
SFTP 2050: APPENDIX D

Equity Evaluation

Introduction

The San Francisco Transportation Plan (SFTP) is the citywide long-range investment and policy blueprint for San Francisco's transportation system. The plan considers all transportation modes, transit operators, and streets and freeways. The SFTP 2050 establishes the city's transportation investment priorities for the next 30 years and will position San Francisco for regional, state, and federal funding. The SFTP is updated every four years, along with Plan Bay Area (PBA), the region's long-range plan.

The SFTP 2050 is part of ConnectSF,¹ a multi-agency collaborative process to build an effective, equitable, and sustainable transportation system for San Francisco's future. This memo documents how equity, a central goal of ConnectSF, is incorporated and evaluated in the SFTP 2050.

EQUITY IN PAST SFTPS

Equity has been important to San Francisco's previous long-range transportation plans, however, the city's strategy for incorporating equity has evolved with each plan.

2004 Countywide Plan

The 2004 Countywide Plan included a goal to "ensure equity in transportation investments through a broad distribution of benefits among all city residents; minimizing the negative impacts of transportation." Key system performance measures were evaluated for target populations (low-income households; zero car households; female-headed households with children; and minority households). Analysis showed how the Countywide Plan performed differently for different groups.

2013 SFTP

The 2013 SFTP analyzed how transportation conditions such as safety, transit access, and reliability vary geographically in San Francisco. Conditions were compared between neighborhoods and for Communities of Concern – areas of the city with high concentrations of populations that could be considered disadvantaged or vulnerable (now called Equity Priority Communities or EPCs).² Results from the comparison helped shape the investment scenarios and funding was prioritized for projects which addressed identified inequities in the existing transportation system.

2017 SFTP Update

The 2017 SFTP Update combined a progress report on activities recommended in the 2013 SFTP with an updated look at sector needs and trends. The 2017 plan highlighted equity-focused studies designed to address the disparities identified in

1 <https://connectsf.org/>

2 <https://www.sfcta.org/sites/default/files/2019-06/SFTP%20Appendix%20F%20Transportation%20Equity%20Analysis.pdf>

2013. The 2017 SFTP also revisited project evaluations from 2013 with updated costs, scopes, new projects, and new Communities of Concern (now called Equity Priority Communities or EPCs).

