account for 55% of East San Jose's population, with the highest concentration living parallel to the King/Story corridor. The almost century long history of this community has resulted in a rich cultural presence; many businesses, civic buildings, and schools are dedicated to serve the needs of its Hispanic residents.

Asian

Oakland: Chinatown

Oakland's Chinatown is one of the oldest in North America. Established in the 1850s, it is home to Chinese, Japanese, Koreans, Filipinos, and Southeast Asians. The original inhabitants of the Chinatown were Chinese (hence its name), however it has become very diverse with individuals from all over Asia. Its current location in the southeastern portion of downtown Oakland, encompasses 46 city blocks in which the densest portion is 18 city blocks. The population within Chinatown has fluctuated over the years according to historical events such as the Chinese Exclusion Act, which dropped the population to less than 1,000. However, the Great Earthquake of 1906, resulted in 4,000 refugees relocating from San Francisco to Oakland during a Chinatown reconstruction. In the 1920s, Chinatown had expanded to the waterfront but was reduced in size after the construction of Interstate 880 in the 1950s. Chinatown grew rapidly during the 1970s as refugees from Vietnam relocated to Oakland resulting in a redevelopment of the area and a population influx of 60,000.

San Francisco: Chinatown

Chinatown in San Francisco is the oldest and largest in North America. Spanning 20 square blocks, it is presently home to 10,000 residents. During the 2000 census period, 100,000 residents were reported to live in Chinatown. At this time, it was the most densely populated area west of Manhattan. The history of San Francisco's Chinatown is as old as the city itself. Originating with immigrants of Southern China, Chinatown was the port of entry for all Chinese transplants. Early in its history, prostitution became a prominent enterprise within the community and sex workers accounted for 70% of the female population.

Nonetheless, prostitution continued along with increased crime from gambling and smuggling. At the same time, reputable businessmen from Chinatown created the "Chinese Six Companies" which was an organization to lobby for Chinese business to the wider San Francisco community. By the early 1900s, Chinatown had an alluring reputation of danger and tourists from San Francisco and beyond began to infiltrate the neighborhood to experience the culture and patronize the brothels. Since this period, the tourism industry has produced more yearly visitors than the Golden Gate Bridge.

San Jose: Evergreen

The Evergreen community grew as a local service cluster for the surrounding district. Evergreen Valley much like the rest of Santa Clara county was agricultural land. By 1900, the community featured a school, post office, saloon, church, and social hall. Evergreen remained relatively rural until 1975 when a housing boom resulted in the creation of many subdivisions. Suburban subdivision development resulted in an influx of people who at the time were largely Asian and transplants from San Francisco or Oakland. One portion of Evergreen has remained rural and acts as a greenbelt for the neighborhood, while the southeastern portion is exclusively luxury homes. Evergreen features many options for shopping and at one point had the largest indoor mall (Eastridge) in the United States.

The village square is also a central aspect of the community and features more walkable amenities such as restaurants, art and culture, and health and beauty stores. Today, Evergreen's population remains largely Asian consisting of 57.5% of the population.

White

Oakland: Piedmont Avenue

Piedmont Avenue has historically been the retail hub for the neighboring affluent communities of Montclair Rockridge, and the city of Piedmont. Much of the area surrounding Piedmont Avevenue consists of mansions and custom homes built by the wealthy as early as 1877. In 1903, Piedmont Avenue was the terminus for line C of the Key Route Streetcar system which provided connectivity to all cities in the East Bay. The inception of this system intensified development along Piedmont Avenue and produced a commercial corridor dominated by shops, restaurants, entertainment, and retail. Due to exclusionary housing policies, the racial composition of Piedmont Avenue was exclusively White and composed mainly of artisans, storekeepers, minor executives and professionals. Today, the population of Piedmont Ave. neighborhood remains 63.5% White.

San Francisco: Marina

Cow Hollow is a subset of the greater Marina District that originally consisted of sand dunes, freshwater springs, and grassy meadows. The neighborhood was considered "the country" and wealthy San Franciscans would occasionally build mansions sparsely throughout the area. It wasn't until the very end of the 19th century that Cow Hollow began to receive large scale residential development.

Due to the established development pattern set forth by the neighborhood's wealthy residents, Cow Hollow remained upscale and desirable. Consequently, the neighborhood was unequivocally White and remains 78% White. Union Street is a major thoroughfare for both the Marina District and the city more broadly. Before the development of Cow Hollow, Union Street would link developed portions of the city to the Presidio. In the 1950s, many of the existing homes along Union Street were renovated to accommodate new stores and restaurants which created a commercial corridor through to Cow Hollow. As a result of this change, the neighborhood has grown and become one of the most desirable areas to both live and shop in San Francisco.

San Jose: Willow Glen

In 1863, Willow Glen was a small unincorporated community that bordered San Jose and featured a newly established school district. By the early 1900s, its marshlands were drained and planted with orchards. The soil quality within the community was very fertile and commanded a premium ten times higher than in other areas of San Jose. However, farmland gave way to residential development. In 1927, Willow Glen become an incorporated town as a strategy to prevent the proposed reroute of the Southern Pacific Railroad down Lincoln Ave. By 1936, the population was large enough to warrant annexation into San Jose to connect with existing sewage infrastructure. Over a three-year period, the number of commercial business located along Lincoln Ave. increased fourfold from seven to thirty-two. Willow Glen was urbanizing rapidly and due to the neighborhood's age, it was planned in a traditional grid style unlike most other areas in San Jose. Lincoln Avenue is the heart of Willow Glen as both its commercial corridor and its oldest thoroughfare. Because of Willow Glen's history, residents have traditionally been White and today make up 48% of the population.

Black

Oakland: Bancroft

The Bancroft/Fairfax neighborhood in East Oakland was once a large grassland inundated with various tree types including oak and elm. By 1916, Oakland was known as the industrial center for the west coast due to its strategic location and the convenience of having the Southern Pacific Railroad passing through it. During this time, the Bancroft neighborhood had become vital to the growth of East Oakland because of the newly constructed Chevrolet assembly plant. The auto plant employed large numbers of workers and the number of homes in the area increased as a result. For the next three decades, Bancroft and East Oakland more broadly continued to flourish as industry grew. However, after WWII the communities which were once suburban and predominantly White became predominantly Black. As the suburbanization movement influenced the demographics of Bancroft, much of the industry (including the Chevrolet plant) that led to its prosperity also left. The result was a community of successful smaller businesses that had developed along the Foothill, Bancroft, and Mac Arthur Boulevard corridors. In 1970, the former site for the Chevrolet plant became Eastmont mall and included various successful anchor tenants, but by the 1990s, it faced decline due to an overall decrease in the average income of residents in the area.

San Francisco: Bayview

Bayview-Hunters Point was home to shipbuilding and slaughter houses beginning in 1849. The neighborhood's first residents were Maltese immigrants and Italian Americans in the 1920s. During the Great Migration, many African Americans settled in the neighborhood to work blue collar jobs in the shipyards.

After WWII, the number of Black residents had increased sharply due to exclusionary housing policies that prohibited African Americans from other neighborhoods. By the 1960s, Maltese and Italian residents had relocated to the suburbs and the population hovered around fifty thousand, consisting mainly of Blacks and other minority groups. Many of the residents lived in the Hunters View housing projects which were repurposed military barracks. Overtime, the decline in housing conditions increased health ailments for tenants in addition to the pollution from neighborhood industries that lasted until 2006. As San Francisco's home prices started to increase drastically in the mid-1990s, large numbers of African American residents left Bayview for the suburbs. Since 1990, the Black population has declined from 65% to 33.7%, however, African American's still account for the largest racial group in Bayview.

San Jose: Downtown

The population of African American residents in San Jose is small when compared to San Francisco or Oakland due various reasons such as the city's age and settlement patterns. Nonetheless, Downtown San Jose contains the largest residential population of African Americans in San Jose at 5.1%. Downtown San Jose is the densest area within the city, it serves as the hub for business, education, and nightlife within the city. There is also a residential component of Downtown San Jose that is culturally diverse and comprised of Whites, Hispanics, Blacks, and Asians.

Though an African American population exists in Downtown, there is scant information regarding how long this population has existed within the neighborhood. However, it appears this population grew from three historical eras; the first being those who originally settled in San Jose for job opportunities during the Great Migration. The second being those who moved from Oakland or San Francisco during the periods of African American suburbanization, and the last being workers who relocated to San Jose for careers in the Silicon Valley tech industry.

Chapter 2: Research and Analysis

2.1 Impact of Crime on Walkability

Crime plays a crucial role in the determination of home values. According to a study conducted by Devin and Jaren Pope (2012), neighborhoods with higher incidents of crime will experience a decrease in home value of between 7-19%. The neighborhoods most affected by incidents of crime are communities of color. Black and Hispanic neighborhoods experience violent crime at a rate two and a half to five times higher than predominantly White communities (Evidence Matters, 2016). While the rate of violent crime is greater in communities of color, property crime rates remain similar among all races. Walk Score calculates the rate of crime by measuring personal violent crime risk and property crime risk on a scale of A-D with A signifying lowest crime levels. Its model computes the grade by aggregating crimes near an address and weighing them on severity and distance. Walk Score's crime ratings are helpful in determining the level of crime in neighborhoods, however it does not input crime as a feature of walkability. This occurs because the rate of crime is independent of walkability within a neighborhood.

There have been many studies conducted to analyze the correlation between crime and the propensity for residents to choose alternative transportation methods, however the results have been inconclusive. A study conducted by Gilderbloom, et.al (2014), found no significance when comparing walkability to four types of crime including property, murder, violent, and total. Whereas a study conducted by the Mineta Transportation Institute (2014) found significant correlations between crime and walkability in seven Bay Area cities. In fact, when comparing a high crime to a lower crime neighborhood the odds of walking over choosing auto decrease by 17.25% for work trips and 61% for non-work trips. For the purposes of this analysis, the findings offered by the Mineta Institute will be used as the determinant on crime effects due to its focus being specifically on Bay Area cities. The data suggests crime has a large bearing on the likelihood residents will choose to walk within a neighborhood regardless of Walk Score.

An analysis of neighborhoods by race using data from walkscore.com demonstrates that Black and Hispanic neighborhoods have higher rates of crime than White and Asian communities with comparable walk scores. *The Bancroft neighborhood of Oakland received a crime score of D, though its walkability was given a score of 86/100. In contrast, the Marina district received a crime grade of B and a walkability score of 99/100.* The implications of higher crime in walkable communities suggests residents may avoid going outside (Evidence Matters, 2016) if there is perceived danger based on prior experiences. According to Zhu and Lee (2008) areas of higher poverty and higher neighborhood-level walkability also had poorer pedestrian infrastructure, visual qualities, physical amenities, and maintenance. In other words, the perception of crime accompanied by the depletion of the physical environment are strong enough deterrents to hinder residents from going to desired destinations by foot, even in walkable settings. This further signifies that crime in walkable neighborhoods results in higher obesity rates and greater mental stress for residents.

When analyzing crime in terms of walkability there are several conclusions that can be drawn from the findings. First, crime has a direct impact on walkability in Black and Hispanic communities, however, outside communities of color, crime does not have any significant effect on walkability. In fact, in dense urban areas like San Francisco, residents accept an overall increase in average crime in order to live close to desired destinations. Secondly, conflicting reports on crime impacts to neighborhood walkability do not allow for definitive conclusions to be obtained regarding its full effect. In communities of color, crime may be a strong deterrent of walking for residents, however it is not a factor that hinders everyone always, therefore the exact impact cannot be quantified. Lastly, due inconsistencies in findings, the relationship of crime to walkability is not as significant as its relationship to home values.

2.2 Neighborhood Amenities Influence on Home Value

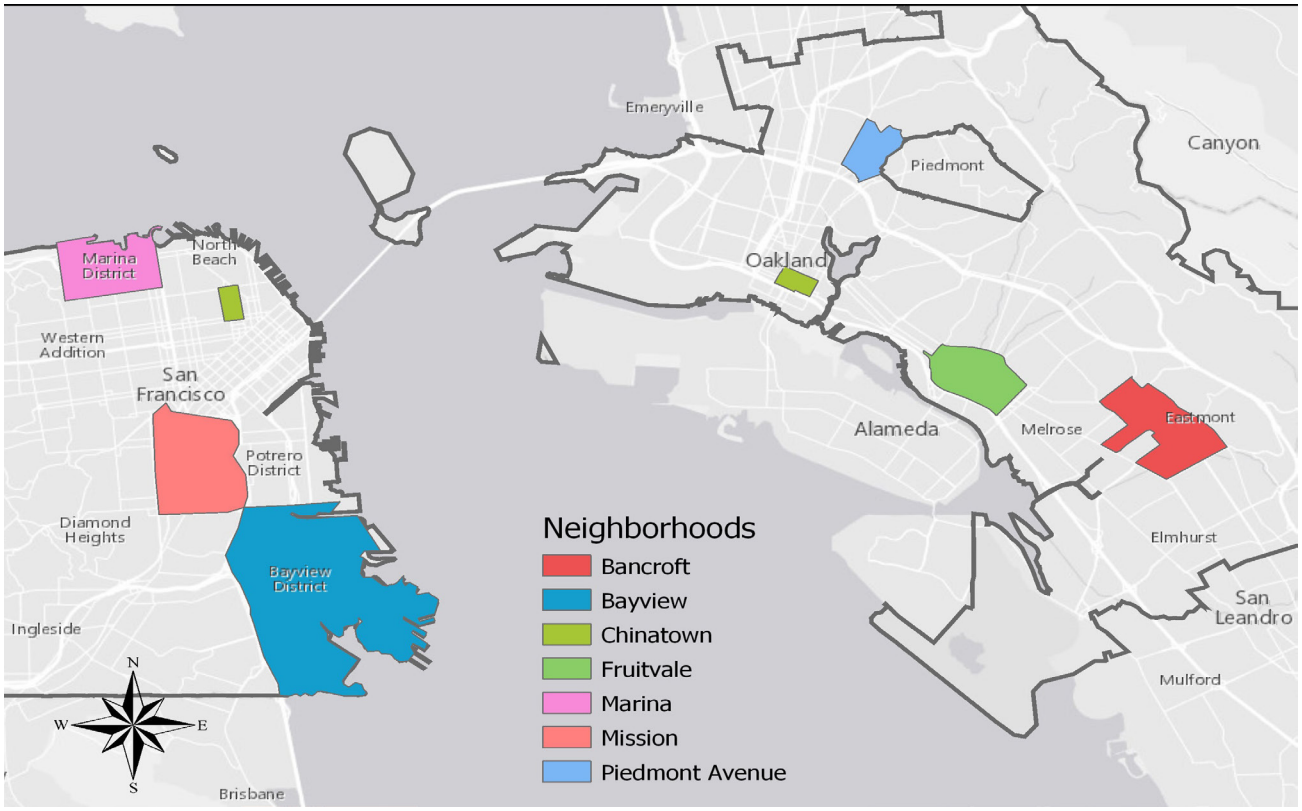
Neighborhood amenities are features of a community that are desired destinations for residents and visitors. In urban communities, these amenities are within close proximity to homes and can be easily reached by alternative transportation methods. In suburban communities, the proximity to amenities can vary by location as automobiles are the highly favored mode choice.

Walk Score provides a comprehensive list of neighborhood features that are considered amenities. Parks, grocery stores, coffee shops, bars, movie theaters, schools, drug stores, hardware stores, fitness centers, restaurants, libraries, clothing stores, and music stores all make the list of what's considered a walkable amenity. However, because this study analyzes the correlation between home values and walkability, there are additional features being considered for walkability including, liquor stores, gas stations/convenience stores, check cashing stores, banks, museums, places of worship, and hospitals. The aim of this analysis is to assess the true value of amenities based on quality and type. The assumption made is that certain walkable amenities can improve home values while proximity to others will be a hindrance. Nonetheless, this analysis will determine how quality and type of amenity influences the monetary value placed on homes. Table 1 illustrates walkscores based on neighborhood; neighborhoods with the highest walkscores have the greatest number of amenities within a five minute walk.

