

Appendix L
Plan Bay Area 2050 Equity Analysis



EQUITY ANALYSIS REPORT

OCTOBER 2021



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Executive Summary

Equity is a central focus of all projects and programs of the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG). Plan Bay Area 2050, the regional plan for transportation, housing, the economy and the environment, upholds the agencies' commitment to equity in process and outcomes by adopting an equity lens approach. In collaboration with Bay Area residents, especially historically underserved populations, the Regional Equity Working Group, MTC's Policy Advisory Council and various partner agencies and working groups, MTC and ABAG developed Plan Bay Area 2050 as a long-range plan that is poised to accommodate future housing and employment growth over the next three decades and ensure that the Bay Area is affordable, connected, diverse, healthy and vibrant for all. The plan — a package of 35 strategies that include public policies or sets of investments that can be implemented at the city, county, regional or state level over the next 30 years — is designed to meet and exceed federal and state requirements, and ultimately serve as the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) for the San Francisco Bay Area.

The Equity Analysis Report for Plan Bay Area 2050 reflects on the equity lens approach used in the planning process. The report summarizes all the equity-focused components that are weaved into the 35 strategies, identifies the share of planned investments that directly benefit households with low incomes and analyzes forecasted outcomes of the plan and its impact on existing disparities in the region. The analysis also demonstrates MTC's compliance as a metropolitan planning organization (MPO) with federal requirements related to Title VI and environmental justice (EJ) in the Regional Transportation Plan (RTP) development process, by examining the benefits and burdens of proposed transportation investments on people of color and determining if the plan has any adverse impacts on historically underserved populations.

Central to the analysis is identifying the equity-focused populations and geographies that the plan seeks to prioritize across its strategies. These primarily include households with low incomes (incomes below twice the Federal Poverty Threshold) who account for 21% of all Bay Area households and people of color who account for a majority, 60%, of the Bay Area population. MTC and ABAG also identify Equity Priority Communities as census tracts that have a significant concentration of historically underserved populations, including people with low incomes, people of color, people with limited English proficiency, zero-vehicle households, seniors aged 75 years and over, people with disabilities, single-parent families and severely rent-burdened households. More specific planning to address needs of seniors and people with disabilities, who tend to be more dispersed in the region than other historically underserved populations, can be found in the Coordinated Public Transit–Human Services Transportation Plan.¹

The backbone of equitable planning in Plan Bay Area 2050 is engagement and outreach with these equity-focused populations. Over the course of the Horizon initiative, the precursor scenario planning effort, and Plan Bay Area 2050, staff engaged directly with underrepresented groups through in-person and virtual small group discussions that were facilitated by community-based organizations across the region. Prior to the COVID-19 pandemic, staff set up pop-up workshops to meet people “where they are” at public events and venues such as libraries, community colleges, farmers markets and street fairs, prioritizing locations in Equity Priority Communities. During the pandemic, staff engaged digitally through surveys and telephone town halls to reach those with limited internet access and/or limited English proficiency. Staff also periodically consulted with the Regional Equity Working Group and MTC's Policy Advisory Council Equity and Access Subcommittee, both bodies with devoted advocates for equity and the environment.

All of the engagement, combined with insightful analysis throughout the planning process that highlighted impacts on equity-focused populations and geographies, enabled staff to implement an equity lens approach in developing the Plan Bay Area 2050's 35 strategies. The initial list of strategies — sourced mainly from the Horizon planning initiative that prioritized strategies and transportation projects on the basis of equity and resilience to an uncertain future — was continuously refined through an iterative process of sharing robust performance and equity analysis based on regional transportation, land use and economic modeling of the strategies. Creative engagement methods, such as game-like workshops and collaborative digital whiteboards, also played a critical role. This process led to adding multiple equity-focused components within strategies as well as new strategies, such as prioritizing speed limit enforcement through design elements on local streets and constraining freeway tolling to corridors where robust transit

1 The current [Coordinated Public Transit–Human Services Transportation Plan](#) was adopted in 2018. The next iteration of this plan will be completed in 2022. This report is consistent with the 2018 Coordinated Plan, as well as the ongoing update.

alternatives are available. Other examples include integrating expanded services for tenant protections; mortgage and rental assistance for households with low incomes; subsidies for high-speed internet in Equity Priority Communities; and means-based subsidies to offset resilience- and energy-related residential building retrofits, to name a few.

With each Plan Bay Area 2050 strategy carefully crafted to advance equity, it is also critical to ensure that investments nested within the strategies are channeled equitably. Staff estimated the share of nearly \$1.4 trillion of investments planned across Plan Bay Area 2050's 35 strategies targeted toward households with low incomes. In all four elements, the plan advances equitable outcomes by disproportionately targeting investments toward households with low incomes, who account for 21% of the region's population. Investments in the housing and economy elements are directed almost exclusively toward households with low incomes, while 39% of transportation investments and 29% of environmental investments are targeted toward households with low incomes.

Perhaps most critical to understanding Plan Bay Area 2050's impacts is an extensive set of measures of disparities in the region — organized by the plan's five guiding principles — that staff forecasted into the future, with the goal of determining whether the plan meaningfully decreases those disparities. Implicit is the caveat that not all equity-focused components within strategies may be reflected in the forecasted outcomes of the plan as some of the components cannot be sufficiently represented by our travel and land use models. Notwithstanding this, Plan Bay Area 2050 is forecasted to lower disparities in most of the measures across the five guiding principles, while maintaining existing disparities in a few:

- **Affordable:** The decrease in disparities is most prominent in affordability, where Plan Bay Area 2050 is forecasted to significantly decrease the share of income spent on housing and transportation for households with low incomes by a much greater extent than for all households on average. Transit fares are lowered substantially, and new freeway tolls' impacts are mitigated through means-based discounts.
- **Connected:** While households in Equity Priority Communities already have better access to transit and jobs through transit than the average Bay Area household today, Plan Bay Area 2050 further enhances their accessibility with targeted affordable housing in Transit-Rich Areas and improvements to transit service. Nearly three-quarters of all families with low incomes are forecasted to be living within half-mile of frequent transit in 2050.
- **Diverse:** With inclusionary zoning and a focus on affordable housing production and preservation in High-Resource Areas, especially those that are also transit-rich, Plan Bay Area 2050 diminishes disparities in access to opportunity by providing more choices to households with low incomes. Strengthened renter protections and targeted assistance programs further increase their ability to remain in place in those areas.
- **Healthy:** Although Plan Bay Area 2050 is forecasted to improve health and safety outcomes for all households, disparities in air quality and safety from vehicle collisions between Equity Priority Communities and the rest of the region are forecasted to persist.
- **Vibrant:** Plan Bay Area 2050 is forecasted to enhance economic mobility for families with low incomes by promoting stronger employment growth in low- and middle-wage industries over the next 30 years relative to past years, while bringing jobs slightly closer to homes for all workers.

Based on these findings, as well as additional analysis that can be found in the report, MTC and ABAG evaluated whether Plan Bay Area 2050 meets federal and state requirements. There are no disproportionately high and adverse impacts from Plan Bay Area 2050 on EJ populations, specifically people of color and people with low incomes. Further, benefits of transit investments to people of color populations are proportional to their share of the population and share of total transit system ridership, and MTC and ABAG conclude that Plan Bay Area 2050 is in compliance with Title VI of the Civil Rights Act of 1964 for the distribution of federal and state transit funds.

To advance equitable outcomes with the plan, the recently adopted MTC-ABAG Equity Platform provides a strong framework. Focusing and delivering on the plan through advocacy and legislation, new, existing or restructured initiatives and further planning and research is now paramount — MTC and ABAG have outlined concrete implementation actions that the agencies can take, in partnership with other organizations, in the next one to five years. In tandem, MTC and ABAG will continue and enhance efforts to define and measure equity; listen and learn from our communities; and train and grow our internal staff capacity.

To request translation of this report or any part of the Plan Bay Area 2050, or to request other assistance, call (415) 778-6757 or email info@bayareametro.gov.

Chapter 1 | Introduction

Equity is a central focus of all projects and programs of the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG). While equity has been integrated throughout the process of Plan Bay Area 2050 (Plan) — the regional plan for transportation, housing, the economy, and the environment for the San Francisco Bay Area — this report serves as a reflection of the process and outcomes of the Plan with respect to equity. The report is based on extensive engagement with Bay Area residents with a focus on historically underserved populations and a framework that was developed collaboratively with MTC’s Policy Advisory Council Equity and Access Subcommittee and the Regional Equity Working Group. The report includes a summary of the equity-focused components within Plan Bay Area 2050, an analysis of the distribution of Plan Bay Area 2050 investments and forecasted outcomes and disparities of Plan Bay Area 2050. The report also addresses requirements placed upon MTC as a metropolitan planning organization (MPO); specifically, the federally required disparate impact and non-discriminatory (Title VI) and environmental justice analyses.

What Is Equity?

MTC and ABAG serve diverse populations in the Bay Area. People with low incomes have increasingly been displaced from their communities due to rising home prices and rents, while people with high incomes are able to stay in place with access to the best schools, parks and other resources. People of color have been the majority since 1980 while white people are able to accrue advantages and benefits from historically unjust policies such as discrimination and redlining. Rural communities, roughly 10 percent of the population, are exposed to a different set of issues relative to their suburban or urban counterparts. Seniors are continuously rising in size relative to the rest of the population. People with disabilities face daily barriers to housing and transportation access and are over-represented in the ranks of the economically disadvantaged and unemployed. Various population subgroups have historically faced the brunt of planning processes due to the language they speak, their disabilities, their age, their gender and sexual orientation, or the home or vehicle they do not own.

MTC and ABAG’s working definition of equity is “just inclusion into a Bay Area where everyone can participate, prosper and reach their full potential.” The agencies strive to advance equity through careful consideration of investments and policies — referred to in the Plan Bay Area 2050 context as “strategies” — that affect historically and systemically marginalized, underserved, and excluded groups, including households with low incomes, communities of color, people with disabilities and seniors.

The MTC-ABAG Equity Platform, launched in 2019, is built around the common vision of furthering long-term equity actions that meaningfully reverse disparities in access and dismantle systemic exclusion. Explored in the Introduction Chapter of Plan Bay Area 2050, historical and present-day policies have led to disparate outcomes for various population subgroups, especially Black and Indigenous people. Plan Bay Area 2050 recognizes this upfront, while also acknowledging that dismantling systemic racism and exclusion cannot and will not happen overnight. To advance racial and environmental justice, MTC adopted an equity lens approach consistently throughout the planning process, where the plan does not simply seek to mitigate adverse impacts on underserved populations, but affirmatively advance equitable outcomes through all of its strategies in transportation, housing, economy and the environment. The following paragraphs describe a vision for equity in each of these areas, based on what we heard from Bay Area residents, especially underserved populations, throughout the Plan Bay Area 2050 process:

Housing

In Plan Bay Area 2050, an equitable future in housing is a future where every resident enjoys the bedrock of a strong, vibrant community: a safe, stable, accessible, affordable, high-quality home. Equitable housing in the Bay Area means increased access to opportunity, such as well-resourced schools and well-maintained transit — for all, regardless of race or income. Equity also means more housing choices for families that have historically had few options and accessible homes for people with disabilities and older residents with mobility limitations.

Strategies in Plan Bay Area 2050 facilitate this access to opportunity by allowing for increases in affordable housing in places like High-Resource Areas² and historically exclusionary areas. This includes ensuring families have the ability to stay in their homes and maintain the community connections and cultural fabrics of their neighborhoods, without being priced out. Families will also benefit from planned investments in their communities, including enhanced transit service, improved parks and better access to open space.

Economy

With a gross domestic product of over \$900 billion, the Bay Area economy has ample opportunity to better serve historically marginalized communities as it recovers from the impacts of COVID-19. In an equitable economy, all residents would be secure in their finances, even under deeply uncertain and shifting conditions. Plan Bay Area 2050's universal basic income strategy would help Bay Area residents with low or no incomes and people with disabilities — who are over-represented in the ranks of the economically disadvantaged and unemployed — to meet their basic needs. Job training programs and guaranteed high-speed internet access would prepare residents for the future economic landscape. The Bay Area's economy would return to its pre-pandemic vigor, but future economic gains would be shared more evenly across the region's population. Small local businesses would sustain vibrant neighborhoods where residents could reinvest their money in local goods and services. With equity in sight, government support would help people who have been historically excluded from wealth-generating opportunities — like homeownership — to achieve these goals.

Transportation

An equitable transportation system is one that is safe, affordable, accessible and reliable in meeting the needs of all residents, but especially those with the fewest options. Safety ensures that no one is discouraged from making a trip out of fear for their well-being, whether on transit, in a personal vehicle or simply walking. Further accessibility enhancements on sidewalks, streets and transit are critical to allow the region's growing share of older residents, as well as people with disabilities, to move freely around the Bay Area.

Equity also means thoughtful consideration of who benefits from a transportation investment when prioritizing projects. In the short term, Plan Bay Area 2050 encourages investment in projects used primarily by people with lower incomes, like more frequent local bus service. An equitable transportation system is also one that does not exclude riders through high fares. Plan Bay Area 2050 calls for reform to transit fares regionwide that would lower fare costs across the board, particularly for riders that use multiple transportation systems, and serve those most in need by offering income-based fare discounts.

Environment

In an equitable future, all Bay Area residents, regardless of race, age or income, would have access to open space, clean air and water, safe housing, and a full suite of sustainable, accessible transportation choices. All residents, including seniors and those with disabilities, would be able to easily access parks and open spaces close to home and fully enjoy the region's rich natural resources. Climate change's effects grow more hazardous with each additional degree in global temperature, and they are felt most acutely by underserved communities of color and people with lower incomes — people who oft en already face uncertain housing situations and health risks before any shock to the region hits.

2 See the Growth Geographies section of the Introduction Chapter for more information on High-Resource Areas.

Equitable environmental strategies must account for past injustices and seek to improve housing stability for those most at risk of displacement due to environmental causes, ensuring the most vulnerable communities are prepared to withstand a range of future environmental shocks. Plan Bay Area 2050 proposes long-term strategies and means-based support to protect those most at risk from environmental hazards and the effects of climate change, including retrofitting residential buildings against wildfires and earthquakes and protecting vulnerable communities from sea level rise.

Plan Bay Area 2050 Vision and Guiding Principles

Extensive public engagement with over 10,000 Bay Area residents throughout the nine counties led MTC and ABAG to five guiding principles that informed every step of Plan Bay Area 2050's development: affordable, connected, diverse, healthy and vibrant. These principles were distilled from the thousands of comments received at online and in-person events, as people consistently cited the importance of preserving racially-diverse communities, addressing housing affordability challenges, and tackling climate change, among other issues, as top concerns for their future. The Plan Bay Area 2050 Public Engagement Report contains more details on this outreach. In September 2019, MTC and the ABAG Executive Board formally adopted the principles in the following vision statement for Plan Bay Area 2050: "Ensure by the year 2050 that the Bay Area is affordable, connected, diverse, healthy and vibrant for all."

Figure 1. Plan Bay Area 2050 Cross-Cutting Themes, Vision and Guiding Principles

CROSS-CUTTING THEMES	RESILIENCE & EQUITY
Vision	Ensure by the year 2050 that the Bay Area is affordable, connected, diverse, healthy, and vibrant for all.
GUIDING PRINCIPLE	DESCRIPTION
 AFFORDABLE	All Bay Area residents and workers have sufficient housing options they can afford – households are economically secure.
 CONNECTED	An expanded, well-functioning, safe and multimodal transportation system connects the Bay Area – fast, frequent and efficient intercity trips are complemented by a suite of local transportation options, connecting communities and creating a cohesive region.
 DIVERSE	The Bay Area is an inclusive region where people from all backgrounds, abilities, and ages can remain in place – with full access to the region's assets and resources.
 HEALTHY	The region's natural resources, open space, clean water and clean air are conserved – the region actively reduces its environmental footprint and protects residents from environmental impacts.
 VIBRANT	The Bay Area region is an innovation leader, creating quality job opportunities for all and ample fiscal resources for communities.

Adopted by MTC and ABAG in September 2019

Purpose of This Report and Organization

The purpose of the Equity Analysis Report is to capture the process and outcomes of the equity lens approach that MTC has applied consistently throughout Plan Bay Area 2050. The report identifies potential benefits and burdens of Plan Bay Area 2050 on underserved populations and determines disparities in forecasted outcomes, while seeking to understand if the plan helps meaningfully decrease existing disparities. The equity analysis has been conducted in accordance with key federal and state regulations that govern the long-range planning process by metropolitan planning organizations.

The report is organized into eight chapters:

1. **Introduction:** Defines equity more generally, and with respect to the four elements of Plan Bay Area 2050; highlights plan vision and guiding principles; lays the foundation for the report.
2. **Regulatory Framework:** Outlines the federal and state regulatory framework that governs the Equity Analysis for Plan Bay Area 2050.
3. **Equity-Focused Populations and Geographies:** Details the definition of equity-focused populations and geographies used in analysis, including Equity Priority Communities (formerly referred to as Communities of Concern), and presents demographic trends of Equity Priority Communities.
4. **Equity Lens on Strategies:** Captures the engagement and outreach process in developing and refining the Plan Bay Area 2050 strategies with an equity lens, and details equity-focused components of all the 35 strategies across the Transportation, Housing, Economy and Environment elements that make up Plan Bay Area 2050.
5. **Investment Analysis:** Analyzes nearly \$1.4 trillion of investments within the 35 strategies of the plan and identifies the share that is targeted towards households with low incomes.
6. **Outcomes and Disparities Analysis:** Evaluates disparities in forecasted outcomes of Plan Bay Area 2050 for different population subgroups, including populations with low incomes, people living in Equity Priority Communities and rural communities.
7. **Title VI and Environmental Justice Analysis:** Analyzes the nearly \$600 billion in transportation-related investments that are part of the Transportation Element and the Environment Element and constitute the Regional Transportation Plan (RTP) and summarizes the outcomes of Plan Bay Area 2050 as it relates to environmental justice. This chapter is framed specifically to address federal requirements related to nondiscrimination and environmental justice in the metropolitan planning process.
8. **Next Steps:** Summarizes planned equity-focused implementation actions in the near term.

Chapter 2 | Regulatory Framework

While Plan Bay Area 2050 is a more comprehensive plan for the Bay Area — going well beyond transportation — one purpose of the equity analysis for Plan Bay Area 2050 is to demonstrate MTC’s compliance as a metropolitan planning organization with federal requirements related to Title VI and environmental justice in the Regional Transportation Plan (RTP) development process. The contents of this report are intended to satisfy several federal requirements, as well as regional policy objectives that are outlined in this chapter. At the federal level, requirements include civil rights protections against discrimination in federally funded programs on the basis of a person’s race, color, or national origin; and federal environmental justice objectives aimed at avoiding disproportionately high and adverse effects on minority and low-income populations. At the regional level, MTC adopted environmental justice principles that incorporate social equity throughout the agency’s regional planning efforts. More recently, MTC and ABAG launched the Equity Platform, built around the common vision of furthering long-term equity actions that meaningfully reverse disparities in access and dismantle systemic exclusion.

The first section of this chapter provides the regulatory context for Plan Bay Area 2050 under Senate Bill 375. The following sections describe each set of requirements and summarize MTC’s specific responsibilities and commitments in each area.

Senate Bill 375

Plan Bay Area 2050 is the region’s third regional plan developed under the requirements of California State Senate Bill 375.³ SB 375 went into effect in 2009 to help achieve reductions in greenhouse gas (GHG) emissions to levels established by the California Air Resources Board and mandated under Assembly Bill 32. The Bay Area’s per-capita GHG emission reduction target is 19% by 2035, from 2005 levels. The primary purpose of SB 375 is to integrate land use and transportation planning to help lower GHG emissions and vehicle miles traveled through the development of a Sustainable Communities Strategy (SCS) that links future development, including housing for all income categories, with the region’s transportation investments.

3 For more information on the bill, see: <https://www.arb.ca.gov/cc/sb375/sb375.htm>.

Title VI of the Civil Rights Act of 1964

Title VI of the Civil Rights Act of 1964 states that “[n]o person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.”⁴ Title VI further authorizes federal agencies that make grants (including the U.S. Department of Transportation) to promulgate regulations to effectuate compliance with the law’s provisions.

MTC’s Roles and Responsibilities

As a recipient of U.S. Department of Transportation (DOT) funds, MTC is responsible for complying with DOT regulations related to Title VI⁵ (see sidebar). In October 2012, the Federal Transit Administration (FTA) issued a new Circular with guidance to its recipients for compliance with federal Title VI requirements.⁶ This guidance lays out requirements for FTA’s recipients, like MTC, to ensure that their programs, policies and activities comply with DOT’s Title VI regulations. The guidance offers several specific requirements that MPOs must submit to the state and to FTA as part of their overall Title VI programs, including:

- “All general requirements set out in [the General Requirements section of the] Circular;
- “A demographic profile of the metropolitan area that includes identification of the locations of minority populations in the aggregate;
- “A description of the procedures by which the mobility needs of minority populations are identified and considered within the planning process;
- “Demographic maps that overlay the percent minority and non-minority populations as identified by Census or ACS data ... and charts that analyze the impacts of the distribution of State and Federal funds in the aggregate for public transportation purposes...;
- “An analysis of impacts identified in paragraph (4) that identifies any disparate impacts on the basis of race, color, or national origin, and, if so, determines whether there is a substantial legitimate justification for the policy that resulted in the disparate impacts, and if there are alternatives that could be employed that would have a less discriminatory impact.”⁷

The methodology for conducting the analysis to meet these requirements and the analysis itself is included in Chapter 7. In addition to analyzing the long-range plan as described in this report, MTC’s Title VI program includes a variety of commitments to ensure nondiscrimination on the basis of race, color or national origin in its programs and activities.⁸

4 Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 2000d et seq. See: <https://www.justice.gov/crt/fcs/TitleVI-Overview>.

5 Part 21—Nondiscrimination in Federally-Assisted Programs of the Department of Transportation—Effectuation of Title VI of the Civil Rights Act of 1964. 49 CFR Subtitle A. See: <https://www.gpo.gov/fdsys/pkg/CFR-2012-title49-vol1/pdf/CFR-2012-title49-vol1-part21.pdf>.

6 Federal Transit Administration Circular 4702.1B, Title VI Requirements and Guidelines for Federal Transit Administration Recipients. See: <https://www.transit.dot.gov/regulations-and-guidance/civil-rights-ada/title-vi-civil-rights-act-1964>.

7 FTA Circular 4702.1B, Chapter VI-3, page VI-1f. See: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Title_VI_FINAL.pdf.

8 For more information, see MTC’s Title VI page at: <http://mtc.ca.gov/about-mtc/access-everyone/civil-rights-act-file-complaint>.

U.S. Department of Transportation Title VI Regulations

Specific discriminatory actions prohibited under Title VI regulations include:

- (a.) A recipient under any program to which this part applies may not, directly or through contractual or other arrangements, on the grounds of race, color, or national origin:
 - i. Deny a person any service, financial aid, or other benefit provided under the program;
 - ii. Provide any service, financial aid, or other benefit to a person which is different, or is provided in a different manner, from that provided to others under the program;
 - iii. Subject a person to segregation or separate treatment in any matter related to his receipt of any service, financial aid, or other benefit under the program;
 - iv. Restrict a person in any way in the enjoyment of any advantage or privilege enjoyed by others receiving any service, financial aid, or other benefit under the program;
 - v. Treat a person differently from others in determining whether he satisfies any admission, enrollment, quota, eligibility, membership, or other requirement or condition which persons must meet in order to be provided any service, financial aid, or other benefit provided under the program;
 - vi. Deny a person an opportunity to participate in the program through the provision of services or otherwise or afford him an opportunity to do so which is different from that afforded others under the program; or
 - vii. Deny a person the opportunity to participate as a member of a planning, advisory, or similar body which is an integral part of the program.
- (b.) A recipient, in determining the types of services, financial aid, or other benefits, or facilities which will be provided under any such program, or the class of person to whom, or the situations in which, such services, financial aid, other benefits, or facilities will be provided under any such program, or the class of persons to be afforded an opportunity to participate in any such program; may not, directly or through contractual or other arrangements, utilize criteria or methods of administration which have the effect of subjecting persons to discrimination because of their race, color, or national origin, or have the effect of defeating or substantially impairing accomplishment of the objectives of the program with respect to individuals of a particular race, color, or national origin.

Environmental Justice Executive Order 12898

In 1994, President Clinton signed Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, which directs each federal agency to “make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations”⁹ Furthermore, the Executive Order directs each federal agency to develop an agency-wide environmental justice strategy.

Accordingly, DOT issued its original Environmental Justice Order in April 1997, establishing its overall strategy and procedures to comply with EO 12898. In response to a Memorandum of Understanding on Environmental Justice (August 4, 2011) signed by heads of federal agencies, DOT issued its revised environmental justice strategy, DOT Order 5610.2(a), in March 2012.¹⁰ This updated DOT Order places responsibility on the head of each Operating Administration within DOT to determine whether programs, policies or activities for which they are responsible will have an adverse human health or environmental effect on minority and low-income populations and whether that adverse effect will be disproportionately high.

As operating administrations within DOT, the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) both define three fundamental environmental justice principles consistent with the Executive and DOT Orders as follows:¹¹

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations;
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process; and
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

The DOT Order further defines “disproportionately high and adverse effect on minority and low-income populations” as an adverse effect that:

- Is predominately borne by a minority population and/or a low-income population, or
- Will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population.

In June 2012, FHWA released a new and updated Order 6640.23A, *FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*.¹² This Order clarifies FHWA’s environmental justice policies, guidance, and responsibilities consistent with the updated DOT Order. In August 2012, FTA released its final guidance in the form of a Circular on incorporating environmental justice principles into plans, projects and activities that receive funding from FTA.¹³ This final guidance provides recommendations to recipients of FTA funds, including metropolitan planning organizations, on how to fully engage environmental justice populations in the public transportation decision-making process; how to determine whether environmental justice populations would be subjected to disproportionately high and adverse human health or environmental effects as a result of a transportation plan, project, or activity; and how to avoid, minimize, or mitigate these effects.