SFTP 2050 and Sales Tax Reauthorization

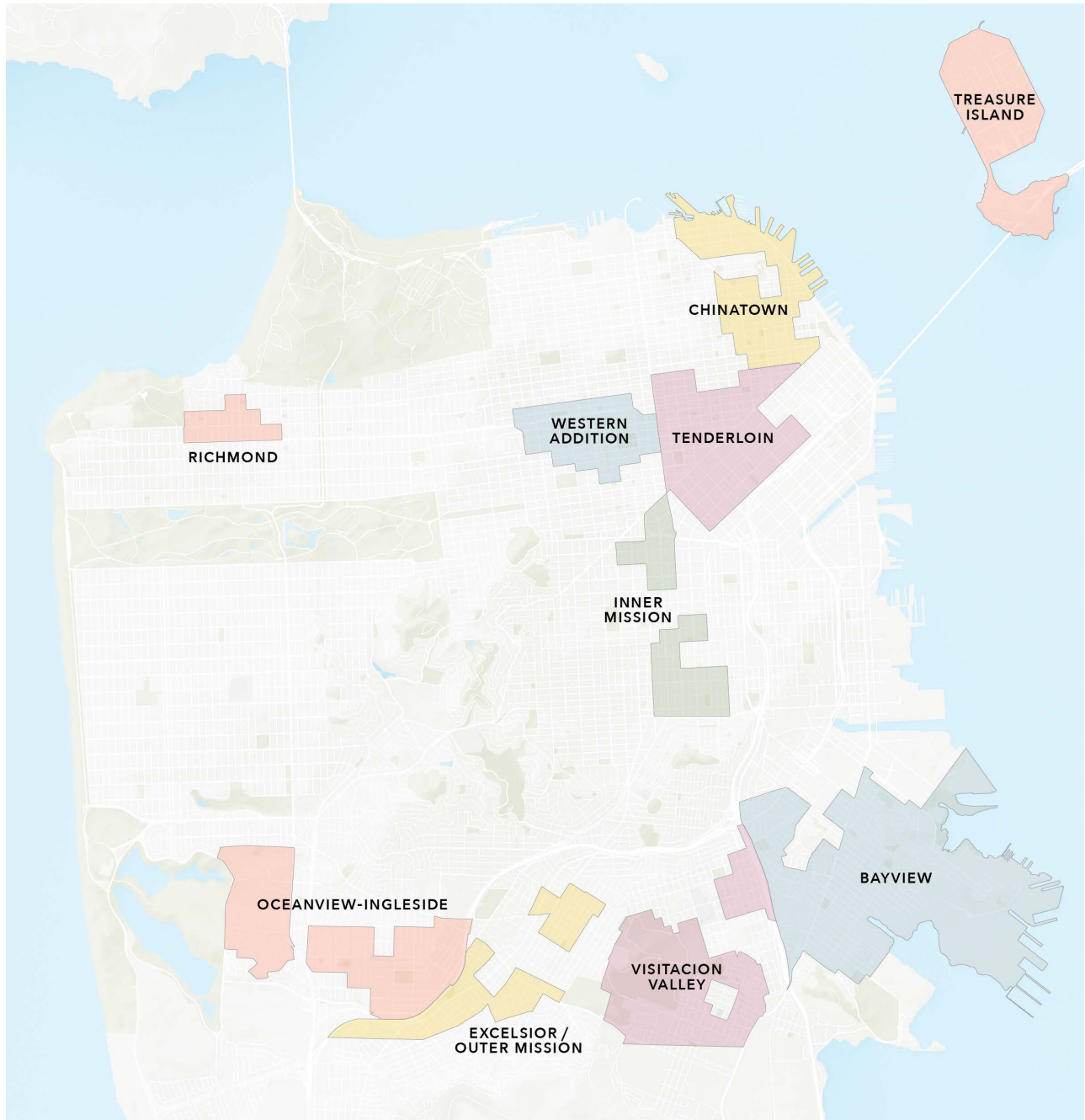
The SFTP 2050 is coordinated with the development of the 2022 Transportation Expenditure Plan. The SFTP defines the City's long-range transportation investment priorities, and the Expenditure Plan articulates which transportation projects will be eligible for local funding under a potential re-authorization of San Francisco's voter approved sales tax, Proposition K. The Expenditure Plan helps implement the priorities and long-term vision for the maintenance, development, and improvement of San Francisco's transportation system, as articulated in the SFTP.

Transportation equity in San francisco now

Equity is one of San Francisco's most important priorities for the transportation system and one of five ConnectSF Goals. To operationalize this goal, the San Francisco County Transportation Authority's (Transportation Authority) conducted an equity assessment for the 2022 Transportation Expenditure Plan,¹ which outlined how the current transportation system is advancing equity and where it falls short for EPCs across the city, shown in Figure 1.

¹ https://www.sfcta.org/sites/default/files/2021-09/SFCTA_Equity-Assessment-for-New-Sales-Tax-Expenditure-Plan_2021-09-17_FINAL.pdf

Figure 1: Equity Priority Community Neighborhoods



SUMMARY OF FINDINGS FROM 2022 TRANSPORTATION EXPENDITURE PLAN EQUITY ASSESSMENT

The Equity Assessment found that transportation needs and challenges vary between EPC neighborhoods in San Francisco. Specific neighborhood needs can also differ from the needs of people with low incomes, people of color, people with disabilities, or other specific groups who live in every part of San Francisco.

- **Accessibility for Low Mobility Individuals:** Most households in Equity Priority Communities near downtown (Western Addition, Tenderloin, Chinatown, Inner Mission) have no vehicle available and rely on transit or other modes of transportation. A disproportionate number of households within Equity Priority Communities include one or more people with disabilities, impacting their options for getting around.
- **Transportation Costs:** Residents in Equity Priority Communities spend a greater percentage of their income on transportation than in other areas of the city. Some of the block groups where this challenge is most acute are in the Chinatown, Tenderloin, Western Addition, and Bayview neighborhoods.
- **Health Outcomes:** Many Equity Priority Communities are at elevated risk of developing cancer due to traffic exhaust in their neighborhoods.¹ The cancer risk is particularly high for the Tenderloin, Chinatown, and Western Addition neighborhoods.
- **Pedestrian and Bicycle Safety:** Most of the high-injury network² is concentrated in northeastern San Francisco, meaning that the Equity Priority Communities within the Tenderloin, Chinatown, Western Addition, and Inner Mission/Soma are disproportionately at risk of pedestrian or bicyclist injuries or fatalities.
- **Travel Time and Job Accessibility:** Equity Priority Communities in the Tenderloin, Chinatown, Western Addition, and Inner Mission neighborhoods have high job access by transit or vehicle because of their proximity to downtown and regional transit. However, within the Equity Priority Communities in the Bayview, Visitacion Valley, Excelsior/Outer Mission, Oceanview-Ingleside and Treasure Island many more jobs are accessible within a 30-minute drive than within 45 minutes on transit.

