

- Increased property damage/destruction, injury, and loss of life.
- Economic impacts from increased insurance and reconstruction costs.
- Higher stress and mental trauma from extreme events, economic disruption, and residential displacement.
- Damage to infrastructure systems from climate hazards.

As shown on Figure 25, there are three primary climate-related hazards in San Mateo: sea level rise in the northern and eastern portions of the city, flooding along the eastern shoreline and along Marina Lagoon, and wildfire in the western and southern portions of the city. Several local planning efforts address these hazards, including the Multijurisdictional Local Hazard Mitigation Plan (LHMP), the Climate Action Plan (CAP), and the General Plan, among others. These documents outline policy decisions and directions that will ensure growth in the San Mateo community is environmentally sustainable. Development in each of the Study Areas will be impacted by climate-related hazards in a different way, outlined in further detail below.

SEA LEVEL RISE

Sea level rise is attributed to the increase of average ocean temperatures and the resulting thermal expansion and the melting of snow and ice contributing to the volume of water held in the oceans. While many effects of climate change will impact the region, sea level rise is one specific impact that has been extensively studied and quantified, and its effects mapped. The speed and amount of sea level rise will be influenced by the increase in average temperatures and rate

5.5 ENVIRONMENTAL SUSTAINABILITY

Environmental sustainability can be measured several ways, one of which assesses how sustainable a community is in the face of climate-related hazards such as sea level rise, flooding, and wildfire. These climate-related hazards differ from natural hazards (e.g. earthquakes) in that they are caused by human activities that contribute to the changing climate. As reported by the Intergovernmental Panel on Climate Change (IPCC), in their Sixth Assessment Report released August 2021, “human-induced climate change is already affecting many weather and climate extremes in every region across the globe”²¹ and some impacts from climate change are now considered unavoidable, such as sea level rise, increasing temperatures, and variable weather patterns. California’s Fourth Climate Change Assessment, released in 2018, outlines global climate change risks to California, some of which are likely realities in the city of San Mateo, either now or in the future. Such impacts include, but are not limited to:²²

²¹ IPCC, 2021: Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu and B. Zhou (eds.)]. Cambridge University Press. In Press.

²² Bedsworth, Louise, Dan Cayan, Guido Franco, Leah Fisher, Sonya Ziaja. (California Governor’s Office of Planning and Research, Scripps Institution of Oceanography, California Energy Commission, California Public Utilities Commission). 2018. Statewide Summary Report. California’s Fourth Climate Change Assessment. Publication number: SUMCCA4-2018-013.

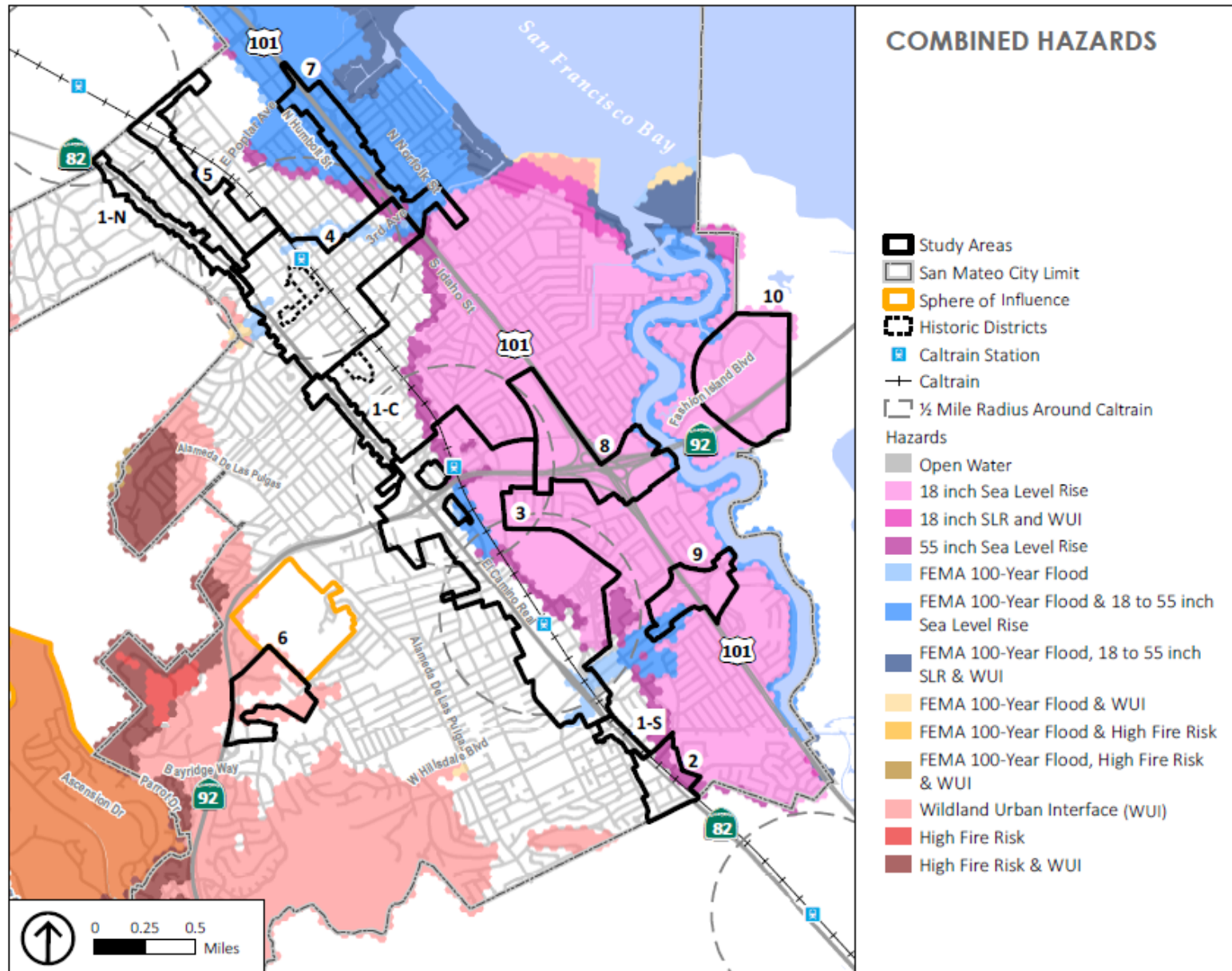
of melting of glacial ice. While there is a degree of uncertainty in projections, the actual rate of sea level rise is occurring more quickly than many previous projections had estimated.²³

The California Natural Resources Agency, in partnership with the California Ocean Protection Council, issued the State of California Sea-Level Rise Guidance, which states that sea levels in the San Francisco Bay Area may rise 22 inches by mid-century and 82 inches by the end of the century. Because it is in a low-lying coastal area, San Mateo is highly vulnerable to this threat. A sea level rise of 22 inches could inundate areas near Seal Point. If the level of San Francisco Bay rises 82 inches, water is projected to inundate all parts of San Mateo east of Highway 101, as well as areas west of Highway 101 including the area north of downtown and large sections of the Hayward Park, Bay Meadows, and Laurie Meadows neighborhoods.²⁴

²³ City of San Mateo, April 2020, 2020 Climate Action Plan, <https://www.cityofsanmateo.org/DocumentCenter/View/80652/2020-Climate-Action-Plan?bidId=>, page 19, accessed on September 21, 2021.

²⁴ City of San Mateo, April 2020, 2020 Climate Action Plan, <https://www.cityofsanmateo.org/DocumentCenter/View/80652/2020-Climate-Action-Plan?bidId=>, page 19, accessed on September 21, 2021.