9 Executive Order 12898 of February 11, 1994, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. Code of Federal Regulations, Title 3 (1994). See: <https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf>.

10 Memorandum of Understanding on Environmental Justice and Executive Order 12898. See: <https://www.epa.gov/environmentaljustice/memorandum-understanding-environmental-justice-and-executive-order-12898>.

11 “Environmental Justice at Department of Transportation,” Federal Highway Administration. See: http://www.fhwa.dot.gov/environment/environmental_justice/ej_at_dot/.

12 See [FHWA Order 6640.23A](#).

13 See [FTA Circular 4703.1](#), Environmental Justice Policy Guidance for Federal Transit Administration Recipients

MTC's Roles and Responsibilities

FTA's annual Master Agreement requires recipients, including MTC, to promote environmental justice by following and facilitating FTA's compliance with EO 12898 and following DOT's Order on environmental justice. MTC fulfills these responsibilities through a range of programs and activities that support environmental justice principles, including:

- Identifying mobility needs of low-income and minority communities through MTC's Community-Based Transportation Planning Program;¹⁴
- Developing and implementing MTC's Public Participation Plan, which lays out specific strategies for engaging low-income and minority populations and other traditionally underrepresented stakeholders throughout the metropolitan planning process;
- Conducting an environmental justice analysis of the RTP (as summarized in Chapter 7), including an analysis of the distribution of regional transportation investments for low-income and minority populations, and an analysis of benefits and burdens, using equity measures to determine whether the proposed investment strategy results in any disproportionately high and adverse human health and environmental effects on low-income and minority populations; and
- Continually refining and updating the data and analytical methods required to carry out environmental justice analysis at the regional, programmatic level, incorporating both stakeholder feedback and ongoing improvements in analytical tools and data collection.

Additional information on these and other activities as they relate specifically to Plan Bay Area 2050 is provided in Chapter 3.

MTC's Environmental Justice Principles

In addition to MTC's long-standing commitment to supporting DOT, FHWA, and FTA in fulfilling their environmental justice mission under EO 12898, MTC's commitment to environmental justice is embodied in two Environmental Justice Principles adopted by the Commission in 2007. The adopted principles affirm MTC's ongoing commitments to:

- Create an open and transparent public participation process that empowers low-income communities and communities of color to participate in decision-making that affects them; and
- Collect accurate and current data essential to defining and understanding the presence and extent of inequities, if any, in transportation funding based on race and income.

MTC-ABAG Equity Platform

In 2019, MTC and ABAG launched the agency-wide Equity Platform¹⁵ — ground in four pillars: Define and Measure, Listen and Learn, Focus and Deliver, Train and Grow — with the goal of integrating and being accountable to equity in policy, service delivery and advocacy. More specifically, both agencies acknowledge and seek to repair the historic role government and the planning profession have played in systemically denying opportunities to Black people and other communities of color through redlining, urban highways that uprooted neighborhoods, exclusionary zoning, redevelopment, segregation and discrimination. The Equity Platform emphasizes and drives the agency's commitment to advance equity with a racial justice focus by investing resources for historically underserved groups including low-income and communities of color at a scale to meaningfully reverse the disparities in access that diminish the nine-county Bay Area. Further strengthening this commitment is MTC Resolution No. 4435¹⁶ that was passed in June 2020, which condemned systemic and structural racism and reaffirmed the agency's commitment to advancing justice, equity, diversity and inclusion in the nine-county Bay Area.

¹⁴ See [MTC Community-Based Transportation Plans](#).

¹⁵ Read more about the [MTC-ABAG Equity Platform](#).

¹⁶ See [MTC Resolution No. 4435](#).

Chapter 3 | Equity-Focused Populations and Geographies

The underlying methodology for conducting an equity analysis in Plan Bay Area 2050 relies on a comparison of impacts on different equity-focused population subgroups and geographies. These include people with low incomes and people of color, as well as Equity Priority Communities (formerly referred to as Communities of Concern) that are determined based on the concentration of eight different under-represented population subgroups at the census tract level. The first section of this chapter defines these populations and geographies as used in this report. The second section explores census data from recent years to describe demographic trends within Equity Priority Communities.

Key Definitions

People/Households with Low Incomes

MTC and ABAG defines persons as people with low incomes if they live in a household with incomes less than 200% of the Federal Poverty Threshold established by the Census Bureau. People or households with low incomes are sometimes referred to in this report as ‘low-income populations’ or ‘low-income households’ to be consistent with Census Bureau terms. MTC established the 200% threshold in 2001 to account for the Bay Area’s high cost of living relative to the rest of the country. The Census Bureau establishes poverty status for individuals based on a combination of an individual’s household composition, size and income in the Bay Area. In 2020, 200% of the Federal Poverty Threshold was \$25,520 a year for a single person living alone, and approximately \$52,400 a year for a family of four.¹⁷ Based on this definition, the share of households with low incomes in the Bay Area was 21% in 2018. Map 1 shows the share of population that are people with low incomes at the census tract level.

While MTC and ABAG strive to use the above definition throughout the analysis, the transportation and land use models used for forecasting are constrained. Within the model simulations, households that earn \$30,000 or less per year in 2000 dollars, or around \$50,000 in 2020 dollars are defined as households with low incomes. These represented about a quarter of all simulated households in the region in 2015.

People of Color

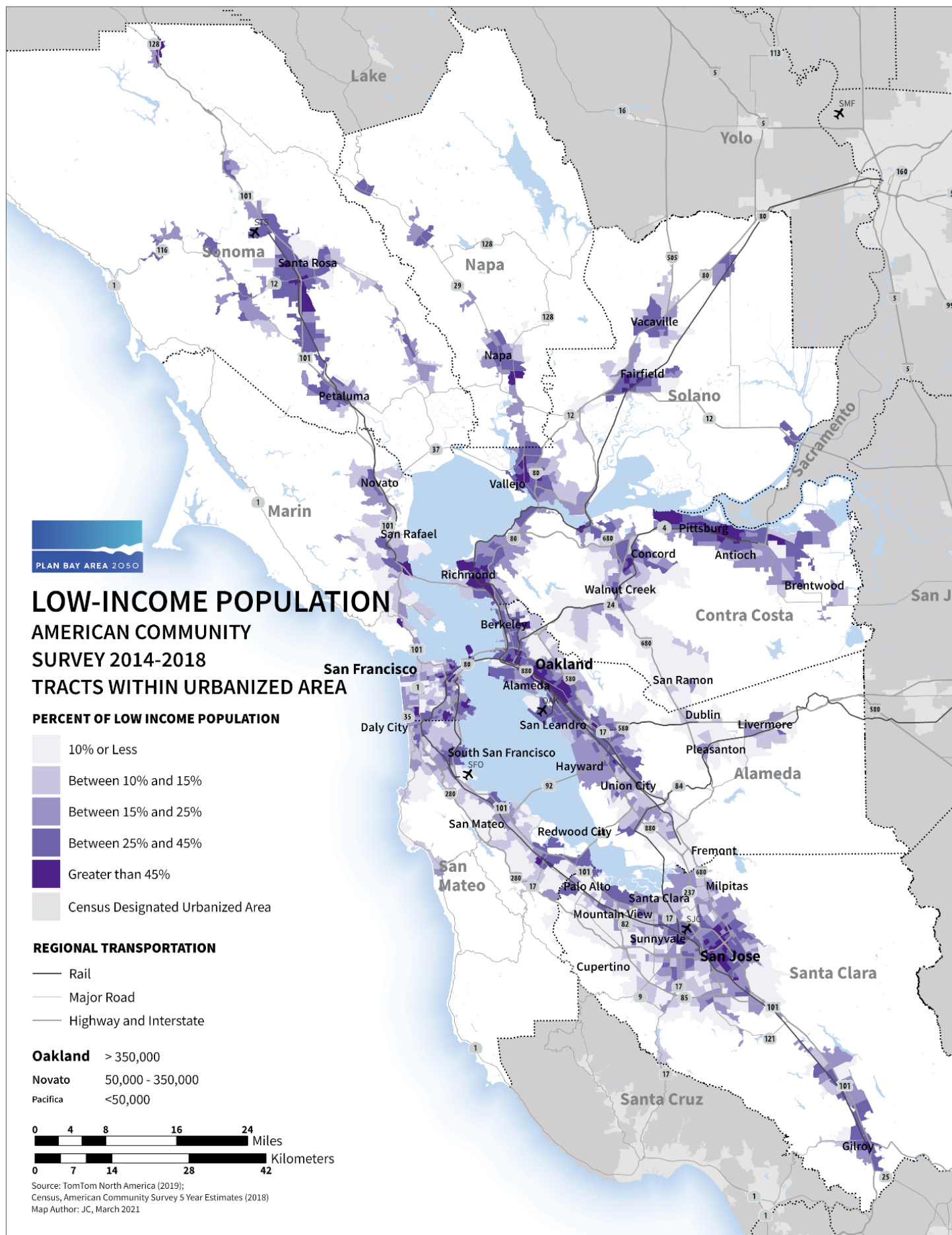
People of color include persons who identify as any of the following groups as defined by the Census Bureau¹⁸ in accordance with guidelines provided by the U.S. Office of Management and Budget. People of color are sometimes referred to in this report as ‘minority populations’ to be consistent with Census Bureau terminology.

- American Indian or Pacific Islander Alone (non-Hispanic/non-Latino);
- Asian Alone (non-Hispanic/non-Latino);
- Black or African-American Alone (non-Hispanic/non-Latino);
- Hispanic or Latino of Any Race;
- Native Hawaiian or Pacific Islander Alone (non-Hispanic/non-Latino); and
- Other (Some Other Race, Two or More Races).

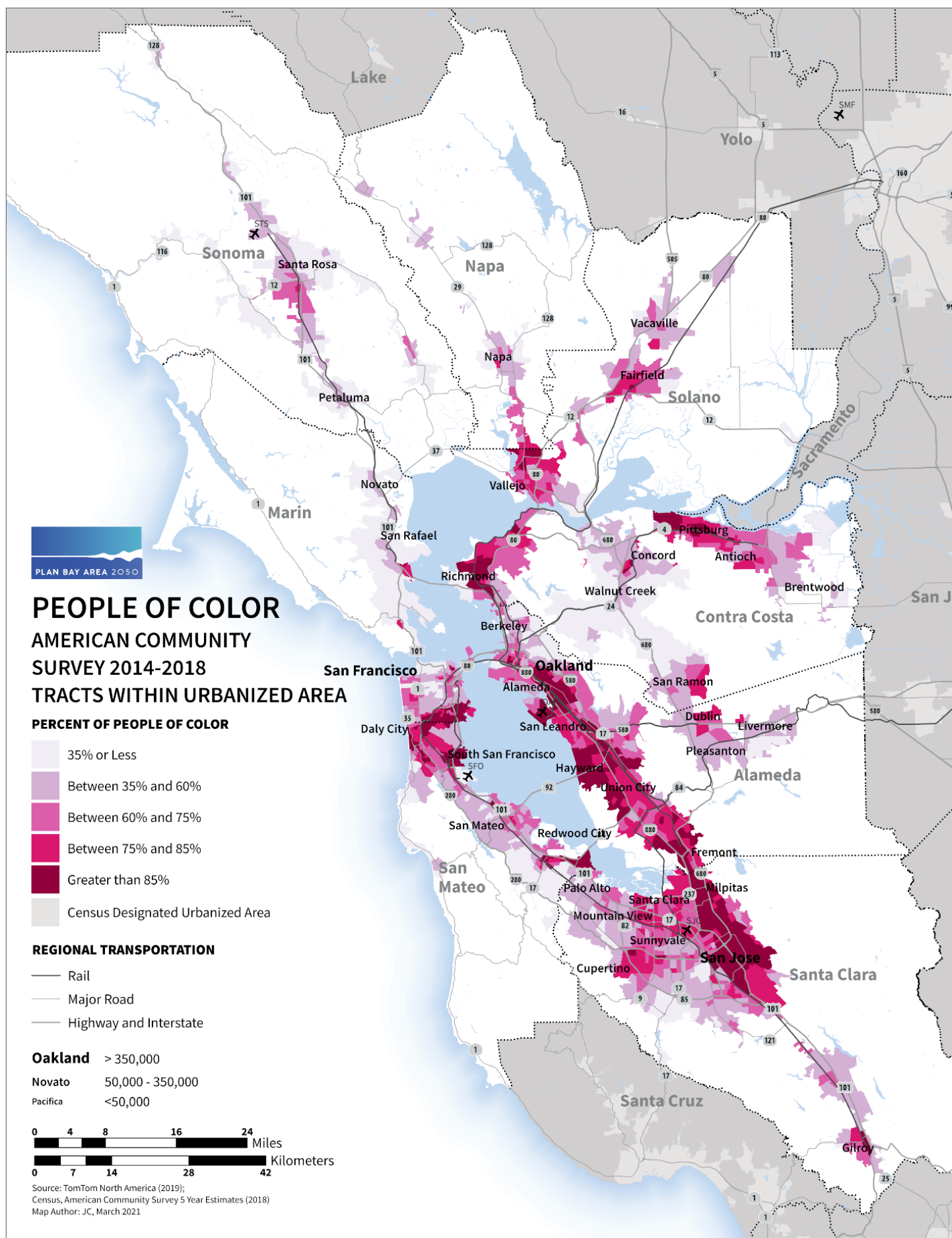
¹⁷ See the [Federal Poverty Thresholds](#) for 2020.

¹⁸ See Census Bureau’s [definitions](#) for race and ethnicity.

Map 1. Share of population that has low incomes (200% of the Federal Poverty Threshold), 2018 by census tract (regionwide share: 21%)



Map 2. Share of population that is people of color, 2018 by census tract (regionwide share: 60%)



A major limitation in the analysis of the plan’s outcomes is a lack of forecasted data by race. There is limited data available on transportation and locational patterns by race, and as a result, MTC and ABAG’s transportation and land use models are not able to project how behavior varies by race in the future. Instead, the analysis in this report uses the Equity Priority Communities framework as a proxy for communities of color, described in the next section.

Equity Priority Communities

MTC and ABAG define Equity Priority Communities (EPCs, formerly referred to as Communities of Concern or CoCs) as census tracts that have a concentration of both people of color and people with low incomes, or that have a concentration of people with low incomes and any three or more of the following six factors: persons with limited English proficiency,¹⁹ zero-vehicle households, seniors aged 75 years and over, persons with one or more disability, single-parent families,²⁰ and renters paying more than 50% of their household income on housing.²¹ This definition and the factors were determined through extensive engagement with the Regional Equity Working Group during Plan Bay Area 2040, MTC’s prior long-range plan. While the factors used to determine whether a census tract is an EPC remain consistent in Plan Bay Area 2050, the concentration thresholds for the factors and the concentration of population subgroups within census tracts were recalculated using the most recent American Community Survey data available at the time (ACS 2014–2018). The thresholds are shown in Table 1.

Table 1. Equity Priority Communities: Concentration thresholds in Plan Bay Area 2040 vs. Plan Bay Area 2050

Factor	PLAN BAY AREA 2040 THRESHOLDS		PLAN BAY AREA 2050 THRESHOLDS	
	% Regional Population	Concentration Threshold	% Regional Population	Concentration Threshold
1. People of Color	58%	70%	60%	70%
2. Low Income (<200% Federal Poverty Threshold - FPT)	25%	30%	21%	28%
3. Limited English Proficiency	9%	20%	8%	12%
4. Zero-Vehicle Household	10%	10%	9%	15%
5. Seniors 75 Years and Over	6%	10%	6%	8%
6. People with Disability	9%	25%	10%	12%
7. Single-Parent Family	14%	20%	13%	18%
8. Severely Rent-Burdened Household	11%	15%	10%	14%
Definition: census tracts that have a concentration of BOTH people of color AND low-income households, OR that have a concentration of 3 or more of the remaining 6 factors (#3 to #8) but only IF they also have a concentration of low-income households.				

Based on this definition, 339 census tracts of the region’s 1,588 tracts (21%) are designated as EPCs. It is worth noting that 21% of the region’s total population, 28% of people of color residing in the region and 41% of people with low incomes residing in the region reside within EPCs. In Plan Bay Area 2040, 365 census tracts were designated as EPCs, accounting for 23% of the region’s total population, 33% of people of color residing in the region and 43% of people with low incomes residing in the region. Compared to the EPCs identified for Plan Bay Area 2040, for Plan Bay Area 2050, 79 tracts lost the EPC designation, 53 tracts gained the EPC designation and 286 remained EPC tracts. The largest county-level changes are in Alameda and Santa Clara counties, which have a net loss of 19 and 21 EPC tracts respectively since Plan Bay Area 2040.

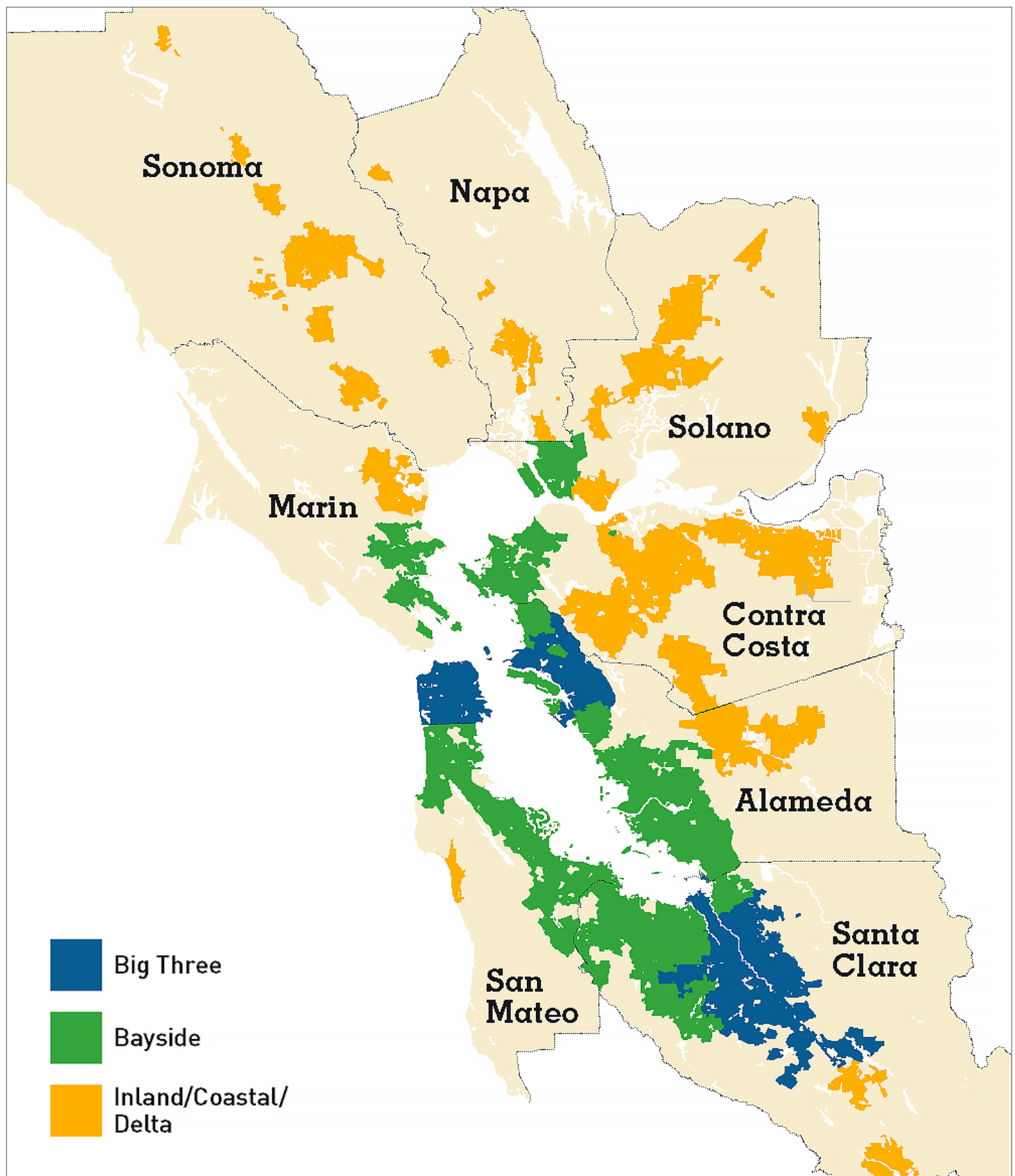
19 Populations above the age of 5 years that can speak less than “well” as defined by the U.S. Census.

20 As a share of all families regardless of whether or not they have any children.

21 As a share of all households regardless of occupancy status (renter or owner).

Map 3 shows the EPC tract designations in Plan Bay Area 2050, and Map 4 highlights the changes since the Plan Bay Area 2040 designations. Provided for reference, Map 5 compares the EPC designations with other designations for underserved communities used across the state.

Figure 2. Bay Area city classification



Formerly Communities of Concern, Now Equity Priority Communities

Prior to 2021, MTC and ABAG used the term “Communities of Concern” for Equity Priority Communities. The year 2020 was an opportunity for a racial justice reckoning in our region and beyond. Acknowledging the power of language and that words can shape people, actions and culture, staff began reconsidering the nomenclature “Communities of Concern” in mid-2020. With sufficient internal consensus that the existing name was “antiquated,” “paternalistic” and “empathy-evoking,” staff embarked on an inclusive process to identify new nomenclature by engaging with underserved communities, the Policy Advisory Council’s Equity and Access Subcommittee and the Regional Equity Working Group. The feedback was clear: a new term was needed, and the name needed to be empowering, forward looking and action oriented. It needed to communicate priority and intentionality, yet still be short and easily understood. Based on the feedback received, MTC and the ABAG Executive Board in May 2021 adopted the term “Equity Priority Communities” to describe these communities going forward. This small but meaningful change communicates that MTC and ABAG intend to prioritize these historically underserved and still underrepresented communities to advance equitable outcomes.

Rural Communities

While over half of the Bay Area population lives in denser urban communities, nearly one in ten people live in rural communities that have vastly different needs from their urban and suburban counterparts. Definitions of these area types, as used in MTC’s travel model, are based on densities of population and employment in developed residential or commercial areas. The approximate composition of these three area types are:

- Developed area: Urban 31%, Suburban 54%, Rural 16%
- Total area: Urban 7%, Suburban 21%, Rural 72%
- Population (2015): Urban 51%, Suburban 40%, Rural 9%

Other Relevant Definitions

High-Resource Areas

High-Resource Areas (HRAs) are highlighted throughout the report along with Equity Priority Communities as they help paint a fuller picture of disparities in the region. HRAs are state-identified places²² with well-resourced schools and access to jobs and open space, among other advantages, that have historically rejected more housing growth. 637 tracts of the region’s 1,588 census tracts (40%) are designated as “High Resource” and “Highest Resource,” defined as HRAs in this analysis. 39% of the region’s total population, 32% of people of color residing in the region, and 42% of people with low incomes residing in the region reside within HRAs. Map 6 compares the relative locations of HRAs with EPCs.

It is essential to note that Equity Priority Communities and High-Resource Areas are identified based on most recently available data and do not change based on demographic shifts that are forecasted to occur throughout the plan period.