1 San Francisco Citywide Health Risk Assessment: Technical Support Documentation, accessed at www.sfdph.org/dph/files/EHSdocs/AirQuality/Air_Pollutant_Exposure_Zone_Technical_Documentation_2020.pdf

2 <https://www.visionzerosf.org/maps-data/>

- Need for Robust Outreach:** While this research uncovers many important trends related to equity and transportation needs, addressing the remaining gaps and gaining a clear picture of Prop K's role in advancing equity will require ongoing robust outreach. The transportation needs of Equity Priority Communities differ geographically, suggesting the importance of engaging each Equity Priority Community individually when assessing the impacts of citywide or large-scale projects. Furthermore, while this research focused on geographic concentrations of disadvantage, outreach should solicit the opinions and experiences of the many marginalized individuals that live in less disadvantaged neighborhoods. Ongoing engagement will also be needed to better understand and prevent displacement and gentrification caused by transportation investments.

The 2022 Transportation Expenditure Plan Equity Assessment also found that people of color comprise a larger percentage of the population in Equity Priority Communities than they do in other areas of the city (Table 1). While Black and Hispanic or Latino people make up 2.7% and 11.5% of the population, respectively, in areas that are not Equity Priority Communities, they are 10% and 23% of the population in Equity Priority Communities. Census block groups with a large percentage of Black or Hispanic residents generally align with census block groups that are designated as Equity Priority Communities. The percentage of the population that identifies as Asian, Pacific Islander, Native American, two or more races, or another nonwhite race are also higher in EPCs than other areas.

Table 1: 2020 Race and Ethnicity in EPCs

RACE AND ETHNICITY	EPCS		NON-EPCS		CITYWIDE	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
White Alone	92,594	32%	315,943	53.40%	408,578	46.30%
Black Alone	28,750	10%	16,274	2.70%	45,024	5.10%
American Indian Alone	1,806	1%	1,818	0.30%	3,624	0.40%
Asian Alone	114,816	40%	200,879	33.90%	315,691	35.80%
Pacific Islander Alone	2,290	1%	1,237	0.20%	3,527	0.40%
Some Other Race Alone	33,641	12%	25,148	4.20%	58,789	6.70%
Two or More Races	15,754	5%	30,803	5.20%	46,558	5.30%
Hispanic Origin (Any Race)	67,166	23%	68,019	11.50%	135,187	15.30%

Source: U.S. Census Bureau, Esri Forecasts for 2020, obtained through the "Demographic and Income" Profile at communityanalyst.arcgis.com

Equity Analysis Approach for SFTP 2050

OUTREACH AND ENGAGEMENT STRATEGY

Outreach for the SFTP built on previous engagement for the ConnectSF process and focused on understanding community priorities for discretionary revenues – those revenues with the most flexibility. Engagement included community presentations, a town hall, and online survey available in English, Spanish, Chinese, Russian, and Filipino.

The series of community presentations was designed to ensure active engagement with EPC residents. In Spring 2022, staff reached out to 45 organizations across the city to offer presentations as an opportunity to provide feedback on the SFTP. Meetings with Community Based Organizations in EPCs were prioritized. 13 groups received a presentation focused on collecting input on investment priorities. The team conducted three monolingual, non-English presentations: one in Spanish to La Raza Community Resource Center, and two in Cantonese to Community Youth Center of San Francisco and Self Help for the Elderly. Organizations that accommodated standalone presentations for their members or promoted the SFTP 2050 survey through social media were offered stipends. Additional information on the SFTP 2050 engagement strategy is available in Appendix E.