Figure 25. Combined Hazards



All Study Areas located to the east of Highway 101 are at severe risk of inundation by sea level rise at both 18 inches and 55s inches, as illustrated on Figure 25. The Study Areas located in these areas are listed below:

- Select portions of Study Area 2, largely east of State Route 82, are susceptible to sea level rise under the 18- and 55-inch scenarios. All three alternatives include Residential Medium land uses, the most of which is anticipated in Alternative B. All three alternatives also include Residential Low uses, the least amount in Alternative B. Alternative A includes Commercial Neighborhood uses while Alternative B includes Mixed-Use Low and Alternative C includes Mixed-Use Medium. Alternative B would include the most homes and population growth, followed by Alternative C then A. Each alternative assumes that the amount of jobs declines, the most with Alternative B, followed by Alternative C and then A.
- Approximately half of Study Area 3 is susceptible to sea level rise under the 18- and 55-inch scenarios. These areas largely lie to the east of the railroad tracks. However, this portion of Study Area 3 is largely similar in each alternative except for select commercial parcels. Therefore, none of the alternatives would introduce a significant differing amount of development in an area susceptible to sea level rise. The major differences between alternatives in the areas susceptible to sea level rise are between Alternatives A and B with Alternative C, where Alternatives A and B designate several parcels as Mixed-Use Medium while these parcels are designated as Mixed-Use Low in Alternative C. Therefore, Alternatives A and B anticipate more development in areas east of Pacific that are susceptible to sea level rise inundation.
- The far eastern portions of Study Area 4 are susceptible to sea level rise under the 55-inch scenario. Alternatives A and B would designate most of this area as Residential Medium while

Alternative C would designate that same area as Residential Low.

- The entirety of Study Area 7 is susceptible to sea level rise. The majority is susceptible to sea level rise under the 18-inch scenario while the southern portion is susceptible to only the 55-inch scenario.
- The entirety of Study Area 8 is susceptible to sea level rise under the 18-inch scenario.
- The entirety of Study Area 9 is susceptible to sea level rise under the 18-inch scenario.
- The entirety of Study Area 10 is susceptible to sea level rise under the 18-inch scenario. All alternatives anticipate the same residential and job growth.

Although the alternatives anticipate different levels of development, the flooding impacts would be the same amongst the alternatives because impacts would be localized to the first floor of the structure.

FLOODING

Flooding events, and their severity, are predicted to become more intense as a result of the changing climate. Forecasts indicate that more intense rainfall events will occur more frequently, increasing localized flooding events that impact infrastructure, buildings, and people. According to California’s Fourth Climate Change Assessment, and as restated in the 2020 CAP, the state’s water system is structured and operated to balance between water storage for dry months and flood protection during rainy months. Although climate change is likely to lead to a drier climate overall, risks from regular, more intense rainfall events can generate more frequent and/or more severe flooding that upsets this managed balance between storage and protection. Additionally,

erosion may increase, and water quality may decrease as a result of increased rainfall.²⁵

As shown on Figure 25, several study areas are located within areas at risk of a FEMA 100-year flood, and several are within areas at risk of both a FEMA 100-year flood to of sea level rise inundation. The study areas located in these susceptible areas of San Mateo are listed below, along with the implications for each given development potential under the three alternatives.

- Small portions of Study Area 3 are susceptible to flooding as reported by FEMA. These areas include south of State Route 92 and west of the railroad tracks.
- Some portions of Study Area 4 are susceptible to FEMA 100-year flooding and some areas are susceptible to both FEMA 100-year flooding and sea level rise. Areas susceptible to only the FEMA 100-year floods are located directly north of the San Mateo Caltrain Station. Alternatives A and B designate these areas as Residential Medium while Alternative C designates this area as Residential Low.
- The vast majority of Study Area 7 is located in both a FEMA 100-year flood zone and an area susceptible to sea level rise. The alternatives for Study Area 7 include a mix of densifying land uses. Refer to Section 5.5 for more information on land uses that may be impacted from flooding in this Study Area.
- Study Area 8 is susceptible to both FEMA 100-year flood zones and sea level rise only on the far eastern portion. The alternatives in this portion of Study Area 8 are all similar.

- The southeast portion of Study Area 9 is susceptible to both the FEMA 100-year flood zone and sea level rise. All three alternatives include office medium land uses and residential low in this portion of Study Area 9. Alternatives A and C also include commercial neighborhood.
- A small portion of Study Area 10, on the northwestern border, is susceptible to both the FEMA 100-year flood zone and to sea level rise. All three alternatives anticipate the same residential medium development in this area.

Although the alternatives anticipate different levels of development, the sea level rise impacts would be the same amongst the alternatives because impacts would be localized to the first floor of the structure.

WILDFIRE RISK

Wildfire risk is based on a combination of factors including rainfall, winds, temperature, and vegetation. According to California Fourth Climate Change Assessment, higher temperatures, longer dry periods, and increased frequency of high velocity winds over a longer fire season will directly increase wildfire risk. Indirectly, wildfire risk will also be influenced by potential climate-related changes in vegetation and ignition potential from lightning. Historically, the annual average area burned in San Mateo was 50 acres. According to CalAdapt, under higher emissions scenario, this could increase to an average annual burn area of 73 acres by 2050 and 133 acres by 2100. The hills behind San Mateo are also expected to see an increase in wildfire frequency, and fires in this area could cause damage in the community or impact local air quality.²⁶

²⁵ City of San Mateo, April 2020, 2020 Climate Action Plan, <https://www.cityofsanmateo.org/DocumentCenter/View/80652/2020-Climate-Action-Plan?bidId=>, page 18, accessed on September 21, 2021.

²⁶ City of San Mateo, April 2020, 2020 Climate Action Plan, <https://www.cityofsanmateo.org/DocumentCenter/View/80652/2020-Climate-Action-Plan?bidId=>, page 21, accessed on September 21, 2021.

Areas in San Mateo that are at risk of wildfire are located to the west of State Route 92. There are no Study Areas located within a Very High Fire Hazard Severity Zones as currently mapped by CAL FIRE.²⁷ However, Study Area 6 is located within the Wildland Urban Interface²⁸. The Interface zone covers places that have dense housing next to vegetation that can burn in a wildfire.

POLICY CONSIDERATIONS

The City could consider policies and actions in the General Plan Update to reduce the impacts of sea level rise, flooding, and wildfire hazards:

- Work with regional partners like the San Mateo County Flood and Sea Level Rise Resiliency District, San Francisco Bay Conservation and Development Commission (BCDC), and BayAdapt to develop coordinated sea level rise adaptation measures and programs.
- Seek nature-based sea level rise mitigation and adaptation strategies where possible.
- Require sea level rise projections and analyses as part of City development and environmental review processes in areas subject to sea level rise. Incorporate sea level rise mapping into the City's geographic information system so it can be accessed by City staff, applicants, and the community.
- Work with neighborhood associations, realtors, community-based organizations, and property owners to provide information about potential property risks and mitigation options for increased flooding due to sea level rise.

- Incentivize low impact development in the City in order to reduce stormwater runoff that can cause flooding.
- Require all development in and adjacent to designated wildlands fire areas to provide access and defensible space in accordance with California Codes and local ordinances.
- Maintain the City's emergency readiness and response capabilities, especially regarding hazardous materials spills, natural gas pipeline ruptures, fire hazards, wildland fire risk, earthquakes, pandemics, and flooding.
- Maintain the City's Continuity of Operations / Continuity of Government Plan to ensure that the City government can operate during and after hazard events to provide resources and guidance for recovery and reconstruction.

5.6 EQUITY AND PUBLIC HEALTH

Low-income residents, communities of color, indigenous peoples and tribal nations, and immigrant communities have disproportionately experienced greater environmental burdens and related health problems throughout the history of California. This inequity is the result of many historical factors: inappropriate zoning and negligent land use planning, failure to enforce proper zoning or conduct regular inspections, deed restrictions and other discriminatory housing and lending practices, limited political and economic power among certain demographics, the prioritization of business interests over public health, development patterns that tend to concentrate pollution and environmental hazards in certain communities, and the placement of economic and environmental benefits in more affluent areas.