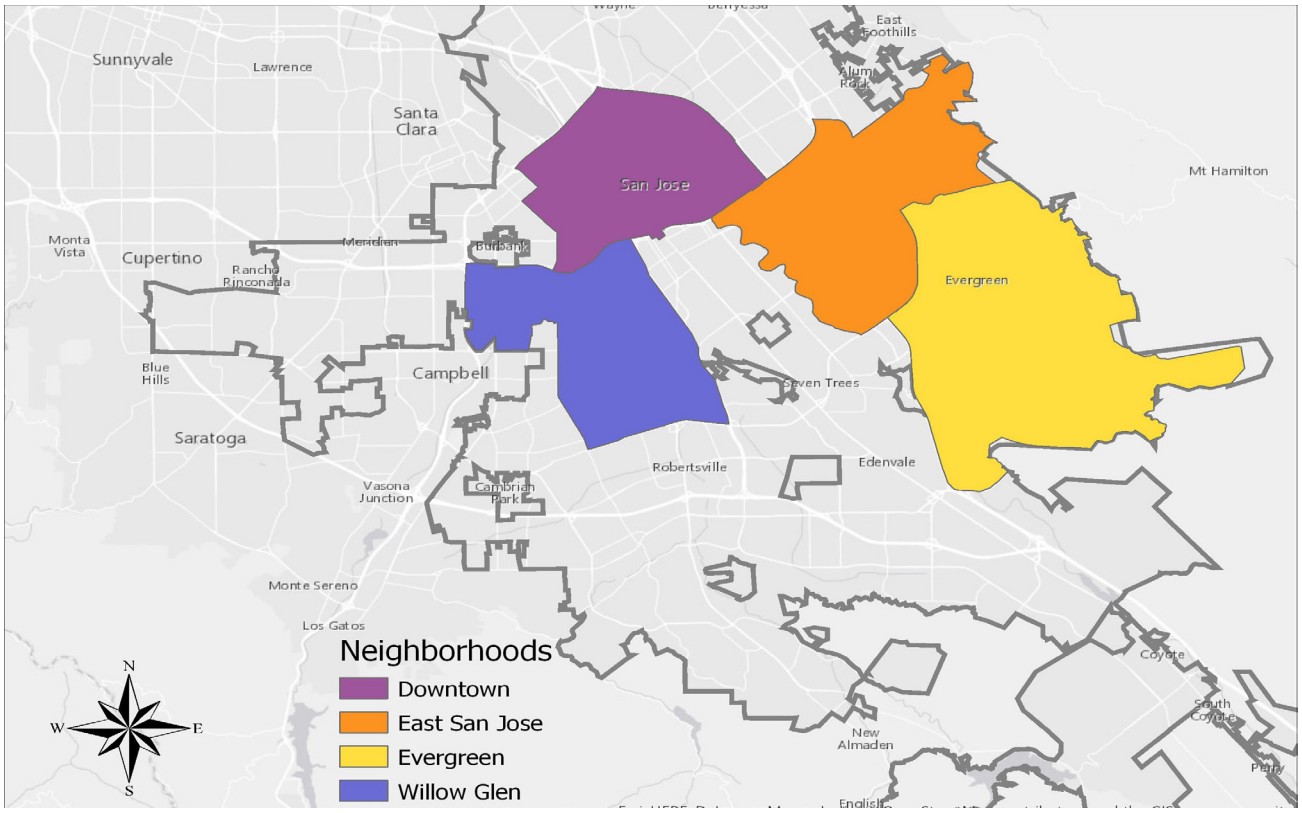
Table 1: Walk Scores for Selected Neighborhoods

Neighborhood	Walk Score
Friutvale District	91
Chinatown	98
Piedmont Avenue	92
Bancroft	86
Mission District	97
Chinatown	100
Cow Hollow (Marina District)	93
Bayview/Hunters Point	80
King & Story	49
Evergreen	72
Willow Glen	53
Downtown San Jose	75

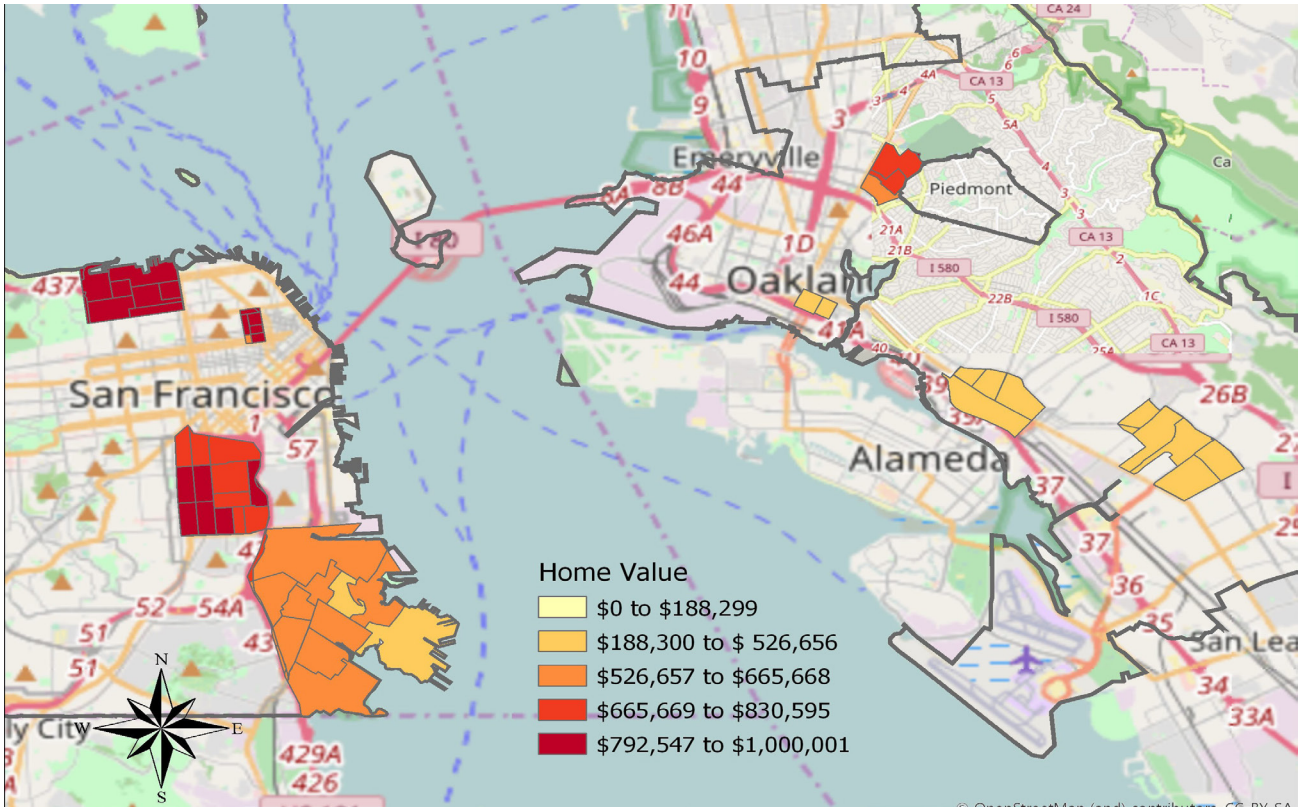
Neighborhood Boundaries Map: San Francisco & Oakland



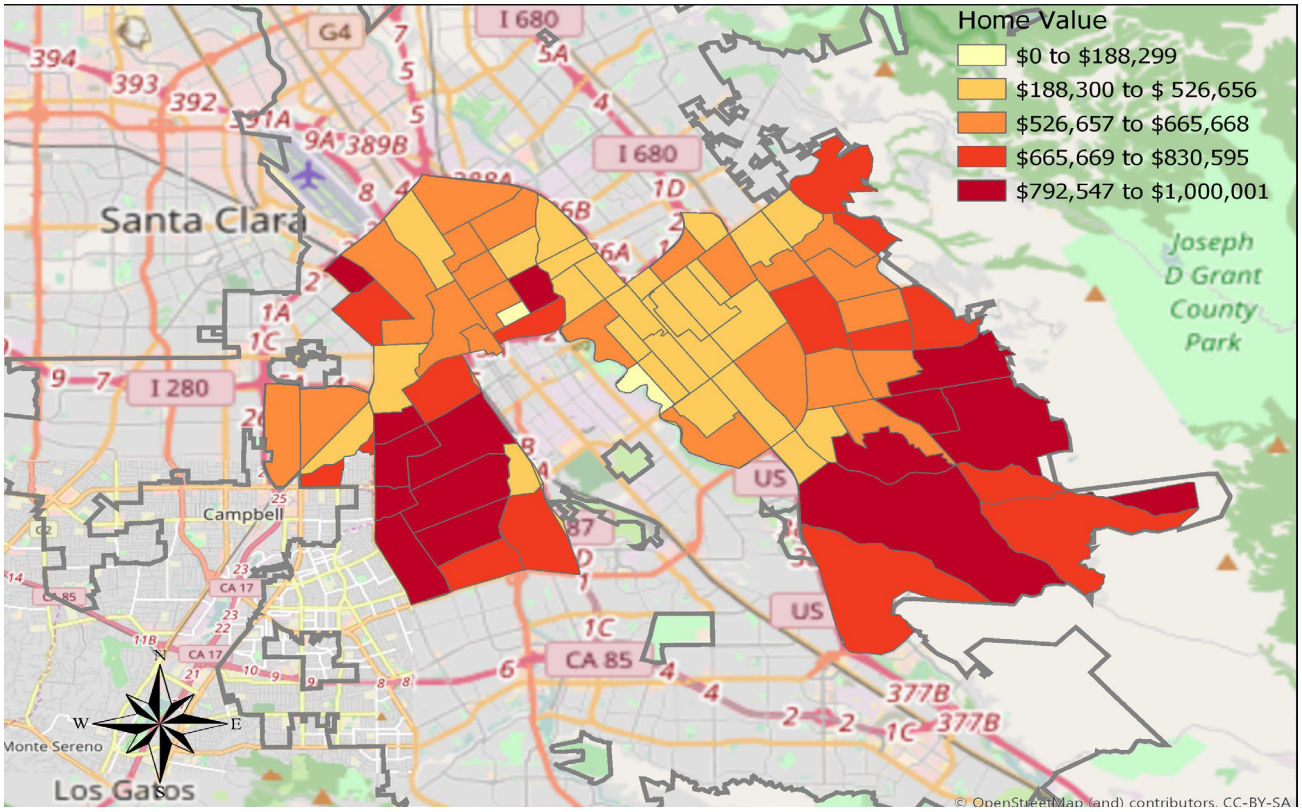
Neighborhood Boundaries Map: San Jose



Home Value Map: San Francisco & Oakland



Home Value Map: San Jose



Green Space

Parks and open spaces are highly desirable destinations for everyone. They provide both a physical and aesthetic quality to neighborhoods and improve the quality of life for residents. When a neighborhood features a park, it generally increases the value of nearby homes. One report demonstrates that *homes located within 1000 feet of a park in San Francisco increased a home's value by $125,838* (Edwards, 2007). The same study determined that *the 3-mile greenbelt around Oakland's Lake Merritt improved surrounding property values by $41 million* (Edwards, 2007). Parks and open space can also have the opposite effect on property values, when a neighborhood park is not well maintained or has less street visilbility, it can result in more opportunities for deviant behavior. Espey and Owasu-Edusei (2001) used hedonic methods to analyze proximity and home values for 24 neighborhood parks in Greenville, South Carolina. Their results concluded that type 1 parks (sandy playgrounds with a grassy area, weeds and bare spots) decreased property values by 14% for homes located within 300 feet. Additionally, parks located in high crime areas are used more frequently for gang activity. *This is evident in neighborhoods such as Fruitvale, Bancroft, Bayview, and King/Story where there is a greater population of Black and Hispanic residents. The increased gang activity in these neighborhoods is encouraged by the greater presence of type 1 parks.* In wealthier neighborhoods where crime is not prevalent, the presence of type 1 parks does not have as significant effects on home values.

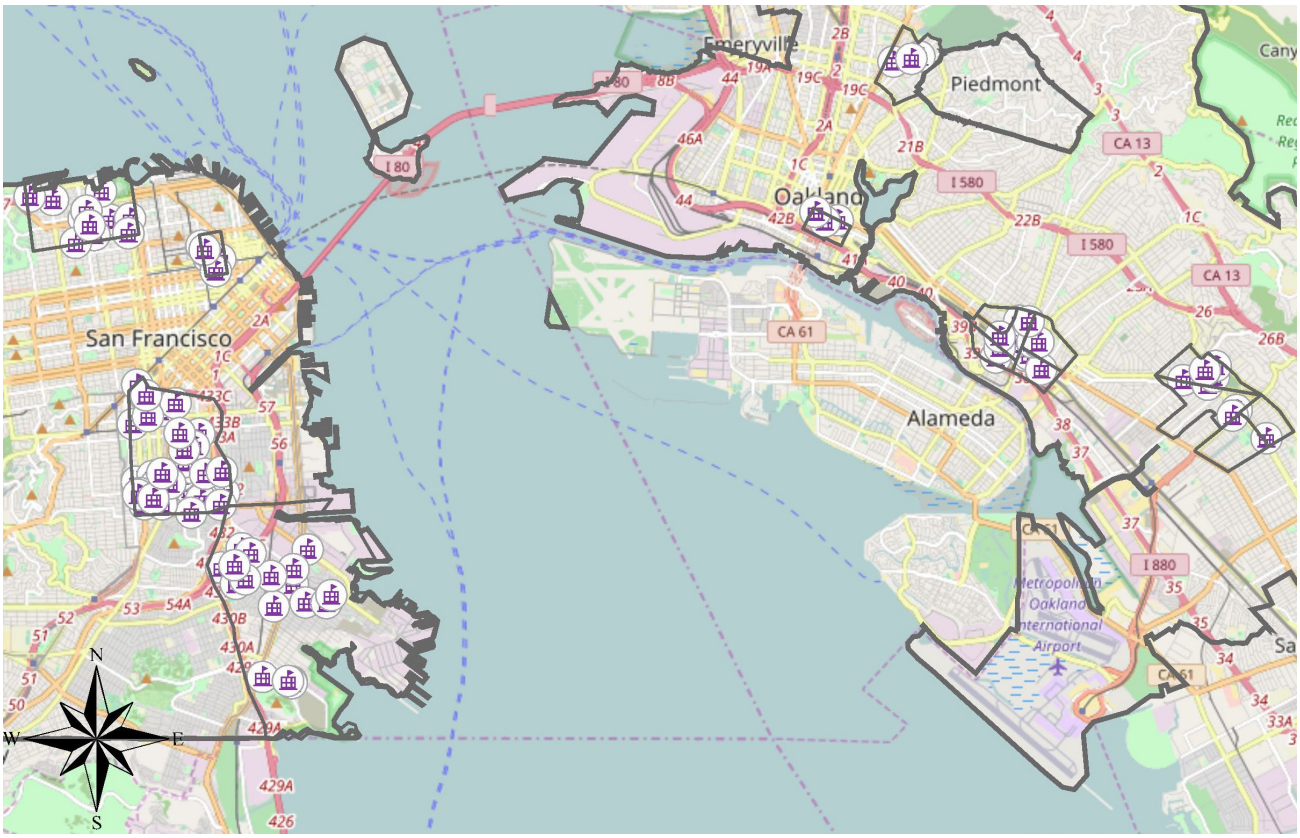
Educational Institutions

Educational institutions such as primary schools, secondary schools, and higher education institutions are positive features for neighborhoods. Often, families will live in a particular neighborhood specifically for its school district. According to a national study conducted by Realtor.com (2016), higher ranked school districts are 49% more expensive on average than the national median list price and 77% more expensive than homes found within lower-ranked districts.

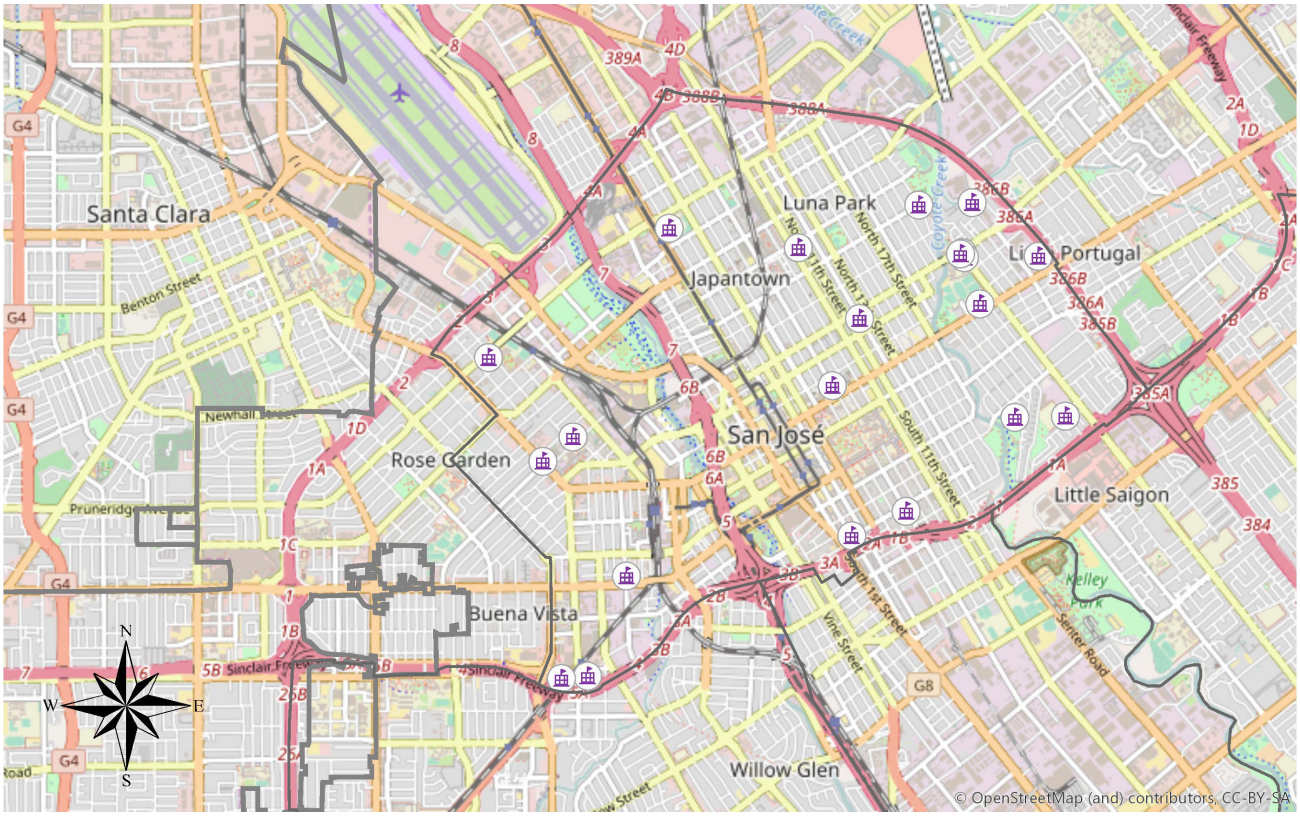
Another study by the Wall Street Journal (2010), concluded that homes near A rated schools commanded a premium $50,000 - $300,000 more than schools with lower ratings. School type and proximity are also determining factors in the value of homes, elementary schools within a quarter of a mile of homes are 18% higher in value than homes two or more miles away. Similarly, homes within two miles of middle schools are 16% higher in value while homes within two miles of high schools increase 12 percent in value (Kwame, et. al, 2007). The converse is also true, being located too close to high schools can have a negative impact on home values; Kwame, et. al (2007) found a 29% decrease in value for homes located 800 feet or less from a high school. The reason for this is that very close proximity can be attributed to increases in noise, traffic, and nighttime events typically associated with high school.

An analysis of the correlation between school quality and home values in Bay Area neighborhoods demonstrate the Fruitvale, Bancroft, Bayview, and King/Story neighborhoods all had schools averaging a 2 out of 10 rating according to greatschools.org (2017). The school quality in these neighborhoods is very poor and the racial composition of the areas are mainly Black and Hispanic. Home values are also lower for these neighborhoods when compared to the predominately White communities. The implication is that school quality has a direct correlation to socioeconomic status. While there are some lower rated schools in wealthier neighborhoods, they were counter balanced by the presence of top rated schools which was not seen in poorer communities. *However, the Mission District had different results when comparing to home values because while having a large Hispanic population, it still featured an elementary school with a rating of 7. Additionally, Piedmont Avenue also had unique results due to the home values being higher than normal, yet the only school in the neighborhood is rated a 2 out of 10.* While school ratings are important factors in determining home values, they are not the only valued asset of walkable neighborhoods. Therefore fluctuations in results are indicative to the importance of other factors.

