

Urban Density Analysis

San Francisco – Oakland Metropolitan Statistical Area San Francisco Metro Divion

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Metropolitan Description and Definition

The San Francisco-Oakland Metropolitan Statistical Area's San Francisco Metro Division is comprised of two counties: San Francisco County and San Mateo County. This metro area is among the most populous in the state of California, and is one that has undergone a large shift in total population as well as population density since 1980.



San Francisco County shares the same borders as the city of San Francisco and makes up the northern tip of the peninsula. San Mateo County begins at the southern border of San Francisco County and makes up the southern half of the peninsula, reaching as far as Palo Alto and the Big Basin Redwoods State Park. San Francisco is a dense city given its limited physical size, while San Mateo County is less dense due to the large portion of the county that is too mountainous for development. Table 1 shows the land area breakdown by county, split by land and water. San Francisco is a unique county, particularly on the west coast, in that it encompasses a very limited area of land.

Figure 1. A map showing San Francisco and San Mateo Counties. Generated using ArcGIS Pro. The red circle marks the regions Central Business District.

Table 1. Area Breakdown by County

County	Land	Water
San Francisco County	47	185
San Mateo County	448	293
Total	495	478

Source: San Mateo and San Francisco County

The downtown area of San Francisco serves as the region's Central Business District (CBD), though an argument might be made that the entire eastern coast, from San Francisco to Palo Alto, is a CBD given the presence of countless major technology companies.

The entire peninsula is very hilly, making for a unique urban landscape. The area is home to notoriously steep streets, historic trolley systems, winding roads, and scenic hilltop parks. Being a peninsula, access to the region is not as simple as many other US cities. A number of bridges, including the Golden Gate Bridge and the San Francisco – Oakland Bay Bridge, connect the peninsula with Marin County as well as the East Bay. The Transbay tube allows BART (Bay Area Rapid Transit) trains to connect from Oakland to San Francisco.

Population

Since 1980, the population in both San Mateo County and San Francisco County (and thus the city) has grown significantly. As the region has developed into a global center for technology, hundreds of thousands of new residents have moved in, as is shown in the data below. The MSA was home to 1,266,303 people in 1980, but by 2020 had grown 29% to a population of 1,638,407. This has resulted in the region becoming one of the most expensive to

live in across the entire county, with the Center for Demographics and Policy at Chapman University deeming it “impossibly unaffordable.”¹

Table 2. Population by County, Population Ration between Urban and Suburban Residents

	MSA		Suburbs (San Mateo County)		Central City (San Francisco County)		Central City Pop. Ratio
	Population	% Change	Population	% Change	Population	% Change	
1980	1,266,303	-	587,329	-	678,974	-	1.16
2000	1,483,894	17.2%	707,161	20.4%	776,733	14.4%	1.10
2020	1,638,407	10.4%	764,442	8.1%	873,965	12.5%	1.14

Source: U.S Census Bureau Population and Housing Census Data

In 2000, the population growth of the suburbs was outpacing that of the central city, but this has reversed by 2020. Now, San Francisco has seen a growth of 12.5% while San Mateo County has only seen 8.1% growth. This means that the ratio of central city residents to suburban residents is 1.14, nearly the same as it had been in 1980.

Density

The San Francisco Peninsula has a wide variety of terrains and urban forms within its relatively narrow borders, and thus exhibits a massive range in population density. Central San Francisco has a number of US Census Tracts with a population density of over 100,000 residents per square mile, and even a few exceeding 200,000. Meanwhile, the southern part of the peninsula has vast ranges of land with few or no inhabitants. The eastern coast of the peninsula is comprised of primarily single-family zoning and is thus less dense than the central city.