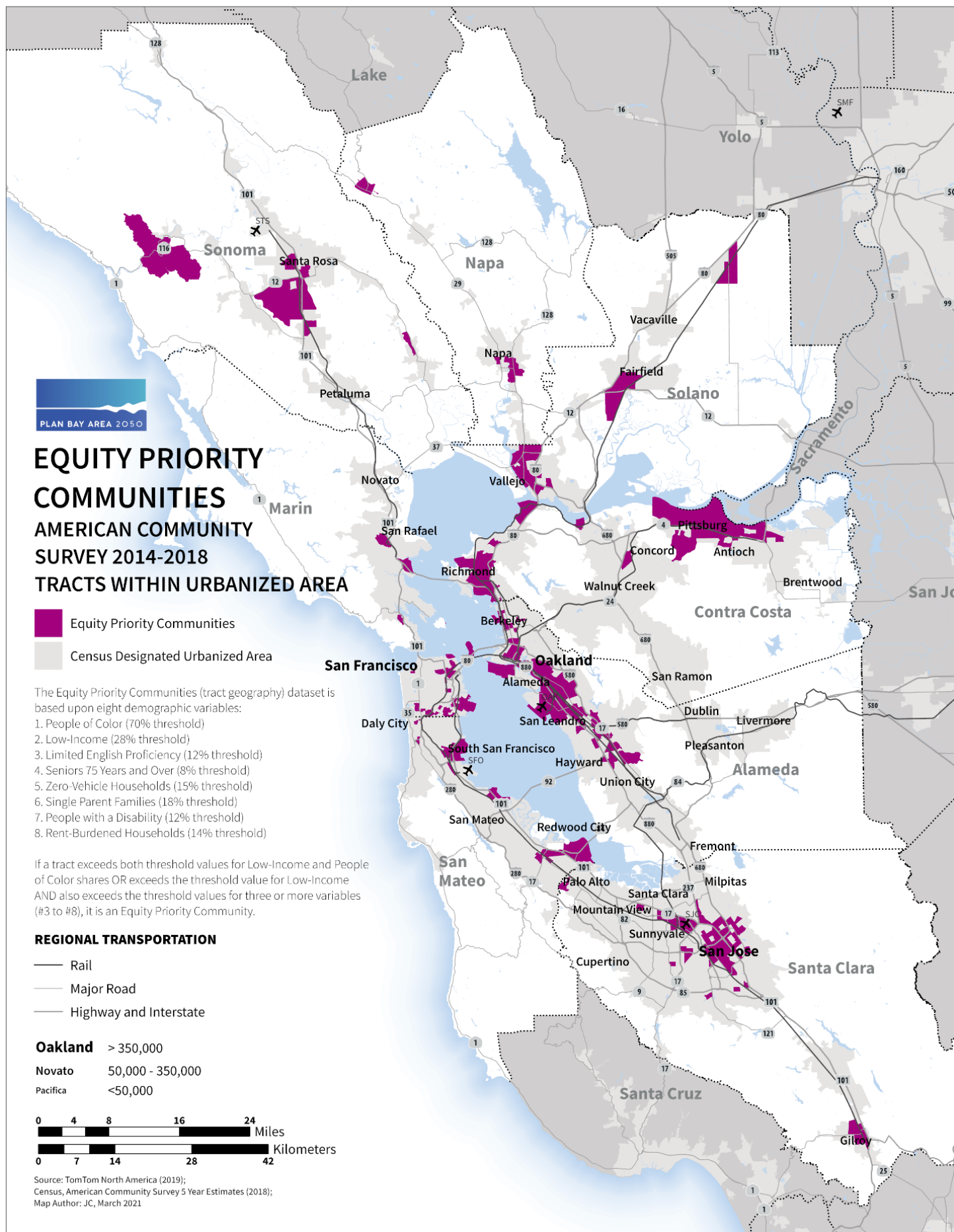
Big Three, Bayside and Inland/Coastal/Delta Cities

To explain demographic trends in the report, cities and towns are often grouped into three categories:

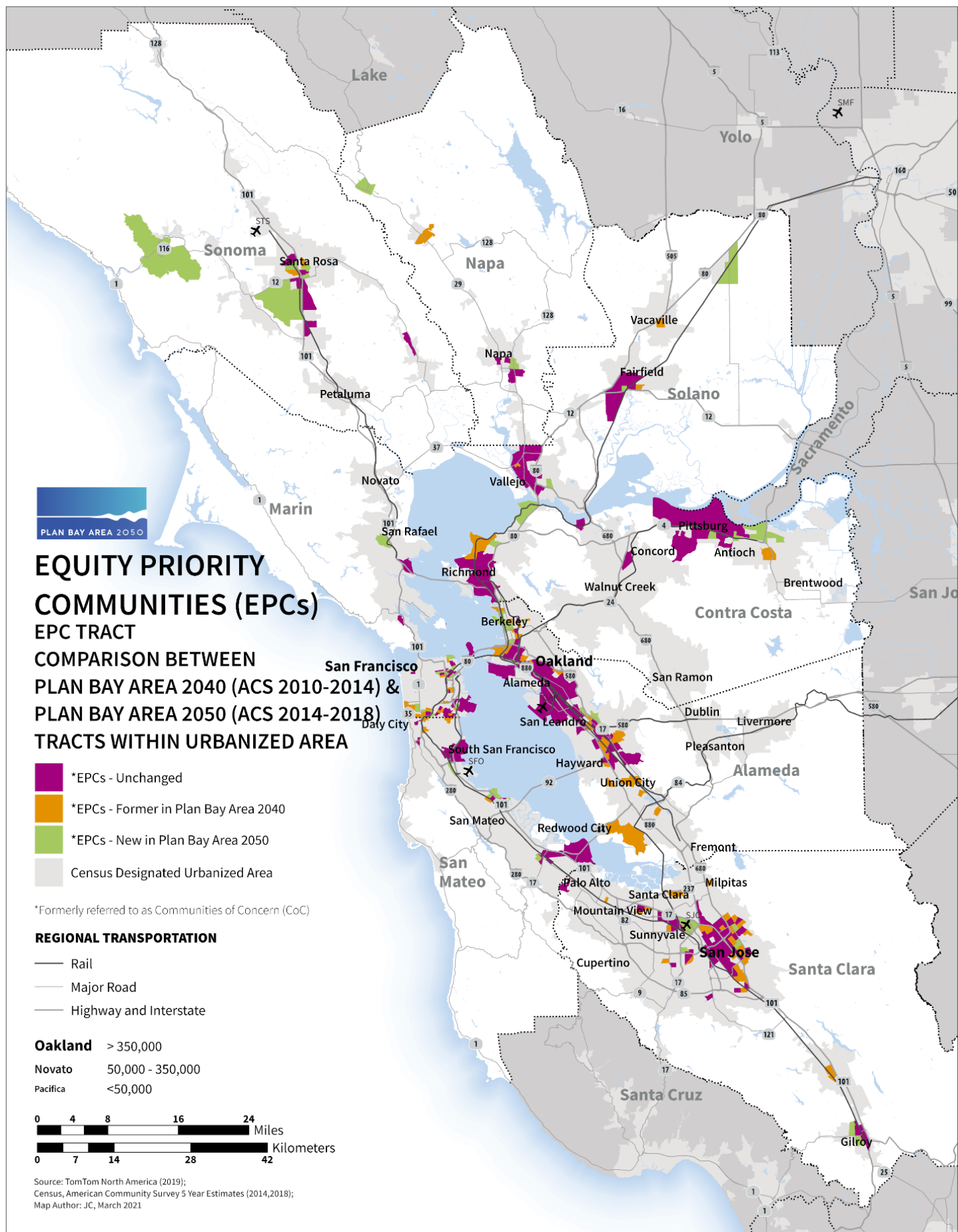
Big Three (San Francisco, Oakland and San Jose), Bayside and Inland/Coastal/Delta, the latter being more suburban or exurban (Figure 2). For additional context at the city level, Figure 3 presents data on the share of population that has low incomes, along with indications whether over half of the population within the city resides in EPCs or HRAs.

22 The California Tax Credit Allocation Committee and Department of Housing and Community Development identify high-opportunity areas statewide through TCAC/HCD Opportunity Area Maps. See more at: <https://www.treasurer.ca.gov/ctcac/opportunity.asp>. Areas marked as “High Resource” and “Highest Resource” are considered as High-Resource Areas in this analysis.

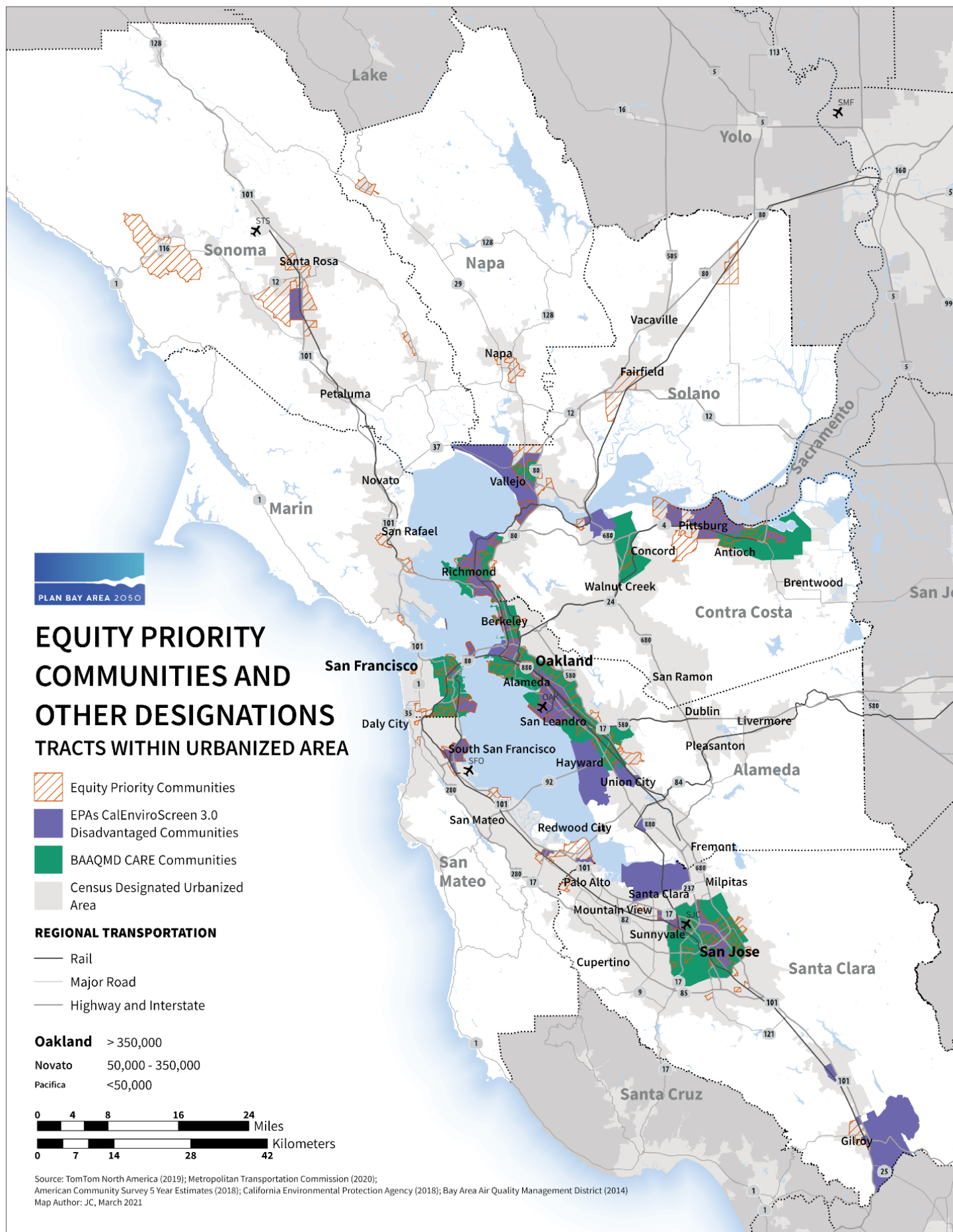
Map 3. Plan Bay Area 2050 Equity Priority Communities



Map 4. Equity Priority Communities: Change between Plan Bay Area 2040 and Plan Bay Area 2050 designations



Map 5. Equity Priority Communities and other designations



Map 6. High-Resource Areas and Equity Priority Communities, 2018

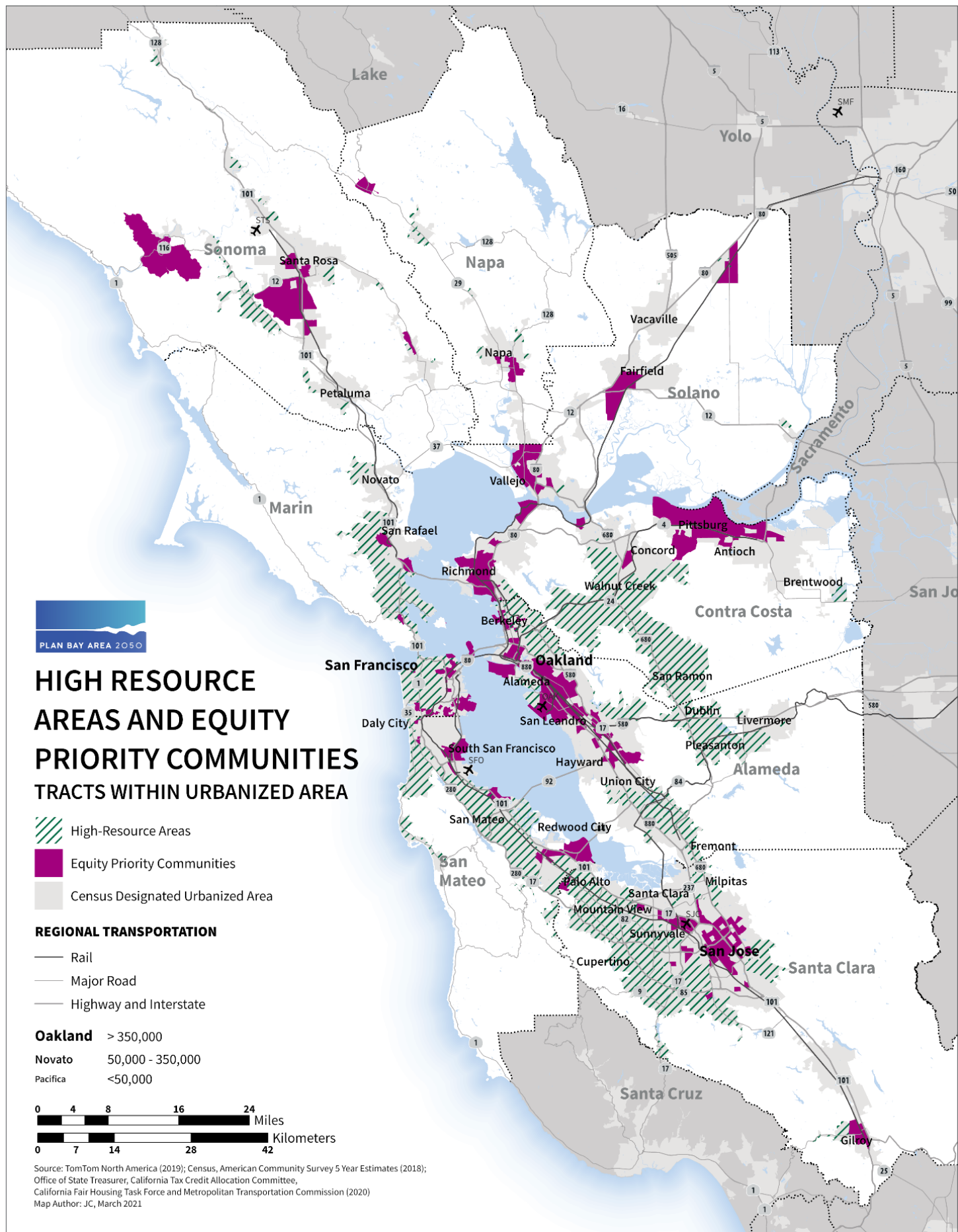
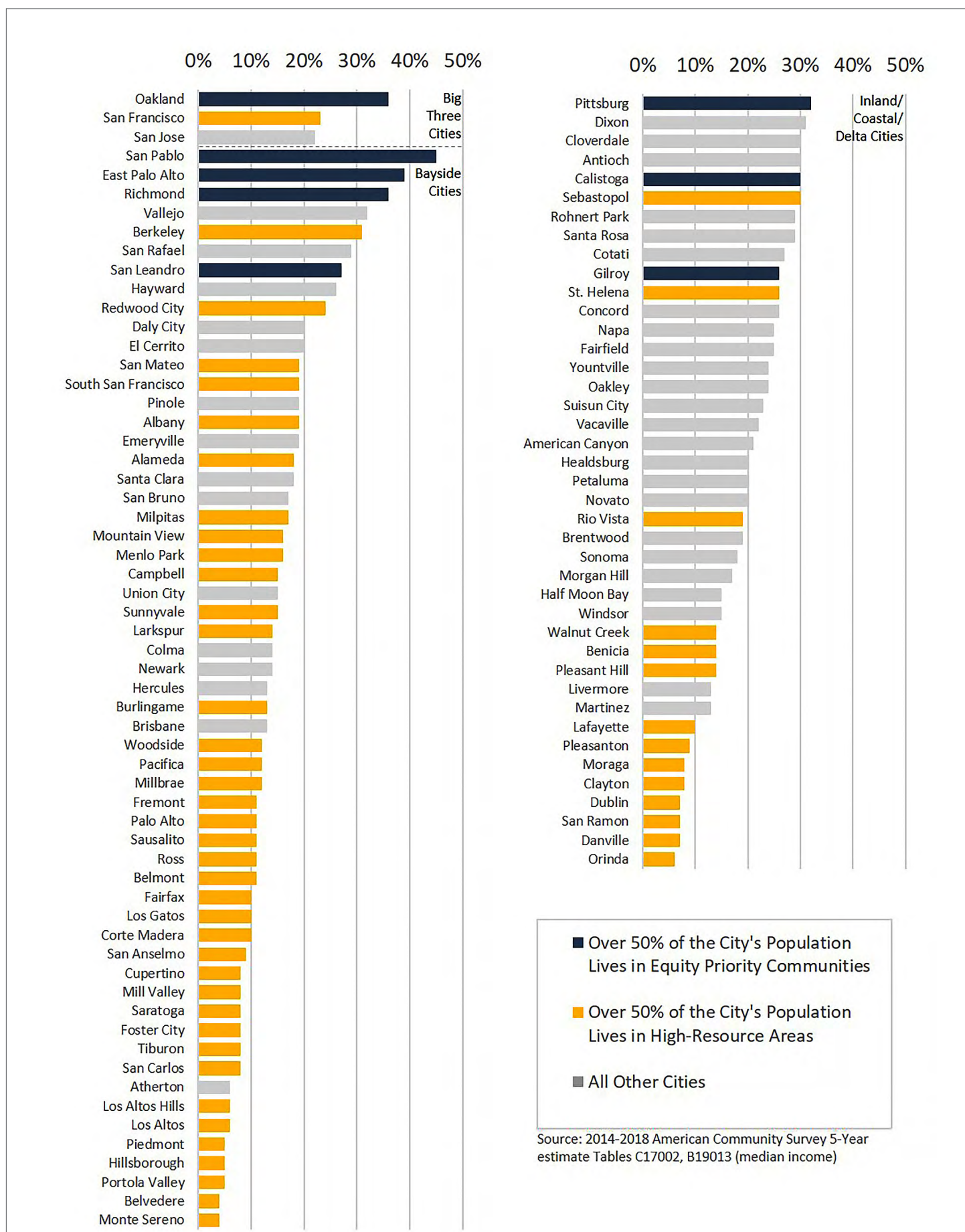


Figure 3. Share of population that has low incomes, by jurisdiction, along with whether over 50% of the population lives in Equity Priority Communities or High-Resource Areas, 2018



Equity Priority Communities: Demographic Trends

The demographic makeup of Equity Priority Communities is distinct from the region as a whole. Table 2 lists the population and shares that historically underserved groups account for within the region as a whole, EPCs, HRAs and the remainder of the region. Twenty-one percent of the region's total population resided in EPCs in 2018 (1,636,000 out of 7,676,000 residents). Among the population of EPCs, 81% were people of color and 41% had low incomes, compared to 60% and 21%, respectively, for the region. EPCs had nearly twice the regional share of cost-burdened renters (19%), limited English proficiency individuals (17%) and zero-vehicle households (19%). The other two demographic factors used to identify EPCs — older adults (age 75 and over) and people with disabilities — were not disproportionately concentrated in EPCs, with shares similar to rest of region.

Table 2. Demographics of Equity Priority Communities, High-Resource Areas and Remainder of the Region, 2018

	REGION		EQUITY PRIORITY COMMUNITIES			HIGH-RESOURCE AREAS			REMAINDER OF REGION		
			Share within Equity Priority Communities	% of EPC Pop		Share within High-Resource Areas	% of HRA Pop		Share within Remainder of Region	% of RoR Pop	
People of Color	4,630,000	60%	1,331,000	29%	81%	1,498,000	32%	49%	1,817,000	39%	60%
Low-Income	1,614,000	21%	673,000	42%	41%	355,000	22%	12%	595,000	37%	20%
Limited English Proficiency*	581,000	8%	255,000	44%	17%	132,000	23%	5%	198,000	34%	7%
Zero-Vehicle Household#	257,000	9%	101,000	39%	19%	88,000	34%	8%	71,000	28%	7%
Older Adult	475,000	6%	78,000	16%	5%	219,000	46%	7%	181,000	38%	6%
People with a Disability	738,000	10%	194,000	26%	12%	240,000	33%	8%	309,000	42%	10%
Single-Parent Family^	220,000	12%	78,000	35%	23%	57,000	26%	7%	86,000	39%	12%
Severely Rent-Burdened Households*	272,000	10%	101,000	37%	19%	79,000	29%	7%	94,000	35%	9%
Total Population	7,676,000	100%	1,636,000	21%	100%	3,030,000	39%	100%	3,063,000	40%	100%

SOURCE: 2014–2018 American Community Survey 5-Year Average

* Share calculated using population above the age of 5. In 2018, the Bay Area had 7,238,000 people above the age of 5.

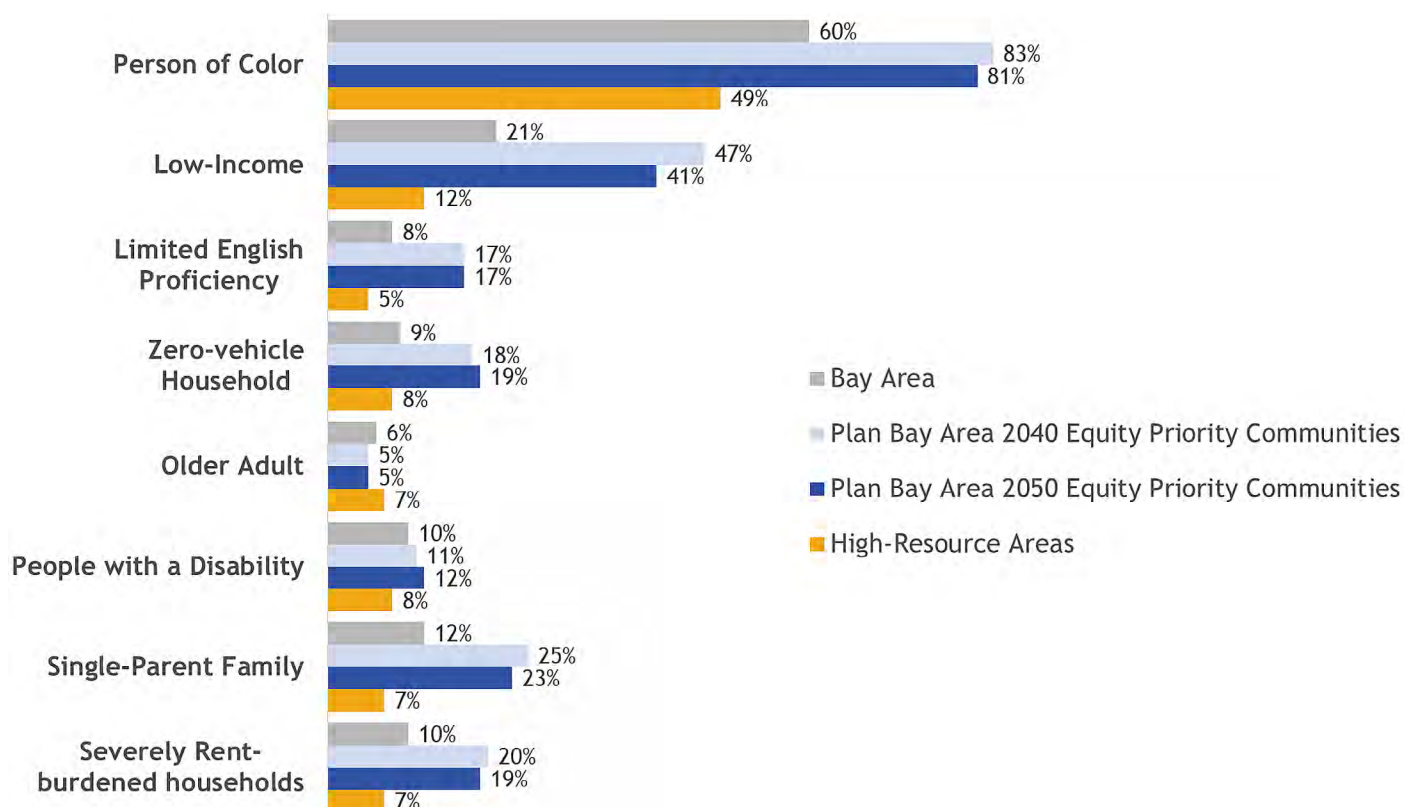
Share calculated using the total number of households. In 2018, the Bay Area had 2,715,000 households.

^ Share calculated using number of families. In 2018, the Bay Area had 1,804,000 families.

It is also important to note that underserved communities are not located solely within the geographically designated EPCs but are rather distributed across the region. The distribution varies considerably among the demographic factors. For instance, 42% of people with low incomes in the region reside within EPCs, while 16% of older adults in the region reside within EPCs. Notably, the shares are below 50% for all of the factors, meaning that more people from under-represented backgrounds live outside of EPCs than within. Nevertheless, identifying locations with concentrations of multiple factors is important since they compound one another.

High-Resource Areas have historically excluded low-income households, particularly communities of color,^{23,24} and hence have lower concentrations of underserved populations in most categories (Figure 4). The exceptions are seniors and people with disabilities, again highlighting their dispersed nature. In fact, HRAs have both a greater share and concentration of seniors which may reflect a split in older adults that experience relative advantage or disadvantage (this is explored further later in the chapter).

Figure 4. Share of population by demographic, 2018



SOURCE: 2014–2018 American Community Survey 5-Year Average, 2010–2014 American Community Survey 5-Year Average

Each of the eight demographic factors used to identify EPCs is explored below for trends over the last three decades and relative change compared to trends summarized for Plan Bay Area 2040. Charts and data highlight how these demographic groups intersect with one another, compounding challenges they face due to their background. All of the analysis here in the context of Plan Bay Area 2050 makes use of the most recent data available at the time of the analysis — American Community Survey (ACS) 2014–2018 — while the Plan Bay Area 2040 analysis used ACS data from 2010–2014.

23 Rothstein, Richard (2017). *The Color of Law*; Self, R. (2003). *American Babylon*.

24 Dougherty, Conor (2020). *Golden Gates: Fighting for Housing in America*. Penguin Press.

People/Households with Low Incomes

The share of the population with low-income in the Bay Area today is the same as it was in 1990; however, it has decreased both in number and as a share of the Bay Area since Plan Bay Area 2040. For the Equity Priority Communities designation, low-income is defined as a household with income less than 200% of the Federal Poverty Threshold (FPT).²⁵ In 2018, 100% of the Federal Poverty Threshold was set at roughly \$13,500 a year for a single person under 65 living alone, approximately \$25,500 a year for a family of four.²⁶ In 2018, 1.61 million individuals, or 21% of the total population in the Bay Area, lived in households earning less than twice the Federal Poverty Threshold.²⁷ This is similar to the percentage in 1990 (21%), but represents a decrease since Plan Bay Area 2040 (25%). Possible reasons for this decrease include increases in state-wide and municipal minimum wages²⁸ and migration of households with low incomes out of the nine-county Bay Area.²⁹ This migration could be to neighboring areas such as the San Joaquin Valley, from where workers super-commute to the Bay Area, or beyond. At the county level, from 1990 to 2018, the share of residents with low incomes saw the largest decline in San Francisco (from 30% to 23%), with smaller shifts in Alameda, Santa Clara and San Mateo County (not more than 1%). In all other counties, the share increased by 3–4%.