²⁷ According to the City's Fire Marshal, State maps are expected to increase the hazard level in certain areas in San Mateo from a high hazard wildland fire severity zone to a very high hazard severity zone. This section is based on the data currently publicly available.

²⁸ CalFire, 2019, Wildland-Urban Interface, <https://mtc.maps.arcgis.com/apps/mapviewer/index.html?layers=d45bf08448354073a26675776f2d09cb>, accessed on December 12, 2021.

HOUSING VULNERABILITY AND DISPLACEMENT

Government policies, exclusionary tactics, and disparate treatments have long been key components of the housing system which encouraged developmental inequity based on race. Since the 1930s, systematic redlining, restrictive covenants in private land sales (i.e., prohibiting sale of property to a particular group of people, usually people of color), and residential segregation restricted many nonwhite groups from accessing socioeconomic opportunity and meaningful fair housing choice. Congress enacted the Fair Housing Act of 1968 to limit the overt housing discrimination as mentioned previously; however, residential segregation has persisted through hidden discriminatory practices that reinforce patterns of segregation in California. AB 686, Affirmatively Further Fair Housing, amends the Government Code to alleviate these subtle patterns of discrimination.

AB 686 amended Housing Element law to affirmatively further fair housing (AFFH) by creating additional new requirements that address: community outreach, assessment of fair housing, sites inventory, identification and prioritization of contributing factors, and goals and actions to further fair housing. The Housing Element update, being conducted in parallel with the General Plan Update, will be required to respond to the requirements of AB 686.

The Urban Displacement Project (UDP) is a research and action initiative of UC Berkeley seeking to understand and describe the nature of gentrification, displacement, and exclusion, and to generate knowledge on how policy interventions and investment can respond and support more equitable development.²⁹ Urban Displacement Project researchers have created interactive maps of gentrification and displacement potential at the census tract level. Table 26 describes the

current methodology and the criteria used identify a census tract as a certain type. The map for the City of San Mateo is shown on Figure 26. These maps are intended to frame conversations around issues of gentrification, displacement, and exclusion and to inform strategies to mitigate the negative impacts of housing instability.³⁰ To read more about this methodology, please go to Urban Displacement's website at <https://www.urbandisplacement.org/san-francisco/sf-bay-area-gentrification-and-displacement>

Displacement as a result of gentrification is a concern in neighborhoods that are densifying in order to provide efficient, sustainable infill development close to transit. Displacement can take many forms. In some cases, residents of existing buildings are physically displaced when the building is demolished to be replaced with new construction. Displacement can also happen generationally, when parents or grandparents sell a family home and younger generations cannot afford to rent or buy in the same community. Over time, the neighborhood sees a less diverse mix of low- and moderate-income households as only high-income households can afford housing. Data on the effects of upzoning and of increasing housing construction on displacement in the Bay Area is inconclusive. Research has found that while “transit-induced” gentrification is not “pervasive,” it is estimated that “11.5 percent of transit neighborhoods in the Bay Area... experienced residential gentrification between 1990 and 2000 and/or 2000 and 2013.”³¹ All three alternatives contemplate some amount of infill redevelopment, especially in areas close to transit, so all three alternatives would have the potential to increase displacement and to replace existing units that are affordable or less expensive with new units that would be more expensive.

²⁹ Berkeley, University of California, accessed October 1st, 2021, “Urban Displacement Landing Page,” urbandisplacement.org.

³⁰ Berkeley, University of California, accessed October 1st, 2021, “Urban Displacement San Francisco Bay Area gentrification and Displacement,” [urbandisplacement.org](https://www.urbandisplacement.org/san-francisco/sf-bay-area-gentrification-and-displacement), <https://www.urbandisplacement.org/san-francisco/sf-bay-area-gentrification-and-displacement>

³¹ Zuk, M., Loukaitou-Sideris, A., & Chapple, K. (2019). Safeguarding against Displacement: Stabilizing Transit Neighborhoods. In K. Chapple & A. Loukaitou-Sideris (Ed.), *Transit-Oriented Displacement or Community Dividends? Understanding the Effects of Smarter Growth on Communities* (pp. 243-266). Cambridge: MIT Press

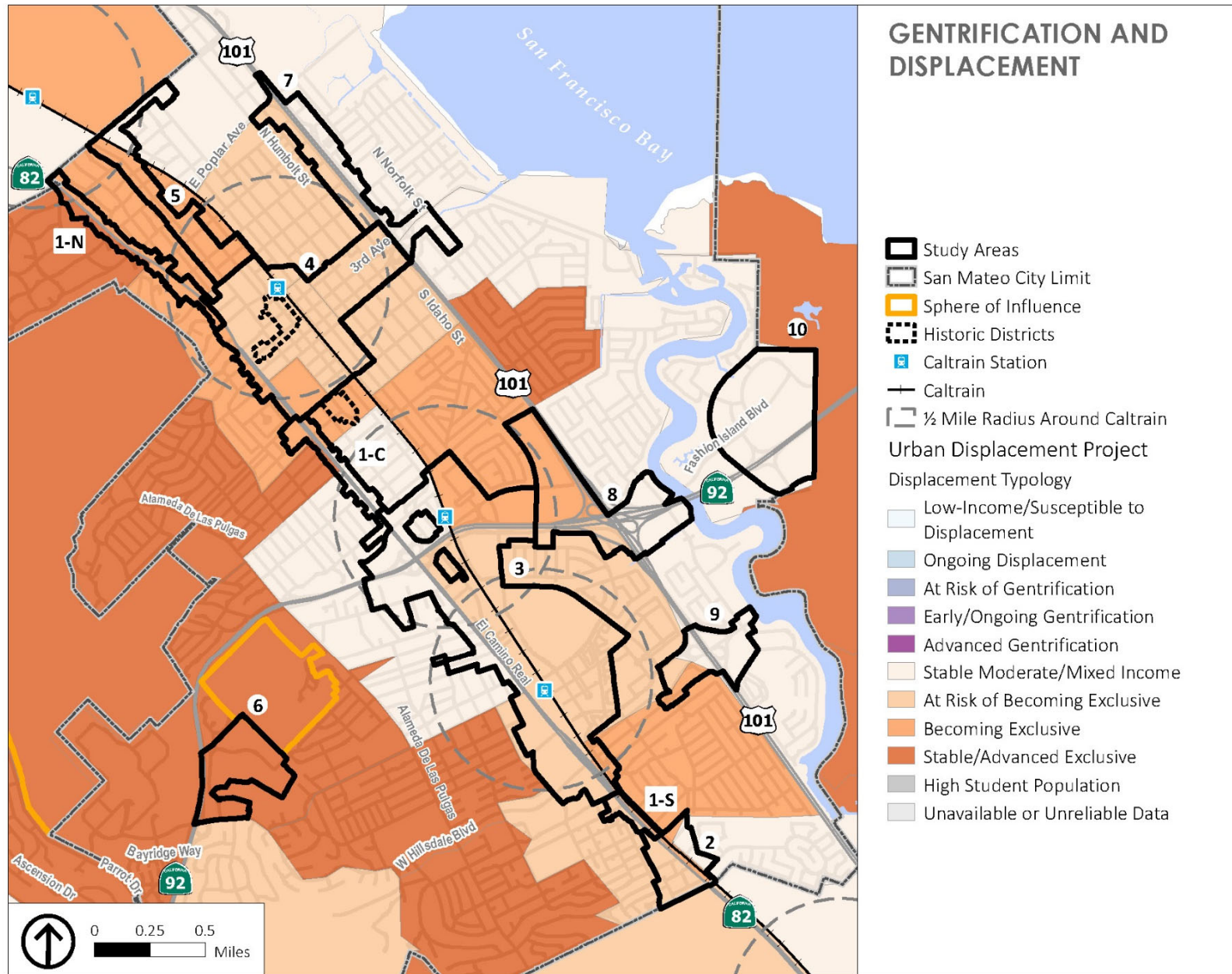
It is important to note that preventing any physical change at all does not by itself prevent displacement. Housing cost is a key factor driving displacement. When no new homes or commercial spaces are available, the prices of the finite supply of existing homes and commercial spaces increases rapidly, which often puts extreme pressure on existing residents and businesses.