¹ <https://www.sfchronicle.com/realestate/article/sf-san-jose-house-19523661.php>

Table 3. MSA and County Population Density

	MSA		Suburbs (San Mateo County)		Central City (San Francisco County)	
	Density	% Change	Density	% Change	Density	% Change
1980	2,524.9		1,293.1		14,344.2	
2000	2,993.2	18.5%	1,574.7	21.8%	16,634.4	16.0%
2020	3,305.0	10.4%	1,704.0	8.2%	18,629.0	12.0%

Source: U.S Census Bureau Population and Housing Census Data

Most residents in the San Francisco Metro Division of the San Francisco – Oakland MSA live in a tract that falls within the range of 5,000 to 49,999 residents per square mile. In fact, over

Table 4. Population in Each Given

Density Range in 2020

Density (pop/sq mi) Minimum - Maximum		Population	Share
0	999	50,191	3.1%
1,000	4,999	150,195	9.2%
5,000	9,999	330,916	20.2%
10,000	24,999	615,685	37.6%
25,000	49,999	374,848	22.9%
50,000	74,999	59,122	3.6%
75,000	-	57,450	3.5%

Source: U.S Census Bureau Population and Housing Census Data, 2020

eighty percent of all residents of the two counties live in this range on densities. A smaller portion of the population, approximately seven percent, lives in tracts with a density of higher than or equal to 50,000 residents per square mile. This sort of housing exists only in the most central locations of San Francisco, thereby representing an exception to the region's norm.

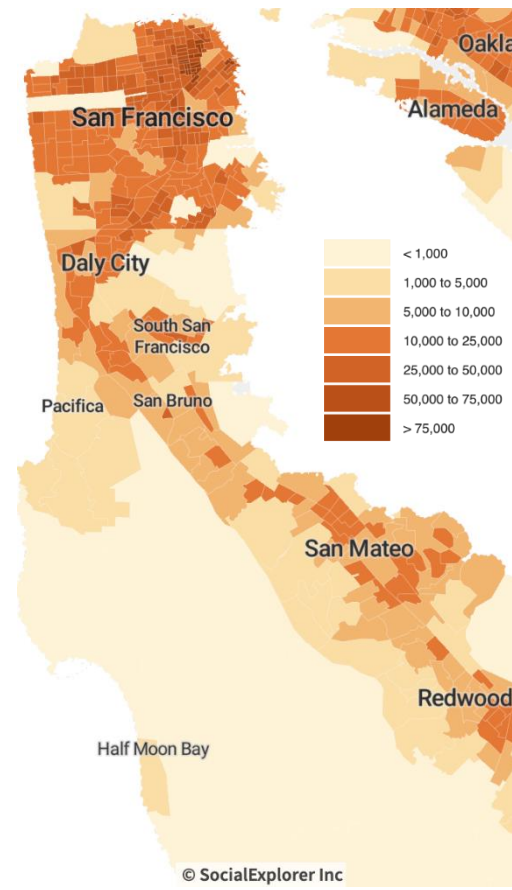
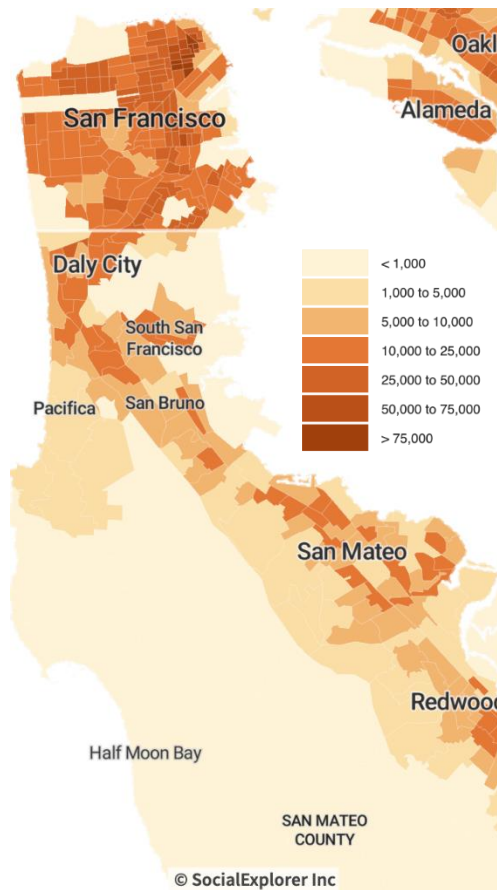
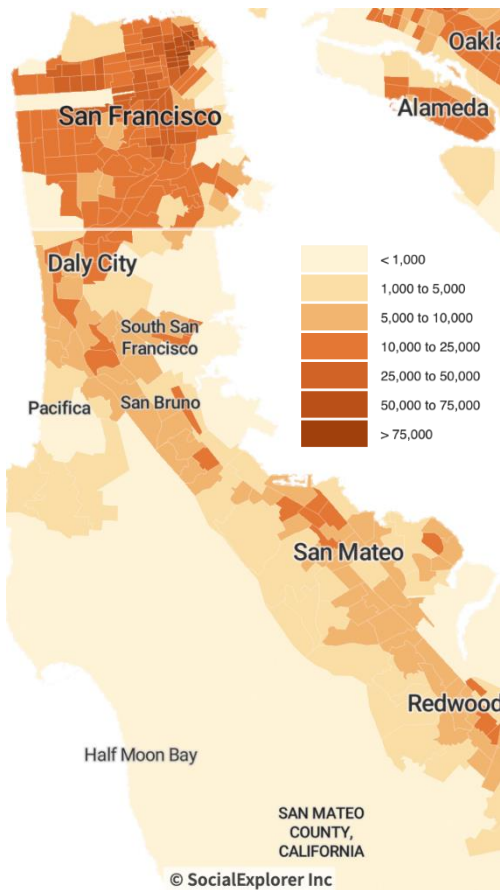
On the other end of the region's density spectrum is the extremely low-density housing. Only about three percent of residents live in tracts with fewer than 1,000 resident per square mile. This is likely due to the extensive development seen in most flat, accessible land areas, leaving mainly hilly, difficult terrain left undeveloped.