ANALYSIS

The SFTP uses an equity evaluation strategy which responds to the Expenditure Plan Equity Assessment findings by measuring the impacts of investment scenarios on the citywide population, on low-income households, and on residents of EPCs by neighborhood. This ensures that recommended investment scenarios advance equity by benefitting the citywide population, low-income households, and responding to the needs of individual EPC neighborhoods. Equity analysis for the SFTP 2050 measures the effects of investment scenarios on the populations below and compares results for these populations to outcomes for full San Francisco and regional populations:

- San Francisco Low-income residents (citywide)
- San Francisco EPC residents (citywide and by EPC neighborhood)
- Non-San Francisco low-income residents (analysis for job access only)
- Non-San Francisco EPC residents (analysis for job access only)

The definitions of EPC neighborhoods used for the evaluation are shown in Figure 1. EPC neighborhoods were defined by sorting San Francisco's EPC designated census

tracts¹ into groups using SFMTA's Equity Neighborhoods² as a guide for drawing boundaries. Major roads were used as dividers between EPC neighborhoods. Two clusters of census tracts were defined by the SFCTA as EPCs but were not Equity neighborhoods in SFMTA's Service Equity Strategy: Treasure Island, which is typically grouped together as part of the District 6 EPC, and a portion of the Richmond District, which is a new EPC as of 2021. These were defined as unique EPC neighborhoods for the purposes of SFTP analysis.

After defining EPC neighborhoods findings, from the 2022 Transportation Expenditure Plan Equity Analysis were used to identify specific needs for each EPC neighborhood (Table 2). The process for identifying key needs is detailed in Attachment A. Table 2 shows metrics which were defined to measure the impact of SFTP scenarios on key EPC needs.

Table 2: Key Needs by Equity Priority Community (EPCs)

EPC	HIGH TRANSPORTATION COSTS	EXCESS POLLUTION	LOW JOB ACCESS	HIGH DRIVING MODE SHARE	LONG COMMUTE TRAVEL TIMES	HIGH INJURIES
Chinatown	X	X				X
Tenderloin	X	X				X
Western Addition	X	X				X
Inner Mission		X				X
Bayview	X		X	X	X	
Excelsior/Outer Mission		X	X		X	
Visitacion Valley			X	X	X	
Oceanview-Ingleside			X	X	X	
Treasure Island			X	X	X	
Richmond			X	X	X	

The EPC needs-identification process highlighted that EPCs located close to downtown San Francisco (Chinatown, Tenderloin, Western Addition, Inner Mission) tend to have similar needs, and EPCs farther from downtown (Bayview, Excelsior/Outer Mission,

1 <https://www.sfcta.org/policies/equity-priority-communities>

2 Muni Service Equity Strategy – Page 7; https://www.sfmta.com/sites/default/files/reports-and-documents/2020/05/final_-_2020_muni_equity_strategy_0.pdf

Visitacion Valley, Oceanview-Ingleside, Treasure Island, Richmond) are also similar in their profile of demonstrated needs.

Investment scenarios were evaluated for citywide impacts on EPC residents, low-income households, and the general population. Impacts on individual EPCs were also evaluated for each of the five metrics in Table 3. Results demonstrate how the SFTP 2050 investments help address identified needs within each EPC and make progress on citywide goals.

Table 3: SFTP Metrics for Measuring EPC Needs

METRIC	DEFINITION
High Transportation Costs	It is not possible to model change in household transportation costs with a high degree of confidence. In lieu of a modelled, quantitative analysis, we evaluate transportation costs qualitatively to identify and elevate efforts to make transportation cheaper
Traffic Exposure¹	VMT on links within a ¼ mile buffer of EPCs
Low Job Access	Change in transit job access (45 minutes)
High Driving Mode Share	Change in driving mode share
Long Commute Travel Times	Change in one-way work and school commute travel time
High Injuries	To measure transportation safety improvements, we determine which projects and programs included in the investment and vision scenarios are likely to include treatments shown to be effective at improving safety. We identify the EPCs where those treatments will be implemented and qualitatively evaluate their potential effect.

Four of the six metrics shown in Table 3 can be measured using the SFCTA's activity-based transportation demand model, SF-CHAMP. Thresholds to measure progress for these metrics are shown in Table 4. In other words, if the number of reachable jobs increases by 10%, this indicates an improvement in job access.

Table 4: Improves/Degrades thresholds for metrics measured with SF-CHAMP

	TRAFFIC EXPOSURE	JOB ACCESS	DRIVING MODE SHARE	COMMUTE TRAVEL TIMES
Improves	-2%	10%	-2%	-2%
Degrades	2%	-5%	2%	2%

¹ Traffic Exposure is a proxy for measuring vehicle related pollution, as electric vehicle adoption rates between 2022 and 2050 will affect some vehicle rated pollution levels. Noise pollution and pollutants such as brake dust with known negative health impacts will still be created by electric vehicles

SF-CHAMP was not used to measure investment plan impacts to transportation costs or safety. These needs were measured qualitatively, as described below.