Map of schools in San Francisco and Oakland by neighborhood



Map of schools in San Jose by neighborhood



Supermarkets

Neighborhood grocery stores provide residents with the convenience of desired goods within a walkable distance from their homes. The value of having attractive food options such as a Trader Joes, Safeway, or Albertsons in close proximity increases home value. Matthew Bomberg of UC Berkeley found residential property values in Oakland would increase by $22,000 for homes within a half-mile and $30,000 for homes within a quarter-mile of supermarkets (Bomberg, 2012). In most neighborhoods, there is at least one national supermarket and many smaller neighborhood grocery stores. *The exception was found in Chinatowns of both San Francisco and Oakland where there were no large grocery stores.* The most probable reason is their proximity to grocery stores in other parts of the downtown. *In contrast to Asian neighborhoods, Hispanic neighborhoods featured the most grocery stores:*

The Mission District - 26 neighborhood grocers and 2 supermarkets

The Fruitvale District - 13 neighborhood grocers and 2 supermarkets

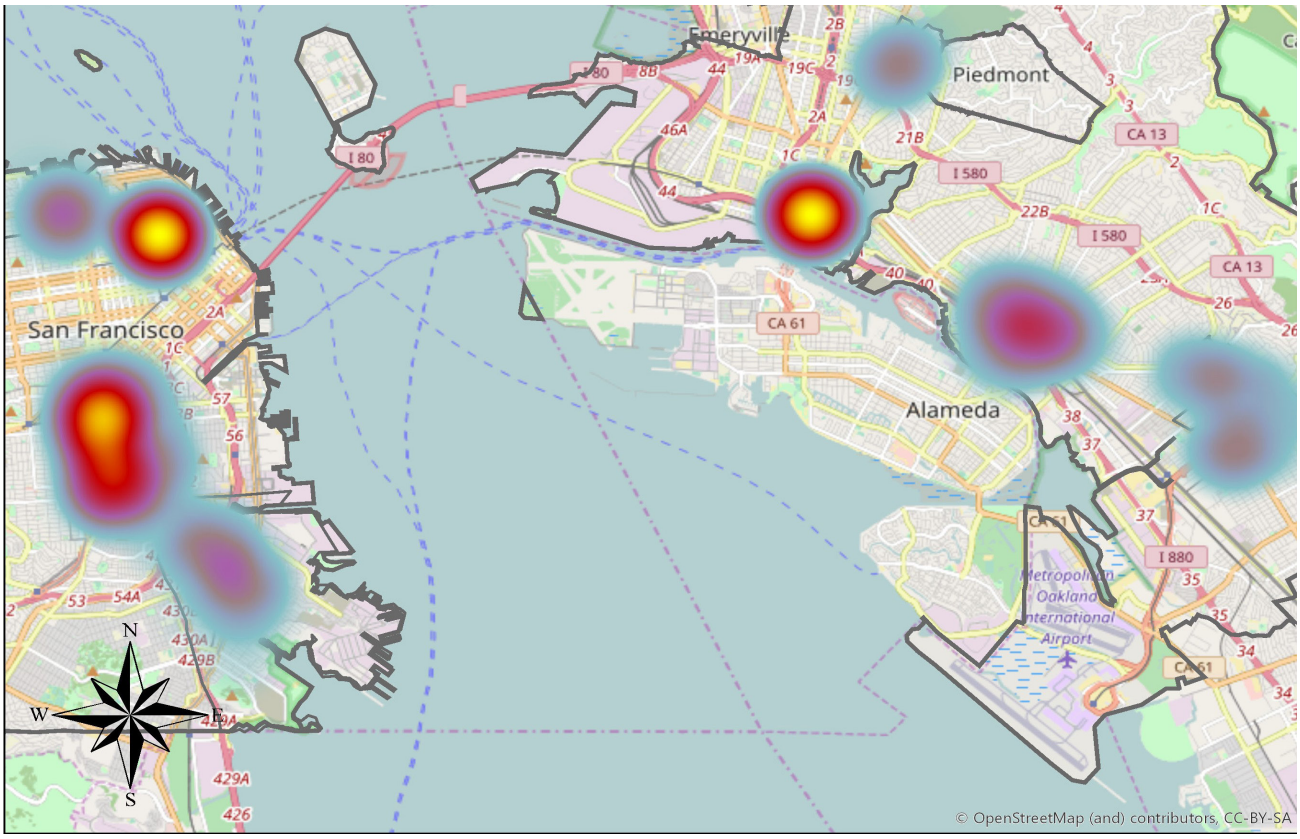
King/Story - 6 neighborhood grocers and 2 supermarkets

Areas with the highest home values such as Willow Glen and the Marina featured the least number of supermarkets with only 1 per neighborhood:

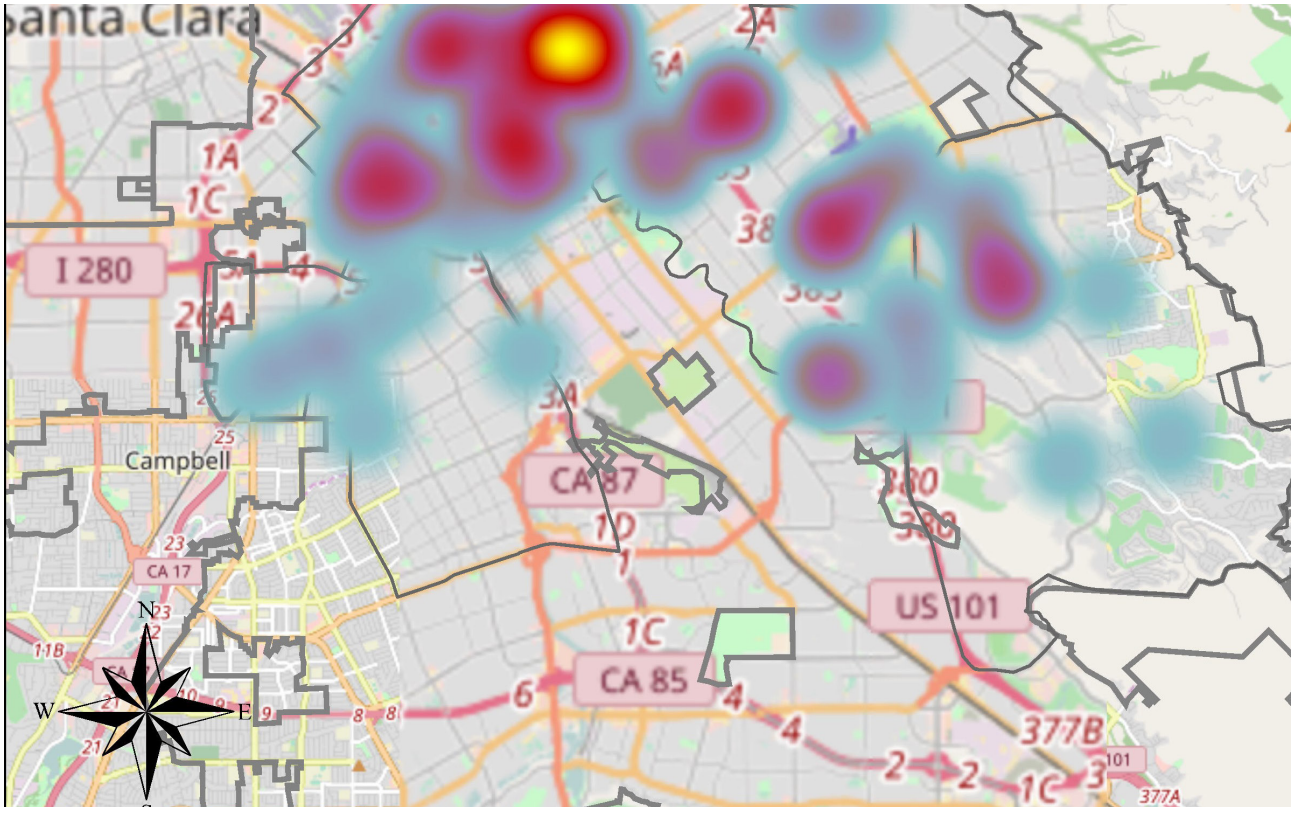
Piedmont Avenue - 0 supermarkets and 1 large neighborhood grocer.

Since the largest number of neighborhood grocery stores were in communities of color it is speculated many residents shop at specialty stores that cater to their specific shopping needs.

Heat map of grocery stores in San Francisco and Oakland



Heat map of grocery stores in San Jose Map

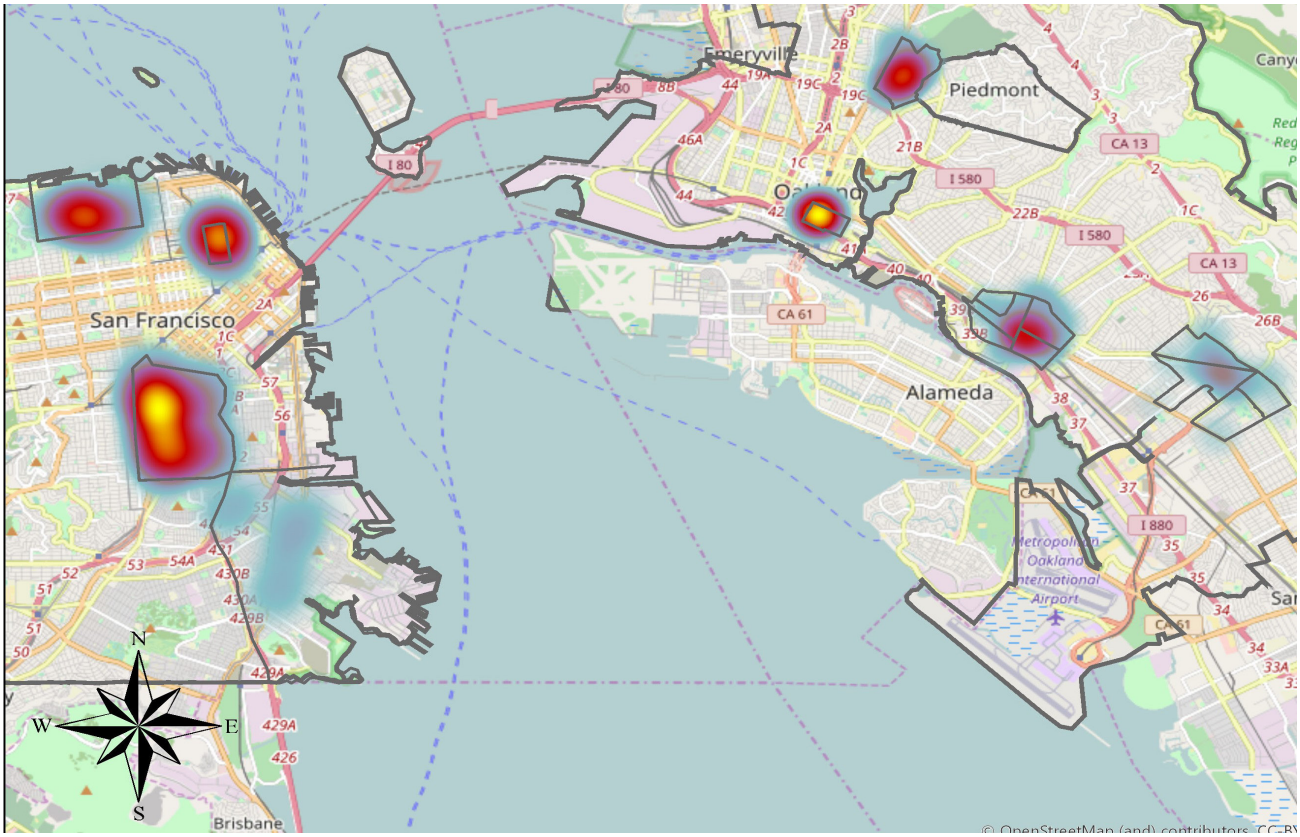


Coffee Shops, Bars, Restaurants

Characteristic coffee shops, bars, and restaurants located along urban commercial corridors have existed for decades. Nearby residents are accustomed to their presence and oftentimes visit to purchase food and drinks. But what is the value of their convenience? In Phoenix Arizona, the development of more than twelve restaurants around the downtown area resulted in a 21% increase of property values for nearby residents (AZCentral, 2015). In London, a study found that living near a quality restaurant has a 20% positive impact on home value (Prynn,2013). These types of neighborhood amenities most often have a positive effect on home prices, however other food establishments such as fast food chains lower values (Washington Post, 1985). In contrast, proximity to large coffee chains have the most significant impact on home values. Being located within a quarter-mile of a Starbucks increases home value on an average by a massive 96% while a Dunkin Donuts increased value by 80% (Zillow, 2015). A recent study by Better Homes and Gardens (2015), demonstrated that quarter mile proximity to boutique coffee shops in San Francisco raised home values by 21%.

The neighborhoods that featured the largest number of coffee shops, bars, and restaurants were the Mission District and Downtown San Jose. Because Downtown San Jose is the business hub of the city, it can be expected to yield such results. However, the Mission District has greater implications as a cultural hub than as a business hub. This neighborhood featured a total of 397 coffee shops, bars, and restaurants of which 30 were coffee shops including 2 Starbucks and 1 Peete's. In Downtown San Jose, there were a total of 378 coffee shops, bars, and restaurants including 5 Starbucks and 1 Peete's. While the number of chain coffee stores was greater, usually implying higher home values, there was also a greater number of fast food restaurants (33 total) minimizing its effects. *According to Zillow, the median home price in Downtown San Jose is $697,900 while the Mission District median home price is $1,276,100.* Differences in median home values cannot be attributed to these factors alone, however, they are a contributing cause to differences in price.