There is a wide variation in the share of population with low incomes among Bay Area cities. It is essential to understand the differences across jurisdictional boundaries since many aspects of daily life from schools to road paving are funded at the jurisdiction level. Figure 3 presented earlier in the chapter shows the share of population that are low-income residents in each of the Bay Area's 101 cities and towns. Lack of sufficient affordable housing in some cities, especially in historically exclusionary High-Resource Areas, has led to a wide variation in the jurisdictions' share of low-income households, from 45% in San Pablo to 4% in Monte Sereno. When poverty concentrates in cities or neighborhoods, the negative impacts magnify exponentially.³⁰ Residents with low incomes in areas of highly concentrated poverty face the double burden of not only their own financial insecurity, but also the disadvantages experienced by those around them. The heightened disadvantage affects not just low-income residents but entire communities' economic growth potential, limiting the impact of public investments and undermining efforts to sustain inclusive growth.

People of Color

Latino and Asian populations have grown over the last 30 years, including since the adoption of Plan Bay Area 2040, while the Black and white populations have declined. The Bay Area's population grew by 27% between 1990 and 2018. During this period, the Bay Area diversified significantly, becoming "majority minority" by the year 2000 (Figure 5). The share of white population in the Bay Area decreased from 61% in 1990 to 40% in 2018 (3,658,000 to 3,046,000 people). The share of Black population also dropped from 9% to 6% of the region's population (520,000 to 450,000 people). The share of Hispanic/Latino and Asian & Pacific Islander populations³¹ increased from 15% to 24% (920,000 to 1,811,000 people) and 15% to 26% (880,000 to 2,013,000 people), respectively.

25 This 200% Federal Poverty Threshold standard was established in 2001, prior to the significant rise in Bay Area cost of living relative to the rest of the country and so may not be fully representative of poverty in the Bay Area.

26 [U.S. Census Bureau Poverty Thresholds](#).

27 2018 American Community Survey 5-year estimate Table C17002.

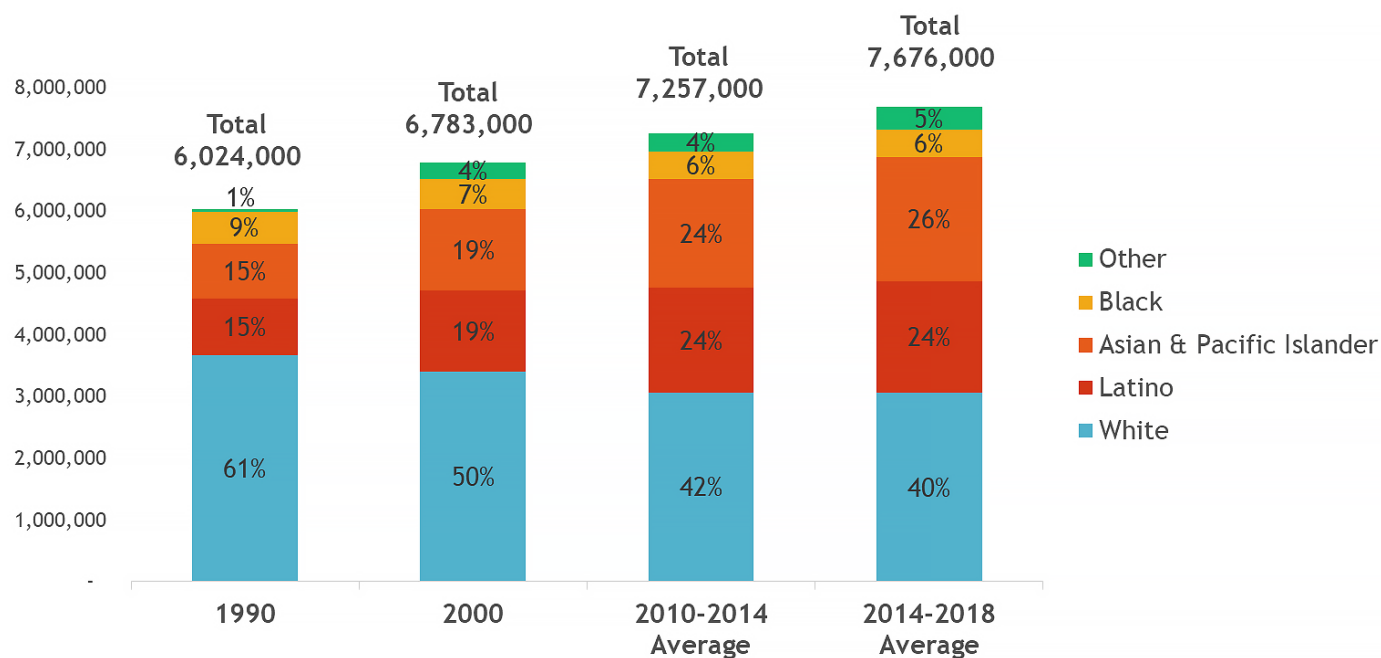
28 Dube, Arindrajit. 2019. "Minimum Wages and the Distribution of Family Incomes." *American Economic Journal: Applied Economics*.

29 Romem, Issi and Elizabeth Kneebone. 2018. "Disparity in Departure: Who Leaves the Bay Area and Where Do They Go?" *Terner Center for Housing Innovation*.

30 For a review of the literature on the effects of concentrated poverty, see: Berube, Alan et al. 2008. "The Enduring Challenge of Concentrated Poverty in America: Case Studies from Communities Across the U.S." *Federal Reserve System and the Brookings Institution*. See also: Sharkey, Patrick. *Stuck in Place: Urban Neighborhoods and the End of Progress Toward Racial Equality*. Chicago: University of Chicago Press, 2013.

31 Prior to 2000 census, the Asian and Native Hawaiian & Pacific Islander (NHPI) populations were combined in a single category, which is maintained for comparison's sake.

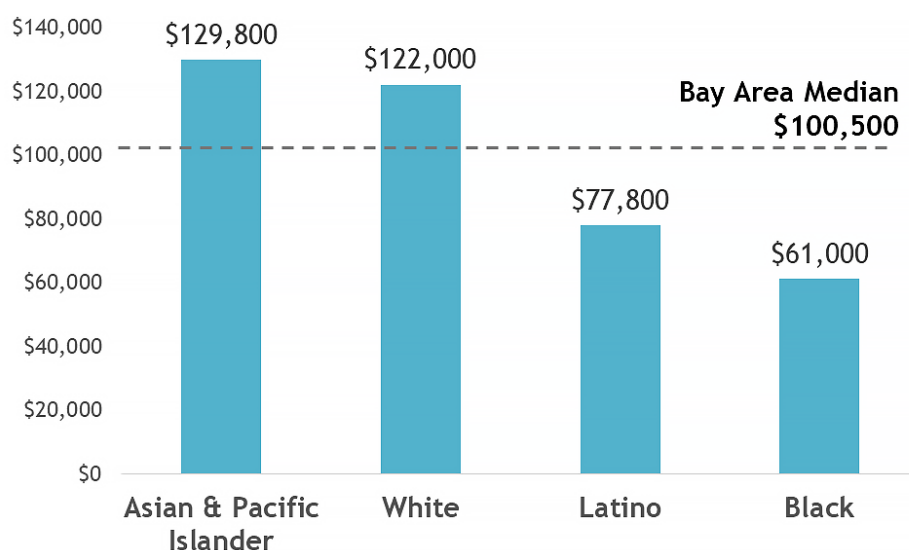
Figure 5. Share of population by race, 2018



SOURCE: 1990 Census data from NHGIS.ORG Code P010, Census 2000 Table P008, American Community Survey 2005-2009 and 2010-2014 Table B03002

Black and Latino households³² earn significantly less income than the Bay Area average. As of 2018, the regionwide median annual household income was \$100,500, with stark disparities by race (Figure 6). Median incomes of Asian and white households were well above the median, at \$130,000 (29% above median) and \$122,000 (21% above median) respectively. On the other hand, Latino households had a median income of \$77,800 (29% below median), and Black households had the lowest median income at \$61,000 (44% below median).

Figure 6. Annual household income by race/ethnicity, 2018

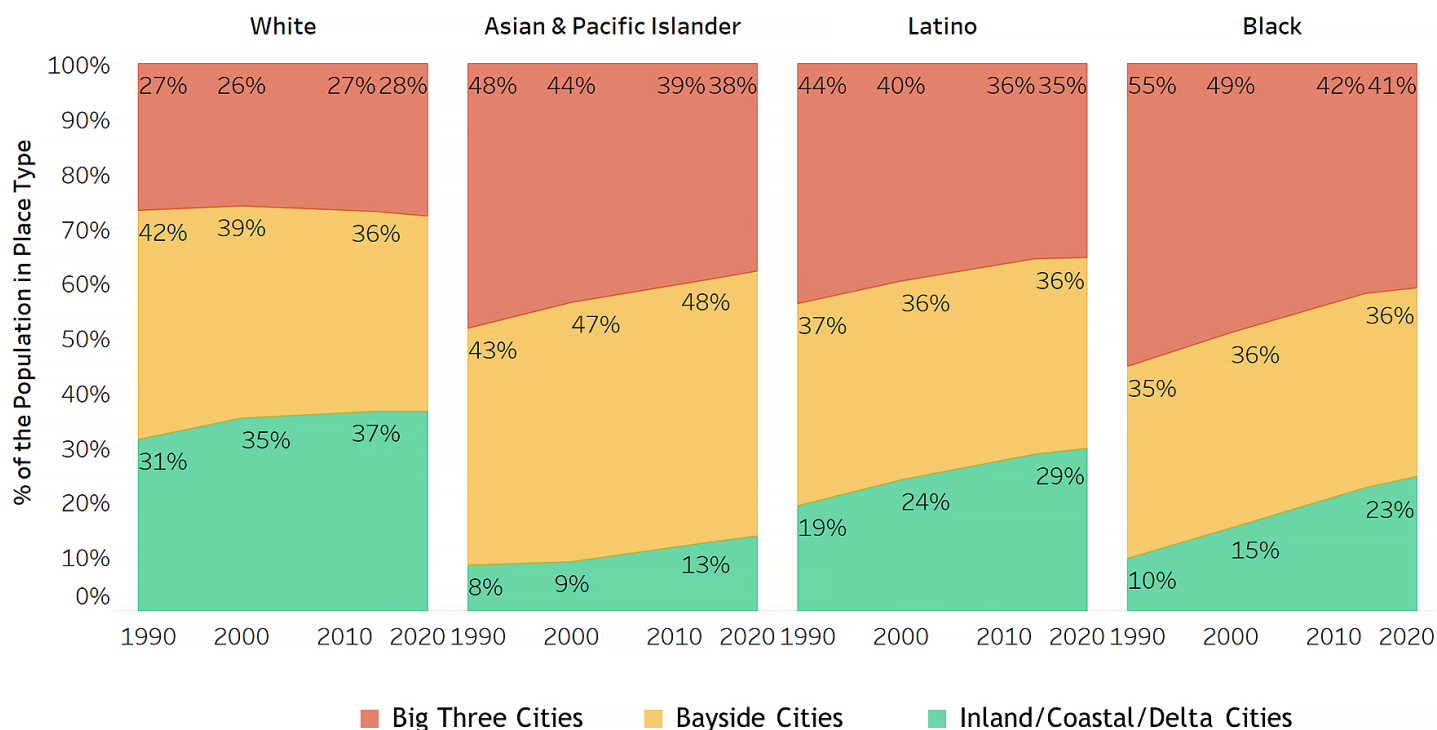


SOURCE: 2018 American Community Survey 1-Year Estimate Tables B19013, B19013B-I

³² The U.S. Census Bureau designates household race/ethnicity by that of the householder.

The Big Three cities have experienced a marginal increase in the share of white residents, while inland, coastal and delta jurisdictions have seen major increases in Black and Latino populations. The share of Black residents living in the region's three largest cities decreased from 55% in 1990 to 41% in 2018, while the share in the Inland/Coastal/Delta region increased from 10% to 25%. During the same time period, the distribution of the white population throughout the region has remained relatively consistent, with slight increases in shares in the Big Three cities. Households moving to suburban and exurban areas are more geographically isolated from job centers, face higher transportation costs with less reliable transit options, and have more limited access to social services and facilities.

Figure 7. Place type by race/ethnicity, 1990–2018



SOURCE: 1990 Census data from NHGIS.ORG Code P010, Census 2000 Table P008, American Community Survey 2005–2009 and 2010–2014 Table B03002

Limited English Proficiency

Limited English Proficiency (LEP) individuals have grown as a share of the region. In 2018, 581,000 people, or 8% of the total Bay Area population above age five, did not speak English “very well” or “well,”³³ defined here as having limited English proficiency. This is an increase from 1990 when 332,200 individuals or 6% of the region’s population were LEP individuals. Over half of LEP individuals lived in Alameda and Santa Clara counties in 2018. San Francisco had the highest concentration of LEP individuals at 22% of residents over age five in 2018.

Limited English proficiency is more prevalent among seniors. 15% of seniors and 8% of working age individuals have limited English proficiency, highlighting the importance of outreach in languages other than English (Figure 8). Among those that have limited English proficiency, 46% primarily speak Spanish, 46% primarily speak Asian and Pacific Island languages, and 8% speak other languages.

³³ The question in the American Community Survey is whether the respondent, if they speak a language other than English, speak English “very well,” “well,” “not well” or “not at all”.

Figure 8. Share of population with Limited English Proficiency, 2018



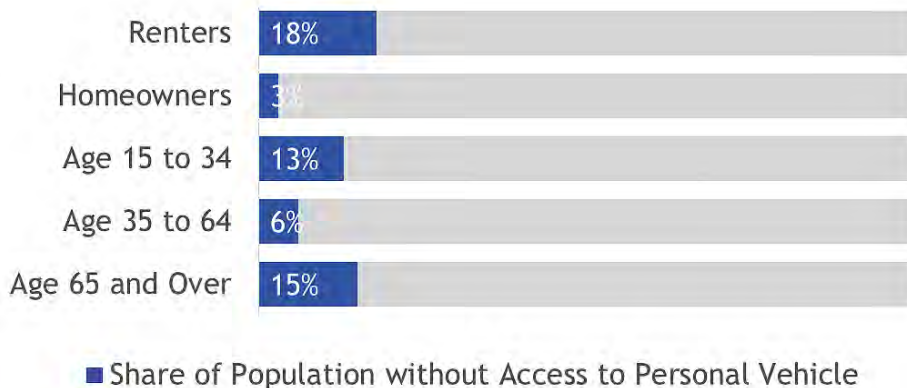
SOURCE: 2014–2018 American Community Survey 5-Year estimate Tables B16004

Zero-Vehicle Households

The share of households in the Bay Area without access to a personal vehicle has remained fairly consistent since 1990 at about one in every ten households. In 1990, 237,000 households or 11% of the region’s households did not own a personal vehicle. In 2018, this number grew to 257,000 households, although the share decreased slightly to 10% of all households. Of the households that did not have a vehicle, 50% had no workers, 33% had one worker, and 17% had two or more workers in the household — highlighting the importance of non-driving modes for both commute and non-commute purposes.

Lack of a vehicle, or “transit dependence,” is more likely among renters, young adults and seniors. Nearly one in five renters (18%) did not have access to a vehicle, compared to 3% of homeowners (Figure 9). Younger adults (age 15–34) and older adults (over age 65) were more likely to not have access to a vehicle, at 13% and 15% respectively, compared to 6% for 35- to 64-year-old adults in 2018.

Figure 9. Share of population that lives in zero-vehicle households, 2018



SOURCE: 2014–2018 American Community Survey 5-year Estimate Table B25045

Older Adults

The older adult population continues to grow as a share of the region. For the purpose of determining Equity Priority Communities, older adults are defined as people with age 75 and over.³⁴ As of 2018, 543,000 people in the Bay Area were older adults,³⁵ nearly two times the population in 1990. The share of this group among the region’s population has continuously risen over the last three decades, from 4.6% in 1990 to 5.8% in 2014 during Plan Bay Area 2040 to 6.1% in 2018. This rising trend is expected to continue in California and around the country due to two primary factors: people are living longer than in past decades and the baby boomer generation is proportionally larger than past generations.³⁶

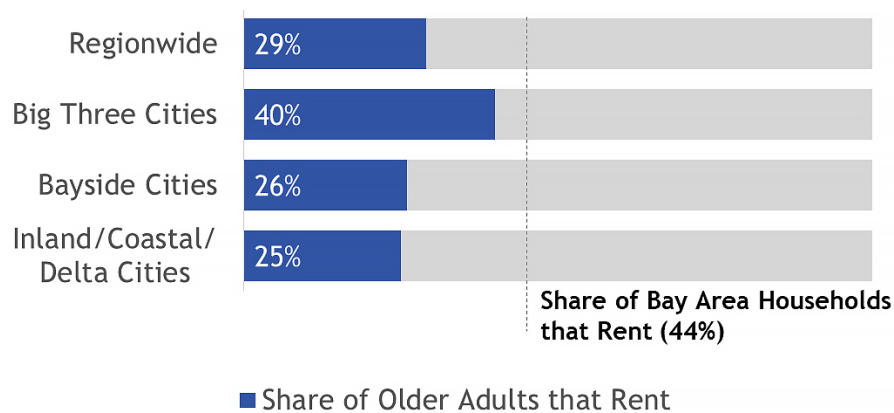
³⁴ Age 65 and older are referred to as seniors in this document.

³⁵ 5-year estimate American Community Survey B01001.

³⁶ California State Plan on Aging, 2017-2021. California Department of Aging.

The proportion of older adults that rent their home is lower than the regional average, but there is a significant senior renter population within the Big Three cities. In 2018, 29% of older adults rented their homes, compared to the regional average of 44%³⁷ (Figure 10). Older adults in the Big Three cities were more likely to be renters (40%), compared to other parts of the region.

Figure 10. Senior tenure by place type, 2018



SOURCE: 2014–2018 American Community Survey 5-Year estimate Table B25007

People with Disabilities³⁸

People with a disability make up a larger share of the Bay Area population compared to the recent past. In 2018, 738,000 people, or roughly 10% of Bay Area residents, experienced a disability. This marks a 9% increase since the last Plan Bay Area 2040, relatively higher than the 4.6% regional population growth.³⁹ Although the share of people with disabilities is not concentrated like the shares of most other underserved communities, some counties such as Alameda County (21%), Santa Clara County (21%) or Contra Costa County (17%) have a higher share than the rest of the region.

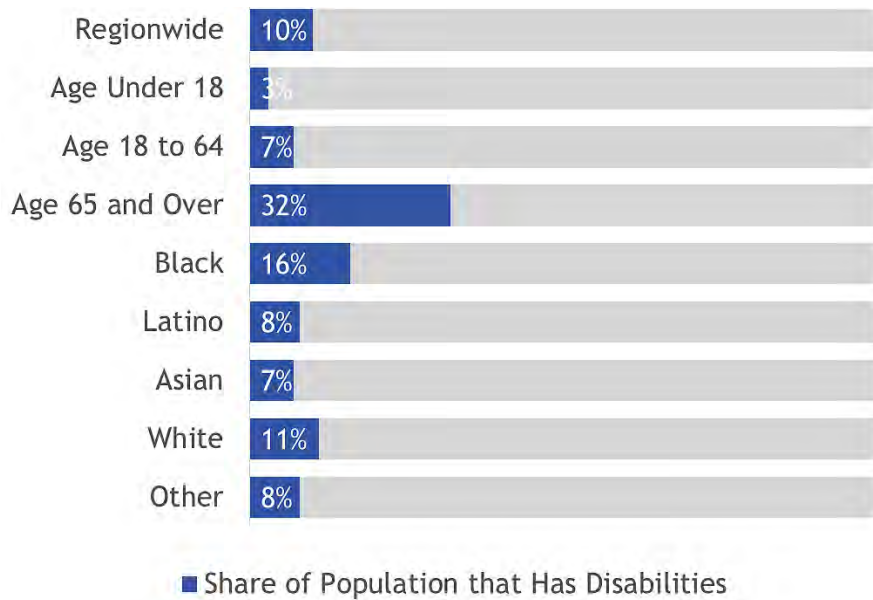
Disabilities are more prevalent among seniors and the Black population. Nearly one in three seniors aged 65 and over have disabilities (Figure 11). Though seniors make up only 15% of the population, they account for 47% of all people with disabilities. Black people are more likely (16%) to have a disability than the rest of the population (10%).

³⁷ Tenure is determined for individuals living in households. Senior living facilities vary whether they are included in the census as households. If each resident has their own mailbox, then it is likely they receive a regular form.

³⁸ The U.S. Census Bureau defines disability as: Hearing difficulty — deaf or having serious difficulty hearing (DEAR); Vision difficulty — blind or having serious difficulty seeing, even when wearing glasses (DEYE); Cognitive difficulty — because of a physical, mental, or emotional problem, having difficulty remembering, concentrating, or making decisions (DREM); Ambulatory difficulty — having serious difficulty walking or climbing stairs (DPHY); Self-care difficulty — having difficulty bathing or dressing (DDRS); Independent living difficulty — because of a physical, mental, or emotional problem, having difficulty doing errands alone such as visiting a doctor’s office or shopping (DOUT).

³⁹ Due to differences in how the American Community Survey and previous decennial census asked about disability status, comparisons are not drawn to earlier time periods.

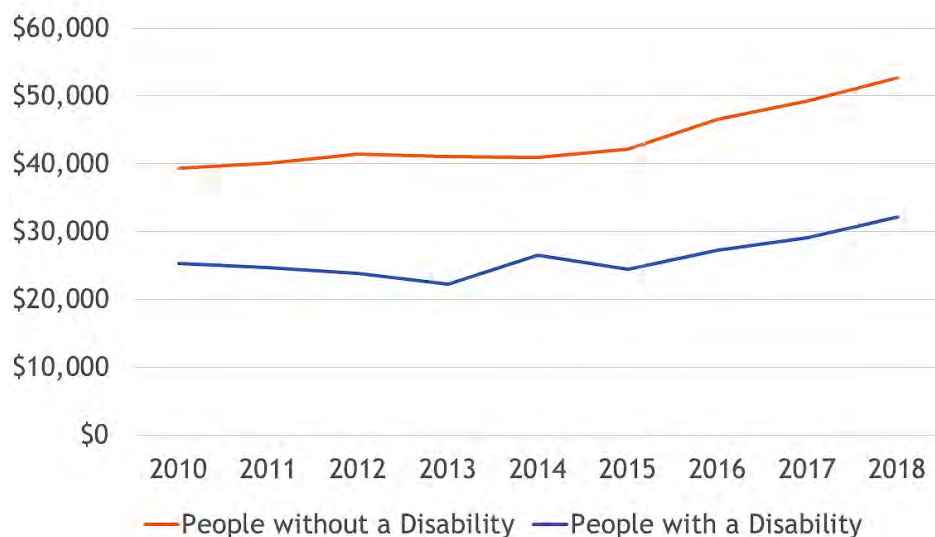
Figure 11. Share of population that has disabilities, 2018



SOURCE: 2014–2018 American Community Survey 5-year estimate Tables B18101A-H

People with disabilities that are employed have significantly lower earnings than people without disabilities, and this gap has widened over the last decade. In 2018, people with a disability had median annual earnings⁴⁰ of \$32,200,⁴¹ 39% less than people without disabilities (Figure 12). Earnings for people with a disability grew slower (27%) than people without disability (34%) between 2000 and 2018. It is essential to note that earnings only account for the population that is employed, which further exacerbates this disparity. In 2019, only 19% of people with disabilities were employed⁴² compared with 66% of people without disabilities nationally.⁴³

Figure 12. Median annual earnings for employed persons by disability status, 2010–2018



SOURCE: 2010–2018 American Community Survey 1-year estimates Table B18140

⁴⁰ Earnings data are available for people with a disability, but household income data are not.

⁴¹ Nominal dollars

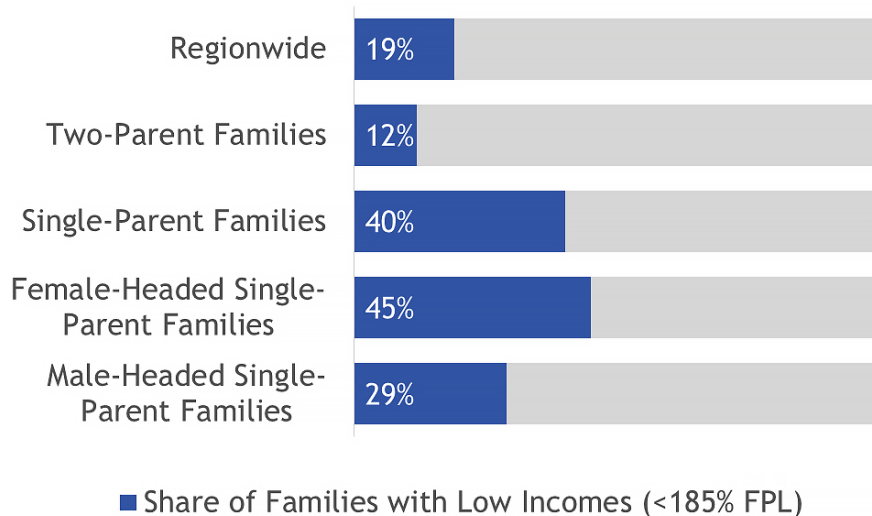
⁴² It should be noted this does not imply an unemployment rate of 81%; unemployment rate is specific to those looking for work. People with disabilities had an unemployment rate of 7.3%, roughly double the 3.5% rate for people without disabilities.