Census Tract Density Maps

1980

2000

2020

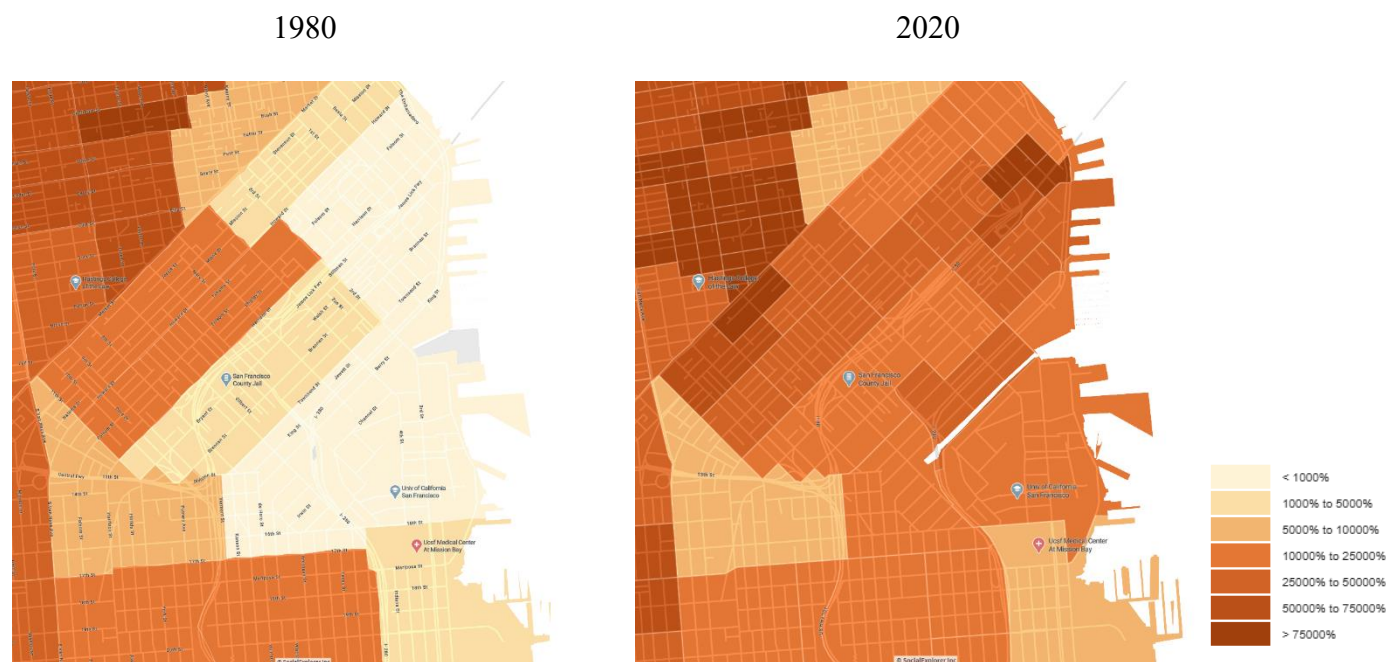


While the Bay Area as a whole is certainly polycentric, this division of the overall MSA appears to be monocentric. While Daly City, San Mateo, and Redwood City all are home to areas of increased density and economic activity, San Francisco as a whole, and especially the CBD, serves as the regions center. If any tracts in the two counties experienced a decrease in population during this period, they would very much be an outlier. All areas appear to have increased in density, from the already dense inner neighborhoods to the farther out, coastal neighborhoods like Pacifica. This steady, widespread growth is likely due to San Francisco's