Table 26 Urban Displacement Typologies

Modified Types	Criteria
Low-income / Susceptible to Displacement	<ul style="list-style-type: none"> • Low or mixed low-income tract in 2018
Ongoing Displacement of Low-income Households	<ul style="list-style-type: none"> • Low or mixed low-income tract in 2018 • Absolute loss of low-income households, 2000-2018
At Risk of Gentrification	<ul style="list-style-type: none"> • Low-income or mixed low-income tract in 2018 • Housing affordable to low or mixed low-income households in 2018 • Didn't gentrify 1990-2000 OR 2000-2018 • Marginal change in housing costs OR Zillow home or rental value increases in the 90th percentile between 2012-2018 • Local and nearby increases in rent were greater than the regional median between 2012-2018 OR the 2018 rent gaps greater than the regional median rent gap
Early / Ongoing Gentrification	<ul style="list-style-type: none"> • Low-income or mixed low-income tract in 2018 • Housing affordable to moderate or mixed moderate-income households in 2018 • Increase or rapid increase in housing costs OR above regional median change in Zillow home or rental values between 2012-2018 • Gentrified in 1990-2000 or 2000-2018
Advanced Gentrification	<ul style="list-style-type: none"> • Moderate, mixed moderate, mixed high, or high-income tract in 2018 • Housing affordable to middle, high, mixed moderate, and mixed high-income households in 2018 • Marginal change, increase, or rapid increase in housing costs • Gentrified in 1990-2000 or 2000-2018

Modified Types	Criteria
Stable Moderate / Mixed Income	<ul style="list-style-type: none"> • Moderate, mixed moderate, mixed high, or high-income tract in 2018
At Risk of Becoming Exclusive	<ul style="list-style-type: none"> • Moderate, mixed moderate, mixed high, or high-income tract in 2018 • Housing affordable to middle, high, mixed moderate, and mixed high-income households in 2018 • Marginal change or increase in housing costs
Becoming Exclusive	<ul style="list-style-type: none"> • Moderate, mixed moderate, mixed high, or high-income tract in 2018 • Housing affordable to middle, high, mixed moderate, and mixed high-income households in 2018 • Rapid increase in housing costs • Absolute loss of low-income households, 2000-2018 • Declining low-income in-migration rate, 2012-2018 • Median income higher in 2018 than in 2000
Stable / Advanced Exclusive	<ul style="list-style-type: none"> • High-income tract in 2000 and 2018 • Affordable to high or mixed high-income households in 2018 • Marginal change, increase, or rapid increase in housing costs

Figure 26. Gentrification and Displacement Typologies in San Mateo



To mitigate displacement, proactive and reactive policies and programs intended to keep housing costs affordable and to offer residents housing security are likely to make a bigger difference than the specific amount or type of land use changes allowed by the General Plan. Researchers with the Urban Displacement Project have studied the effectiveness of anti-displacement policies in four broad categories:³²

- **Building new affordable housing.** The City has many tools in place already to support new affordable housing, including inclusionary zoning that requires 15 percent of units in new multifamily housing construction to be affordable, density bonuses allowed for new development that includes a minimum number of affordable units, providing City-owned sites for construction of affordable housing, and fees on commercial development to fund new affordable housing. In 2021, 388 affordable units are approved or under construction in San Mateo.
- **Preserving existing units that are affordable,** including through programs like the ones the City has in place to extend affordability covenants of existing affordable units and to provide grants and loans to low-income homeowners for rehabilitation.
- **Stabilizing neighborhoods.** The City provides down payment assistance through the First Time Homebuyer program; enforces City and State codes to improve homes and neighborhoods and provides tenant relocation assistance to tenants displaced due to code enforcement actions; funds HIP (Human Investment Project) Housing, a local non-profit matching home seekers with those offering space for home sharing; and contracts with Project Sentinel to provide tenant counseling, Fair Housing services, monitoring and investigation.

- **Minimizing commercial displacement** by helping businesses stay open or relocate during construction and by offering technical support to attract and retain local businesses as redevelopment occurs.

Overall, Alternative A represents the least change throughout the Study Areas. On one hand, the least change may lead to the least physical displacement through redevelopment. However, Alternative A will also include the least amount of new housing, including less affordable housing, as shown in Table 27. Limiting the construction of new housing could result in continued increases in rental and for-sale housing prices.

In general, Alternative B spreads medium-density, medium-height development throughout the Study Areas, in contrast to Alternative C that concentrates higher densities and heights in central San Mateo along El Camino Real and near the Caltrain stations. The footprint of development and the location and number of individual sites subject to redevelopment, and therefore displacement, could be similar under Alternative B as Alternative C; the difference would be that Alternative B would place a lower amount of new development on those sites than would Alternative C.

Alternative C allows the greatest amount of new development and new housing. While redevelopment would be more intensive in some Study Areas than others, all Study Areas would see the greatest amount of change and redevelopment under Alternative C. Because of San Mateo's inclusionary housing requirements, the highest amount of new affordable housing would be added under Alternative C.

³² Zuk, M., Loukaitou-Sideris, A., & Chapple, K. (2019). Safeguarding against Displacement: Stabilizing Transit Neighborhoods. In K. Chapple & A. Loukaitou-Sideris (Ed.), *Transit-Oriented Displacement or Community Dividends? Understanding the Effects of Smarter Growth on Communities* (pp. 243-266). Cambridge: MIT Press

Table 27 Inclusionary Units under Each Alternative

Alternative	Total Housing Units	Minus ADUs	Multifamily Housing Units	Affordable Housing Units (15% of multifamily based on inclusionary Requirement)
A	+11,810	1,000	10,810	1,622
B	+16,070	1,250	14,820	2,223
C	+21,080	1,000	20,080	3,012

The pressures of displacement, gentrification, and exclusion are not isolated in the study areas. Future changes within the study areas will affect other neighborhoods in San Mateo. During the alternatives creation process, community members expressed particular concern about potential gentrification and displacement within the North Central neighborhood, influenced by development in Study Areas 4, 5, and 7 which surround it. Because sites in North Central are not considered for change under any alternatives, none of the alternatives would directly displace residents through redevelopment. Alternative C may have the most potential benefit to low-income families in North Central (and other San Mateo neighborhoods) since it would provide the greatest amount of new affordable housing. However, as with land use changes within the Study Areas, it is probable that policies and programs to prevent and mitigate displacement will have a stronger effect on outcomes in North Central than the differences in land use among the three alternatives.

BICYCLE AND PEDESTRIAN SAFETY

Overall outcomes under each alternative for people who walk and ride bikes are discussed in section 5.2, Traffic and Multimodal Circulation, above. Bicycle and pedestrian safety is also addressed here as an equity issue because all San Mateo residents should have safe and convenient opportunities to bike and walk for transportation, exercise, or pleasure. SB 1000, the 2016 law that requires General Plans to

address environmental justice, calls for the City to reduce health risks in disadvantaged neighborhoods by improving air quality and promoting physical activity. For households without access to a car, it is critical to be able to bike or walk safely to school, work, shopping, and transit.