Heat map of Coffee Shops, Bars, and Restaurants in San Francisco and Oakland

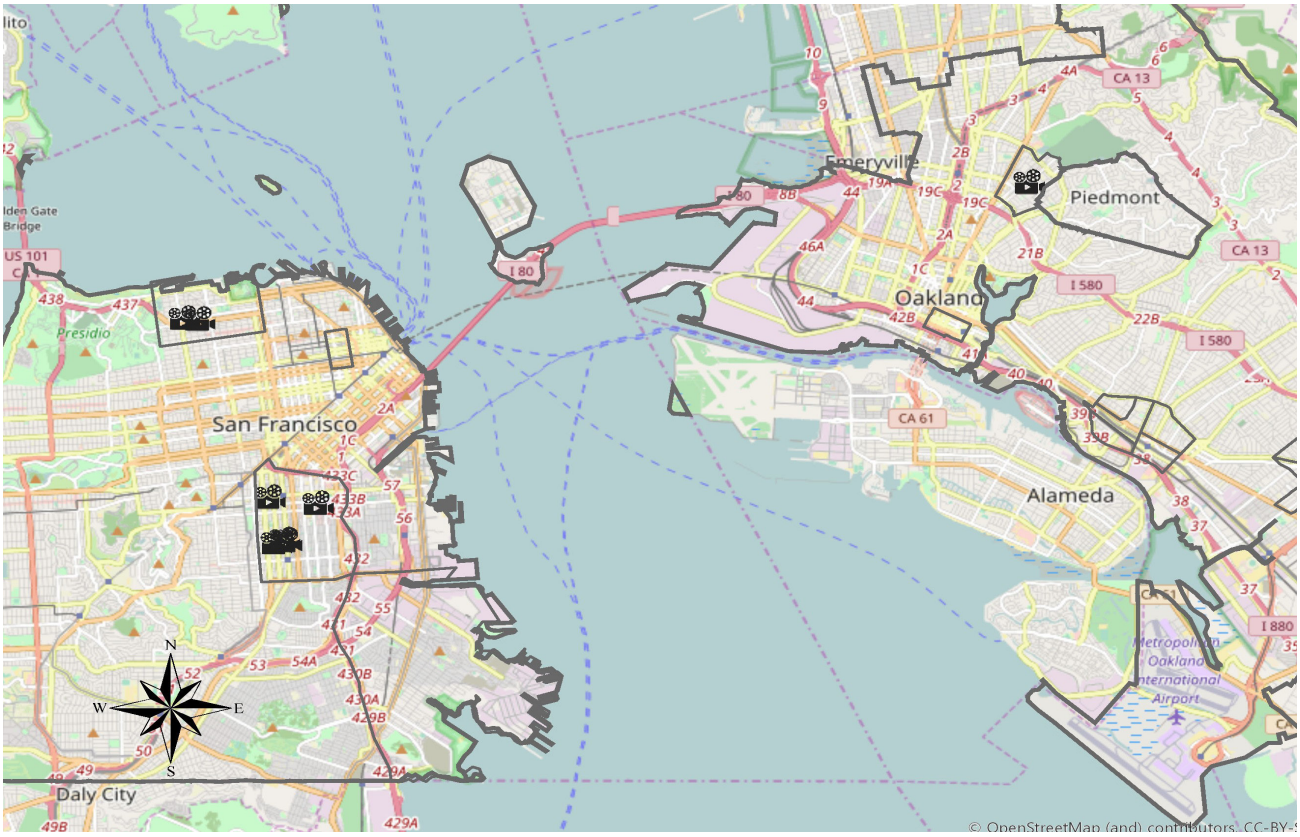


Heat map of Coffee Shops, Bars, and Restaurants stores in San Jose

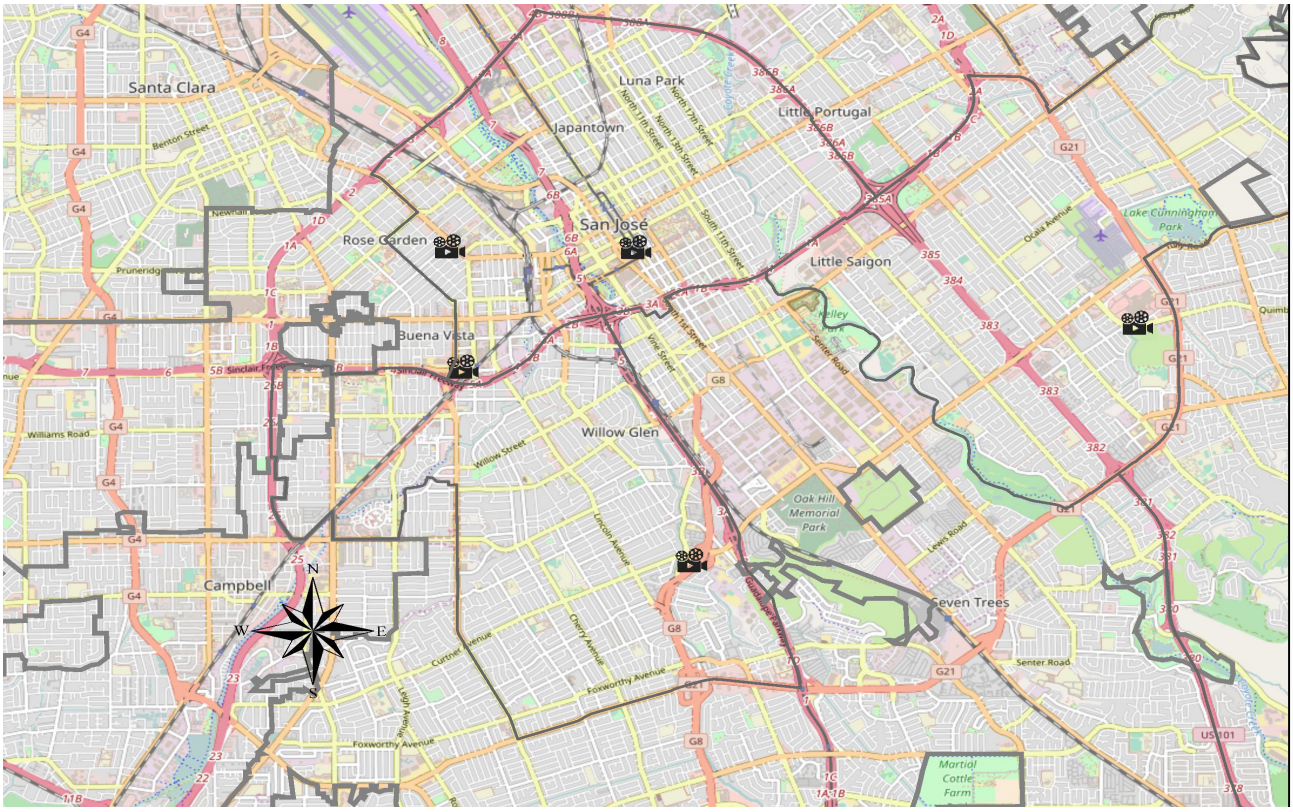
Movie Theaters

Movie theaters are valuable assets to neighborhoods; they provide a source of entertainment for people of all ages and contribute to the overall desirability of a neighborhood. The films played at movie theaters are constantly updated resulting in frequent trips to facilities. According to Johnson Gardner (2007), homes within 1.5 block of a theater are estimated to increase in value by 29.9%. Since theaters are not abundant like other amenities, they influence home value less often. No relationship can be drawn between movie theaters and race as patrons are extremely diverse. However, it can be inferred that movie theaters in neighborhoods with higher home values will receive a greater share of people who are affluent. *The Mission District and Downtown San Jose featured the highest density of theaters per neighborhood. What this suggests is that the neighborhood population is large enough to support such activity. While larger neighborhoods such as Evergreen and East San Jose may feature more residents, they lack the density of amenities required to support multiple theaters.*

Map of Movie Theaters in San Francisco and Oakland



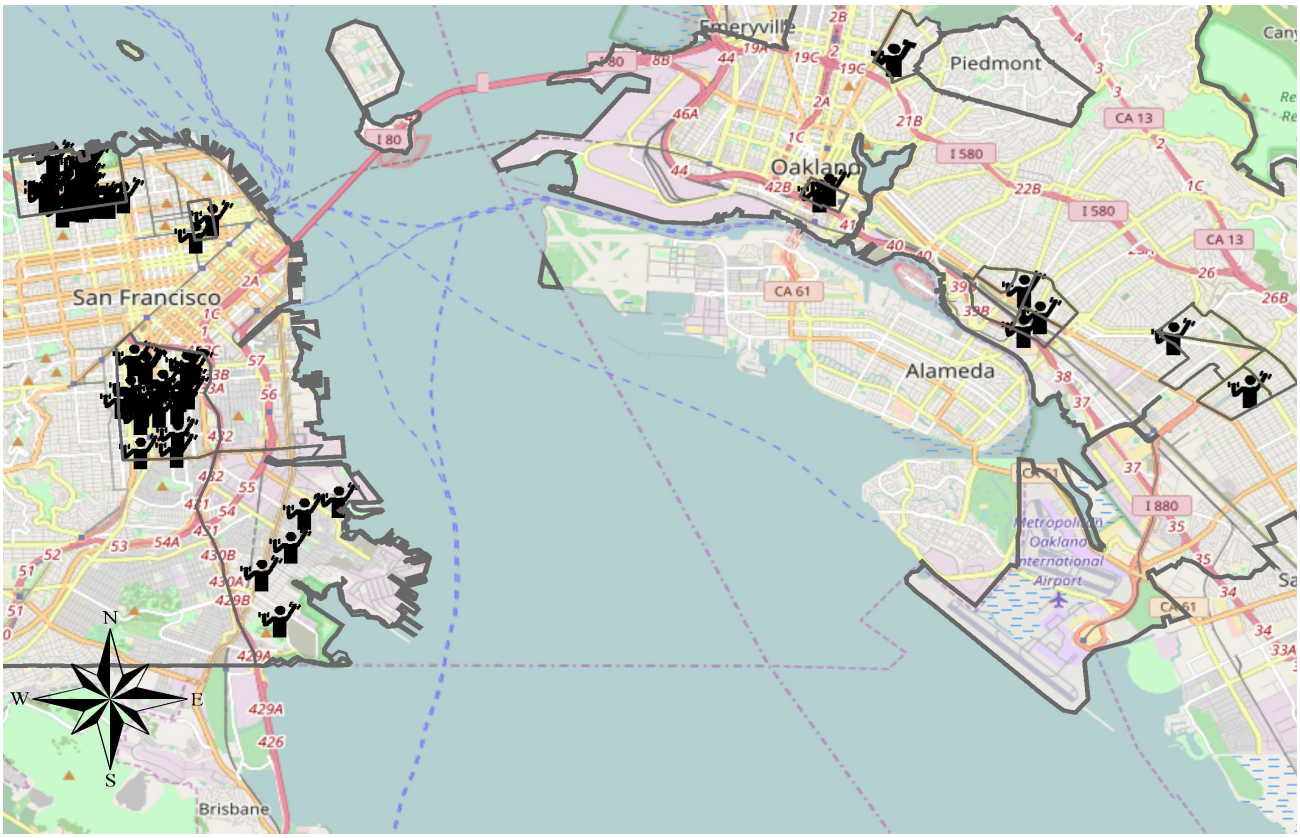
Map of Movie Theaters in San Jose



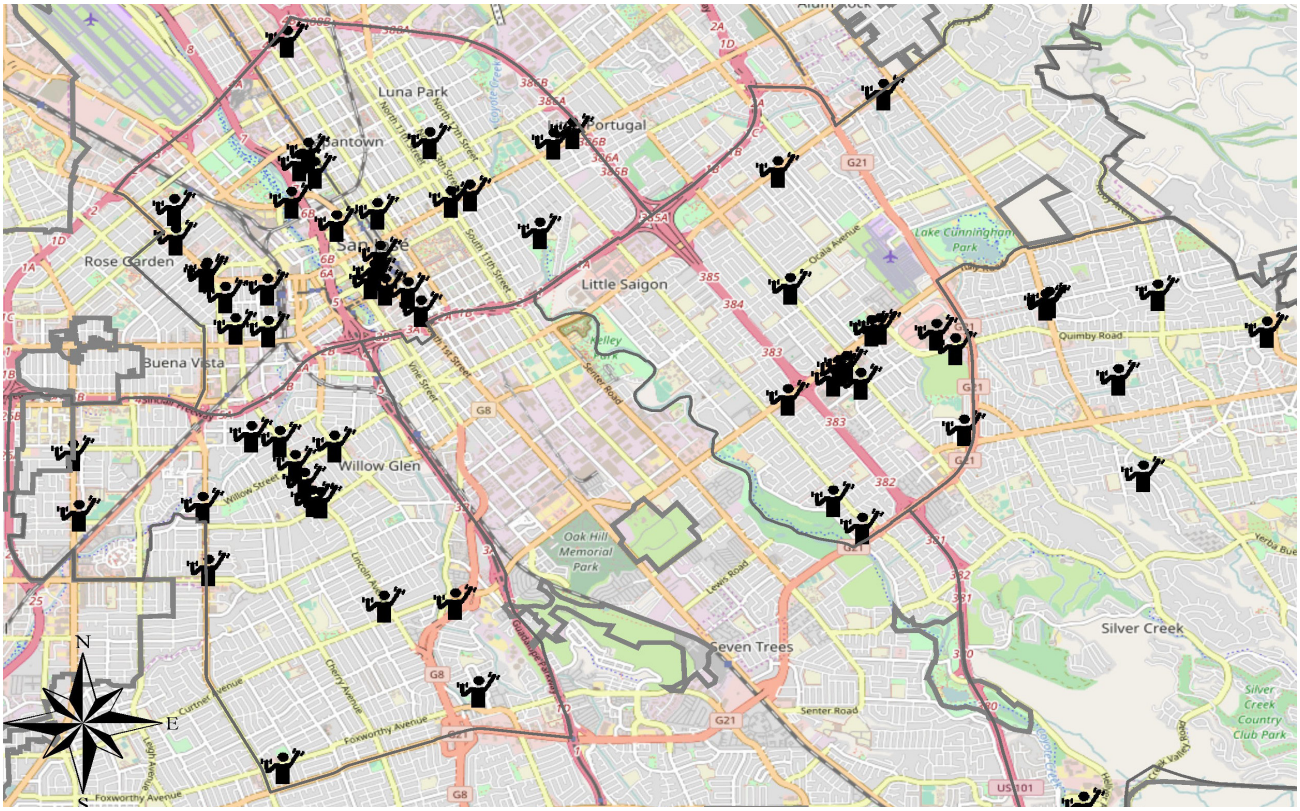
Fitness and Recreational Sports Centers

Fitness and sports centers are beneficial to neighborhoods because they provide equipment to improve residents' health through exercise. Examples of such facilities include gyms, training centers, health spas, and recreation centers. A study by Johnson Gardner (2007) found fitness centers in Portland Oregon increased home values by 8.1% while close proximity to spas decreased home values by 6.3%. Physical exercise is important for health and due to this fact, each neighborhood featured at least two fitness or recreational sports centers. *The Mission District and Marina District both contained 20 facilities whereas 30 were contained in downtown San Jose. The city of Oakland was the anomaly as it featured the lowest number of facilities, averaging two per neighborhood.*

Map of Fitness and Recreational Sports Centers in San Francisco and Oakland



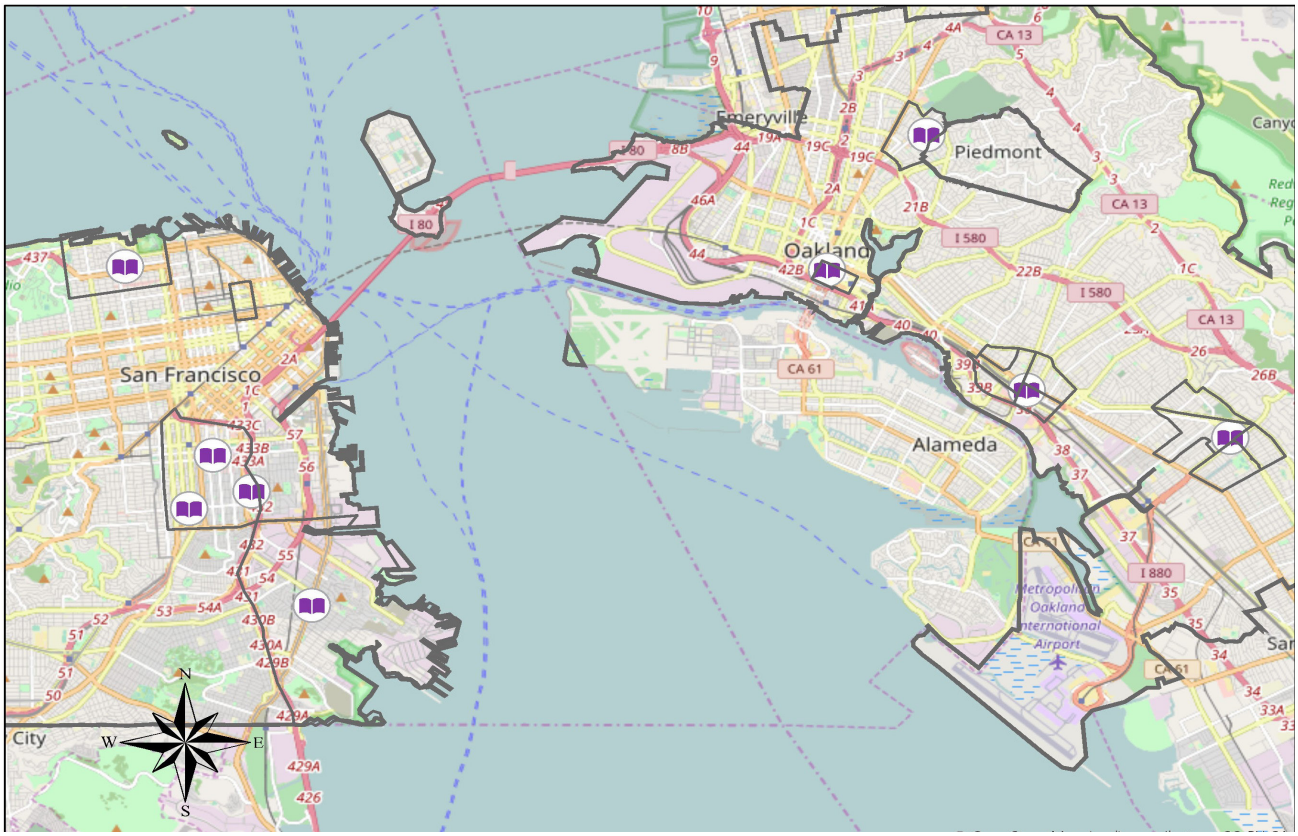
Map of Fitness and Recreational Sports Centers in San Jose



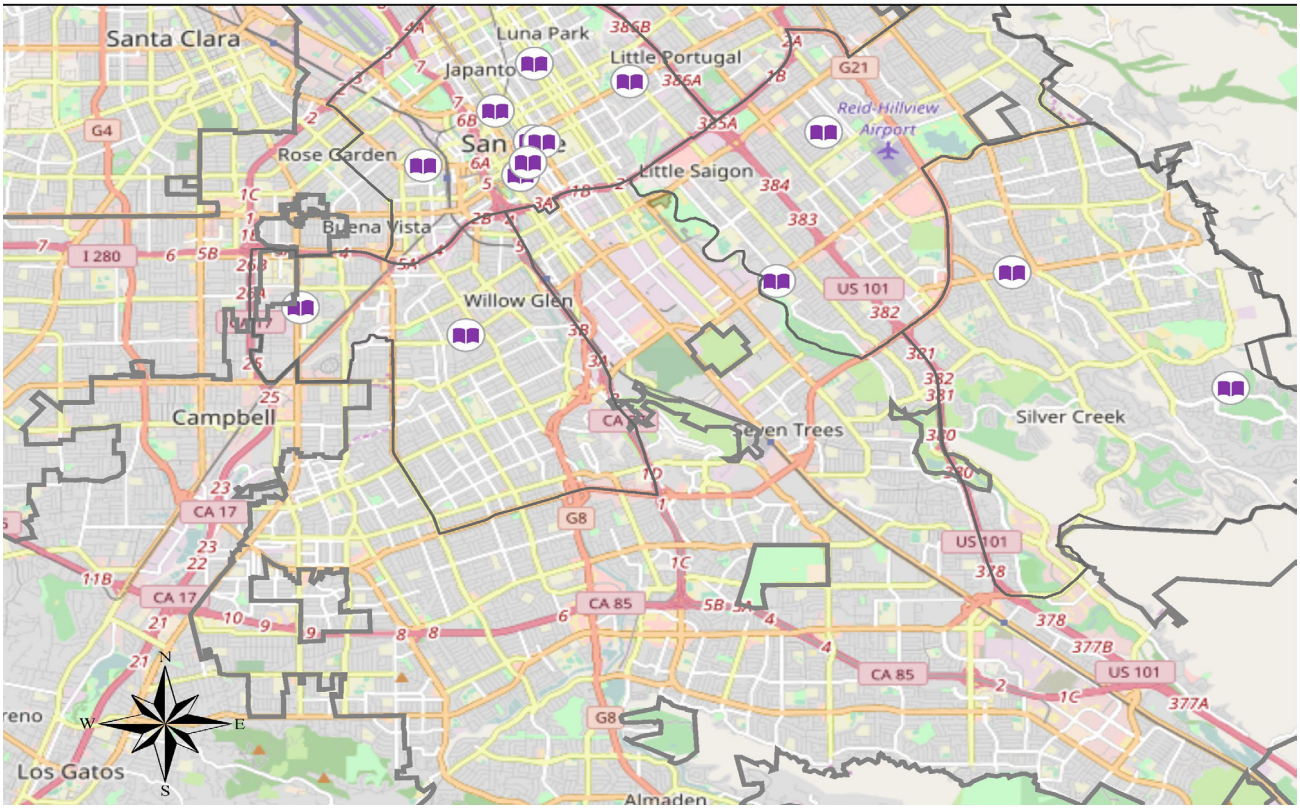
Libraries

Public libraries are one of the most vital assets to a community, they provide an equal opportunity to resources for anyone regardless of socioeconomic status and include programs that support the public good. Neighborhoods that feature libraries are at an advantage as the resources available are beneficial to people of all ages. Homes located within a quarter mile of public libraries can expect to receive an increase in home value of $9,630 on average while homes within a half mile proximity increase by $630 (ALA, n.d.). *The number of libraries varied by neighborhood, however, each neighborhood featured at least one with exception of San Francisco's Chinatown. Conversely, Downtown San Jose contained the highest density with a total of 8 libraries.* Horrigan (2015) demonstrated the importance of public libraries by highlighting the demographics of users. He found that among those who had visited a public library in the past year, 56% had done so once a month or more in 2015. Additionally, he found library use did not differ by race as 45% of Whites, Blacks, and Hispanics used the library equally, however, the purpose of visits varied. Among 80% of college graduates and 76% of homes with incomes over $75,000 the purpose of visiting a library was to borrow books. For 52% of African Americans and 49% of homes with incomes under $30,000 the purpose of the visit was to receive help from a librarian. For 73% of those in the 16 to 29 age group, 67% of Hispanics and 64% of those whose annual incomes are under $30,000 the purpose was to sit, read, study, or watch or listen to media. The importance of library usership on home values and walkability results from its accessibility. While community type (suburban or urban) does not have an influence on usership, it does influence one's ability reach a library. For those in the 16 to 29 age group, African Americans, Hispanics, and households that earn under $30,000 per year, the library provides services that are used most frequently by these groups thus proximity to these demographics is vital.