High Transportation Costs

The San Francisco Transportation Plan funds programs with the explicit goal of reducing transportation costs for San Franciscans that are most vulnerable to increasing transportation costs. These programs and their collective impact are reviewed in the following section.

High Injuries

SFTP 2050 safety benefits were assessed qualitatively using existing research on the safety benefits of specific investments. SFTP projects and programs that include improvements known to reduce the incidence of collisions were considered to have an impact on neighborhood safety.¹ Individual EPCs were scored based on the prevalence and effectiveness of safety improvements likely to be implemented within their boundaries.

Equity Analysis Findings for SFTP 2050

The SFTP investment plan addresses many of the needs identified through the 2022 Transportation Expenditure Plan Equity Priority Community Needs Analysis. SFTP investments will reduce traffic exposure and create infrastructure safety benefits within central EPCs which disproportionately suffer from pollution and transportation related injuries. Neighborhoods further from downtown see improved job access and reduced auto mode share, which are identified needs in those communities. Commute times are reduced for both transit and driving commutes. When analyzing commute trips by all modes, the average trip gets slightly faster for some neighborhoods and remains the same for others. This modest shift may reflect that transit is being used for more commutes.

The SFTP appears to benefit the Oceanview-Ingleside EPC less than other EPCs. Additional investigation into the types of projects and programs that could benefit Oceanview-Ingleside neighbors is needed in future technical analyses and transportation planning efforts, including transit or express bus service changes.

Table 5 shows the change for each evaluation metric by EPC neighborhood between the Baseline Scenario and the Investment Scenario. Cells are colored in green when the metric responds to an identified need for a particular EPC neighborhood.

¹ <http://www.cmfclearinghouse.org/> ; <https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/hsip/2020/lrsm2020.pdf>

While the Investment Plan makes progress on many of the known EPC needs, San Francisco's transportation needs exceed available revenues in the Investment Plan. The SFTP Vision Plan includes potential new revenues which can be prioritized to further close equity gaps in EPC communities, using this analysis as a guide.

Table 5: Change in Key Equity Metrics for Equity Priority Community (EPCs)

EPC	TRAFFIC EXPOSURE	JOB ACCESS	DRIVING MODE SHARE	COMMUTE TRAVEL TIMES	INFRASTRUCTURE SAFETY BENEFIT
Chinatown	-5%	+6%	-5%	-1%	HIGH
Tenderloin	-5%	+1%	-4%	NO CHANGE	HIGH
Western Addition	-3%	-2%	-3%	NO CHANGE	HIGH
Inner Mission	-4%	+2%	-2%	NO CHANGE	HIGH
Bayview	-4%	+17%	-2%	+1%	HIGH
Excelsior/Outer Mission	-4%	+25%	-1%	NO CHANGE	MEDIUM
Visitacion Valley	-4%	+41%	-1%	NO CHANGE	MEDIUM
Oceanview-Ingleside	-5%	+9%	-1%	+1%	MEDIUM
Treasure Island	-6%	+81%	-25%	-23%	MEDIUM
Richmond	-1%	+45%	-2%	-3%	MEDIUM

Although the SFTP Equity Evaluation focused on impacts to EPCs within San Francisco, the impacts on specific citywide and regional populations were analyzed to understand changes to job access, mode share, and commute times. Table 6 shows that the SFTP investment scenario has a positive impact on these populations for three metrics modeled using SF-CHAMP.

Table 6: SFTP Investment Plan Impacts on Citywide and Regional Populations

	JOB ACCESS	DRIVING MODE SHARE	COMMUTE TRAVEL TIMES
All San Francisco Residents	+8%	-2%	-1%
All Regional*	+1%		
San Francisco: EPC residents (citywide)	+6%	-3%	-2%
Regional Non-SF: EPC residents*	+1%		
San Francisco: Low-income residents (citywide)	+6%	-2%	-1%
Regional Non-SF: Low-income residents*	+1%		

*Regional transit job access is defined as jobs within 75 minutes on transit

IMPACTS ON TRANSPORTATION COSTS

The SFTP includes targeted policies and programs to reduce costs for low-income households specifically. Examples of these programs and policies include:

- **Free Muni for Youth:** the SFTP fully funds the SFMTA's current Free Muni for Youth pilot program for the 30-year plan period, ensuring that children under the age of 18 continue to have free access to public transit.
- **Treasure Island Affordability Program:** The Treasure Island Tolling Program could include an affordability program to offer low-income San Franciscans and existing island residents a transit pass and toll exemptions or discounts.
- **Regional Transit Fare Coordination:** San Francisco is working with the region on an effort (Seamless Bay Area) to coordinate and integrate transit fares. This effort is being led by the Metropolitan Transportation Commission and could lead to a more affordable transit network by providing free or reduced-cost transfers.