Bicycle and pedestrian collisions in San Mateo between 2015 and 2020 are shown in Figures 27 and 28 respectively. There was one fatal bicycle collision in this period at South Norfolk Street and SR 92. There were 115 bicycle injury collisions. The most reoccurring bicycle collision factors were automobile right of way (15 percent), unsafe speed (15 percent), wrong side of road (25 percent), improper turning (9 percent), and traffic signal and signs (8 percent). Injury collisions were concentrated on El Camino Real south of SR 92, in the Downtown core, and on Hillsdale Boulevard near US Highway 101.

From 2015 to 2020 there were eight pedestrian fatalities and a total of 197 injury collisions. The most frequent collision factor was violation of pedestrian right-of-way (65 percent), which means the other party in the collision did not yield to a pedestrian or intruded on the pedestrian’s space to cause the collision. The fatalities occurred on streets with high speeds and vehicle volumes: three on El Camino Real (in Study Area 3), three in Study Area 7, two at US Highway 101, and one at Norfolk Street (Study Area 7). The map of collision locations reveals high collision concentration areas: San Mateo’s Downtown (Study Area 4), the North Central part of the City near San Mateo High School, along San Mateo Drive (Study Area 5), and along El Camino Real from Downtown San Mateo to Hillsdale Boulevard (Study Areas 1 and 3). The concentration of pedestrian collisions in Study Area 4 is most likely due to a high rate of walking combined with high volumes of auto traffic. These clusters of collisions highlight the need for infrastructure improvements in their respective areas. The City’s adopted Pedestrian Master Plan, the upcoming Complete Streets Plan, and the General Plan Update could add further policy guidance to help improve pedestrian safety.

Many factors affect bicycle and pedestrian safety, including how many vehicles there are in an area, street design, street lighting, and speed limits. Speed is the single most significant factor that determines the severity of a collision. Research into the relationship between land use and traffic safety has not demonstrated clear links between specific land uses, densities, or heights and traffic safety outcomes. In studies of pedestrian safety, some find that increased population density is correlated with increased traffic collisions, others find that increased population density is correlated with decreased traffic collisions, some find mixed results, and some find population density statistically insignificant.³³ On one hand, adding more development to a study area by allowing higher-density development would bring more people to the area, increasing the chances for a collision to occur. On the other hand, adding mixed-use development, especially near transit, can reduce the need to drive, getting more people out of their cars and reducing the risk of collision. In areas such as Downtown where biking and walkability is prioritized, measures to reduce vehicle speed, reduce conflicts between cars, bicycle, and pedestrians. Improving bicycle and pedestrian comfort would have a much stronger effect on bicycle and pedestrian safety than would the variations in land use designations and intensities among the alternatives. There is not sufficient data available to support a conclusion that one of the land use alternatives would be significantly more likely to improve or to worsen pedestrian and bicycle safety, because pedestrian and bicycle safety is more directly affected by non-land use factors such as street design, street lighting, and vehicle speeds.

The circulation alternatives provide a more direct connection to influencing pedestrian and bicyclist safety. Out of all three circulation alternatives, Circulation Alternative C would have the highest multi-modal benefit because it anticipates the most pedestrian, bicycle, and transit improvements. Circulation Alternative A would result in the

second highest amount of pedestrian improvements when compared to the other two circulation alternatives. Circulation Alternatives A and C include more bicycle improvements than Circulation Alternative B. All circulation alternatives include good bicycle network coverage through the adopted Bike Master Plan, and Circulation Alternative A and Circulation Alternative C have the potential to improve upon that with a future study of an El Camino Real bike lane and other improvements. Circulation Alternative B performs the lowest in improvement pedestrian safety and connectivity.

³³ Erick Guerra, Xiaoxia Dong, and Michelle Kondo. 2019. "Do Denser Neighborhoods Have Safer Streets? Population Density and Traffic Safety in the Philadelphia Region." *Journal of Planning Education and Research*.