Map of Libraries in San Francisco and Oakland



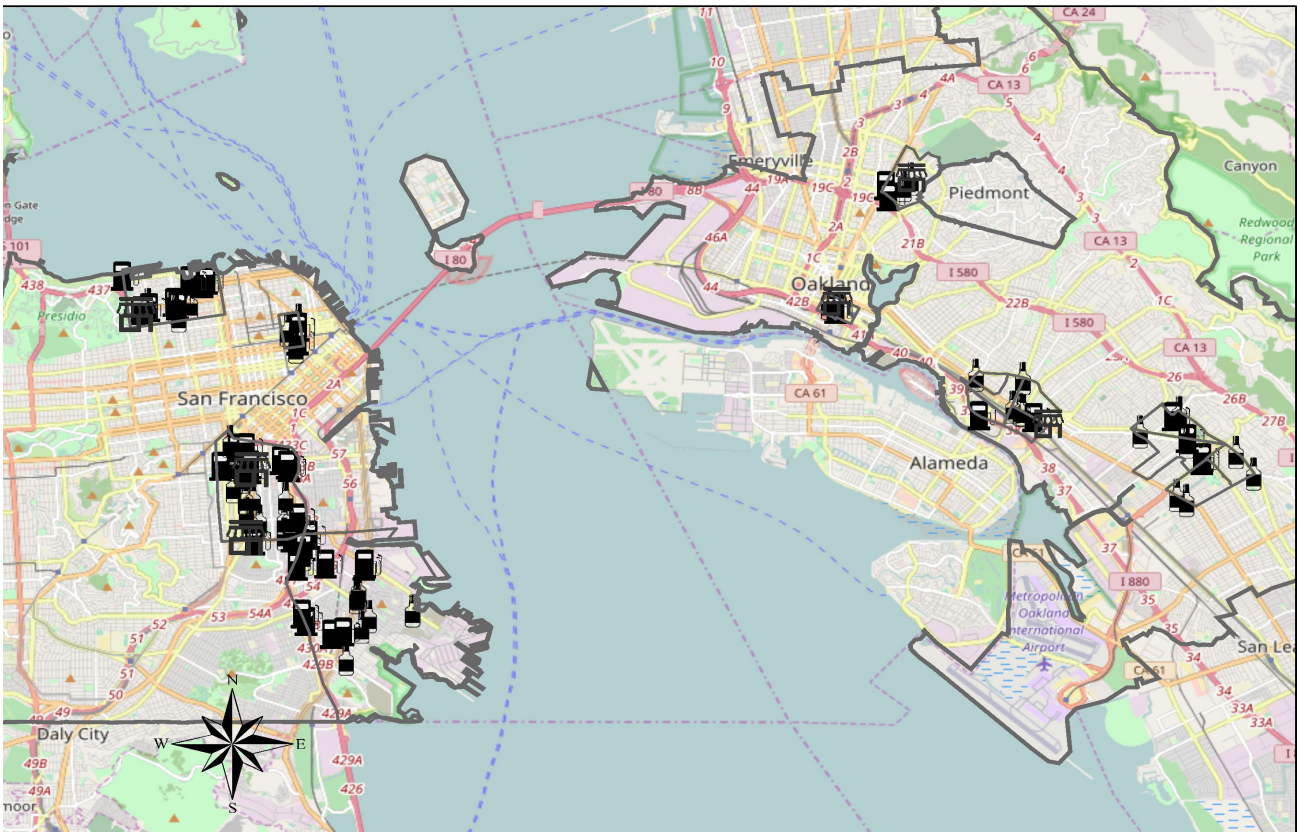
Map of Libraries in San Jose Map



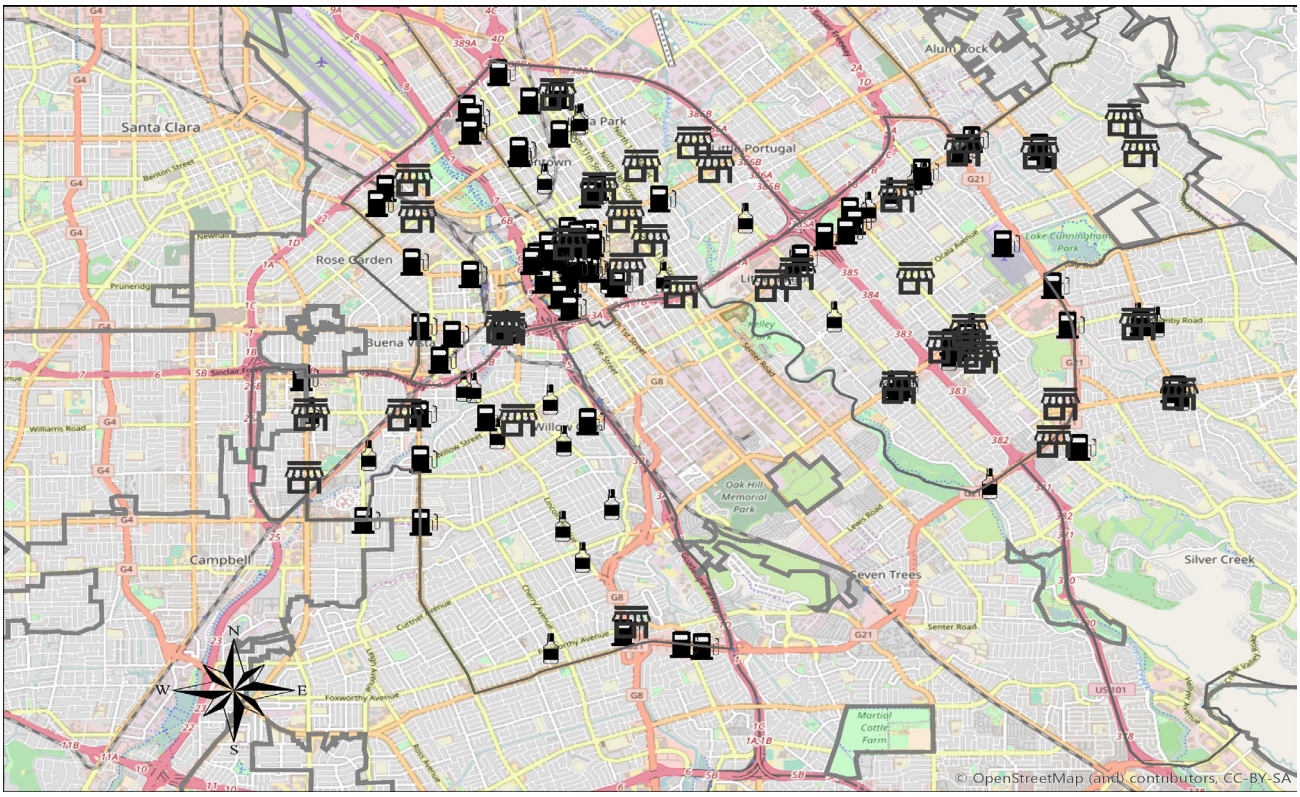
Liquor Stores and Gas Stations / Convenience Stores

Unlike most other amenities, liquor stores and convenience stores are not desired destinations for communities. They are harmful to both the health of residents and neighborhood property values. A report by the Alameda County Public Health Department (n.d.) demonstrated that a high density of liquor stores contributes to urban blight and a sense of neighborhood disorder. The same report also showed that o*nly 5.3% of stores in Oakland are large grocery stores compared to 11% for the county demonstrating there is a larger presence of smaller stores. Many of the smaller stores (<10,000 ft²) in Oakland are convenience stores that sell liquor. Neighborhoods most impacted by the sale of liquor are African American and Hispanic communities. This is evident as The Mission District (15), Bayview (8), Fruitvale (8), Bancroft (5), and King/Story (5) all featured the greatest number of stores.* Proximity to gas stations also prove to be a hindrance to home values as the closer residents live the higher the depreciation, up to 20% (CEDS, 2013). Additionally, homes within 300 feet of a gas station do not qualify for FHA loans due to hazards associated with living near them (HUD, 2015). This suggests that these features are in fact disamenities and owning a home near them will result in lower values.

Map of Liquor Stores and Gas Stations / Convenience Stores in San Francisco and Oakland



Map of Liquor Stores and Gas Stations / Convenience Stores in San Jose

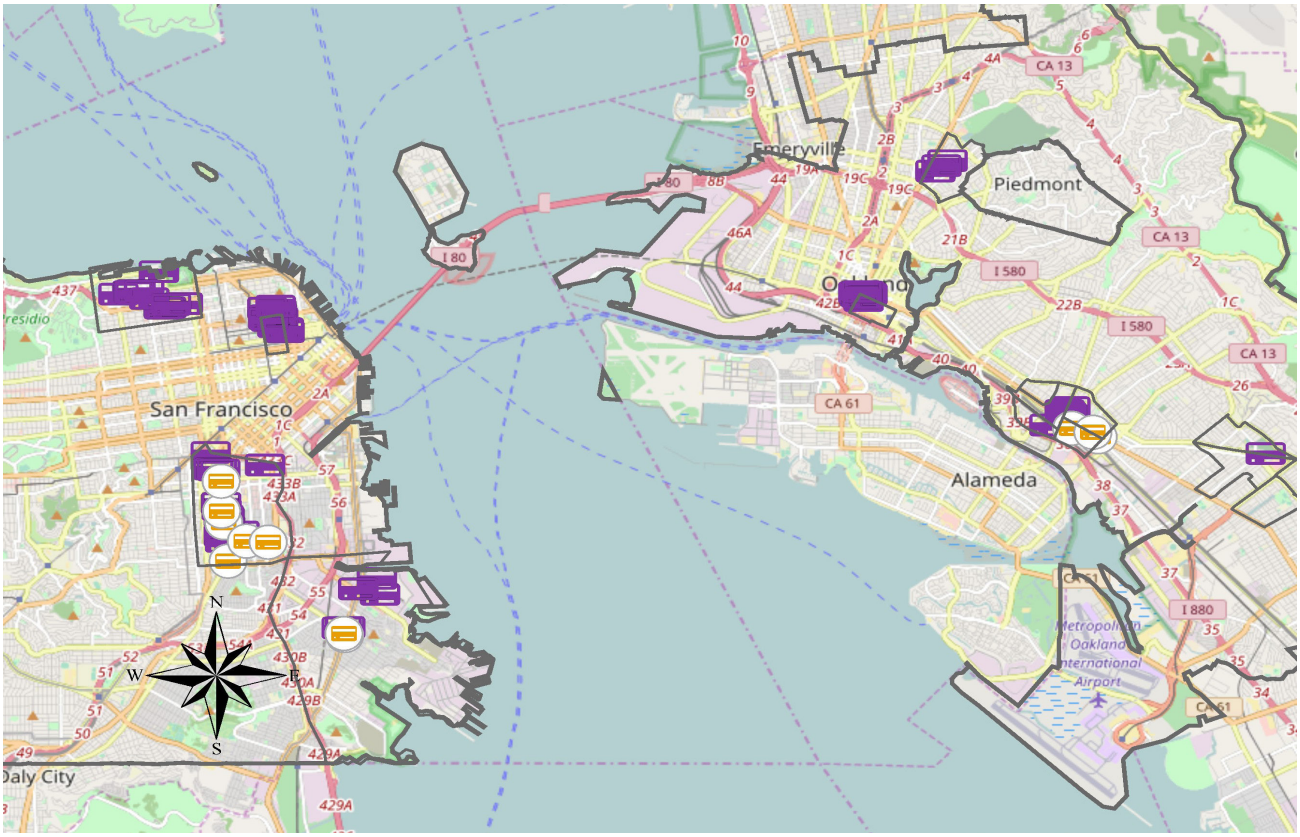


Banks and Check Cashing Centers

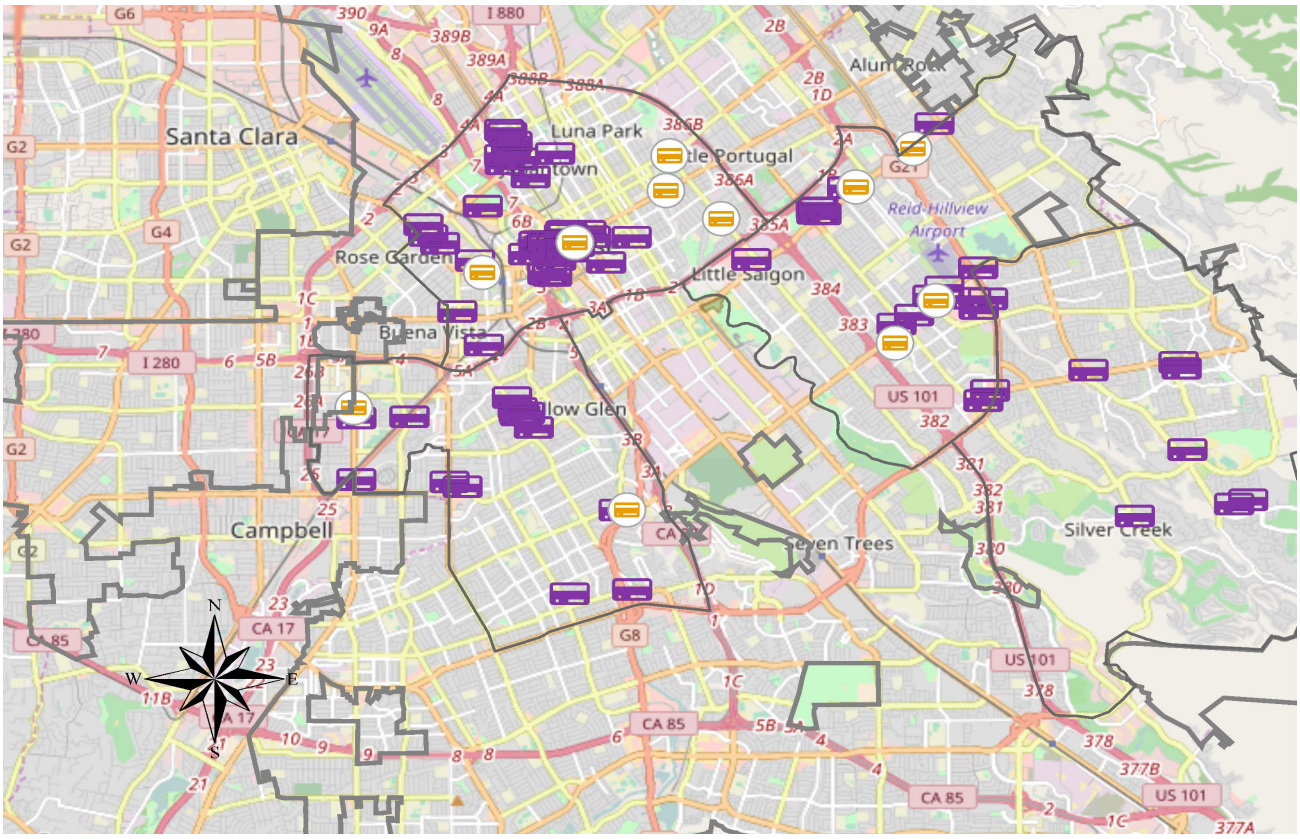
Banks and check cashing centers play different roles within a community, check cashing centers typically serve the needs of low to moderate income households while banks generally provide services for those with excess capital. In urban communities, check cashing centers determine their locations based on the density of Hispanic, Black, Asian, and under 40 populations (Prager, 2015, p. 19) which also tend to be areas inadequately served by banks. When considering neighborhoods in this analysis, this assessment holds as generally true. *In Oakland and San Francisco, check cashing centers are in the neighborhoods with the highest density of Black and Hispanic residents while none were located in the predominately White neighborhoods of Piedmont Avenue or the Marina District. San Jose was the only city to feature check cashing centers in a predominately White neighborhood, however this can be attributed to 54.1% of its population being under 40 years of age. For Asian communities, there were zero check cashing facilities, this can potentially be related to the uniqueness of the neighborhood.*

Because the Asian communities in Oakland and San Francisco are Chinatowns, there is a stronger sense of cultural closeness that translates to the use of alternative forms of financial services. For the Evergreen neighborhood, residents are more affluent and the use check cashing centers is essentially nonexistent. The importance of this information translates to the value of homes in various neighborhoods. If a neighborhood features many check cashing centers it will tend to consist of a population with low to moderate income, Hispanic, Black, Asian, and/or contain a large under 40 population. What this means in relation to home value, is that they will generally be lower if the neighborhood contains these features.