⁴³ Bureau of Labor Statistics. “[PERSONS WITH A DISABILITY: LABOR FORCE CHARACTERISTICS — 2019](#)”

Single-Parent Families

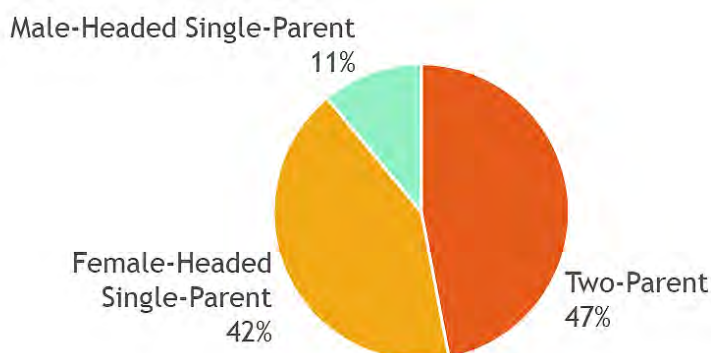
Single-parent families are significantly more likely to have low incomes, particularly female-headed families. Among the 1,804,000 families in the Bay Area, 220,000 families or 12% are families with children headed by a single parent, a proportion that has stayed roughly the same since 2000.⁴⁴ In 2018, 40% of these families had low incomes (Figure 13), defined here as income below 185% of the Federal Poverty Threshold (while MTC strives to apply 200% of the Federal Poverty Threshold (FPT) as the definition of low income, the data on family status could only be acquired using 185% of the Federal Poverty Threshold, or \$46,250 for a family of four as of 2018). In comparison, 19% of all families with children had low incomes in 2018. This share is higher when the single-parent household is headed by a female (45%) than when headed by a male (29%). Looking at the data differently, 53% of all families with low incomes are single-parent families, with female-headed families accounting for 42% and male-headed for 11% (Figure 14).

Figure 13. Share of families with low incomes, 2018



SOURCE: 2014–2018 American Community Survey 5-year estimate Table B17022

Figure 14. Families with low incomes by family type, 2018



SOURCE: 2014–2018 American Community Survey 5-year estimate Table B17022. Total = Bay Area families with income < 185% FPT

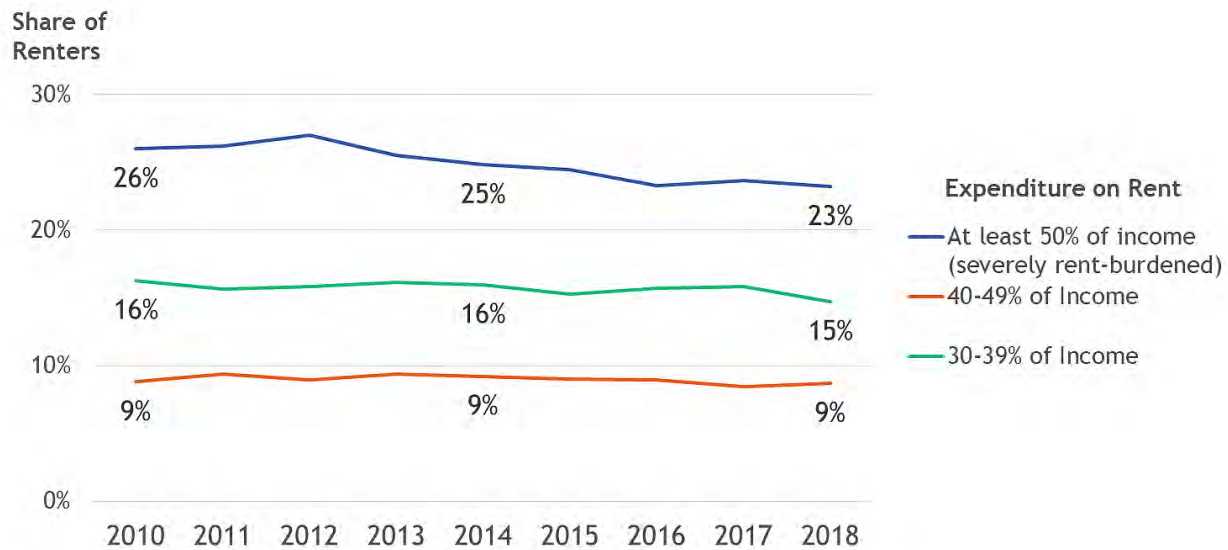
Black and Latino families are more likely to be single-parent families and also more likely to be in poverty than other race/ethnicity groups. The shares of Black and Latino families that are single-parent families are 32% and 22% respectively, higher than the overall share at 19%, and the share for white families at 8% or Asian families at 7%. Further, the shares of Black and Latino single-parent families with incomes below 185% of the Federal Poverty Threshold are 62% and 50%, well above the regional share of single-parent families with low incomes at 40%.

⁴⁴ Due to data universe differences in the 1990 census, comparisons are done to 2000.

Severely Rent-Burdened Households

Almost a quarter of Bay Area renters are severely cost-burdened, although this share has decreased slightly over the last decade. Severely rent-burdened households are defined as households that spend more than half their income on rent. In 2018, approximately 1,196,000 Bay Area households were renters (44% of all households). The share of severely rent-burdened households in the region was 23% of renters (266,000 households), or 10% of all households (Figure 15). At the county level, the share of severely rent-burdened households among renters varies considerably: San Francisco 17%, Santa Clara 22%, Solano 24%, Marin 24%, Alameda 24%, San Mateo 25%, Contra Costa 28%, Sonoma 29%, and Napa 31%.

Figure 15. Share of Bay Area renters by rent burden, 2010–2018



SOURCE: American Community Survey 2010–2018 Table B25070

Chapter 4 | Equity Lens on Strategies

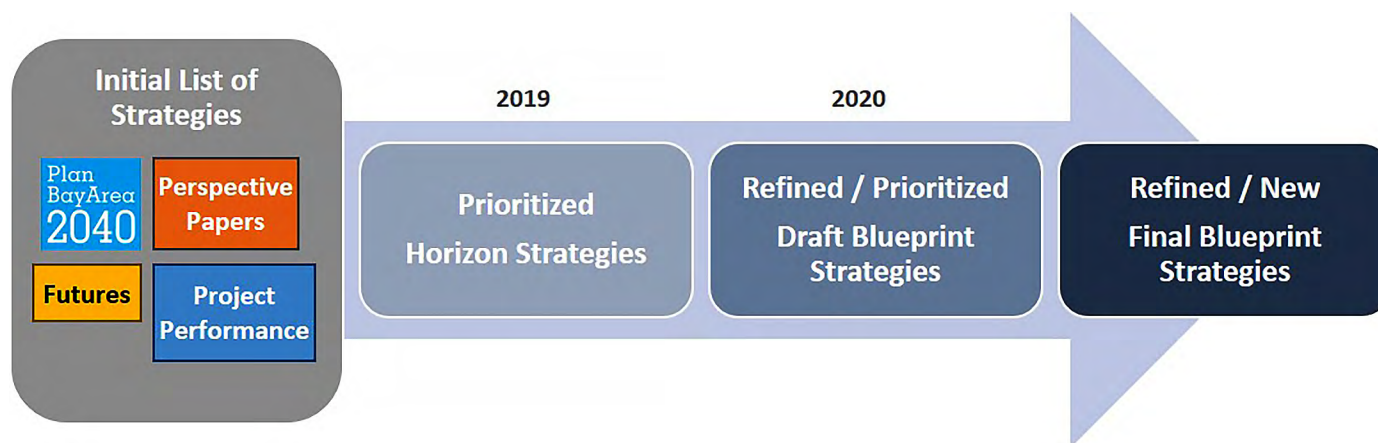
Plan Bay Area 2050 consists of 35 strategies across four elements: housing, the economy, transportation and the environment. Over the course of the plan development, during the Horizon, Draft Blueprint and Final Blueprint phases, strategies were continuously refined using an equity lens approach to improve their performance and equity impacts. The first section of this chapter describes the process and engagement and outreach methods in refining the strategies. The following four sections, one for each element of the plan, capture the equity-focused components within the 35 strategies.

It is essential to note that metrics to describe outcomes of the Plan in Chapter 6 can be insightful in understanding strategy impacts, but not every aspect of every strategy can be simulated or captured by the metrics. For this reason, the equity-focused components within the strategies are delineated into those that are captured in the simulation and metrics and those that could not be captured since they cannot be represented in MTC's travel and land use simulation models.

Process and Methodology

The initial list of strategies was sourced from Plan Bay Area 2040 and Horizon, which included Perspective Papers that MTC staff authored on five topics, the Futures Planning scenario planning process, and Project Performance Assessment, an evaluation of major transportation investments. Strategies were prioritized based on rigorous analysis of equity and performance outcomes as well as feedback through public engagement, described further below. All strategies were refined with a strong focus on equity during multiple in-depth workshops with both community-based organizations and stakeholder working groups.

Figure 16. Process to develop and refine Plan Bay Area 2050 strategies



The full suite of strategies was first analyzed during the Draft Blueprint Phase. Equity and performance outcomes informed further discussion and refinement of these strategies during the Final Blueprint phase. At this stage, several new strategies were added based on challenges identified during the Draft Blueprint phase, new needs identified in light of the COVID-19 pandemic, and feedback received during small group discussions with underrepresented groups. Key resources that reflect the process of continuous refinement and addition of strategies with an equity lens can be found in the links below:

- **Horizon (including Perspective Papers, Futures and Project Performance):**
<https://www.planbayarea.org/2050-plan/horizon/horizon-documents>
- **Draft Blueprint Phase:**
<https://www.planbayarea.org/2050-plan/draft-blueprint/plan-bay-area-2050-draft-blueprint-documents>
- **Final Blueprint Phase:**
<https://www.planbayarea.org/2050-plan/final-blueprint/plan-bay-area-2050-final-blueprint-documents>

Engagement and Outreach

Centering an equitable process, Plan Bay Area 2050 was developed with meaningful and extensive participation of key stakeholders that ranged from community-based organizations and labor interests to public agencies, business groups and individual residents. The complete documentation of engagement and outreach can be found in Plan Bay Area 2050 Public Engagement Report. Staff employed innovative engagement methods, especially in light of the COVID-19 pandemic, including game-like in-depth workshops, pop-up workshops across the region, telephone town halls, virtual cocoa chats, interactive digital whiteboards, digital surveys, an online game, virtual office hours and an online tribal summit. This section highlights few components of the public engagement most relevant to listening and learning from underrepresented communities in developing, refining and prioritizing strategies.

Targeted Outreach to Underrepresented Groups through Community-Based Organizations

MTC staff partnered with community-based organizations throughout the region to engage in small group discussions with underrepresented groups, including people with low incomes, people of color, people with disabilities and people with limited English proficiency. These discussions took place three times over the plan development process. The first set of discussions, during the Horizon phase as part of the early 2019 outreach for Plan Bay Area 2050, involved nine focus groups to get feedback on which of the strategies best addressed the challenges faced by the communities. The second set of discussions, conducted during the Draft Blueprint phase in the late spring of 2020, involved seven focus groups and were designed to function as listening sessions where participants were invited to suggest ways to improve or alter the Draft Blueprint's strategies. A third set of discussions was conducted in winter 2021, where groups provided feedback to inform the Implementation Plan of Plan Bay Area 2050. More information on these partnerships, including a list of the community-based organizations that were engaged, can be found in the Plan Bay Area 2050 Public Engagement Report.

Pop-Up Workshops in Equity Priority Communities

In spring 2018 and fall 2019, staff conducted a series of pop-up workshops. This format consists of meeting people "where they are" at public events and venues such as libraries, community colleges, farmers markets and street fairs. The pop-up locations were selected based on availability of existing community events and geographic diversity, with nearly 80% of the workshops conducted in Equity Priority Communities. Dozens of MTC and ABAG staff were enlisted to bring the planning process to every corner of the Bay Area and gather input toward the plan's vision, guiding principles and strategies.

Telephone Town Halls

To reach those with limited internet access and/or limited English proficiency during the Shelter-in-Place, staff held five telephone town hall sessions in summer 2020: two in English, one in Spanish, one in Mandarin and one in Cantonese. Staff promoted the events via a printed flyer directly mailed to 20,000 Bay Area households located in Equity Priority Communities in all nine Bay Area counties, via the Nextdoor social media platform and to members of the unhoused community in Oakland. A member of the Policy Advisory Council promoted the telephone town halls to members of the unhoused community. The events took place during the day, with three of the five town halls held on a Saturday. This effort was a first for our agency, both using the telephone town hall format and holding the events in-language, helping us meet our goal of reaching as many residents as possible.

MTC Policy Advisory Council Equity and Access Subcommittee

MTC's Policy Advisory Council is made up of 27 Bay Area residents with extensive life experience, work, academic or volunteer backgrounds that focus on economic, environmental and equity issues, whose passions range from advocating on behalf of people with disabilities and under-served communities to protecting the environment or keeping the region's economy moving via an efficient transportation network. The Policy Advisory Council advises MTC on a variety of topics, and the Equity and Access Subcommittee within the Council advises on issues related to social equity. MTC staff regularly consulted both the Council and the Subcommittee throughout the planning process on topics including developing the plan's vision and guiding principles, the prioritizing and refining strategies, updates to the Equity Priority Communities designations, the framework for this report, and the equity analysis methodology itself.

Regional Equity Working Group

As in Plan Bay Area 2040, MTC staff convened a Regional Equity Working Group (REWG) to solicit feedback throughout the planning process. The REWG brought together equity advocates and other interested stakeholders from government

agencies, including local jurisdictions, transit agencies and county transportation agencies. The group first convened in September 2019 in the context of Plan Bay Area 2050 and has met 8 times throughout the planning process over the course of 1.5 years. The primary purpose of the engagement with REWG was to gain input in the development of strategies through an equity lens, the desired outcomes with respect to equity, and the equity analysis itself. All REWG meetings are open to the public. Meeting agendas, materials and recordings can be found on the MTC website [here](#).

Table 3. Engagement calendar with Regional Equity Working Group

	TOPIC	MONTH	MEETING FORMAT
1	Orientation to the Agency-Wide Equity Platform, Plan Bay Area 2050 Process and REWG Process	September 2019	Kick-Off Meeting
2	Overview of Bay Area Inequities and Challenges	November 2019	Webinar
3	Refinement of Draft Strategies based on Horizon Futures Final Report	December 2019	Workshop
4	Review of Desired Equity Outcomes and Final Strategies	January 2020	Workshop
5	Review Draft Blueprint Outcomes	July 2020	Virtual Workshop
6	Review Community of Concern Update and Equity Analysis Report Framework	November 2020	Webinar
7	Follow up on Equity Priority Communities Update and Preview of Equity Analysis	April 2021	Webinar
8	Reflect on Equity in the Horizon/Plan Bay Area 2050 Process and Seek Input for Future Planning Efforts	September 2021	Virtual Workshop

Equity-Focused Components within Strategies

Transportation Element

The Transportation Element consists of twelve strategies across three themes: Maintain and Optimize the Existing System; Create Healthy and Safe Streets; and Build a Next-Generation Transit Network. Table 4 describes the equity-focused components that staff included within the transportation strategies based on multiple rounds of outreach and workshops with stakeholders. The feedback received during small group discussions with underserved populations and workshops with stakeholders was centered on:

- **Maintain and Optimize the Existing System**
 - Improve quality of existing transit vehicles and facilities, include station and stop infrastructure.
 - Improve transfer connections with timed transfers.
 - Improve safety of transit.
 - Provide last-mile assistance for commuters with low incomes.
 - Implement fare policy reform, with free transfers and means-based fares.
 - Ensure availability of transit alternatives when freeways are tolled, along with means-based tolling and carpooling discounts.

- Reinvest toll revenues in services for people with low incomes.
- Maintain cash-based payment methods for unbanked.
- **Create Healthy and Safe Streets**
 - Implement low-hanging fruit such as painted crosswalks toward Vision Zero.
 - Enforce speed limits through street design improvements.
 - Elevate pedestrian needs of safer, welcoming sidewalks.
 - Fund bicycle programs and incentives along with infrastructure, including parking, repair, education and prioritization in Equity Priority Communities.
 - Provide bicycle infrastructure connections with regional transit.
- **Build a Next-Generation Transit Network**
 - Strengthen core services connecting Equity Priority Communities.

Table 4. Transportation strategies: Equity-focused components within strategies

#	STRATEGY	EQUITY-FOCUSED COMPONENTS CAPTURED IN STRATEGY SIMULATION AND METRICS	EQUITY-FOCUSED COMPONENTS NOT CAPTURED DUE TO TECHNICAL LIMITATIONS IN SIMULATION
Maintain and Optimize the Existing System			
T1	Restore, Operate and Maintain the Existing System	• Restoration of operations and maintenance of transit system at pre-COVID-19 levels.	• Investments that make transit stations and vehicles safer, cleaner, and more accessible – with investments targeted at meeting the needs of transit-dependent or limited mobility passengers.
T2	Support Community-Led Transportation Enhancements in Equity Priority Communities	• n/a	• Investments resulting from programs such as Community Based Transportation Plans (CBTPs) and participatory budgeting, such as lighting and safety measures, improvements to transit stations and stops, and subsidies for shared mobility like bike share or car share.
T3	Enable a Seamless Mobility Experience	• Prioritize transfer connections in Equity Priority Communities	• Unified transportation wallet with options for loading value in cash.
T4	Reform Regional Fare Policy	• Focus on reducing costs spent on transit, especially those with longer commutes/more transfers, through regional integrated fare structure, a flat local fare and free transfers across operators • Means-based discounts for people with very low incomes	• Discounts for youth and people with disabilities.

#	STRATEGY	EQUITY-FOCUSED COMPONENTS CAPTURED IN STRATEGY SIMULATION AND METRICS	EQUITY-FOCUSED COMPONENTS NOT CAPTURED DUE TO TECHNICAL LIMITATIONS IN SIMULATION
T5	Implement Per-Mile Tolling on Congested Freeways with Transit Alternatives	• Tolling on highways only with parallel transit alternatives • Discounts for off-peak travel and vehicles with three or more occupants • Means-based discounts for people with very low incomes	• Discounts for people with disabilities. • Reinvestment of revenues in improving transit alternatives and carpooling programs for lower-income households
T6	Improve Interchanges and Address Highway Bottlenecks	• (refer to “Equity Focus in Project Performance Assessment” below)	
T7	Advance Other Regional Programs and Local Priorities	• n/a	• n/a
Create Healthy and Safe Streets			
T8	Build a Complete Streets Network	• Prioritize pedestrian and bike infrastructure in Equity Priority Communities	• Support to local jurisdictions to maintain and expand car-free slow streets • Amenities like improved lighting, safer intersections, and secure bike parking at transit stations
T9	Advance Regional Vision Zero Policy through Street Design and Reduced Speeds	• Speed limit reductions to 20 to 35 miles per hour on local streets and 55 miles per hour on freeways	• Enforcing lower speeds using design elements like speed bumps, lane narrowings, intersection bulb-outs on local streets and automated speed enforcement, reducing in-person enforcement • Emphasis on improvements near schools, community centers, and parks • Engagement with local communities to identify priority locations for enforcement • Reinvestment of revenues generated from violation fines into safety initiatives, including education and capital investments

#	STRATEGY	EQUITY-FOCUSED COMPONENTS CAPTURED IN STRATEGY SIMULATION AND METRICS	EQUITY-FOCUSED COMPONENTS NOT CAPTURED DUE TO TECHNICAL LIMITATIONS IN SIMULATION
Build a Next-Generation Transit Network			
T10	Enhance Local Transit Frequency, Capacity and Reliability	• (refer to “Equity Focus in Project Performance Assessment” below)	
T11	Expand and Modernize the Regional Rail Network	• (refer to “Equity Focus in Project Performance Assessment” below)	
T12	Build an Integrated Regional Express Lanes and Express Bus Network	• (refer to “Equity Focus in Project Performance Assessment” below)	

Equity Focus in the Project Performance Assessment

Improve Interchanges and Address Highway Bottlenecks (T6), Enhance Local Transit Frequency, Capacity and Reliability (T10), Expand and Modernize the Regional Rail Network (T11) and Build an Integrated Regional Express Lane and Express Bus Network (T12) are strategies that are comprised of similar transportation investments. The complete list of projects can be found in the Plan Bay Area 2050 Transportation Project List. Major transportation projects were evaluated through the Project Performance Assessment. Details of this assessment can be found in the Plan Bay Area 2050 Performance Report.

The Equity Assessment within the Project Performance Assessment identified projects as either advancing, evenly distributing or challenging equitable outcomes based on forecasted accessibility benefits of projects to households with low incomes relative to all households. Projects that were forecasted to advance equitable outcomes — by providing a greater share of benefits to households with low incomes than their share of population — and to be cost effective were prioritized for inclusion within these strategies. On the other hand, in the case of projects that were forecasted to challenge equitable outcomes, MTC collaborated with project sponsors to seek commitments to enhance equitable outcomes prior to including them in the strategies with regional discretionary funding. Table 5 highlights such commitments. Commitment letters from project sponsors can be found within the Plan Bay Area 2050 Performance Report (Appendix 4). Beyond this, the strategies include other projects that were prioritized by county transportation agencies. These projects would be funded by county budget sources such as sales tax measures or parking revenues and do not require regional discretionary revenues.

Table 5. Equity-related commitments from project sponsors for projects that were forecasted to challenge equitable outcomes, Project Performance Assessment

PROJECT NAME	SPONSOR	COMMITMENTS
T6. Improve Interchanges and Address Highway Bottlenecks?		
I-80/I-680/SR-12 Interchange	STA	• Support for investing in transit and managed lanes
SR-262 Mission Boulevard Improvements	ACTC	• Reduce scope to focus on improvements to arterial, eliminating Express Lane direct connector between I-880 and I-680
Bay Area Forward	MTC Design and Project Delivery	• Focus on investments that benefit transit
Resilient SR-37	NVTA, SCTA, STA, TAM	• Support for means-based toll discounts and transit/bike connections on the corridor
T10. Enhance Local Transit Frequency, Capacity, and Reliability		
Treasure Island Congestion Pricing	SFCTA	• Exempt low-income current Treasure Island residents from toll
Downtown San Francisco Congestion Pricing	SFCTA	• Explore means-based tolls and transit fares
Geary BRT Phase 2	SFCTA	• Support SFMTA Muni Equity Strategy
T11. Expand and Modernize the Regional Rail Network		
Caltrain Downtown Extension	SFCTA	• Continue Downtown Congestion Pricing study
Caltrain Full Electrification and Blended Baseline	Caltrain and California High-Speed Rail Authority	• Reduce scope to focus on increasing frequencies to 8 trains per hour per direction, which can be supported with minimal capital investment
ACE 10 Daily Round Trips	Altamont Corridor Express	• Support for regional fare integration and means-based discounts

PROJECT NAME	SPONSOR	COMMITMENTS
Dumbarton Rail	SamTrans	• Reduce scope to explore lower-cost, lower-capacity; Group Rapid Transit instead of commuter rail; • Support for transit-supportive land use in growth geographies along the corridor; • Commitment to mitigate natural land loss from project implementation
San Jose Airport People Mover	City of San Jose	• Support for transit-supportive land use in growth geographies along corridor
T12. Build an Integrated Regional Express Lanes and Express Bus Network		
Regional Express Bus (ReX)	MTC Express Lanes	• Reduce scope to remove some capital improvements and limit routes to highest ridership routes; • Support for means-based fares
Regional Express Lanes Network	MTC Express Lanes	• Prioritize conversions of HOV lanes or general-purpose lanes for Express Lane construction, where possible; • Support for means-based discounts on Express Lanes and in other future pricing efforts
AC Transit Transbay Service Frequency Increase	AC Transit	• Reduce scope to focus on low-cost capital improvements and a limited number of routes

Housing Element

The Housing Element is comprised of eight strategies across three themes: Protect and Preserve Affordable Housing; Spur Housing Production for Residents of All Income Levels; and Create Inclusive Communities. The strategies, first analyzed during Horizon, were refined throughout the Plan Bay Area 2050 process to improve outcomes for underserved populations. Table 6 describes the equity-focused components that staff included within the housing strategies based on feedback received during small group discussions with underserved populations and workshops with equity stakeholders. The feedback primarily included:

- **Protect and Preserve Affordable Housing**
 - Expand protection for existing residents with low incomes beyond state legislation.
 - Provide services that help reduce barriers to access housing.
- **Spur Housing Production for Residents of All Income Levels**
 - Enable affordable housing at all income levels.
 - Prioritize locations with greatest GHG reductions and equity benefits.
 - Prioritize affordable housing production in areas not prone to flooding and other hazards.
 - Increase minimum requirements for affordable housing for residential multi-family development.
 - Increase development feasibility by coupling with other incentives for affordable housing.
 - Provide subsidies to encourage workforce housing in places with jobs/housing imbalance.

- **Create Inclusive Communities**

- Provide assistance for first-time home buyers who have low incomes and are people of color.
- Build complete communities that include housing, transit and amenities/services.
- Partner with community land trusts and local businesses.
- Enable alternative ownership models / community land trust shared ownership.