status and prominence, the still-expanding technology hub in the region, and the skyrocketing housing prices affecting the entire region.

Area Analysis

Mission Bay



The Mission Bay Neighborhood, an area in San Francisco roughly bounded by the San Francisco Bay, I-80, and I-280, is a new neighborhood in a former industrial area. The area was sparsely populated at the time of the 1980 census, especially near the bay, but now has a population of over 22,000 residents.² This represents a growth of 1,475% in the span of forty years. This growth is likely due to a

Table 5. Population by Census Tract in the Mission Bay Neighborhood

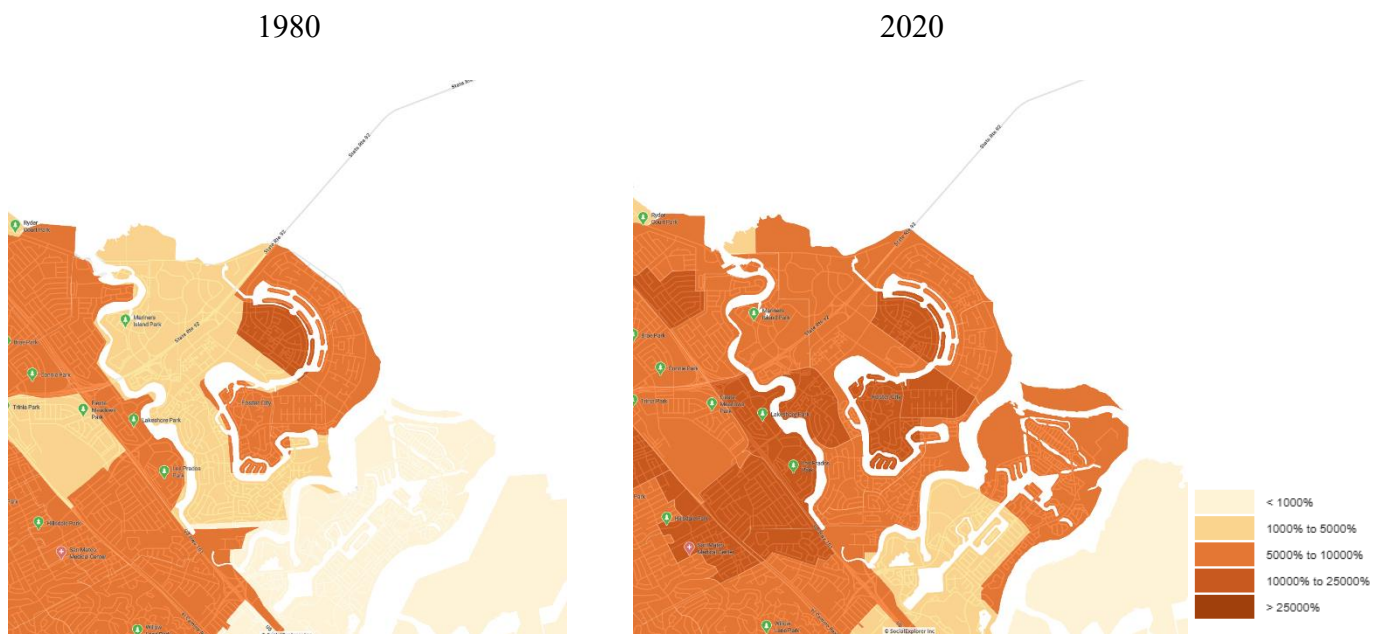
Tract	1980	2020
180	1365	4758
607	44	-
607.01	-	8610
607.02	-	3142
607.03	-	5680
Total	1409	22190