Map of Banks and Check Cashing Centers in San Francisco and Oakland



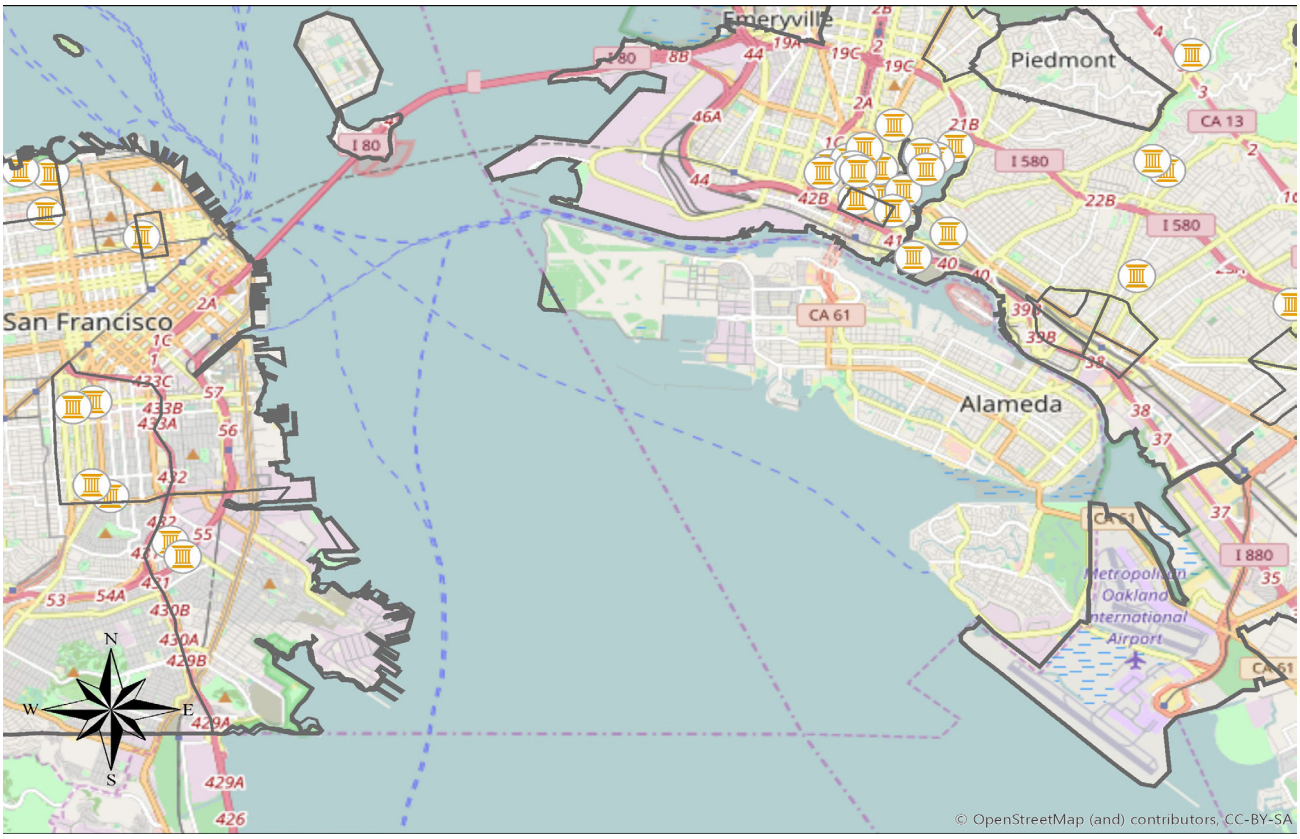
Map of Banks and Check Cashing Centers in San Jose



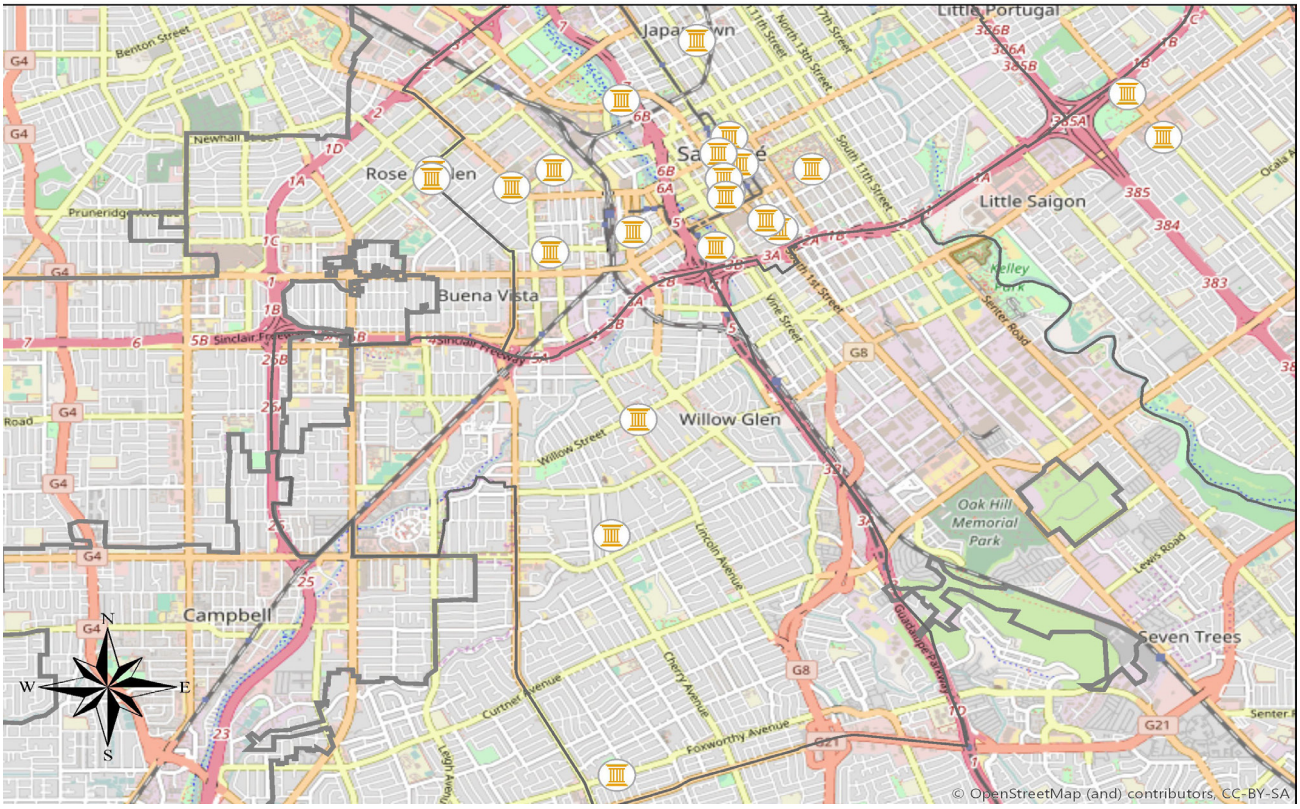
Muesums, Historical Sites, and Similar Institutions

Educational and cultural destinations such as museums, historical sites, or other related institutions are an important quality of any urban area. Some of the most visited cities in the world have an abundance of these places and there is great value associated with their presence. *Oakland, San Francisco, and San Jose are three characteristic cities that embody these qualities and feature many institutions within their city limits*. There is great value that can be placed on living near sites as discovered by Stephen Sheppard (2013) where he found properties located near the opening or expansion of a museum will increase in value between 20 and 50 percent. There is further evidence of influence by Sheppard, Oehler, et.al (2006) that demonstrated an $11,000 increase in property value within one mile of MASS MoCA. *While all neighborhoods feature at least one cultural institution, the value that is placed on them varies. Proximity to larger museums has a greater impact than proximity to a small historical park. Downtown San Jose was the only neighborhood to feature various significant museums, however the cities in general feature significant museums.*

Map of Museums, Historical Sites, and Similar Institutions in San Francisco and Oakland



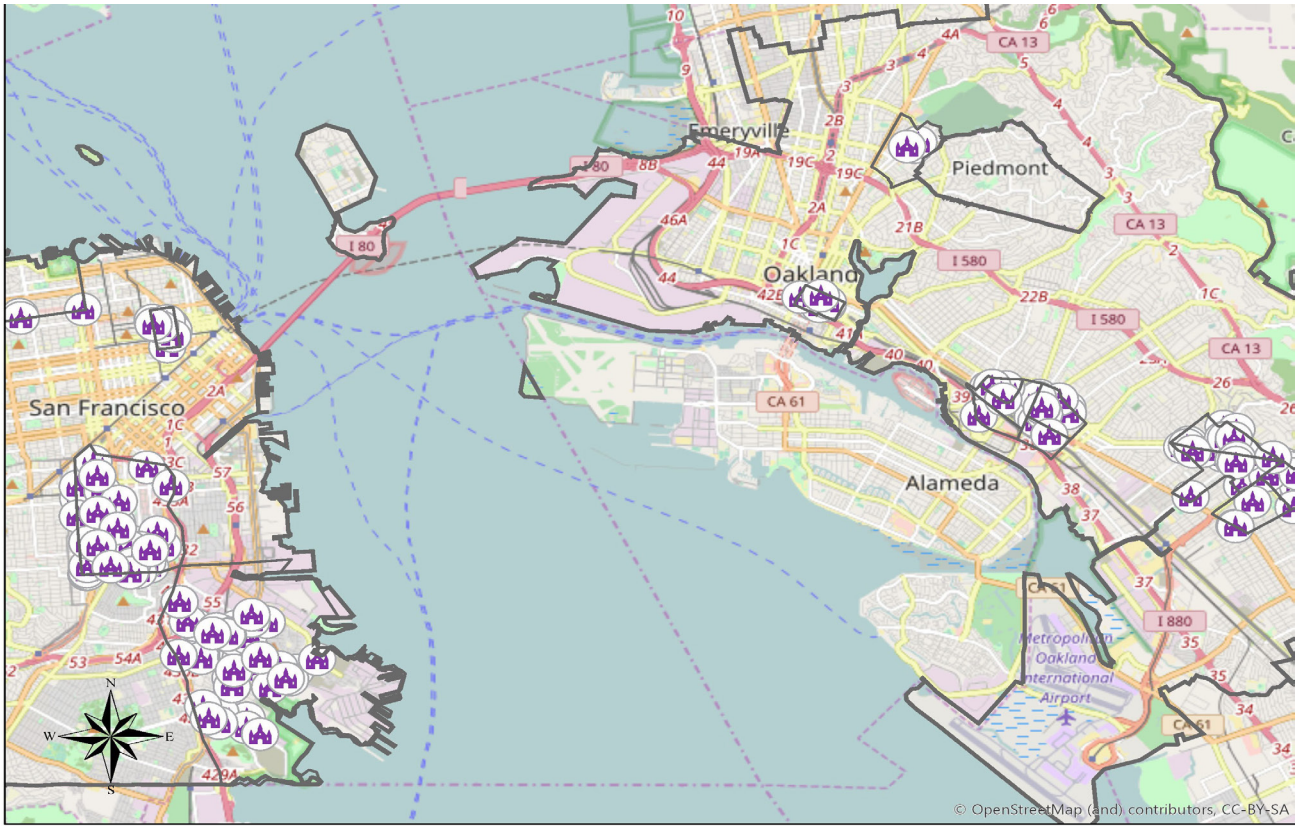
Map of Museums, Historical Sites, and Similar Institutions in San Jose



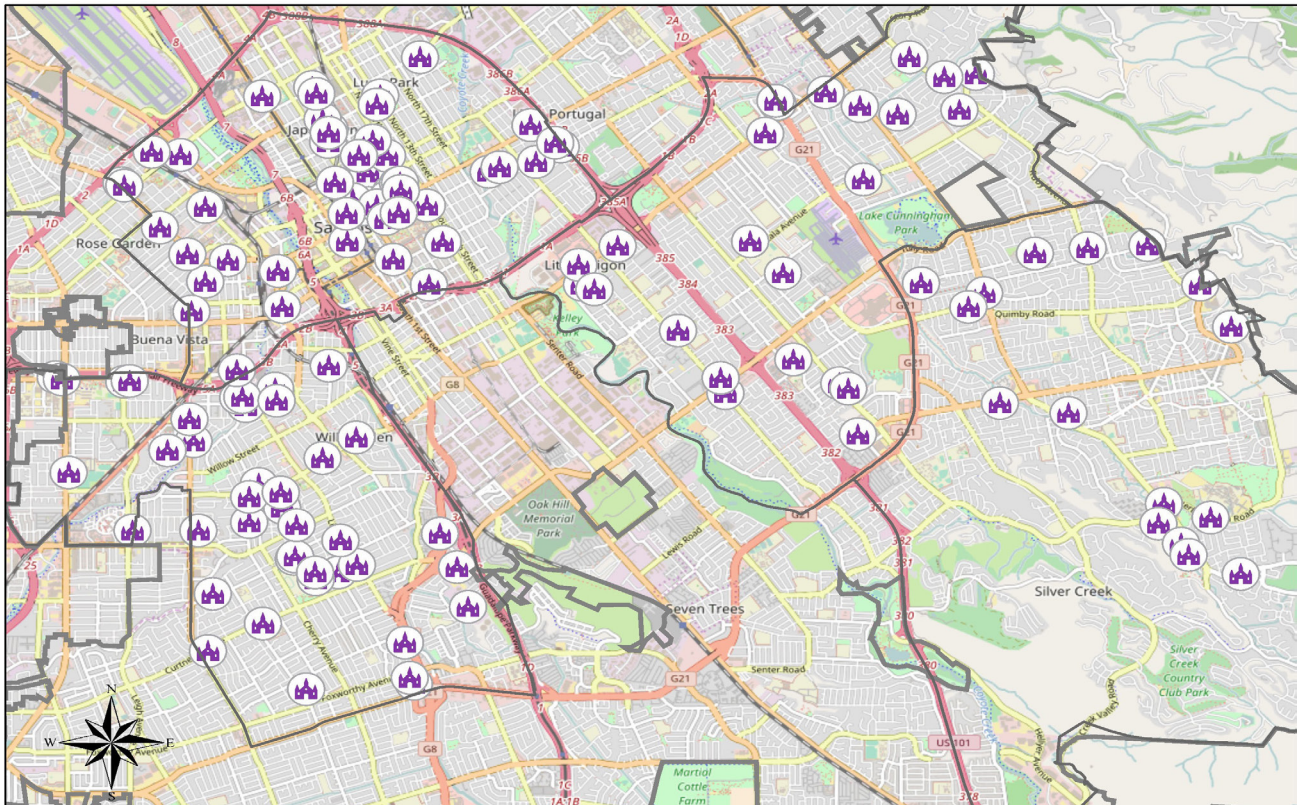
Places of Worship

Religious institutions are places where people worship based on their religion. In the United States, there is a larger proportion of churches than any other religious institution. Churches and other places of worship have existed longer than the United States itself and this is evident in the Spanish Missions of California. Many cities have been built around their presence making them the cornerstone of most neighborhoods. Carroll, Clauretie, and Jensen (1996) found that homes within a quarter mile of a church, improved in value between 0.3% and 6.27%. *The number of churches per neighborhood is well over 3 for most communities except the Marina District and Piedmont Avenue.* It can be implied that places of worship are in integral part of every community and they result in a slight increase in home value. Due to the number of churches per neighborhood, they are easily the most walkable feature of a neighborhood as well.