Figure 27. Bicycle Collisions

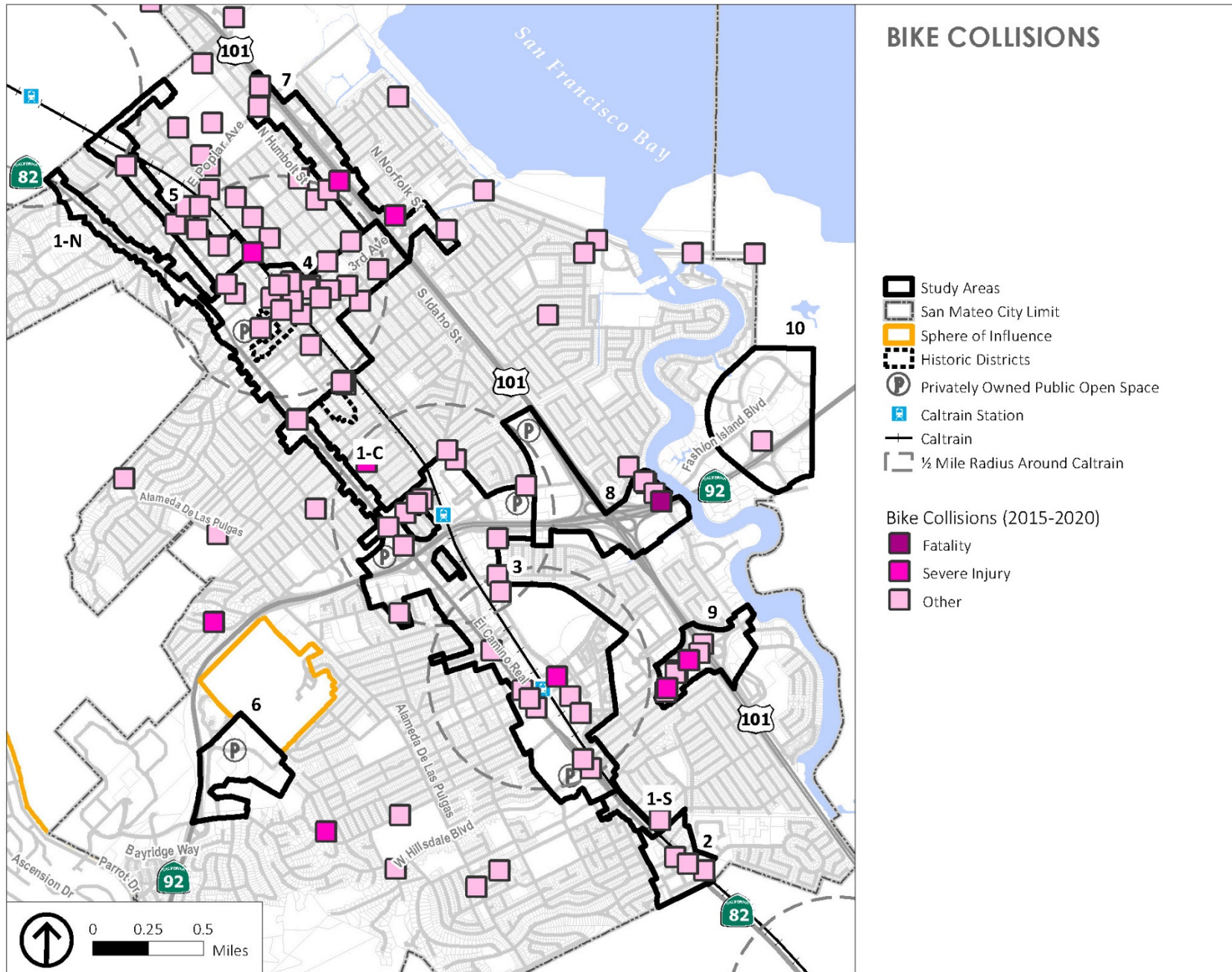
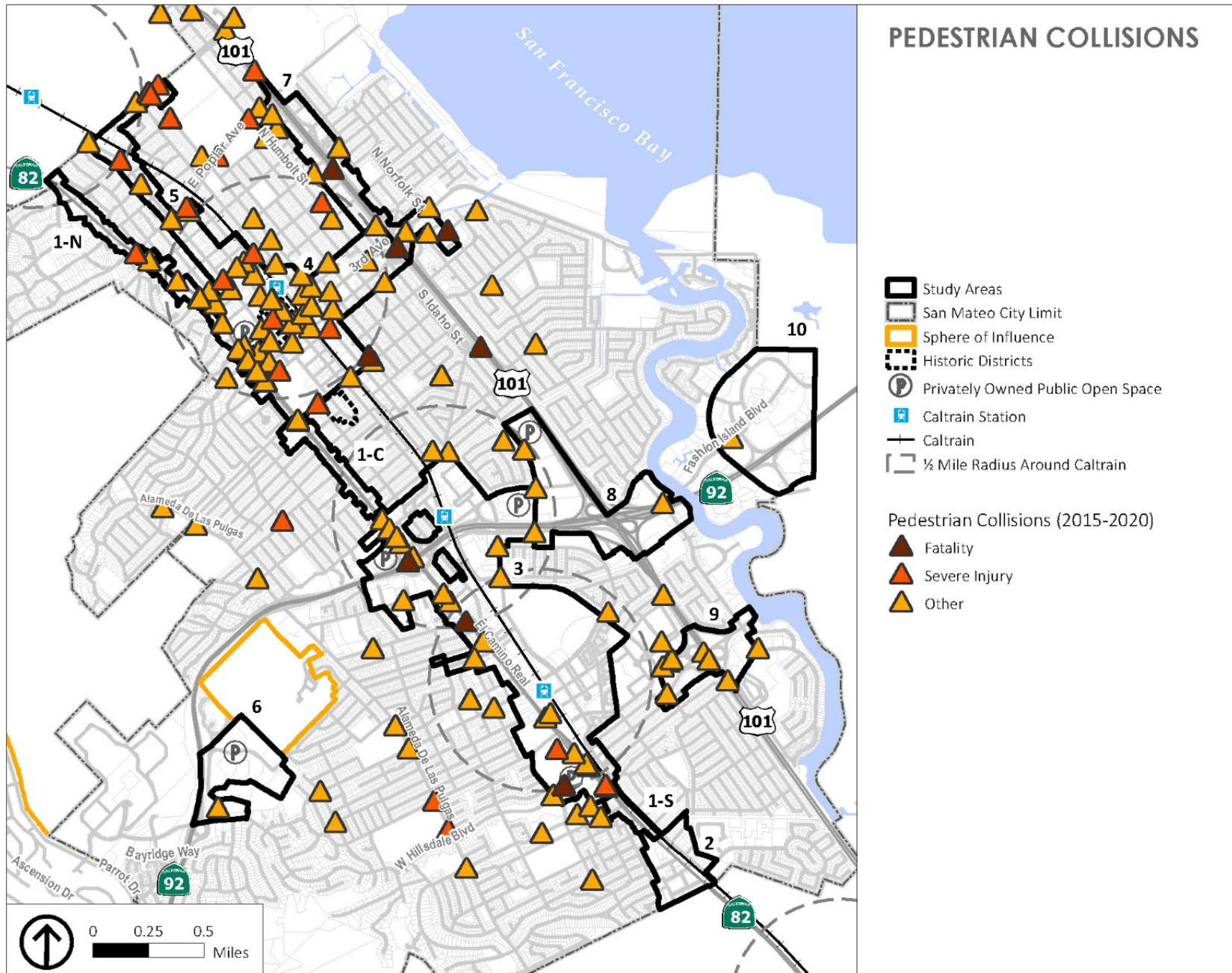


Figure 28. Pedestrian Collisions



POLLUTION BURDEN

This section references [CalEnviroScreen 4.0](#), California's primary environmental justice screening tool. CalEnviroScreen calculates the relationship between exposure to pollution, or "pollution burden," and population characteristics such as poverty, educational attainment, and age, to arrive at a combined score for every Census tract in California. In general, the higher the score, the more impacted a community is. Overall combined scores for Census tracts in San Mateo range from 78 percent in the North Central neighborhood to 1 in the San Mateo Park, Baywood, and Aragon neighborhoods. Figure 29 shows the range of combined scores in Census tracts in San Mateo.

This section will focus on the evaluation of three pollution indicators for which some Census tracts in San Mateo have high scores: traffic density, diesel particulate matter (PM), and groundwater threats.

TRAFFIC DENSITY AND DIESEL PARTICULATE MATTER

While California has strict vehicle-emissions standards, exhaust from cars and trucks is the main source of air pollution in much of the state. Major roads and highways bring air pollutants and noise into nearby neighborhoods. Children who live or go to schools near busy roads have higher rates of asthma than children in areas farther from roads.³⁴ Traffic density percentile scores at or above 75 percent are concentrated along Highway 101 and Highway 92, as shown in Figure 30. Percentile scores above 90 percent are concentrated around the 101 and 92 interchange and in north San Mateo near the Poplar Creek Golf Course. Study Areas 7 and 8 are the most severely affected by traffic emissions, but pollutant emissions from traffic affect Study Areas 1, 2, 3, 4, 5, and 9.

One pollutant of concern is Diesel Particulate Matter (DPM), which is in the exhaust from trucks, buses, trains, and other equipment with diesel

engines. DPM contains many harmful chemicals. Study Areas 1, 3, 4, 8, and 9 all include Census tracts with scores over 75 percent, meaning that exposure to DPM in these Census tracts is higher than 75 percent of the Census tracts in California. In particular, the census tract bounded by Highway 101, Highway 92, and El Camino Real, which is in Study Area 3, has the highest DPM score in San Mateo at 95 percent. Within Study Area 3, Alternative A would add the fewest new residents and Alternative C would add the most.

GROUNDWATER THREATS

Groundwater threats are dangerous substances, often hazardous chemicals, that can negatively impact the groundwater of a community. These chemicals include gasoline and diesel fuels at gas stations, chemicals used in dry cleaning, as well as heavy metals, pesticides, and solvents. Even though most of these hazardous chemicals are typically stored in containers, and the threat is that leaks from tank can lead to soil and groundwater contamination. Leaking tanks can affect drinking water and expose people to contaminated soil and air. The level of threat in San Mateo indicates that there is potential for leaks to occur but is not a measure of contamination that has already happened. Contamination that has occurred in the past is captured in a different CalEnviroScreen indicator that looks at the number and weight of toxic cleanup sites in or near a Census tract. Cleanup site scores in San Mateo range from a high of 61 percent in North Central, meaning the number and type of cleanup sites is higher than 61 percent of the census tracts in California, to a low of 0 in San Mateo Park and Baywood Census tracts.