Table 6. Housing strategies: Equity-focused components within strategies

#	STRATEGY	EQUITY-FOCUSED COMPONENTS CAPTURED IN STRATEGY SIMULATION AND METRICS	EQUITY-FOCUSED COMPONENTS NOT CAPTURED DUE TO TECHNICAL LIMITATIONS IN SIMULATION
Protect and Preserve Affordable Housing			
H1	Further Strengthen Renter Protections Beyond State Law	• Annual rent increases limited to the rate of inflation, while exempting units less than 10 years old	• Expanded services such as legal assistance • Strengthened enforcement of recently adopted and longstanding protections, including fair housing requirements
H2	Preserve Existing Affordable Housing	• Acquisition of homes currently affordable to low-and middle-income residents for preservation • Preservation of all existing deed-restricted units that are at risk of conversion to market rate housing	• Transfer of ownership of units without deed-restrictions (also known as “naturally occurring affordable housing”) to individual tenants, housing cooperatives, or public or non-profit housing organizations including community land trusts
Spur Housing Production for Residents of All Income Levels			
H3	Allow a Greater Mix of Housing Densities and Types in Growth Geographies	• Variety of housing types at a range of densities allowed to be built in Growth Geographies	• n/a
H4	Build Adequate Affordable Housing to Ensure Homes for All	• Funding to build deed-restricted affordable homes necessary to fill the existing gap in homeless housing and to meet the needs of low-income households, including those currently living in overcrowded or unstable housing	• Prioritization of projects that advance racial equity in High-Resource Areas, Transit Rich Areas, and communities facing displacement risk
H5	Integrate Affordable Housing into All Major Housing Projects	• Require 10 to 20 percent of new market-rate housing developments of 5 units or more to be permanently deed-restricted affordable to low-income households	• Exempt more units, such as Accessory Dwelling Units (ADUs) and fourplexes to increase feasibility

#	STRATEGY	EQUITY-FOCUSED COMPONENTS CAPTURED IN STRATEGY SIMULATION AND METRICS	EQUITY-FOCUSED COMPONENTS NOT CAPTURED DUE TO TECHNICAL LIMITATIONS IN SIMULATION
H6	Transform Aging Malls and Office Parks into Neighborhoods	• Permitting and promoting shopping malls and office parks with limited commercial viability as neighborhoods with housing at all income levels • Regional pilot projects that add 1,000+ homes and dedicate land for affordable housing and public institutions such as community colleges and university extensions	• Complete communities with mixed-income housing, local and regional services, and public spaces
Create Inclusive Communities			
H7	Provide Targeted Mortgage, Rental, and Small Business Assistance to Equity Priority Communities	• n/a	• Mortgage and rental assistance in Equity Priority Communities, prioritizing longtime previous or existing residents of communities of color • Targeted grants and low-interest loans to start up and expand locally-owned businesses
H8	Accelerate Reuse of Public and Community Land for Mixed-Income Housing and Services	• Reuse of land for deed-restricted mixed-income affordable housing	• Prioritize projects that benefit communities of color and other underserved communities • Establish a regional network of land owned by public agencies, community land trusts, and other non-profit land owners for coordinating and providing essential services

Economy Element

The Plan's Economy Element, initially focused on improving employment opportunities and shifting jobs to housing-rich locations, was enhanced with new strategies during the Blueprint phase to help decrease disparities faced by households with low incomes especially in light of the COVID-19 pandemic. The element contains six strategies across two themes: Improve Economic Mobility; and Shift the Location of Jobs. Table 7 describes the equity-focused components that staff included within the economy strategies. Key feedback received during small group discussions with underserved populations and workshops with equity stakeholders that inform the strategies included:

- **Improve Economic Mobility**
 - Expand childcare subsidies to cover care for seniors and people with disabilities.
 - Focus on local needs for new businesses such as access to capital, affordable rents, shared industry-specific tools and accounting services.
 - Foster networks and mentorships.
- **Shift the Location of Jobs**
 - Foster diversity of job types in employment growth.
 - Include employee housing where appropriate and create mixed-use areas.

Table 7. Economy strategies: Equity-focused components within strategies

#	Strategy	Equity-Focused Components Captured in Strategy Simulation and Metrics	Equity-Focused Components Not Captured due to Technical Limitations in Simulation
Improve Economic Mobility			
EC1	Implement a Statewide Universal Basic Income	• Provide an average payment of \$500 a month to all households in the Bay Area (payments vary based upon household size and composition), paired with tax increases for those outside the low-income tax bracket that offset any gains from this strategy	• n/a
EC2	Expand Job Training and Incubator Programs	• Job opportunities in select Priority Production Areas in housing-rich locations	• Training for high-growth in demand occupations in collaboration with local community colleges in under-resourced communities • Technical assistance for establishing a new business, access to workspaces, mentorship and financing

#	Strategy	Equity-Focused Components Captured in Strategy Simulation and Metrics	Equity-Focused Components Not Captured due to Technical Limitations in Simulation
EC3	Invest in High-Speed Internet in Underserved Low-Income Communities	n/a	- Direct subsidies for internet access to reduce costs for low-income households to \$0 per month - Public infrastructure to create additional high-speed fiber connections
Shift the Location of Jobs			
EC4	Allow Greater Commercial Densities in Growth Geographies	n/a	n/a
EC5	Provide Incentives to Employers to Shift Jobs to Housing-Rich Areas Well Served by Transit	Subsidies from new tax revenues that encourages employers to locate in housing-rich areas	n/a
EC6	Retain and Invest in Key Industrial Lands	Local land use policies to retain key industrial lands and grow middle-wage jobs	Limited annual funding for high-growth PPAs for non-transportation infrastructure improvements including fiber, broadband, and building improvements

Environment Element

The Environment Element of Plan Bay Area 2050 contains nine strategies across three themes: Reduce Risks from Hazards; Expand Access to Parks and Open Space; and Reduce Climate Emissions. Table 8 describes the equity-focused components of that staff included within the Environment strategies. Key themes of feedback received during small group discussions facilitated by community-based organizations and workshops with equity stakeholders that inform the strategies included:

- **Reduce Risks from Hazards**
 - Prioritize investments in Equity Priority Communities, coupled with renter protections.
 - Fund managed retreat programs for areas prone to flooding.
 - Provide financial assistance for retrofit strategies in Equity Priority Communities.
 - Resilience investments in residential buildings, including energy retrofits, power backups, electrification and microgrids.
- **Expand Access to Parks and Open Space**
 - Implement regional urban growth boundary strategy to open up zoning and transfer of development rights across areas to promote infill.
 - Enhance urban open spaces in underserved communities.

- **Reduce Climate Emissions**

- Prioritize investments and programs in Equity Priority Communities and for households with fewer resources.
- Reduce barriers to entry for electric vehicles (EVs): subsidies for EVs/used EVs for households with low incomes; charging infrastructure in Equity Priority Communities.
- Provide rebate programs for older vehicles.

Table 8. Environment strategies: Equity-focused components within strategies

#	STRATEGY	EQUITY-FOCUSED COMPONENTS CAPTURED IN STRATEGY SIMULATION AND METRICS	EQUITY-FOCUSED COMPONENTS NOT CAPTURED DUE TO TECHNICAL LIMITATIONS IN SIMULATION
Reduce Risks From Hazards			
EN1	Adapt to Sea Level Rise	• Prioritize adaptations and nature-based actions and resources in Equity Priority Communities	• Funding to support strategic retreat in a small number of communities where sea level rise protections are not financially feasible
EN2	Provide Means-Based Financial Support to Retrofit Existing Buildings (<i>Energy, Water, Seismic, Fire</i>)	• Prioritize assistance in Equity Priority Communities	• Means-based subsidies to offset costs
EN3	Fund Energy Upgrades to Enable Carbon-Neutrality in All Existing Commercial and Public Buildings	• n/a	• Focus investments in under-resourced communities, creating long-term job opportunities
Expand Access to Parks and Open Space			
EN4	Maintain Urban Growth Boundaries	• n/a	• Paired with infill developments in Housing strategies
EN5	Protect and Manage High-Value Conservation Lands	• Provide strategic matching funds to help conserve and manage high-priority natural and agricultural lands, including but not limited to Priority Conservation Areas	• n/a
EN6	Modernize and Expand Parks, Trails, and Recreation Facilities	• Emphasis on expanding recreation opportunities in Equity Priority Communities and other underserved areas	• n/a

#	STRATEGY	EQUITY-FOCUSED COMPONENTS CAPTURED IN STRATEGY SIMULATION AND METRICS	EQUITY-FOCUSED COMPONENTS NOT CAPTURED DUE TO TECHNICAL LIMITATIONS IN SIMULATION
Reduce Climate Emissions			
EN7	Expand Commute Trip Reduction Programs at Major Employers	• n/a	• Complementary strategy (<i>Strategy EC3</i>) to expand internet access in underserved communities
EN8	Expand Clean Vehicle Initiatives	• Significantly expand funding to make strategy beneficial to broad array of Bay Area residents	• Prioritize regional EV chargers in Equity Priority Communities • Scale vehicle buyback program and EV incentives based on household income level (>50% of funding towards households with low incomes)
EN9	Expand Transportation Demand Management Initiatives	• n/a	• Prioritize targeted transportation alternatives for residential buildings with households with low incomes (25% of funding to low-income residential buildings) • Prioritize Mobility Hubs(including carshare, micromobility and other strategies) in Equity Priority Communities

Chapter 5 | Investment Analysis

While each Plan strategy was carefully crafted to advance equity, it is also critical to ensure that financial investments nested within each strategy are channeled equitably. This chapter presents an analysis of the nearly \$1.4 trillion of investments planned within the 35 strategies across all four elements of the Plan — Transportation, Housing, Economy and Environment — with the goal of understanding the share of investments that benefit households with low incomes.

“Investment” refers to the funding planned within the 35 strategies of the Plan. Some of these are policy-oriented and do not include financial investment, such as allowing greater commercial densities or expanding commute trip reduction programs at major employers. These policy-based strategies are not discussed within this investment-oriented chapter. “Benefit” in this chapter is defined as the share of investments that are targeted toward households with low incomes. As defined in Chapter 3, “households with low incomes” refers to households with incomes less than 200% of the Federal Poverty Threshold established by the Census Bureau, representing roughly 21% all Bay Area households.

Methodology

Investments within strategies are allocated to three groups for the purpose of this analysis: households with low incomes (incomes less than 200% of the Federal Poverty Threshold established by the Census Bureau, representing roughly 21% all Bay Area households), all other households, and businesses. While the determining the benefit to households with low incomes is elaborated further within the Findings sections on each element of the plan below, there are a few different determination types outlined in Table 9.

Table 9. Methodology to determine share of benefit allocation to households with low incomes

DETERMINATION TYPES	RELEVANT STRATEGIES
Full allocation to households with low incomes: Multiple strategies, especially in the Housing and Economy elements, are designed specifically to address the needs of households with low incomes. For example, deed-restricted affordable housing is targeted specifically based upon a household’s income. Therefore, investments within these strategies are fully allocated to households with low incomes.	Housing: H1, H2, H4, H7 Economy: EC1, EC2, EC3
Allocation proportional to share of regionwide population: Some strategies bring benefits to the population at large, such as the strategy to conserve more natural spaces. While there may be reasons as to why some groups of the population stand to benefit more than others, such as better access, developing assumptions for allocating the investments is challenging.	Environment: EN5
Allocation based on need: Investments within strategies that provide means-based subsidies toward households with low-incomes were allocated based on the share of the investment that would be necessary to meet the needs of those populations.	Transportation: T4 Environment: EN2, EN3, EN8

DETERMINATION TYPES	RELEVANT STRATEGIES
Allocation based on location of investments: In strategies with physical investments that have localized benefits, such as strategies to adapt to sea level rise, or build community parks, the investments were allocated based on whether these investments were located in Equity Priority Communities or not. Assumptions for locations of these investments in most cases were developed based on needs determined by staff to align with the plan's climate, equity and resilience objectives.	Transportation: T2 Environment: EN1, EN6, EN9
Allocation based on existing usage patterns (use-based analysis): In the case of transportation investments, the benefit toward households with low incomes is calculated based on the existing share of the transportation system use. This methodology, detailed further below, also permits analyzing the share of investments that benefits people of color since data for road usage by county and transit usage by operator are available by race.	Transportation: T1, T3, T5, T6, T7, T8, T9, T10, T11, T12
Full allocation to businesses: Investments under strategies that are targeted toward employers that do not directly benefit households were fully allocated to this group.	Economy: EC5, EC6
Strategies that are policy-oriented and do not include financial investment	Housing: H3, H5, H6, H8 Economy: EC4 Environment: EN4, EN7

Additional Context on Use-Based Analysis for Transportation Investments

With respect to the Transportation Element this analysis compares the estimated share of investments that benefit low-income and people of color populations to the share of their respective use of the transportation system (roadways and transit) and to their respective share of the regional population.

In the aggregate, the analysis measures transit and motor vehicle trips using the 2012 California Household Travel Survey (CHTS) and various transit passenger demographic surveys conducted between 2012 and 2019 through the Regional Transit Passenger Survey Program.⁴⁵ The steps involved in conducting the population/use-based analysis include:

1. Using American Communities Survey 2014–2018 data, determine the share of low-income (L0) and minority (M0) population in the region.
2. Using the CHTS and transit passenger demographic surveys data, calculate the share of all roadway trips by county and share of all transit trips by transit operator for low-income (L1 and L2) and minority (M1 and M2) populations.
3. Using the Transportation Project List, tally the total investments in roadways by county (RR) and transit by operator (TT).
4. For roadway investments, for each county, assign a share of the roadway investment (RR) to the low-income population (L3) based on their share of roadway trips (L1) for that county. Repeat for minority population (M3).

⁴⁵ Regional Transit Passenger Survey Program: <http://bayareametro.github.io/transit-passenger-surveys/>

5. For transit investments, for each transit operator, assign a share of the investment (TT) to the low-income population (L4) based on their share of transit trips (L2) for that operator. Repeat for minority population (M4).
6. Sum all the investments (roadway and transit) that were assigned to low-income (L5) and minority (M5) populations.
7. Compare the share of population (L0 and M0) to the share of assigned investments (L5 and M5) assess the level of total transportation benefit accrued to low-income and minority populations.
8. Compare the share of population (L0 and M0) and trips by mode (L1/L2 and M1/M2) to the share of assigned investments by mode (L5 and M5) to assess the level of transportation benefit by mode accrued to low-income and minority populations.

Table 10. Population/use-based analysis methodology

POPULATION	SHARE OF REGIONAL POPULATION	SHARE OF ROADWAY TRIPS	SHARE OF TRANSIT TRIPS	SHARE OF ROADWAY INVESTMENTS	SHARE OF TRANSIT INVESTMENTS	SHARE OF TOTAL INVESTMENTS
Low-Income	L0	L1	L2	L3	L4	L5
Minority	M0	M1	M2	M3	M4	M5

At a regional level, while this approach takes advantage of the available data on trips for low-income and people of color populations by county and transit operator, it is still a coarse analysis that has the following limitations:

The analysis does not account for benefits and burdens at the project level. While a roadway project may benefit all users of that facility, the benefits may not necessarily accrue at the same proportion to each population group as their share of all trips in a county where the facility is located. (Note: please refer to the Plan Bay Area 2050 Performance Report for more information on project-specific equity findings for major transportation projects.)

The analysis also assumes that the share of trips by mode by a particular population group remains the same in future years, regardless of investments that improve efficiency, safety, capacity or access.

The analysis does not adjust for the relative size of populations in future years. For example, the share of low-income population in 2050 may or may not be the same compared to 2018.

Lastly, pedestrian and bicycle projects are assigned to local streets and roads due to a lack of sufficient data on use by income and race/ethnicity. Goods movement expenditures are consolidated with road investments, and other programmatic expenditures are assigned to transit or road investments based on the users they would primarily benefit.

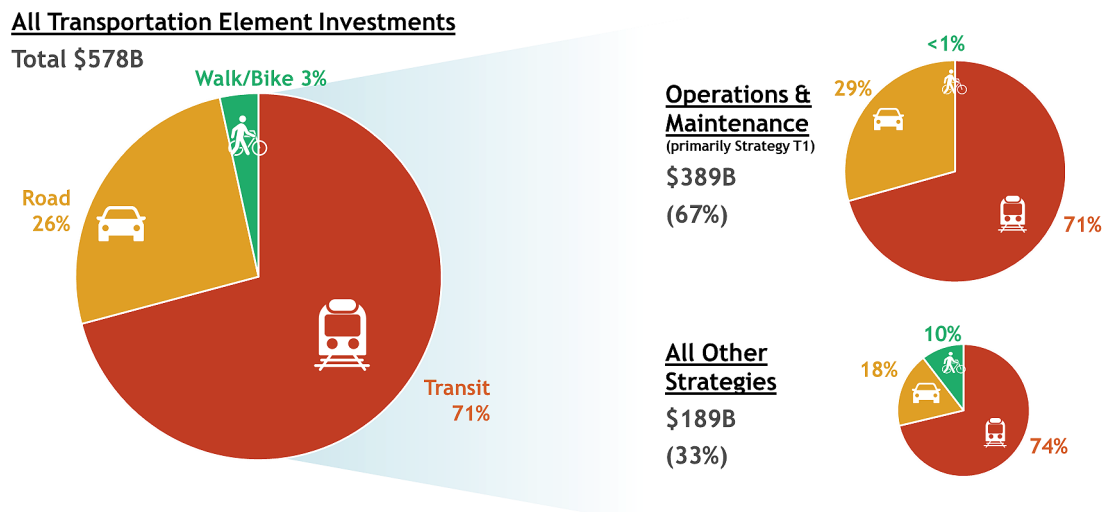
Findings

In all four elements of the plan, described in the sections below, the share of investments targeted toward households with low incomes is higher than the share of households with low incomes among the region's population (21%). Investments in the housing and economy elements are directed almost exclusively toward households with low incomes, while transportation and environment investments are split between households with low incomes and other households.

Transportation

The Plan invests nearly \$580 billion in transportation between 2021 and 2050 as part of the Transportation Element.⁴⁶ For context, the majority of this investment, 71%, is focused on transit infrastructure, operations and programs (Figure 17). Two-thirds of the total funding is dedicated toward operating and maintaining existing transportation system, and the remaining one third is for all other strategies – where there is lesser focus on road investments and more on pedestrian and micromobility investments.

Figure 17. Plan Bay Area 2050 transportation investments by mode



Determining the share for transit and road investments toward households with low incomes was calculated using the use-based analysis methodology. Based on analysis, 39% of all transportation investments is targeted toward households with low incomes (Figure 18). Regional discretionary funding was prioritized for major transit and road investments that were forecasted to advance equitable outcomes during the Project Performance Assessment (see the Plan Bay Area 2050 Performance Report for additional details). In general, given the existing usage patterns of the different transit systems by people with low incomes and people of color, local transit investments more directly benefit these population subgroups. On the other hand, regional rail, express bus and ferry investments tend to serve whiter and wealthier demographics (Figure 19).

However, regional transit operators play a critical role in enhancing economic mobility by providing high-capacity and high-frequency transit to major employment centers. As such, the Plan balances investments between local and regional modes, while simultaneously investing in strategies such as means-based transit fare subsidies, seamless transit and affordable housing production and preservation in Transit-Rich Areas. Other investments that benefit people with low incomes are complete street and safety improvements prioritized in Equity Priority Communities, and funding for transportation enhancements resulting from community-led planning and other similar efforts.

⁴⁶ The Plan Bay Area 2050 Transportation Project List invests an additional \$13 billion in existing transportation revenues within the Environment Element, specifically in sea level rise adaptation for highway and rail facilities (portion of EN1), clean vehicle initiatives (EN8) and transportation demand management initiatives (EN9).

Figure 18. Transportation investments toward households with low incomes

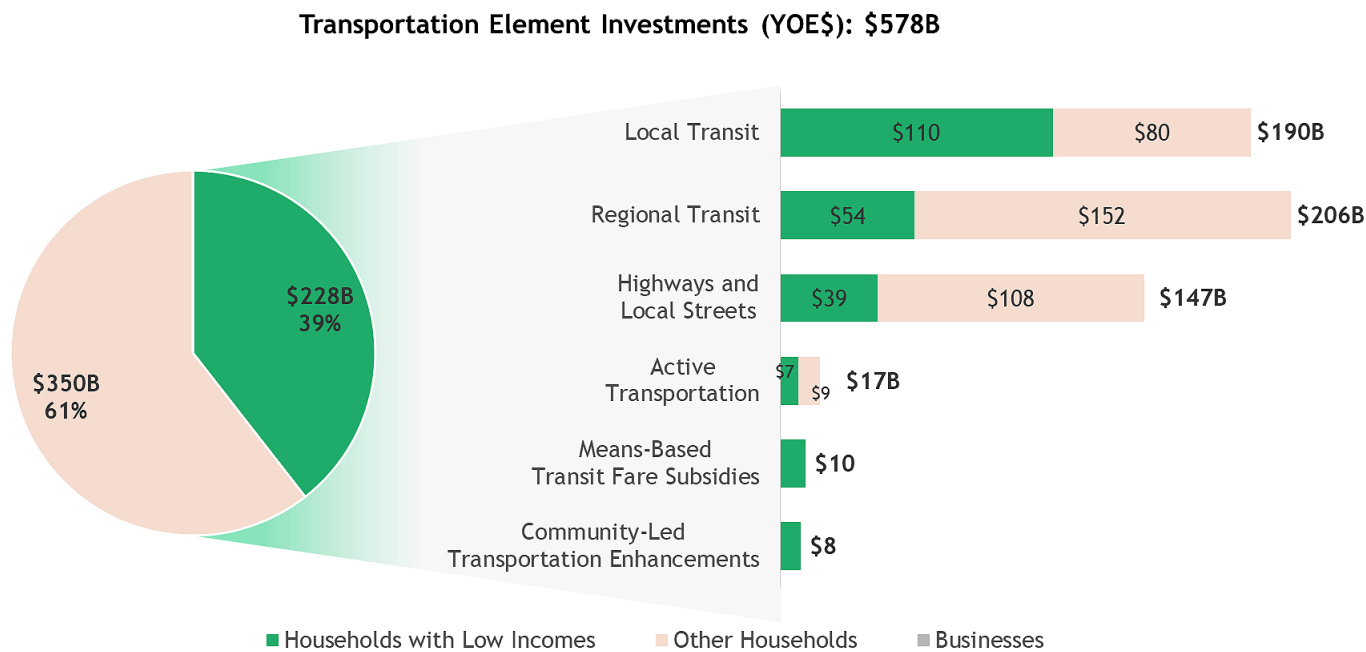
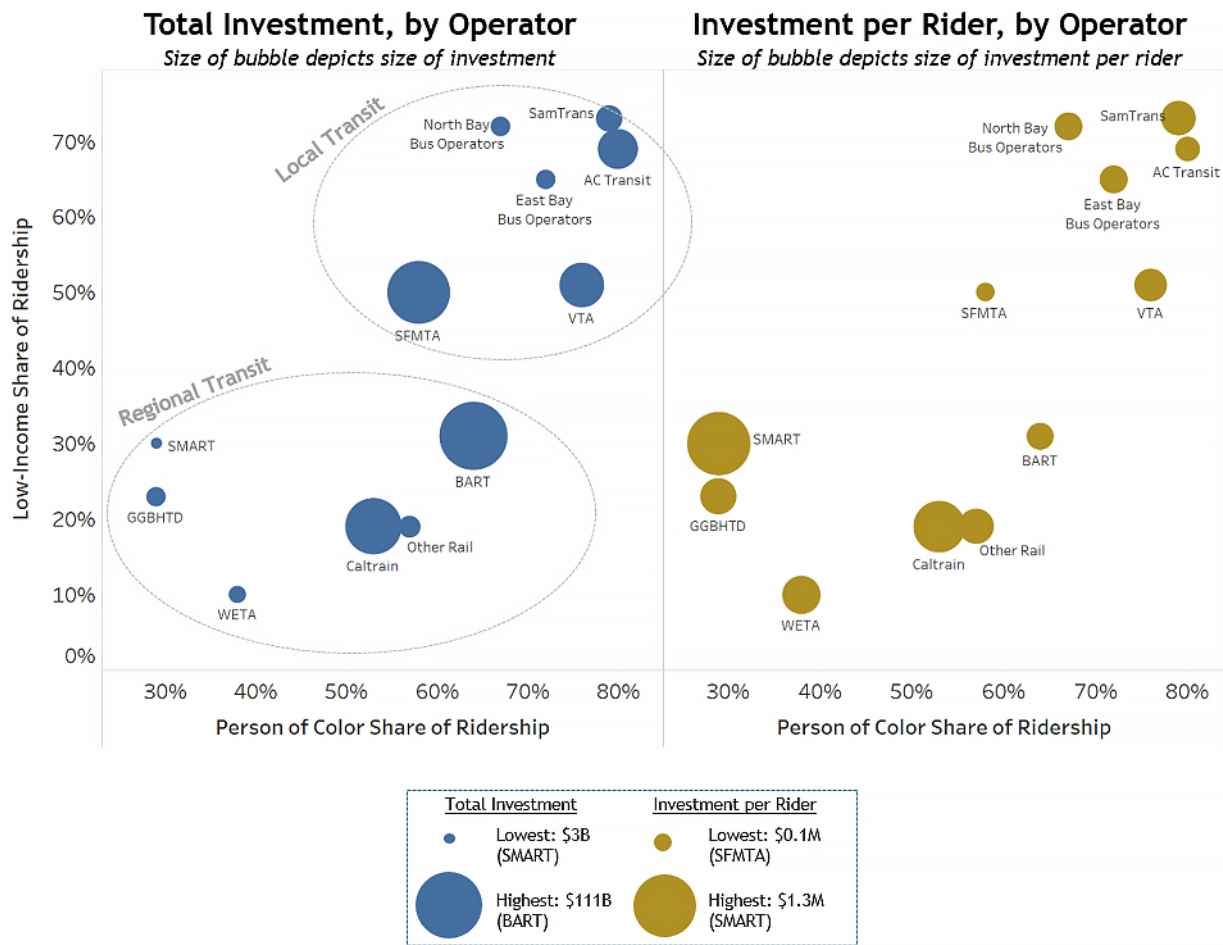


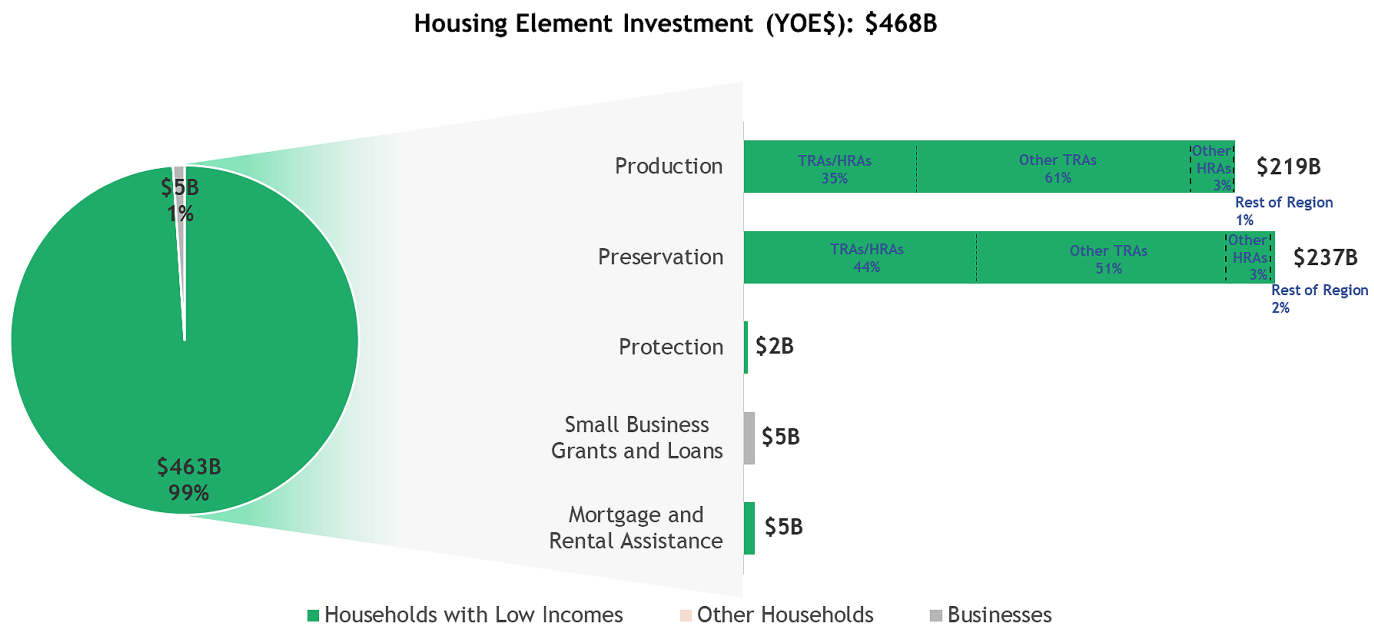
Figure 19. Transit investments by operator relative to ridership share of people of color



Housing

The Housing Element targets most of the \$468 billion in planned investments toward households with low incomes (Figure 20). Funding for production and preservation — almost entirely focused in Growth Geographies, which have greater access to transit and the region’s assets — sufficiently addresses the forecasted needs for deed-restricted affordable housing. While not depicted in the chart, a share of the affordable housing subsidies would likely benefit moderate income households as well, consistent with state and federal eligibility standards. Protection investments include funding for enforcing existing protections and a regional network of tenant protection services including legal assistance. Targeted assistance in Equity Priority Communities, including mortgage down payment and low-interest loans supporting small businesses, are a meaningful step in reversing the long trend of historic disinvestment in low-income communities of color. The investment levels shown in the chart include only Plan investments and do not reflect existing state and federal sources that benefit moderate- and high-income households, such as the mortgage interest deduction.