Source: U.S Census Bureau Population and Housing Census Data, 1980 and 2020

² The boundaries of the census tracts have been slightly modified, and tract 607 has been split into three new tracts as shown in table 5.

decline in industrial uses within the city as well as a dire need for new housing. Additionally, the tech industry, which in many ways may be taking the place of former industrial uses in the area, brings in a large number of highly paid professionals. This new neighborhood has a number of amenities that are likely targeted at these groups such as new apartments, new parks, permanent places for food trucks, proximity to jobs, proximity to the central city, proximity to waterside outdoor areas, and a tram route.

Foster City



Foster City is a geographically small city just East of San Mateo, and right on the San Francisco Bay. A number of waterways, both natural and manmade, cross the city creating a large number of water-front, single-family homes. The city is bisected by CA-92 and is the western end of the San Mateo – Hayward Bridge. The city also contains a number of large, multi-family developments spread throughout the area and a large central shopping and business district. The census tracts in Table 6, which roughly encompass the city, show that the population

has grown by 51% between 1980 and 2020. Similarly to the Mission Bay neighborhood, this is likely due to the rapid growth of the regions technology industry over this period. A few examples of companies either within the city or in the general vicinity include Gilead, Nintendo, Electronic Arts, Sony, and Google.

The mostly single-family and often waterfront properties are likely not affordable for the average American, meaning this master-planned community was likely targeted at high-earning tech workers. This theory is further supported by the city's average annual household income of \$234,829.

Conclusion

The San Francisco - Oakland MSA, and in particular the San Francisco Metro Division, is an area that experienced rapid growth since 1980. The area is continuing to grow, and will likely continue to grow in the future. New housing is being built across the region each year, but the speed at which projects are being approved and constructed has not kept up with the massive demand for housing. The continued growth of the tech industry in the region, and the areas continued prominence in American and global culture, will likely continue to bring in more residents each year. The area is suffering from a housing crisis due to the continued growth and inadequate supply of housing. This, combined with the region's geography, leaves little room for

Table 6. Population by Census Tract in Foster City

Tract	1980	2020
6079	1457	3518
6080.1	2463	-
6080.2	3563	-
6080.3	3260	-
6080.4	3501	-
6080.01	-	3534
6080.02	-	3728
6080.13	-	4188
6080.23	-	2531
6080.24	-	3025
6080.25	-	5931
6081	3652	3645
6082	3469	3749
6083	3379	3474
Total	24744	37323

Source: U.S Census Bureau Population and Housing Census Data, 1980 and 2020

outward expansion, and as such the region will need to continue to increase density near its job centers.