³⁴ California Office of Environmental Health Hazard, June 11, 2021, accessed September 30, 2021. "Draft CalEnviroScreen 4.0 Traffic Indicator for San Mateo," [oehha.ca.gov](https://oehha.ca.gov/calenviroscreen/report/draft-calenviroscreen-40), <https://oehha.ca.gov/calenviroscreen/report/draft-calenviroscreen-40>

Figure 29. CalEnviroScreen Combined Scores

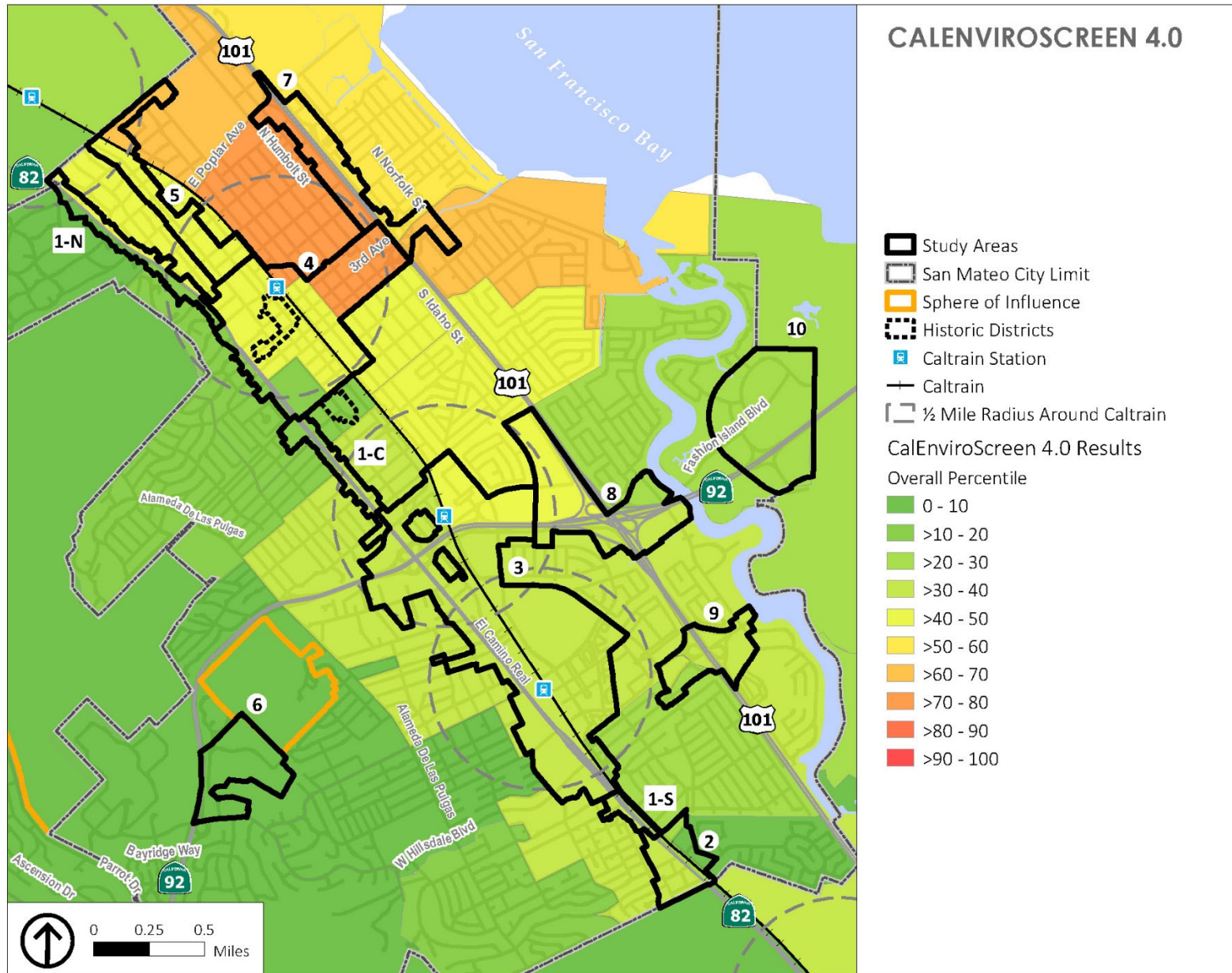
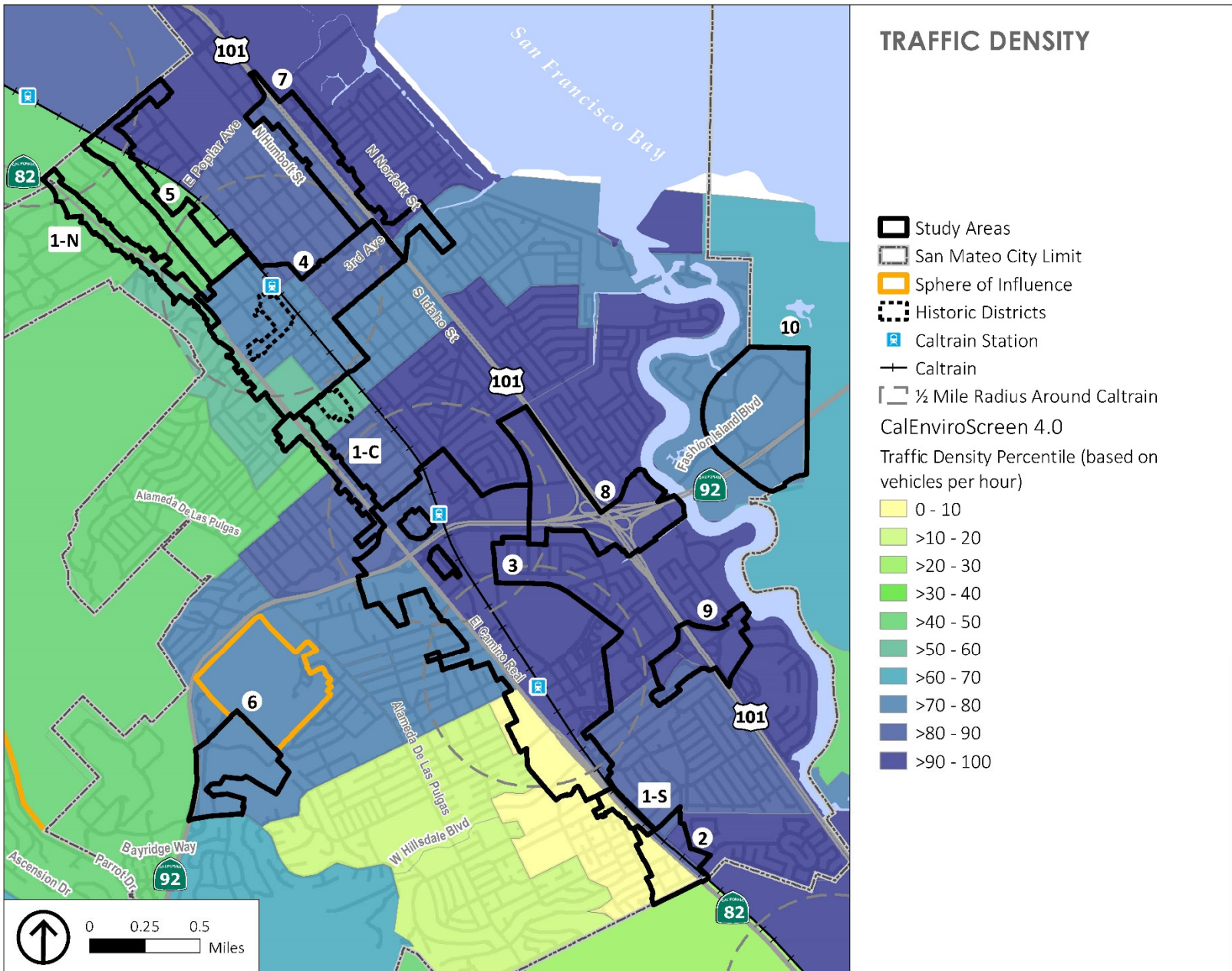


Figure 30. Traffic Density and Pollutant Exposure



As shown on Figure 31, Study Areas 1, 3, 4, 5, 7, 8, and 9 include Census tracts with percentile scores at or above 90 percent for groundwater threats, indicating that the number and type of groundwater threats in these areas are higher than approximately 90 percent of the other Census tracts in California. It is important to understand that San Mateo does not use groundwater for drinking water. San Mateo's drinking water is surface water imported from other parts of California, and San Mateo's drinking water is very clean. Therefore, there is no risk to human health from drinking potentially contaminated groundwater in San Mateo. Instead, human health could be at risk if groundwater were to first be contaminated and then exposed through excavation or construction of new development. There are a number of well-established practices for protecting workers and residents from groundwater and groundwater vapor both during construction and after a building is occupied, such as vapor barriers.