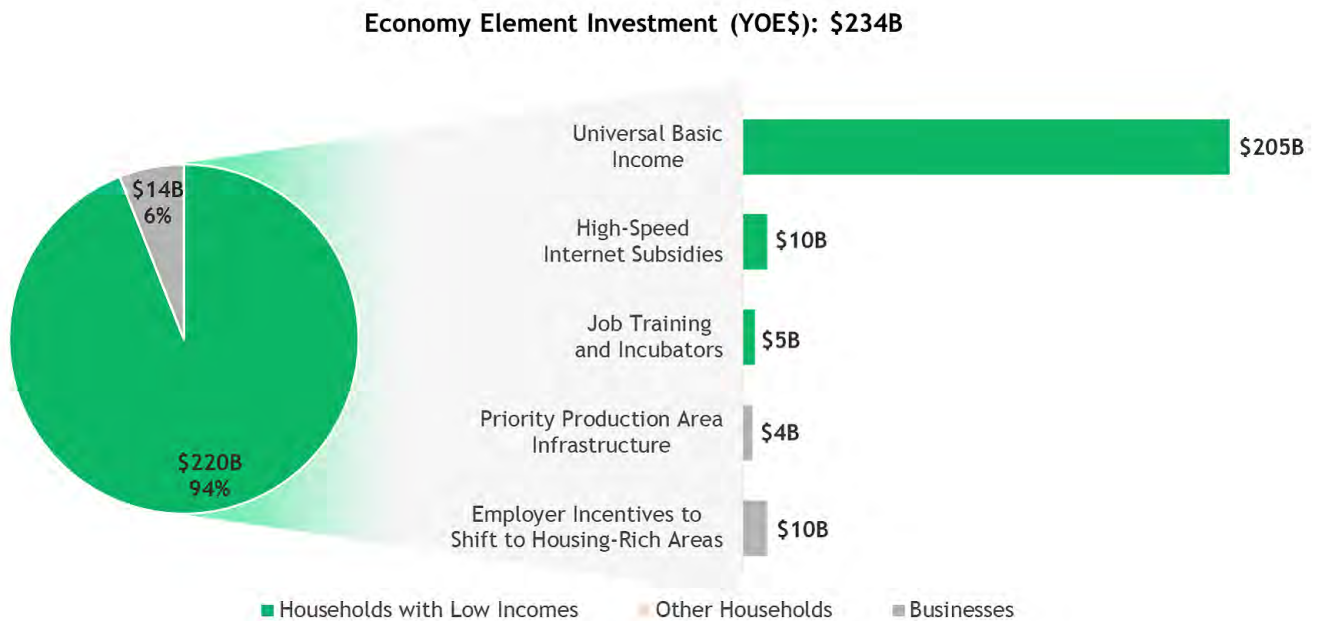
Figure 20. Housing investments toward households with low incomes



Economy

The Economy Element plans for \$234 billion in investments up to 2050, and 94% of this is targeted towards improving economic mobility for households with low incomes (Figure 21). Much of this is the investment towards universal basic income, planned as a monthly payment that varies based on household size, averaging \$500 per month. While all households across the region would receive universal basic income regardless of their resources, tax increases on more affluent households would support the program, effectively canceling out any additional income for higher-income households. Other investments benefiting households with low incomes include annual high-speed internet subsidies of \$240 per household and expanded job training and incubator programs. The remainder of the investment is targeted toward businesses to improve infrastructure in Priority Production Areas and incentivize employers to shift to housing-rich areas.

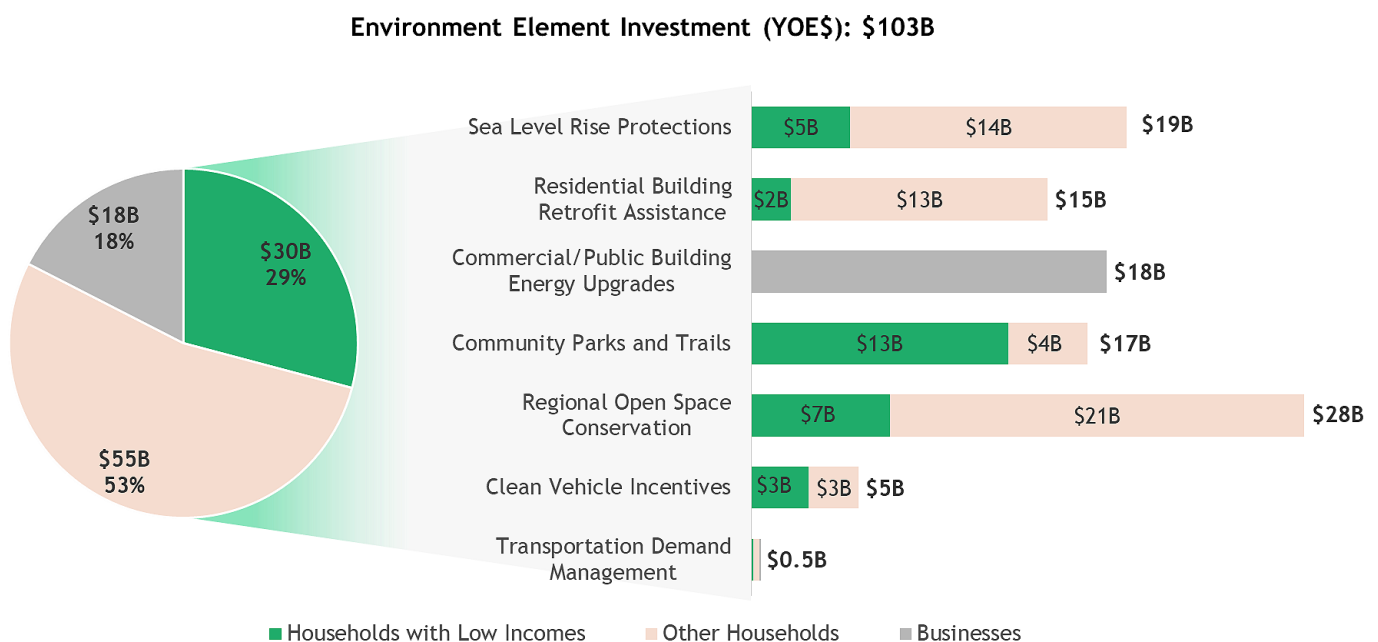
Figure 21. Economy investments toward households with low incomes



Environment

The Environment Element invests \$103 billion into seven different strategies, of which 29% is projected to benefit households with low incomes (Figure 22). Sea level rise protections and adaptations are prioritized in Equity Priority Communities, and residential building retrofits for earthquake and wildfire resilience include means-based subsidies. These investments are planned to adequately address the risk exposure for all households currently within Equity Priority Communities. Over three quarters of the investment in community parks and trails is targeted toward Equity Priority Communities to decrease disparities in park space and infrastructure. While businesses such as agricultural landowners may be the direct beneficiaries of conservation investments, the entire Bay Area population would take advantage of the numerous environmental benefits promised by such investments. Clean vehicle initiatives include scaling the vehicle buyback program and electric vehicle incentives based on household income level, with roughly 50% of funding directed towards households with low incomes. While a small portion of transportation demand management incentives would be directed toward low-income residential buildings, most of the investment would benefit the population at large.

Figure 22. Environment investments toward households with low incomes



Chapter 6 | Outcomes and Disparities

This chapter describes the outcomes of the Plan, with emphasis on outcomes for underserved populations. While the Plan Bay Area 2050 Performance Report also describes performance and equity outcomes of the Plan, this chapter focuses on understanding whether the Plan meaningfully decreases existing disparities for equity-focused populations: populations with low incomes, residents of Equity Priority Communities and rural communities.

Methodology

Measuring disparities and whether the Plan is able to decrease them has three main components that are described below:

1. Measures of disparity and the metrics used to determine them
2. Basis for disaggregation of metrics
3. Time horizon to measure change in disparities

Measures of Disparity and Metrics

Outcomes are characterized by measures of disparity and corresponding metrics that are organized by the five guiding principles of Plan Bay Area 2050: Affordable, Connected, Diverse, Healthy and Vibrant. The guiding principles were elaborated in collaboration with the MTC Policy Advisory Council Equity and Access Subcommittee and the Regional Equity Working Group to identify more specific equity outcomes, which formed the basis for the analysis:

- **Affordable:** Reduced housing + transportation costs for underserved populations.
- **Connected:** Improved accessibility to jobs, school and other amenities, prioritizing underserved populations.
- **Diverse:** Inclusive communities, where underserved populations can stay in place and have increased access to the region's assets and opportunities.
- **Healthy:** Healthier and more resilient communities with investments prioritized for underserved populations.
- **Vibrant:** Greater economic mobility for underserved populations.

Disparity measures and the corresponding metrics — also reviewed by the MTC Policy Advisory Council Equity and Access Subcommittee and Regional Equity Working Group — were selected based on their ability to measure whether the Plan achieves the desired equity outcomes. The metrics, shown in Table 11 are a subset of the metrics developed for the Equity and Performance Outcomes that can be found in the Plan Bay Area 2050 Performance Report. Details on the methodology for determining the metric values can be found in the same report.

Table 11. Measures of disparity and corresponding metrics in Plan Bay Area 2050 outcomes

GUIDING PRINCIPLE	DISPARITY MEASURE	METRIC	DISAGGREGATED BY
 AFFORDABLE	Housing and Transportation Affordability	Share of Income Spent on Housing + Transportation	Income Group
	Transportation Expenses	Per Trip Average Transit Fare; Auto Out-of-Pocket Expense; Parking Cost and Tolls	Income Group
 CONNECTED	Proximity to Transit	Share of Households Located Near High-Frequency Transit (0.5mi)	Income Group Area Type
	Accessibility to Jobs	Number of Jobs That Are Accessible by Transit/Auto/Bike/Walk	Geography Area Type
 DIVERSE	Access to Opportunity	Share of Households in High-Resource Areas That Are Households with Low-Incomes	Geography
	Ability to Stay in Place	Share of Neighborhoods That Experience Loss of Low-Income Households between 2015–2050	Geography
 HEALTHY	Access to Parks	Urban Park Acres per 1,000 Residents	Geography
	Air Quality Impacts	PM _{2.5} Emissions Density (Daily Tons of Emissions per 10 Square Miles)	Geography
	Safety from Vehicle Collisions	Annual Fatalities per 100,000 People (from Non-Freeway Incidents)	Geography
	Protection from Natural Disasters	Share of Risk-Prone Households That Are Protected from Risk of Sea Level Rise, Earthquake and Wildfire	Geography
 VIBRANT	Employment Diversity	Job Growth by Industry Type between 2015–2050 (Annual Growth Rate)	Industry Wage Level
	Employment Location	Average Commute Distance (miles)	Income Group

Basis for Disaggregation of Metrics

Metrics are disaggregated to show disparities in three different ways, as appropriate and permitted by availability of forecasted data:

Income Group

Metrics disaggregated on the basis of income are shown for Households with Low Incomes and All Households. This disaggregation relies on simulated outcomes and is limited by definitions of income levels in MTC's transportation and land use models. Households that earn \$30,000 or less per year (in 2000 dollars; ~\$50,000 in 2020 dollars) are defined as low-income, representing 26% of all simulated households in the region. This definition varies slightly from that used to determine Equity Priority Communities, wherein low-income is defined as 200% of the Federal Poverty Threshold (FPT).⁴⁷ Using census ACS data, the share of the total population in the Bay Area living in households earning less than twice the Federal Poverty Threshold was 21% in 2018 and 25% in 2014.⁴⁸

Geography

Metrics disaggregated on the basis of geography are shown for the region as a whole and for Equity Priority Communities and High-Resource Areas, as defined in Chapter 3. Since MTC's travel model presents outputs by Travel Analysis Zones (TAZs), a crosswalk was developed between TAZs and census tracts to determine outcomes for Equity Priority Communities and High-Resource Areas. For reference, the nine-county Bay Area region has 1,454 TAZs and 1,588 census tracts. While staff is not currently able to disaggregate forecasted data on the basis of race, the disaggregation by geography is meant to serve as the closest substitute.

Area Type

Metrics under the Connected guiding principle are also disaggregated on the basis of area type: rural, suburban or urban. These definitions are provided in Chapter 3.

Industry Wage Level

The metric to measure job growth is disaggregated based on wage levels: low, medium and high. Acknowledging that there are jobs of all wage levels across industry sectors, staff classified industry sectors into the three wage levels based on the observed data on wage breakdowns by industry, obtained from the American Community Survey Public Use Microdata Sample (ACS PUMS). The wage level of the industry sector is determined by which wage level comprised the plurality of all jobs within that industry sector regionwide.

⁴⁷ Federal Poverty Threshold in 2018 was roughly \$13,500 a year for a single person under 65 living alone, approximately \$25,500 a year for a family of four. U.S. Census Bureau [Poverty Thresholds](#).

⁴⁸ American Community Survey 5-year estimate Table C17002.

Time Horizon to Measure Change in Disparities

Most metrics are compared between 2015 and 2050 Plan, as defined below, to measure whether the Plan meaningfully decreases disparities over time. In two cases however, metrics measure change between 2015 and 2050 and hence the change in disparities is discussed differently:

Share of Neighborhoods That Experience Loss of Low-Income Households Between 2015–2050

The disparity is discussed between the change between 2015 and 2050 No Project (also defined below) and the change between 2015 and 2050 Plan.

Job Growth by Industry Type Between 2015–2050 (Annual Growth Rate)

This metric cannot be measured for 2050 No Project since the No Project alternative is required to use the same regional growth forecast as all other EIR Alternatives (i.e. job growth totals are the same across 2050 No Project, 2050 Plan and the two other EIR Alternatives). The disparity is thus measured against the annual job growth rate between 2000 and 2015 to understand if the Plan decreases disparities.

2015

Refers to simulated 2015 conditions, which were calibrated to closely match on-the-ground conditions.

2050 No Project

Represents simulated 2050 conditions if the Plan is not adopted: “what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.”

2050 Plan

Reflects simulated 2050 outcomes if population and job growth continue according to the Plan Bay Area 2050 Regional Growth Forecast and all 35 strategies are implemented.

As mentioned in Chapter 4, it is essential to note that metrics to describe outcomes and disparities can be insightful in understanding strategy impacts, but not every aspect of every Plan strategy can be simulated or captured in metrics. Chapter 4 discusses aspects of strategies that could not be captured within metrics since they cannot be sufficiently represented in MTC’s transportation and land use simulation models.

Findings

A summary of the Plan outcomes and disparities is presented in Table 12. Outcomes are presented in two columns, the first for underserved populations, and the second for regionwide population. Arrow-based icons indicate whether outcomes in 2050 Plan trend in the positive or negative direction or remain unchanged, relative to 2015. Disparities are presented in the final two columns of the table. The first column indicates whether disparities exist in 2015 (i.e., the metric is less favorable for underserved populations), and the second column indicates whether disparities increase, decrease or remain unchanged in 2050 Plan.

The Plan is forecasted to lower disparities in most of the measures, while not making significant headway in reducing existing disparities in a few cases. The decrease in disparities is most prominent in affordability, wherein the Plan is forecasted to significantly decrease the share of income spent on housing and transportation for households with low incomes by a much greater extent than for all households on average. Under the Connected guiding principle, while households in Equity Priority Communities already have better access to transit and jobs through transit than the average Bay Area household today, the Plan further enhances their accessibility. With a focus on affordable housing production and preservation in High-Resource Areas, especially those that are also transit-rich, the Plan upholds the Diverse guiding principle by diminishing disparities in access to opportunity and enabling more households with low incomes to stay in place in those areas. Although the Plan is forecasted to improve health and safety outcomes for all households, disparities in air quality and safety from vehicle collisions between Equity Priority Communities and the rest of the region are forecasted to persist. Finally, the Plan is forecasted to enhance economic mobility for households with low incomes by promoting stronger employment growth in low and middle-wage industries over the next 30 years relative to past years, while bringing jobs slightly closer to households and decreasing the average commute time.

Table 12. Summary of Plan outcomes and disparities

Outcomes: 2015 vs. 2050 Plan	Disparities 2015	Disparities 2050 Plan
 Outcomes trend in positive direction	Yes Disparities exist	 Increase
 Mixed outcomes	No Metric is more favorable for underserved population	 Unchanged
 Outcomes trend in negative direction		 Decrease

Guiding Principle	Measure of Disparity	Metric	Outcomes		Disparities	
			Underserved Population ¹	Regional Average	2015	2050 Plan
 Affordable	Housing and Transportation Affordability	Share of income spent on housing + transportation	↗	↗	Yes	↘
	Transportation Expenses	Average fare per transit trip, and Average out-of-pocket cost per auto trip	—	—	Yes	↘
 Connected	Proximity to Transit	Share of households located near high-frequency transit (0.5mi)	↗	↗	No	↘
	Accessibility to Jobs	Number of jobs that are accessible by transit/ auto/ bike/ walk	↗	↗	No	↘
 Diverse	Access to Opportunity	Share of households in High-Resource Areas that are households with low-incomes	↗	↗	Yes	↘
	Ability to Stay in Place	Share of neighborhoods that experience loss of low-income households between 2015-50	—	—	n/a	n/a
 Healthy	Access to Parks	Urban park acres per thousand residents	↗	↗	Yes	↘
	Air Quality Impacts	PM2.5 emissions density (daily tons of emissions per 10 square miles)	↗	↗	Yes	—
	Safety from Vehicle Collisions	Annual fatalities per 100,000 people (from non-freeway incidents)	↗	↗	Yes	—
	Protection from Natural Disasters	Share of risk-prone households that are protected from risk of sea level rise, earthquake and wildfire	↗	↗	Yes	↘
 Vibrant	Employment Diversity	Jobs growth by industry type between 2015-50	↗	↗	Yes	↘
	Employment Location	Average commute distance (miles)	↗	↗	No	—

1. Underserved Population refers to either households or workers with low incomes, or residents in Equity Priority Communities, depending on the metric.

DESIRED EQUITY OUTCOME:

Reduced housing + transportation costs for underserved populations.

The Plan makes significant headway in improving housing and transportation affordability for all residents. With sufficient deed-restricted affordable housing that meets the need of all households with low incomes in 2050, the Plan meaningfully decreases disparities that burden households with low incomes today. While total transportation expenditures, including transit fares, are lower for all, households are forecasted to experience higher expenses for auto trips.

Housing and Transportation Affordability

In 2015, households with low incomes had an extreme housing and transportation cost burden. Accounting for people with no incomes, people on financial assistance, and the currently unhoused, housing and transportation costs exceeded average incomes for households with low incomes. Under the Plan, producing and preserving more affordable housing, combined with strategies like universal basic income and means-based fares and tolls, help reduce cost burdens to households with low incomes by nearly half (Figure 24). Disparities are significantly lowered, with households with low incomes spending 58% of their income on housing and transportation in 2050 relative to 113% in 2015, and all Bay Area households on average spending 45% in 2050 relative to 58% in 2015.

Figure 23. Share of income spent on combined housing and transportation costs, 2015 vs. 2050 Plan by income group

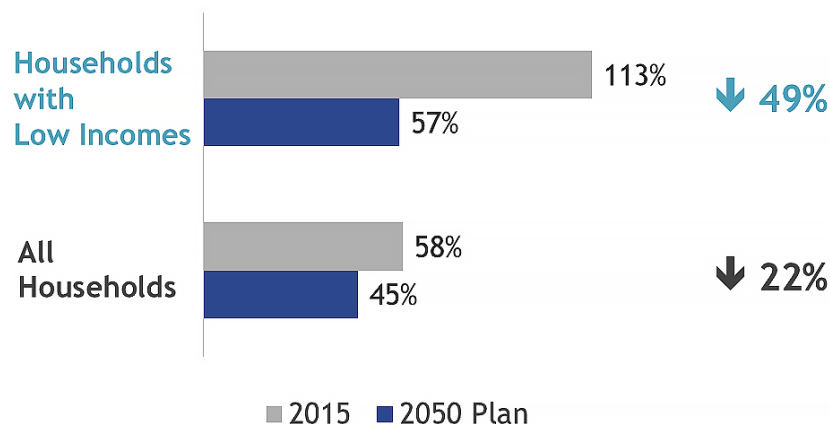
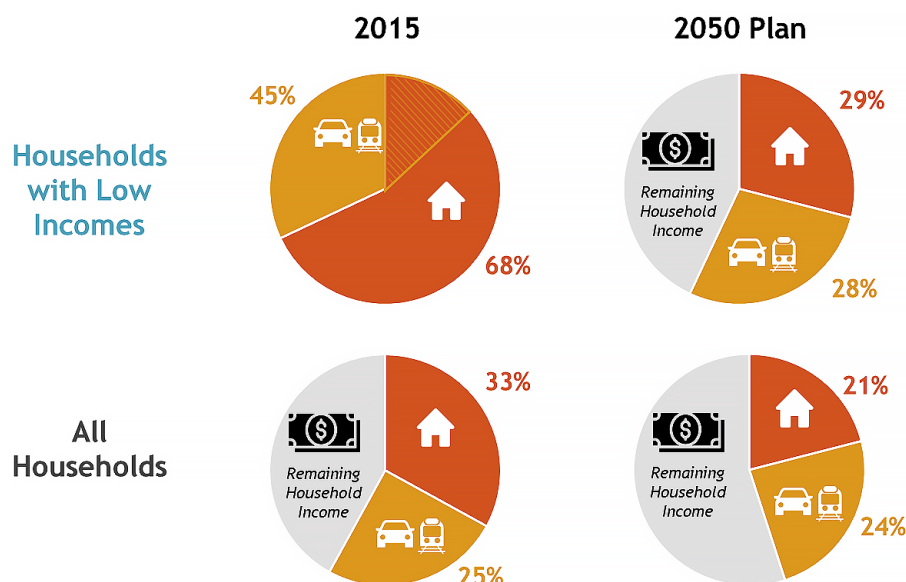


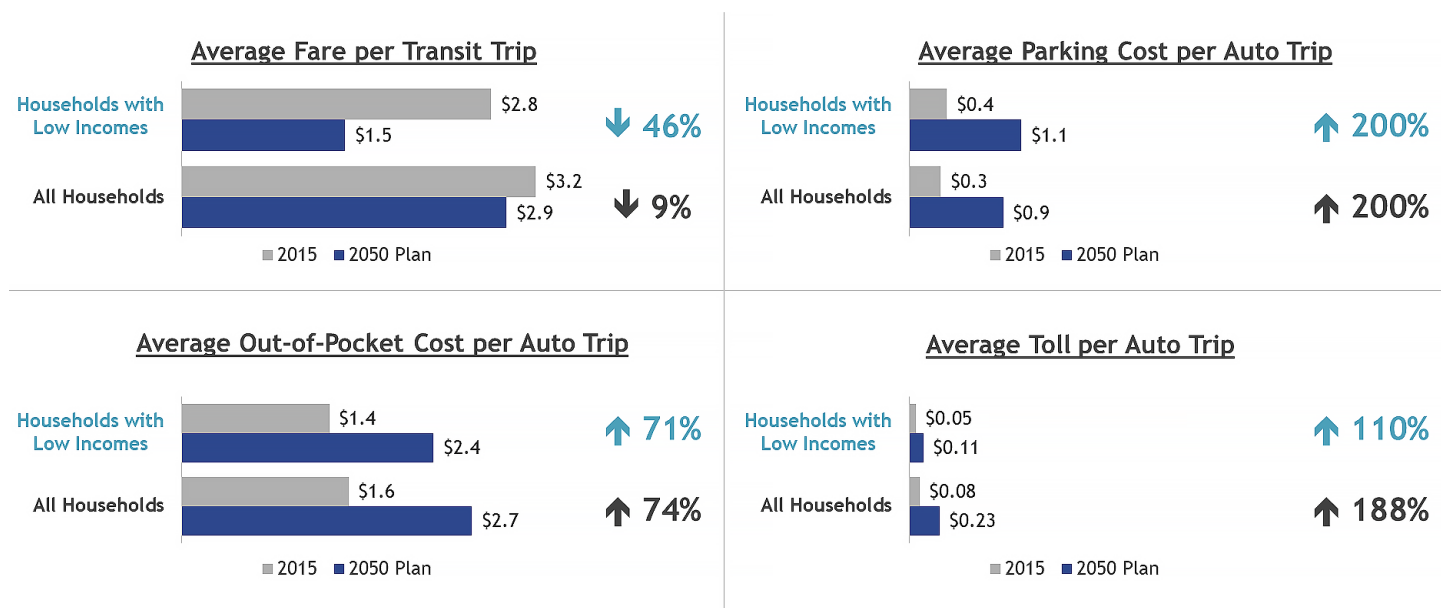
Figure 24. Share of income spent on housing and transportation, 2015 vs. 2050 Plan by income group



Transportation Expenses

The Plan significantly reduces transit expenses (Figure 25). Means-based fares provide the greatest benefits for low-income transit riders, even as transit fare reform leads to benefits for all riders. Out-of-pocket costs for auto trips, which include fuel, maintenance, parking fees and tolls, increase on average due to increased parking fees and freeway tolling that are critical for managing congestion and curbing greenhouse gas emissions. However, impacts of freeway tolling to low-income drivers are lowered with means-based tolls. Overall, despite the increase in auto cost per trip, transportation is more affordable, and disparities faced by households with low incomes decrease.