Some of the travel demand management projects included in the SFTP would include a charge on driving private vehicles during congested times and in congested parts of the network – see the 101/280 Managed Lanes and Bus Project and the Downtown Congestion Pricing Study (DTCP). Each of those project development processes has its own equity analysis and affordability program intended to minimize financial burden on low-income travelers, particularly those with lower transit access. For example, the DTCP Study found that means-based discounts and exemptions for low, very low, and moderate-income travelers are important for meeting equity goals and metrics. Also, the 101/280 Managed Lanes and Bus Project will analyze non-priced managed lanes options (i.e., High Occupancy Vehicle / Bus Only lanes).

Taken together, these policies and programs should have a positive impact on transportation costs citywide, specifically for low-income populations for whom cost is a barrier to mobility.

Attachment A. Source Data for Identifying Key Equity Metrics by Equity Priority Community (EPCs)

The EPC needs shown in Table 2 are based on data gathering and analysis conducted for the **Equity Assessment for the 2022 Transportation Expenditure Plan**. Table 7 below provides a summary of the specific metrics used and original source data.

Table 7: Data source used for EPC needs identification

	HIGH TRANSPORTATION COSTS	EXCESS POLLUTION	LOW JOB ACCESS	HIGH DRIVING MODE SHARE	LONG COMMUTE TRAVEL TIMES	HIGH INJURIES
Metric Detail	Specific metric used is transportation costs as a percentage of household income. EPCs flagged as having high transportation costs are those that had census block groups with the highest deviations from the citywide mean percentage.	Specific metric used is elevated risk of developing cancer due to exhaust and pollution.	Specific metrics used were jobs accessible by a 45-minute transit trip and 30-minute automobile trip. EPCs flagged as having low jobs access are those in which job access is far more accessible by automobile than by transit.	Specific metric used is drive alone rates by origin district.	Specific metric used is average travel time by origin.	Specific metric used is bicycle and pedestrian collision data.
Original Source Data	"2020 Transportation," Esri and Bureau of Labor Statistics	San Francisco Citywide Health Risk Assessment: Technical Support Documentation, accessed at www.sfdph.org/dph/files/EHSdocs/AirQuality/Air_Pollutant_Exposure_Zone_Technical_Documentation_2020.pdf	ConnectSF Statement of Needs, 2015 base year analysis, accessed from www.connectsf-jobsaccessibility.sfcta.org	ConnectSF Statement of Needs, 2015 base year analysis	ConnectSF Statement of Needs, 2015 base year analysis, accessed from connectsf-traveltime.sfcta.org	Statewide Integrated Traffic Records System (SWITRS) accessed at safety.sfcta.org

DETERMINING KEY NEEDS FOR TREASURE ISLAND AND THE RICHMOND DISTRICT EPCS

The Equity Assessment Report analysis used EPC definitions from 2017 which did not include the Richmond District EPC. The Richmond District EPC was added during an update of the EPC map in 2021. In addition, the Equity Assessment Report does not identify Treasure Island as a separate EPC because it is part of the SoMa EPC. For the purposes of the SFTP, staff reviewed past data sources to identify key needs for these EPCs neighborhoods.

Richmond

Based on data available in the 2022 Transportation Expenditure Plan Equity Assessment Report, staff identified Low Jobs Access, High Driving Mode Share, and Long Commute Travel Times as transportation needs for the Richmond district EPC.

Treasure Island

Based on data available in the 2022 Transportation Expenditure Plan Equity Assessment Report and other existing data sets from past studies, staff identified Excess Pollution, Low Job Access, and Long Commute Travel Times as transportation needs for Treasure

Island. Drive Alone rates specifically for Treasure Island are not available in the Equity Assessment Report and the original ConnectSF data source because the data for Treasure Island is combined with South of Market. Staff used the **Treasure Island Demand Model Analysis Report For years 2025, 2030, and 2035** as an alternative data source. The 2025 model run in this report estimates that 65% of trips on and off the island would be by auto (combined drive alone and carpool). For this reason, staff included High Driving Mode Share as a key equity metric for Treasure Island.