Assuming that regulations and best practices for preventing groundwater and vapor intrusion are followed, the risks to human health from potential groundwater contamination would not differ among the alternatives and all alternatives would have similar risks.

ACCESS TO PARKS AND OPEN SPACE

Parks and Open Spaces are important natural resources, providing approximately 420 acres of parks and open space within the City and many miles of paths and trails. Even though San Mateo parks and open space are free and accessible, they are not equitably accessible for everyone. Park and open space access is an important environmental justice issue because proximity to park and open space has been linked in increase inactive behaviors, and positive impacts on health outcomes such as lower rates of cardiovascular disease, diabetes, and obesity.³⁵ Figure 24, in the previous Public Services section, illustrates park access in San Mateo. Areas that are within a ¼ mile walking distance of

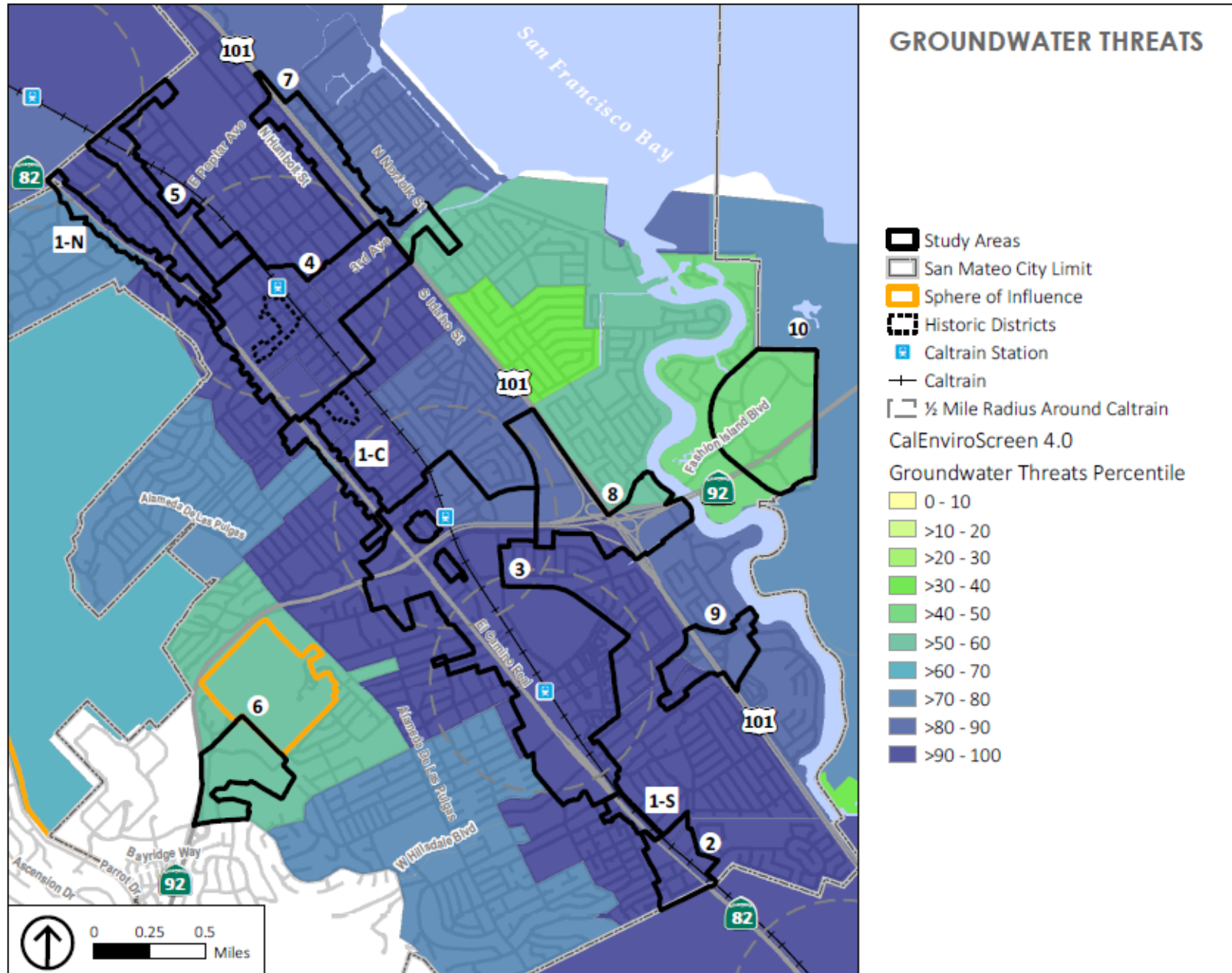
an existing park are shown in light green, areas between ¼ mile and ½ mile are in light gold, and areas beyond ½ mile walking distance to a park are in dark gold. Note that Figure 24 focuses on walking distance via existing streets. So, for example, although parts of Study Area 8 are close to Fiesta Meadows Park or Connie Park, there are no existing connections that would allow future residents in Study Area 8 to walk less than ½ mile to reach either park.

As shown in Figure 24, areas at the outskirts of the City and along the Highway 101 corridor have to walk the farthest to reach existing parks. While parks are an important amenity for both residents and workers in San Mateo, this equity analysis focuses on those who live in San Mateo.

- Study Areas 1-C, 3, and 4 near the center of San Mateo have the best walkable access to existing parks. Alternative C would add the most new residents in Study Areas 3 and 4; Alternative B would add the most new residents in 1-N.
- Although it is on the periphery, the northern edge of Study Area 10 has good access to Mariners Island Park. All alternatives add the same number of residents in Study Area 10.
- About half of Study Areas 5, 7, 8, and 9 are within a ½ mile of a park, and the remainder is outside the ½ mile walking distance. Alternative C adds the most new residents in Study Areas 5 and 7, while Alternative B adds the most new residents in Study Areas 8 and 9.
- Study Areas 1-N, 1-S, 2, and 6 are almost entirely outside of a ½-mile walking distance from any existing park. In these low-access areas, Alternative B adds the most new residents in Study Areas 1-N, 1-S, and 2. Alternative C adds the most new residents in Study Area 6.

³⁵ Maroko, A.R., Maantay, J.A., Sohler, N.L. et al. The complexities of measuring access to parks and physical activity sites in New York City: a quantitative and qualitative approach. *Int J Health Geogr* 8, 34 (2009). <https://doi.org/10.1186/1476-072X-8-34>

Figure 31. Groundwater Threats



- Alternative A would add the fewest new residents in Study Areas 1 through 9 and therefore the fewest new residents in both Study Areas with high walkable park access and Study Areas with low walkable park access.

POLICY CONSIDERATIONS

- Maintain City policies that protect against displacement, including building new affordable housing units, preserving existing affordable units, providing support to tenants and landlords, and supporting local businesses.
- Continue to improve the safety of San Mateo streets and sidewalks, including through improvements called for in the adopted Citywide Pedestrian Master Plan and Bicycle Master Plan.
- Consider requirements for health risk assessments, including consideration of diesel particulate matter and other air pollutants, when a project potentially affects sensitive receptors.
- Requiring the cleanup of contaminated sites when the site is developed or redeveloped.
- When planning for future development in areas that are more than ½ mile walking distance from a park, the City should consider ways to improve connections to existing parks and work with applicants to include publicly accessible private open space as part of their projects.
- Explore opportunities for joint use agreements with local School Districts to increase access to playgrounds and fields.