Map of Places of Worship in San Francisco and Oakland



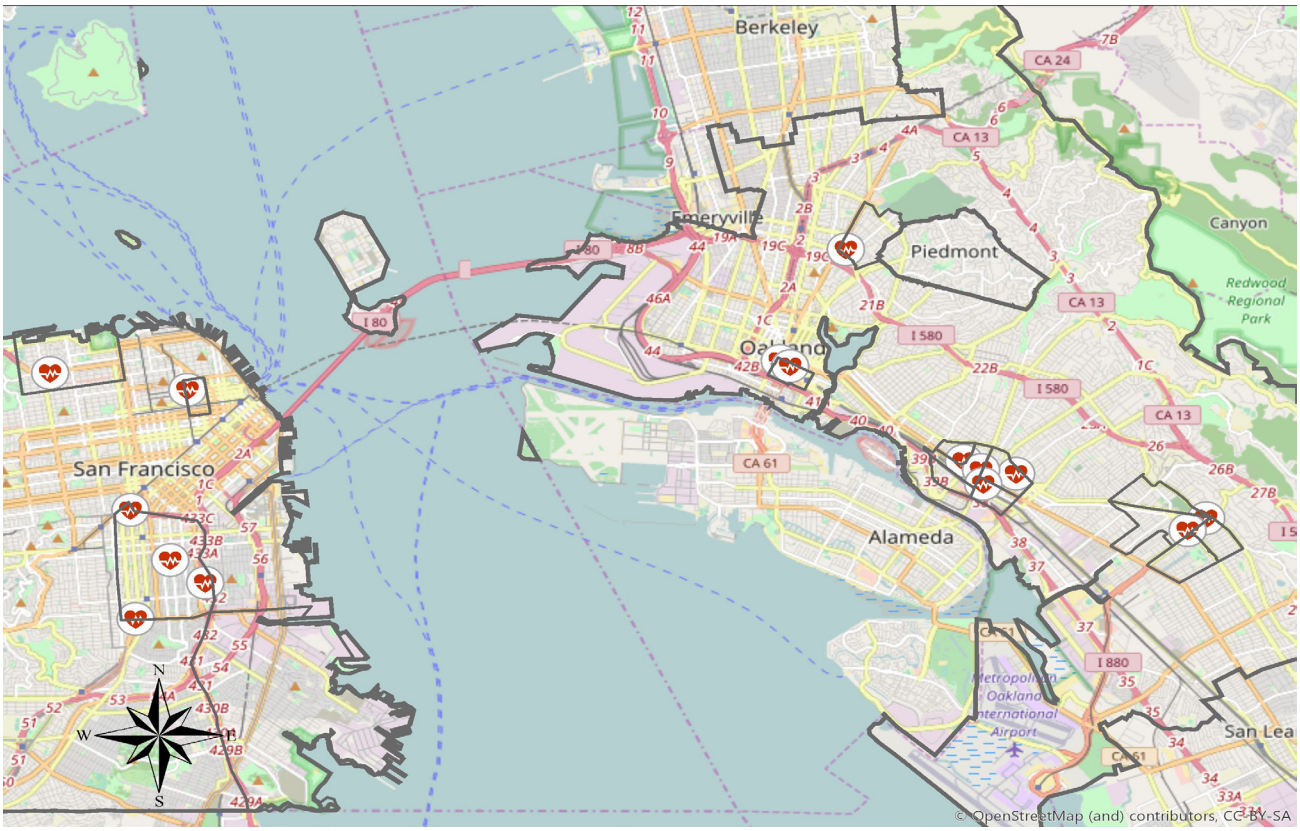
Map of Places of Worship in San Jose



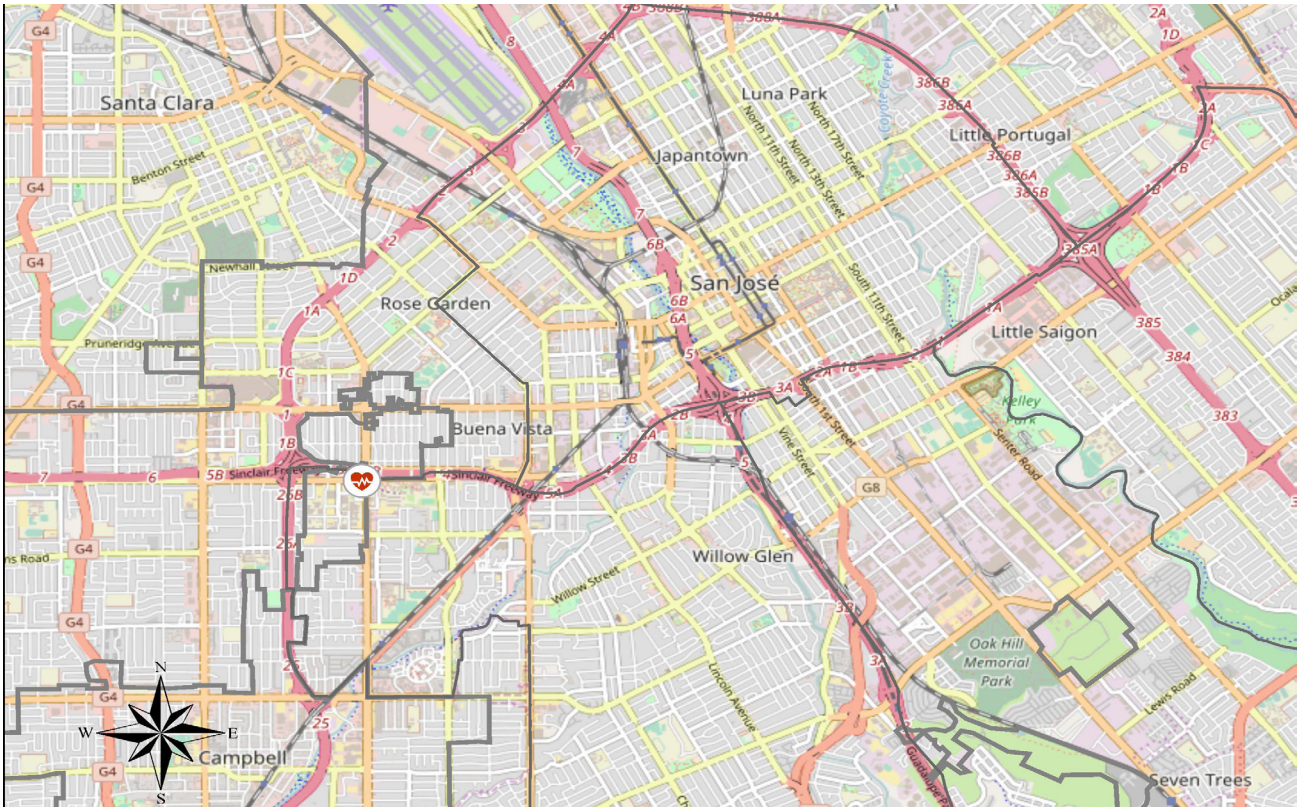
Hospitals and Medical Care

While living next to a hospital may seem advantageous, it is a burden and therefore a disamenity. The increased traffic, noise, and light pollution associated with closeness to a hospital results in a decrease in home value of 3% within one-half mile and 2% between 1-2 miles (Waddell, Berry, and Hoch, p.131, 1993). H*ospitals exist in the neighborhoods of Piedmont Avenue, the Mission district (2), and San Francisco Chinatown.* Thus homes located near the facilities have lower value.

Map of Medical Care in San Francisco and Oakland



Map of Medical Care in San Jose



2.3 Active Transportation

Active transportation is the ability to reach desired destinations without the use of an automobile and includes walking, biking, or public transportation. It is a key component of walkable neighborhoods and an essential element of the new urbanism and smart growth movements. Neighborhoods that feature active transportation infrastructure, on average, command a higher premium than neighborhoods that are auto-centric. Cortright (2009) noted that homes located in areas with above average walkability or bikability are worth up to $34,000 more in value than homes with average walkability and bikability levels. In 2013, Governor Brown signed legislation that created the Active Transportation Program to increase the availability of active transportation infrastructure. Neighborhoods that are recipients of the programs funds will experience an increase in home values due to their increased desirability as a result of improved pedestrian networks.

In addition to ranking the walkability of neighborhoods, walkscore.com contains separate public transit and bike scores. For both, calculations are conducted by summing the value of all nearby routes and then applying a distance decay algorithm. Table 2 depicts the results of the calculations for each neighborhood included in this study. Lower values represent poor infrastructure while higher values represent increased accessibility and improved efficiency. The transit score and bike score rankings are determined by the density of each city, *San Francisco is the densest and has the highest transit and bike scores, Oakland is less dense and scores change accordingly while San Jose is the least dense and has the lowest average scores.*

Table 2: Transit and Bike Scores for Selected Neighborhood

Neighborhood	Transit Score	Bike Score
Friutvale District	72	70
Chinatown	85	87
Piedmont Avenue	55	81
Bancroft	55	72
Mission District	87	98
Chinatown	100	72
Marina District (Cow Hollow)	77	65
Bayview/Hunters Point	68	62
King & Story	49	54
Evergreen	27	59
Willow Glen	41	63
Downtown San Jose	61	87

2.4 Income/Occupation & Home Values

Parallels can be drawn between the types of jobs residents hold and their income levels. This information is then translated to indicate home values for each neighborhood. It was found that predominately White communities had the highest population of residents in management positions (Figure 1) and a combined median income of $91,433. For Asian communities, residents worked predominately in the sales or food service industries (Figure 2) and had a combined median income of $58,233, however, there were anomalies in the data. Both Chinatowns received an average income substantially less than Evergreen's (Table 3) and did not feature its highest residential population in managerial positions. Because Chinatowns are almost exclusively Asian and feature numerous amenities within close proximity, they have a greater abundance of small businesses and a greater population in the sales and food industry.

By contrast, Evergreen residents work throughout the greater San Jose area and receive higher incomes from larger employers. Black and Hispanic communities both contained their highest residential populations in administrative occupations (Figure 1) and (Figure 3), but differed in combined median incomes. One reason that Hispanic communities differ in median income is due to the Mission District featuring its highest residential population in management positions (Figure 2). The combined median income of Hispanic neighborhoods was $66,966 whereas the total in Black neighborhoods was $52,800. By contrast, Evergreen residents work throughout the greater San Jose area and receive higher incomes from larger employers. Black and Hispanic communities both contained their highest residential populations in administrative occupations (Figure 1) and (Figure 3), but differed in combined median incomes. One reason that Hispanic communities differ in median income is due to the Mission District featuring its highest residential population in management positions (Figure 2). The combined median income of Hispanic neighborhoods was $66,966 whereas the total in Black neighborhoods was $52,800. The relevance of this information to home values is that median income and occupation represent residents' current wages and their future earning potential, thus signifying the value of homes within the neighborhood.

Residents current wages and future earning potential is dependent on their educational attainment. Those with college degrees are able to obtain more advanced occupations compared to those with high school diplomas. Carnevale, Rose, and Cheah (2014), found that college graduates earn 74% more in their lifetimes as opposed to those with high school diplomas. This information highlights the differences in median income as neighborhoods with a lower median like Oakland's Chinatown and Bancroft, have a lower share of residents with college degrees. This is also evident by the occupations of residents in each neighborhood. The Marina District, Piedmont Avenue, and Willow Glen, all had higher shares of residents who were in occupations that required an advanced degree; thus demonstrating the higher home values for those neighborhoods.

Race is also a factor in the determination of educational attainment. Due to wage gaps in educational attainment, Blacks and Latinos earn less than Whites. This disparity is reflected in the home values and median incomes for neighborhoods that are composed of those ethnic groups.

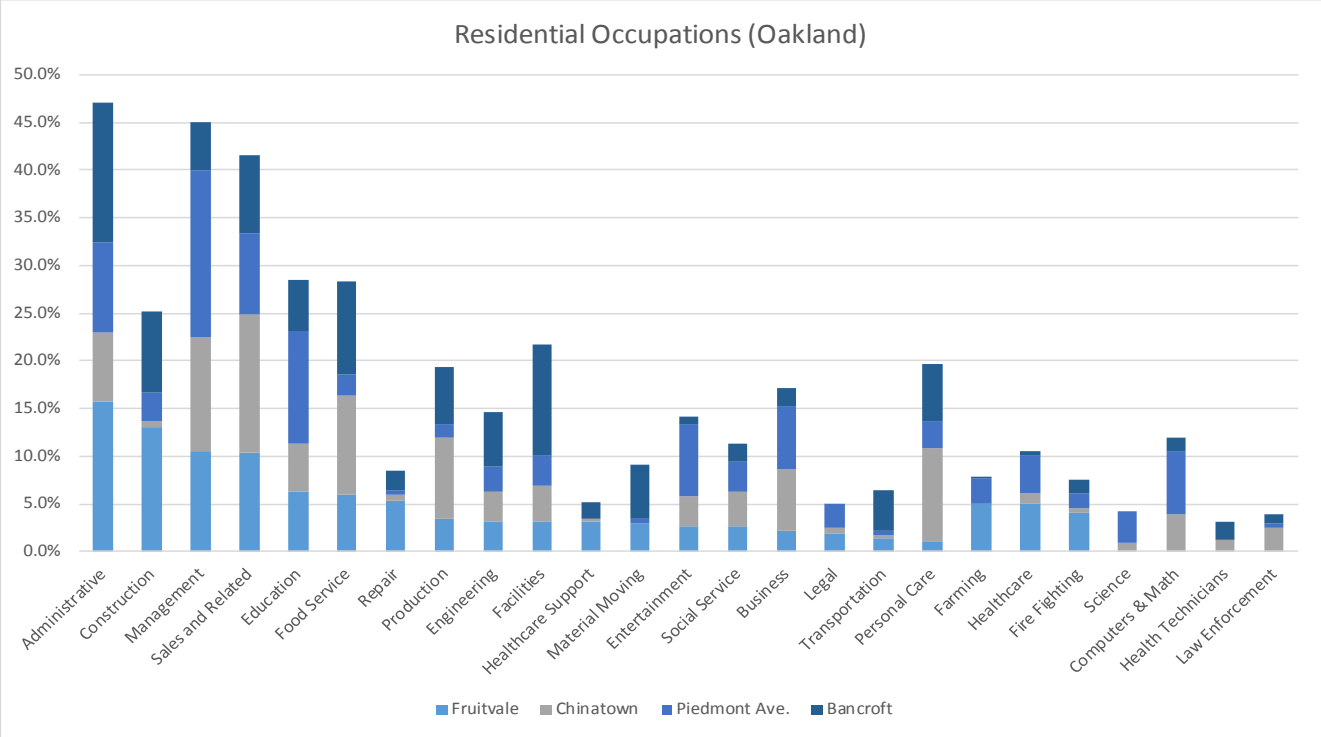


Figure 1: Occupations by industry in Oakland

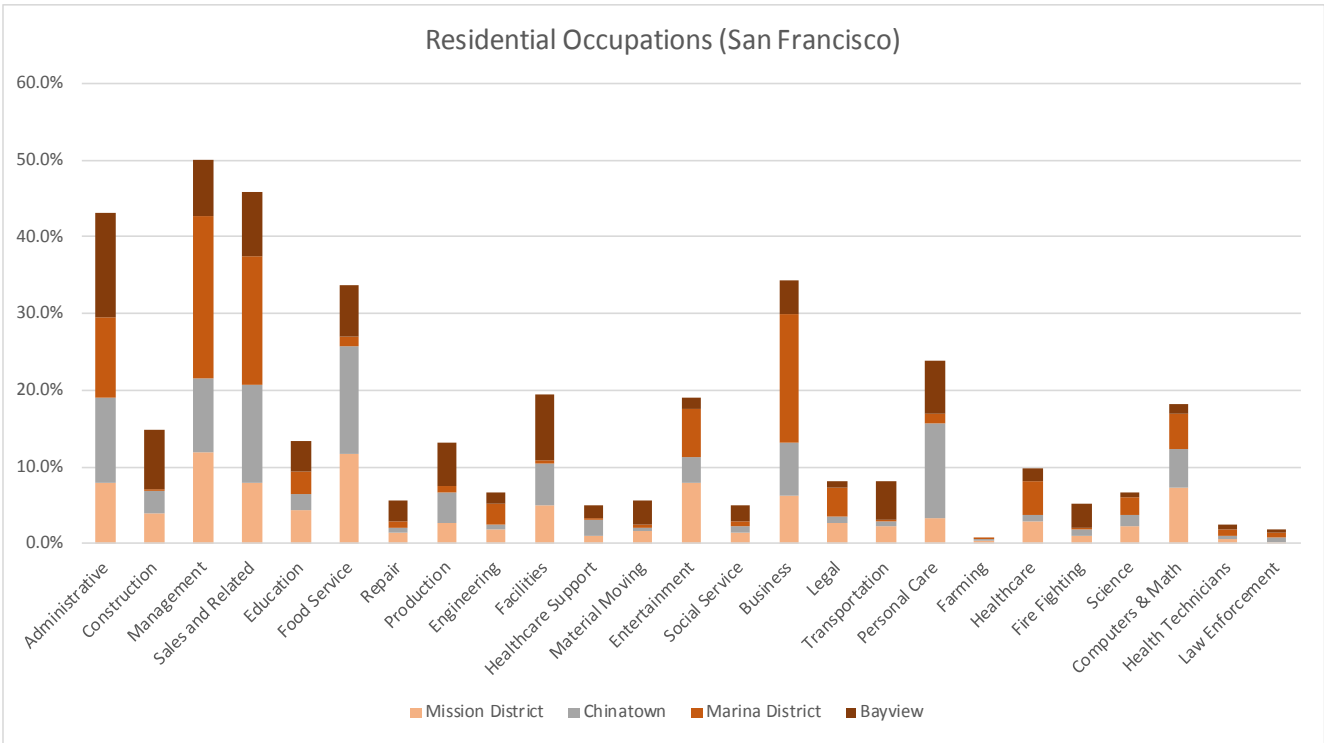


Figure 2: Occupations by industry in San Franciso

Table 3: Residential Income for Selected Neighborhood

Neighborhood	Median Income
Friutvale District	$ 62,200
Chinatown	$ 18,400
Piedmont Avenue	$ 66,600
Bancroft	$ 39,600
Mission District	$ 71,500
Chinatown	$ 31,700
Cow Hollow (Marina District)	$ 116,400
Bayview/Hunters Point	$ 59,600
King & Story	$ 67,200
Evergreen	$ 124,600
Willow Glen	$ 91,300
Downtown San Jose	$ 59,300

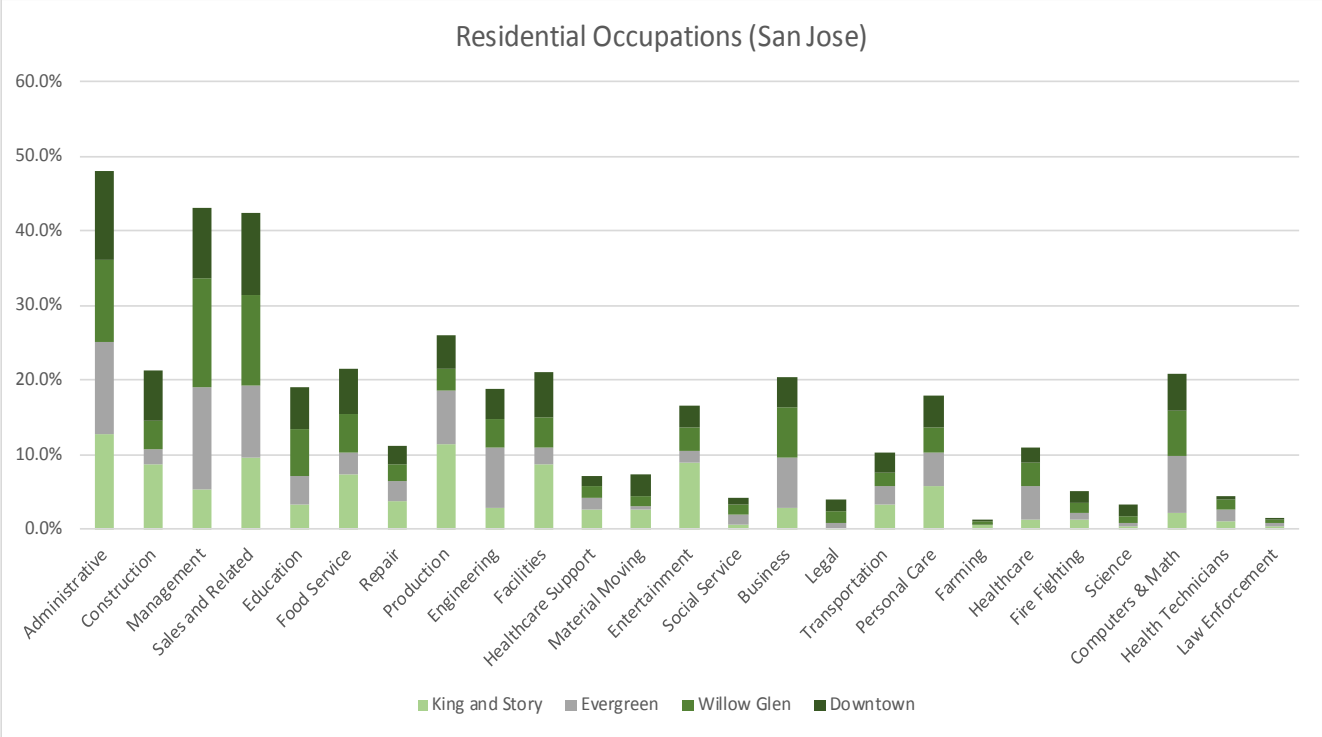


Figure 3: Occupations by industry in San Jose

2.5 Environmental Influences

Disadvantaged communities are impacted by environmental factors more frequently than affluent neighborhoods. Proximity to environmental hazards has a significant negative influence on home values regardless of neighborhood walkability. The social injustice that results, typically has a larger bearing on communities of color due to discriminatory housing policies that affected where residents of color settled and the land uses surrounding them. With the Bay Area being no exception, pollution from past industries have shaped the status quo for many communities of color. During WWII and until 1969, Bayview-Hunters Point was home to the United States naval submarine and ship repair industry. It was also where ships exposed to atomic weapons testing would be sent for decontamination, research, and experimentation (EPA, 2017). Until cleanup of the superfund site began in 1989, residents were unaware of the depleted quality of health associated with living near the shipyard. Many residents were predisposed to adverse health impacts and as a result home values remained low. In East Oakland, heavy industrial land uses reside next to residential land uses requiring large diesel trucks to use neighborhoods to reach their destinations (Lee, 2010). In addition to the truck routes, East Oakland also receives a greater proportion of pollution from Interstates 880 and 580 which operates in both the eastern and western portion of the region. Moreover, life expectancy for residents is 12 years shorter than that of residents from Piedmont due partly to the increased pollution. In San Jose, communities of color do not experience the same adverse impacts with regards to health. Pollution in San Jose affects all neighborhoods equally as the air quality and water quality issues cannot be attributed to one zone. The amount of pollution within a neighborhood is not only a determinant of home values, it is also insight. The levels of pollution suggest whether a community will be predominately White or of color since more affluent residents live furthest away from pollution.

2.6 Gentrification

Gentrification is a general term for the arrival of wealthier people into an existing urban district, the related increase in rents and property values, and the changes in the district's character and culture (PBS, 2003). There are some benefits to gentrification including reduced crime, higher home values, and overall improvements to neighborhood quality; but the displacement of many long-standing residents is one significant drawback. Residents who become displaced are typically People of Color that have experienced years of social injustice and are priced out of their residences due to higher property taxes and values. Evidence of gentrification affecting urban communities can be seen throughout the Bay Area due to the abundance of high waged tech jobs. Since the turn of the century, the racial composition of neighborhoods such as the Mission has changed greatly. When analyzing walkability and the relationship to home values, gentrification is an important factor to consider because neighborhoods gentrify due to their proximity to desired locations. For example, the Mission District is highly accessible by public transportation, it has an abundance of shops and restaurants within walking distance, great cultural diversity, and at the time home values were cheaper than surrounding areas. Now, Bayview-Hunters Point has begun gentrifying because of its proximity to MUNI and the only remaining relatively low home prices in the city. The Fruitvale District in Oakland, contains a Bart Station, a Transit Oriented Development (Phase 1 of 2), and will feature a Bus Rapid Transit Line by 2018. All are important factors in considering home values. Having the foresight to see how current events will impact future value and understanding how gentrification influences walkability and neighborhood dynamics, provides a detailed perspective on what factors impact home values and how.

Chapter 3: Summary and Conclusion

3.1 Discussion

This analysis has covered many attributes related to the relationship of race, walkability and its impacts on home value. While each section of the report has a distinct influence, there is no definitive answer that can be given with regards to what particular attribute influences home value the most. However, certain attributes are more significant in their impact on home values. For example, neighborhoods with opening or expanding museums could receive increases from 20% to 50% while proximity to poor quality parks decrease value by 14%. Determining the value of a neighborhood is a very complex process, this research has revealed the following; crime was expected to be a huge deterrent in the walkability of neighborhoods and an even larger deterrent in home value. However, the results were inconclusive with regards to walkability but accurate in terms of the effects to home values. Amenities also yielded varying results as proximity to hospitals decreased home values by 3% while proximity to religious institutions increased home value between 0.3% and 6.27%.

At times, the amenity types were also representative of the racial composition in neighborhoods. Communities of color had higher shares of liquor stores and check cashing stores as opposed to high ranking educational facilities and banks. Some amenities proved to be consistent regardless of neighborhood; every community featured at least one library and two fitness centers representing a positive correlation in home value for those features. Active transportation was an important determinant in home value because communities that featured alternative infrastructure command up to $34,000 more in home value. But, if a neighborhood had poor quality infrastructure, home values did not improve. Factors such as income and occupation, environmental influences and gentrification illustrated how race affects home values. The social impacts of these demonstrated significance as communities of color were more susceptible to experience greater inequality. Variations in the benefit to home value that were found in the setteled neighborhoods represents the complexity of the relationship findings and reflect the overall characteristics of the multiple factors that influence neighborhood value.

This research presents that the racial composition of neighborhoods are a crucial determinant in home value. Neighborhoods that are predominantly Black and Hispanic will experience lower home values than predominately White communities. The reasons are due to the influx in crime, poverty, and disadvantage that is more prevalent in these communities. Neighborhood amenities are generally in poorer condition as well. While walkscore remains similar throughout each community, the quality of amenities result in less desirable neighborhoods. Additionally, damaged sidewalk infrastructure, empty storefronts, and homelessness represent divestment in the community that is not seen in wealthier neighborhoods. Crime is also a major reason discrepancies exists between predominately White neighborhoods and Black and Hispanic neighborhoods. Due to lower educational attainment rates and the increased poverty faced in these communities, there are higher incidents of violent crime which results in lowering of home values by up to 19%. Moreover, Communities of Color are disproportionately affected by environmental pollution. Residents of the Bancroft, Bayview, and Fruitvale neighborhoods experience increased risks of chronic health disease based on their proximity to industrial land uses. While the wealthier residents of Willow Glen, Piedmont Avenue, and the Marina District do not encounter this type of environmental injustice because they have the privilege of affluence. They are able to move elsewhere or combat and remedy environmental issues through the political process. Home values drop significantly as a result of environmental pollution and it is another reason for differences between the communities even though walkability is the same. Asian neighborhoods vary in their experiences. The Chinatowns have experiences similar to Black and Hispanic communities because their income levels and occupations are comparable. Whereas, the income and occupations of Asian residents in Evergreen is similar to White communities. In addition, the neighborhood conditions are similar to either White or Black and Hispanic communities with respect to streetscape and amenity quality even though crime remains average to low for Asian communities regardless of neighborhood.

Knowing why discrepancies exists between neighborhoods is useful for disadvantaged communities because if residents are informed they can make effective change to combat issues that plague their community through appealing to city council, informing other residents, and supporting or opposing initiatives that impact their communities. Additionally, informed residents can place pressure on the city government to make positive change to their neighborhoods. Residents asking the questions of why and how and asserting presence on decision making bodies can have great impact in changing the status quo. There is no reason why communities of color should be disproportionately disadvantaged as they are currently. The importance of knowing what factors affect their neighborhoods the most and how to properly address them so that they can have a better quality of life. It is significant in empowering community action and policy change.

The findings of this study relate to a broader context about the role of race in society. Many decisions that have influenced the settlement patterns of various ethnic groups, stem from restrictive housing policies aimed to segregate neighborhoods instead of promoting diversity. These actions have resulted in socio-economic disadvantage for communities where regardless of high walk scores, social strife produces a lower quality of life. As a result, it is important to understand and consider how each attribute affects a specific community. Further, it becomes important to analyze methods that stop displacement in gentrifying neighborhoods. Providing access to amenities that improve home values for all residents regardless of race, will result in truly diverse communities. The nationwide push for introducing the charactersitcs of New urbanism is a good strategy to improve the quality of life for all people. Unlike restrictive housing policy of the past it has the potential to produce a social fabric that features high quality amenities for all. However, it is important to ensure the principles of New Urbanism do not become a means of gentrification so that the status quo for disadvantaged communities of color can be avoided in the future.

This analysis has provided an in depth look into the various factors that determine neighborhood composition. The differences in neighborhood composition stems from settlement patterns that were a result of the discriminatory housing policy of the time. Race has not only been a prevalent factor in the neighborhoods featured in this study, but also in the United States as a whole. Predominately Black and Hispanic communities are at a disadvantage by design and one significant way to change this is by educating residents about this fact. Knowledge of the factors that influence home values including the quality of amenities will provide residents with the necessary education to make decisions that can improve their communities. Additionally, reinvestment into urban neighborhoods through approaches such as the characteristics of New Urbanism can create equitable communities where displacement does not occur. The intersections of race, walkability, and home values are fundamental for city planners and real estate developers to acknowledge and respond to. It Is important that reinvestment in urban neighborhoods are encompassing of diversity and inclusiveness.

REFERENCES

Cortight, J. (2009). How Walkability Raises Home Values in U.S. Cities. CEOs for Cities, 2-30.

Cortright, J. (2007). City Advantage (No. 1-7276-1308-7). Chicago: CEOs for Cities.

Washington, E. (2013). Role of Walkability in Driving Home Values. Leadership & Management In Engineering, 13(3), 123-130.

Pivo, G., & Fisher, J. D. (2011). The Walkability Premium in Commercial Real Estate Investments. Real Estate Economics, 39(2), 185-219.

Duncan, D. T., Melly, S. J., Whalen, J., & Aldstadt, J. (2013). Validation of Walk Scores and Transit Scores for estimating neighborhood Walkability and transit availability: a small-area analysis [electronic resource]. Geojournal, 78(2), 407-416.

[Bart]. (2015, April 10). Retrieved March 27, 2017, from https://p931z2nb6eo1jytzj2ufrzyoiz-wpengine.netdna-ssl.com/news/wp-content/uploads/sites/10/2015/04/BART1-1440x1080.jpg

[Digital image]. (2015, June). Retrieved March 27, 2017, from http://www.goodtherapy.org/blog/blog/wp-content/uploads/2015/06/dense-urban-neighborhood-1024x683.jpg

[Digital image]. (2015, September). Retrieved March 27, 2017, from https://johnwhye.files.wordpress.com/2015/09/munibart5boarding.jpg

[Digital image]. (n.d.). Retrieved March 27, 2017, from https://ar.rdcpix.com/1413434874/2b69a3ff3a6198e515c7599f9940ccfcc-f1xd-w640_h480_q80.jpg

Overview of the United States. (n.d.). Retrieved March 13, 2017, from http://statisticalatlas.com/United-States/Overview

Fruitvale. (n.d.). Retrieved March 13, 2017, from http://norcalapa.org/neighborhood-profile/fruitvale/

Counts, L. (2016, August 14). A tour of Fruitvale's history and potential. Retrieved March 13, 2017, from http://www.eastbaytimes.com/2004/09/27/a-tour-of-fruitvales-history-and-potential/

HUD USER. (n.d.). Retrieved March 13, 2017, from https://www.huduser.gov/portal/periodicals/em/summer16/highlight2.html

Featured Executive Branch Publications. (1998, September 30). Changing America: Indicators of Social and Economic Well ... Retrieved March 13, 2017, from https://www.gpo.gov/fdsys/pkg/GPO-EOP-CHANGINGAMERICA/pdf/GPO-EOP-CHANGINGAMERICA-8.pdf

CiteSeerX — Crime and Property Values: Evidence from the ... (2011, August 26). Retrieved March 13, 2017, from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.701.7062&rep=rep1&type=pdf

Gilderbloom, J. I., Riggs, W. W., & Meares, W. L. (2015). Does walkability matter? An examination of walkability's impact on housing values, foreclosures and crime. Cities, 42, 13-24. doi:10.1016/j.cities.2014.08.001

Ferrell, C. E., Mathur, S., Meek, J., & Piven, M. (2012, January). Neighborhood Crime and Travel

Behavior: An Investigation ... Retrieved March 13, 2017, from http://transweb.sjsu.edu/PDFs/research/2802-Neighborhood-Crime-Travel-Mode-Behavior-bf.pdf

Edwards, K. M. (2007, May). Do Parks Make Cents? - oldsite.sfnpc.org. Retrieved March 13, 2017, from http://oldsite.sfnpc.org/files/DoParksMakeSense.pdf

Espey, M., & Owusu-Edusei, K. (2001, December). Neighborhood Parks and Residential Property Values in Greenville ... Retrieved March 13, 2017, from http://ageconsearch.umn.edu/bitstream/15446/1/33030487.pdf

Get your Walk Score. (n.d.). Retrieved March 13, 2017, from https://www.walkscore.com/

Review of Housing Insights in Top Rated School Districts. (2016, August 19). Retrieved March 13, 2017, from http://research.realtor.com/housing-insights-in-top-rated-school-districts/

Owusu-Edusei, K., Espey, M., & Lin, H. (2015, April 01). Does Close Count? School Proximity, School Quality, and Residential Property Values | Journal of Agricultural and Applied Economics. Retrieved March 13, 2017, from https://www.cambridge.org/core/journals/journal-of-agricultural-and-applied-economics/article/does-close-count-school-proximity-school-quality-and-residential-property-values/F138798DDD9911837C1593E8B2EC8CD7

Max, S. (2010, June 25). Good Schools, Bad Real Estate. Retrieved March 13, 2017, from https://www.wsj.com/articles/SB10001424052748704009804575308951902854896

How do I know if my SEO works? (n.d.). Retrieved from https://2pobaduekzw9jt9a-zippykid.netdna-ssl.com/wp-content/uploads/2015/03/retail-foot-traffic.jpg

Bomberg, M. (2012). The Value of Food: The Impact of Supermarket Proximity on Home Values in Oakland. PolicyMatters, 9(2), 5-12. Retrieved March 12, 2017, from http://policylinkcontent.s3.amazonaws.com/Final_PMJ_Spring_2012_0.pdf

Holstege, C. R. (2015, May 08). Cookin' in Phoenix: Hip restaurants raising home values. Retrieved March 13, 2017, from http://www.azcentral.com/story/money/real-estate/catherine-reagor/2015/05/08/cookin-phoenix-hip-restaurants-raising-home-values/26988219/

Jonathan, P. (2013, October 7). Top restaurants spice up property prices by 20%. Evening Standard.p. 28.

Austin, C. (2015, February 27). Zillow on Starbucks and Dunkin Donuts - boost home value. Retrieved March 13, 2017, from http://fortune.com/2015/02/27/zillow-starbucks-home-value/

Fast Food? In Our Neighborhood? (1985, June 23). Retrieved March 13, 2017, from https://www.washingtonpost.com/archive/opinions/1985/06/23/fast-food-in-our-neighborhood/47d17bce-557b-455b-948e-905b0acaf32a/?utm_term=.98517df04aff

Markets Where Starbucks Boosts Home Values the Most. (2016, October 28). Retrieved March 13, 2017, from https://www.zillow.com/blog/starbucks-home-values-170734/

Coffee Brews Up Real Estate Values. (2015, August 05). Retrieved March 13, 2017, from http://www.prweb.com/releases/2015/08/prweb12885878.htm

Korn, P. (2008, September 24). Trendy shops put a shine on home values. Retrieved March 13, 2017, from http://portlandtribune.com/component/content/article?id=75121

Johnson Gardner. (2007, June). AN ASSESSMENT OF THE MARGINAL IMPACT OF URBAN

AMENITIES ON RESIDENTIAL PRICING . Retrieved March 13, 2017, from http://www.reconnectingamerica.org/resource-center/browse-research/2007/an-assessment-of-the-marginal-impact-of-urban-amenities-on-residential-pricing/

The Business of Culture: The Impact of Museums on Property Values. (2013, March 20). Retrieved March 13, 2017, from http://www.jackrouse.com/2013/03/The-Business-of-Culture-The-Impact-of-Museums-on-Property-Values.cfm

A. (2011, December 12). The economic value of the Free Library in Philadelphia. Retrieved March 13, 2017, from http://www.ala.org/research/librariesmatter/node/16

Are properties located next to gas stations eligible for insurance? (n.d.). Retrieved March 13, 2017, from https://hudgov.prod.parature.com/link/portal/57345/57355/Article/8213/Are-properties-located-next-to-gas-stations-eligible-for-insurance

Prager, R. A. (2009). Determinants of the Locations of Payday Lenders, Pawnshops and Check ...Retrieved March 13, 2017, from https://www.federalreserve.gov/pubs/feds/2009/200933/200933pap.pdf

Sheppard, S. (2013). "Museums in the Neighborhood: The Local Economic Impact of ... Retrieved March 13, 2017, from http://web.williams.edu/Economics/ArtsEcon/library/pdfs/MuseumsInTheNeighborhoodFinalRevisions.pdf

Sheppard, S., Oehler, K., Benjamin, B., & Kessler, A. (2006). Culture and Revitalization: The Economic Effects of MASS ... Retrieved March 13, 2017, from https://web.williams.edu/Economics/ArtsEcon/library/pdfs/NA%20Economic%20Impacts%2032006.pdf

CARROLL, T., CLAURETIE, T., & JENSEN, J. (1996). Living next to godliness: Residential property values and ... Retrieved March 13, 2017, from http://www.statisticalforensics.com/publications/living-next-to-godliness-residential-property-values-and-churches.pdf

Waddell, P., Berry, B. J., & Hoch, I. (1993). Residential property values in a multinodal urban area: New evidence on the implicit price of location. The Journal of Real Estate Finance and Economics, 7(2), 117-141. doi:10.1007/bf01258322

Site Overviews,Hunters Point Naval Shipyard, US EPA, Pacific Southwest, Superfund. (2017, February 22). Retrieved March 13, 2017, from https://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/vwsoalphabetic/Hunters Point Naval Shipyard?OpenDocument

Lee, A. Y. (2010). East Oakland Diesel Truck Survey Summary. Retrieved March 13, 2017, from http://www.cbecal.org/organizing/northern-california/oakland/

What is Gentrification? (2003, January 17). Retrieved March 13, 2017, from http://www.pbs.org/pov/flagwars/what-is-gentrification/

Carnavale, A. P., Rose, S. J., & Cheah, B. (2014). The College Payoff. Retrieved March 17, 2017, from https://cew.georgetown.edu/cew-reports/the-college-payoff/

[Digital image]. (n.d.). Retrieved March 27, 2017, from https://i.ytimg.com/vi/fLRYsXktN-A/hqdefault.jpg

Artico2. (2010, August 19). Mission District 2 [Digital image]. Retrieved March 27, 2017, from https://upload.wikimedia.org/wikipedia/commons/7/73/Mission_District_2.JPG

[Digital image]. (2015). Retrieved March 27, 2017, from http://www.ftscities.com/files/Photo%20086_web.jpg

[Digital image]. (2010, March). Retrieved March 27, 2017, from https://sfchinatown.files.wordpress.com/2010/03/chinatown.jpg

[Digital image]. (n.d.). Retrieved March 27, 2017, from https://static1.squarespace.com/static/5519bdcbe4b01df5731d9602/t/5525f569e4b0fb9afcd6560d/1428551029412/96678_powell_s_sweet_shoppe_san_jose.jpg?format=1500w

Schiewe, J. (2014, July 22). [Several new businesses have opened recently in the Bancroft-Fairfax district.]. Retrieved March 27, 2017, from https://media2.fdncms.com/eastbayexpress/imager/several-new-businesses-have-opened-recentl/u/zoom/4026326/news3.jpg

[Businesses along Third Street in Bayview]. (n.d.). Retrieved March 27, 2017, from http://www.sanfranciscodays.com/photos/large/bayview-trees.jpg

[Digital image]. (2009, June 14). Retrieved March 27, 2017, from https://upload.wikimedia.org/wikipedia/commons/f/f8/Santa_Monica_3rd_Street_Promenade.jpg