Figure 25. Average transportation expenses, 2015 vs. 2050 Plan by income group



DESIRED EQUITY OUTCOME:
Improved accessibility to jobs, school and other amenities,
prioritizing underserved populations.

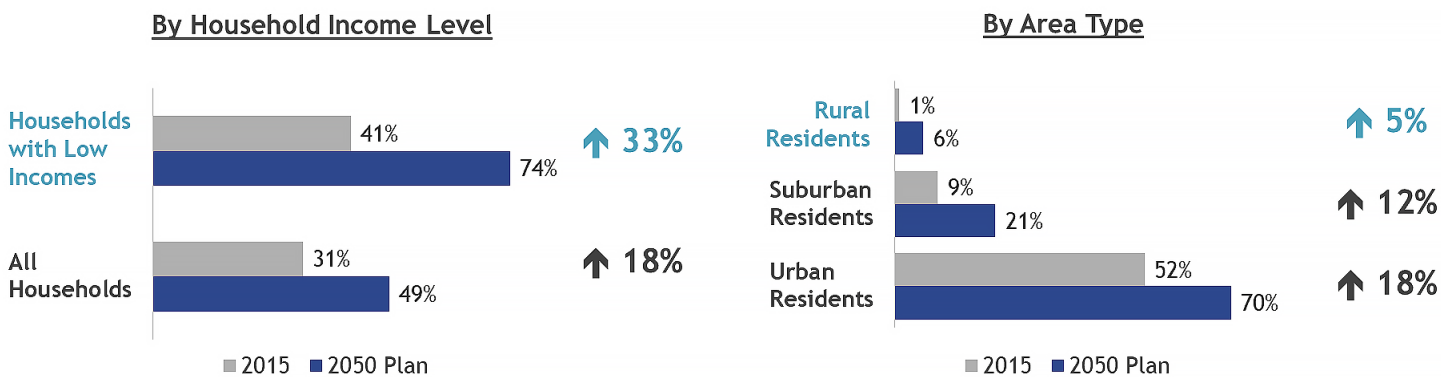
The Plan improves proximity to transit and accessibility to jobs by all modes for all households, with better outcomes for households with low incomes. These outcomes are primarily driven by increased access to affordable housing in Transit-Rich Areas and funding for transportation infrastructure and service prioritized for projects that were forecasted to enhance equitable outcomes for households with low incomes.

Proximity to Transit

A higher share of households with low incomes in the Bay Area are located within half-mile of high-frequency transit today relative to the regional average, and the Plan further improves access to transit for households with low incomes (Figure 26). High-frequency transit is defined here as rail, ferry and bus stops with two or more intersecting routes with frequencies less than or equal to 15 minutes. With targeted affordable housing growth in Transit-Rich Areas, and improvements to transit service, over two-thirds of households with low incomes would be within half-mile of high-frequency transit. The Plan increases access to transit across all area types — rural, suburban and urban.

NOTE: Half-mile is measured as a straight-line distance; walking distance may be longer.

Figure 26. Share of households within half-mile of high-frequency transit, by income group and area type



Accessibility to Jobs

Under the Plan, residents in Equity Priority Communities have access to more Bay Area jobs by all modes — auto, transit, bicycle and walk — than residents in High-Resource Areas or the region on average. Focused housing and employment growth in Transit-Rich Areas and transit expansion strategies increase the number of Bay Area jobs accessible by 30-minute auto drive by 30% and a 45-minute transit journey by 115% for residents in Equity Priority Communities (Figure 27). Job accessibility increases across all area types — rural, suburban and urban (Figure 28). Due to limitations in forecasted data, mainly because jobs are forecasted by industry sector and not by wage level, staff is not able to measure accessibility to jobs of specific wage levels. Staff is also not able to measure accessibility to schools and other amenities.

Figure 27. Number of Bay Area jobs accessible, 2015 vs. 2050 Plan by mode and geography

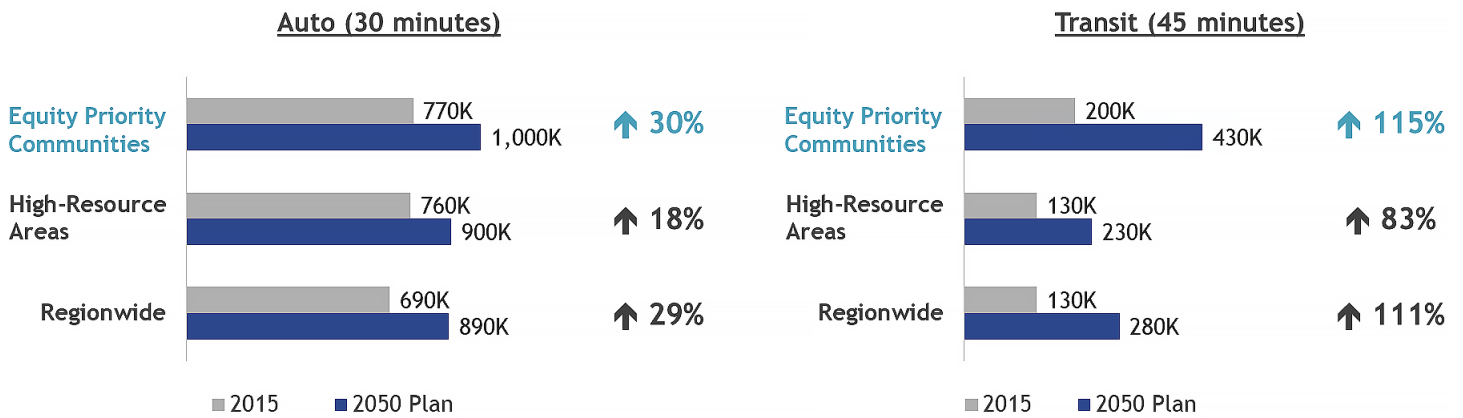
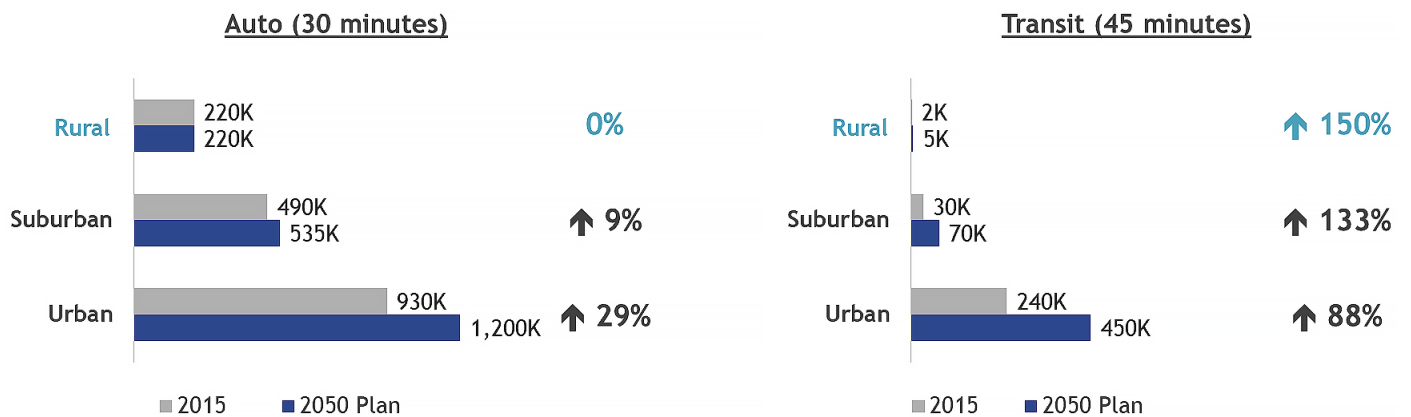


Figure 28. Number of Bay Area jobs accessible, 2015 vs. 2050 Plan by mode and area type



DESIRED EQUITY OUTCOME:

Inclusive communities, where underserved populations can stay in place and have increased access to the region's assets and opportunities.

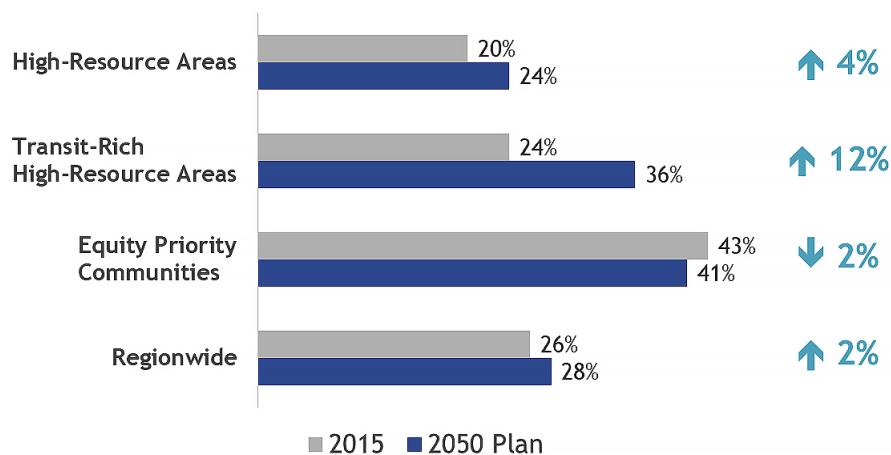
The Plan is designed to create more choices for households with low incomes in terms of housing locations, focusing on areas rich with transit and the region's best schools, parks and other infrastructure and creating more inclusive communities. With production and preservation investments in affordable housing in Transit-Rich Areas and High-Resource Areas, simulation indicates that some households with low incomes would opt to relocate from the region's periphery and Equity Priority Communities to these higher-opportunity areas. This shift in the share of households with low incomes is apparent in Map 7 (2015) and Map 8 (2050 Plan).

Access to Opportunity

The Plan makes headway in creating more inclusive communities, enabled by inclusionary zoning and subsidies for affordable housing in areas with better access to assets and opportunities. Disparities in access to opportunity is lowered as more households with low incomes are able to reside in High-Resource Areas, especially those that are transit-rich as well. Additional Plan strategies that enable intergenerational wealth building opportunities include supporting nearly 100,000 households with low incomes to own their first home and providing rental assistance to households and small businesses further enhance equitable access to opportunity.

NOTE: The positive effects of the Universal Basic Income strategy in reducing income inequality and decreasing the share of households with low incomes were omitted from the calculation to have a clearer understanding of the trends.

Figure 29. Share of households with low incomes, 2015 vs. 2050 Plan by geography



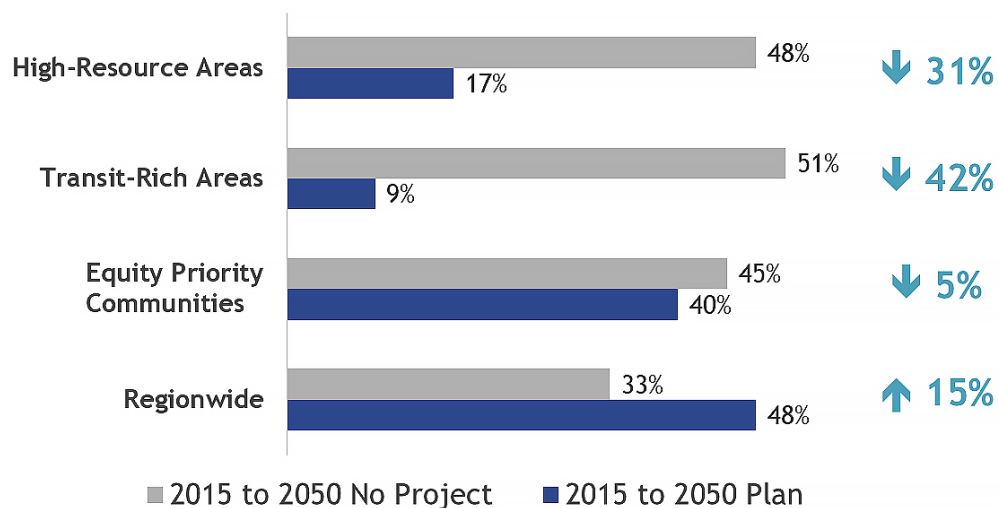
Ability to Stay in Place

“Displacement risk” itself is difficult to measure given that simulation models cannot track the movement of individual households. This metric measures the ability of households with low incomes to stay in place by estimating the share of neighborhoods (census tracts) that are forecasted to experience a net loss of households with low incomes between 2015 and 2050, which may be considered as share of neighborhoods with risk of displacement. The reason for “loss” could be the households either being displaced or moving by choice to other locations with more attractive housing or other opportunities.

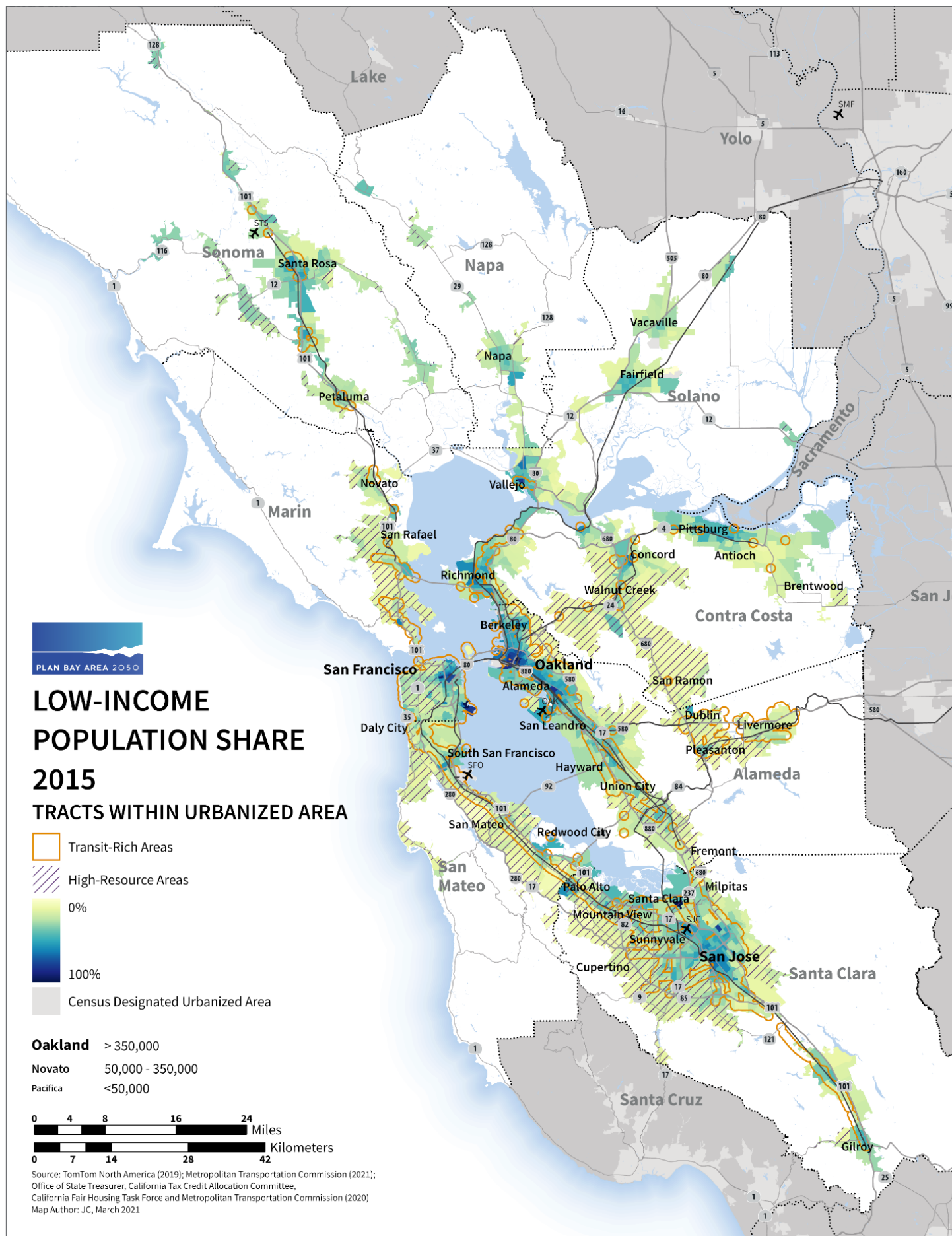
Under 2050 No Project conditions, the share of neighborhoods that experience a net loss in the number of households with low incomes between 2015 and 2050 is 33% regionwide, and higher in Equity Priority Communities (45%), Transit-Rich Areas (51%) and High-Resource Areas (48%). Under 2050 Plan, the regionwide share increases to 48%. However, the significant drop in the metric in High-Resource Areas (17%) and Transit-Rich Areas (9%) indicates that the increase is mainly driven by households with low incomes relocating to these growth geographies — neighborhoods near frequent transit and/or in High-Resource Areas — where much of the new affordable housing is being developed under the Plan strategies. Growth geographies also experience some displacement too, but analysis indicates that much of this displacement is actually households with low incomes relocating between these neighborhoods, rather than being displaced to neighborhoods that lack quality transit or access to opportunity. Furthermore, the displacement risk metric does not fully capture the positive impact of the Plan’s renter protection strategies, which could further reduce displacement risk and prevent homelessness.

NOTE: The positive effects of the Universal Basic Income strategy in reducing income inequality and decreasing the share of households with low incomes were omitted from the calculation to have a clearer understanding of displacement trends.

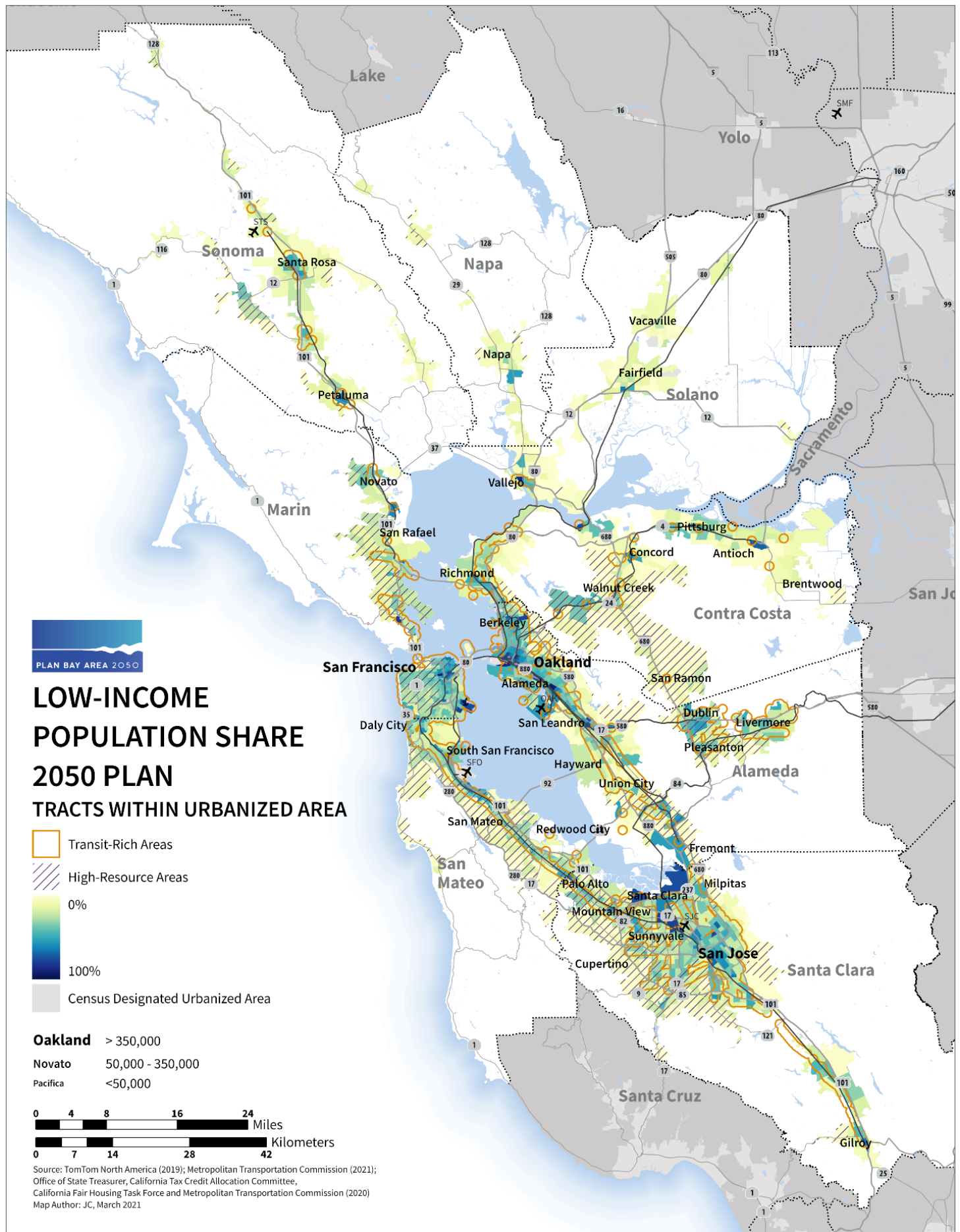
Figure 30. Share of neighborhoods with net loss of households with low incomes between 2015 and 2050, 2050 No Project vs. 2050 Plan by geography



Map 7. Share of population with low incomes by census tract, 2015



Map 8. Share of population with low incomes by census tract, 2050 Plan



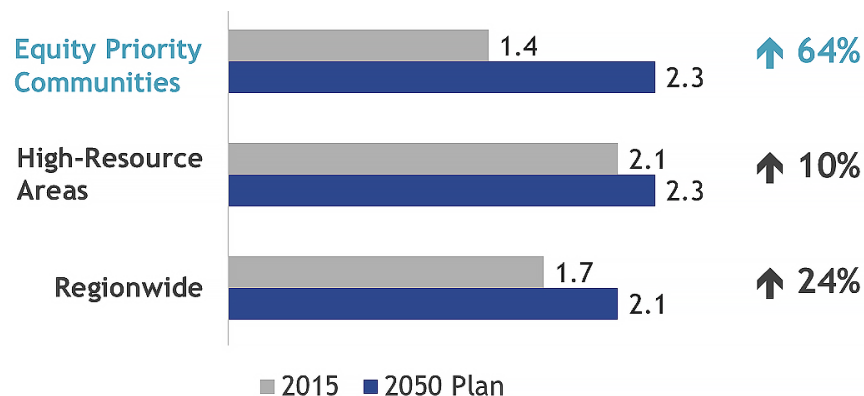
DESIRED EQUITY OUTCOME: Healthier and more resilient communities with investments prioritized for underserved populations.

Under the Plan, residents across the region have improved health outcomes in 2050 relative to 2015 through better access to parks, improved air quality, and increased safety from vehicle collisions. Disparities in park space between Equity Priority Communities and High-Resource Areas or the region as a whole decrease, while disparities in air quality and safety from vehicle collisions persist. The Plan prioritizes resiliency investments in Equity Priority Communities that are forecasted to protect all households that are exposed to risk from sea level rise and earthquake and wildfire events.

Access to Parks

Strategies to prioritize park investments in Equity Priority Communities not only help increase acreage of park space in those communities and decrease disparities (Figure 31), but also increase quality of parks (not reflected in metric). However, it is essential to note that many High-Resource Areas are located closer to natural open spaces and thereby continue to have better access to open space. This strategy was a new addition in the Final Blueprint phase, in response to feedback during small group discussions with under-represented populations about the increased importance of park space in light of the COVID-19 pandemic.

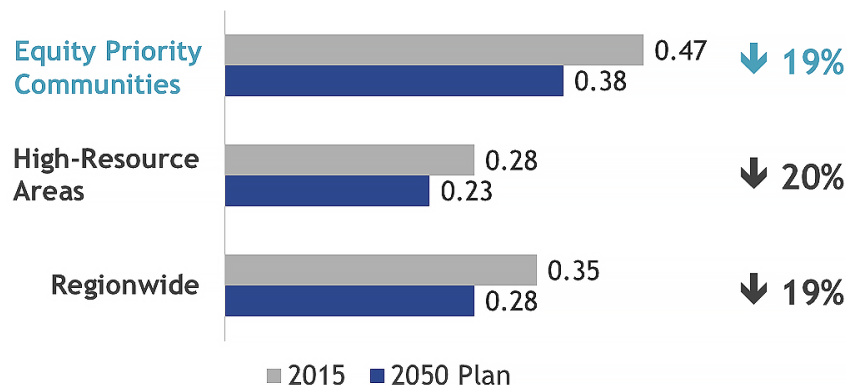
Figure 31. Urban park acres per 1,000 residents, 2015 vs. 2050 Plan by geography



Air Quality Impacts

Despite overall increases in population and total miles driven, fine particulate matter emissions decrease due to cleaner and more fuel-efficient vehicles as well as a significant reduction in freeway vehicle miles traveled (Figure 32). The percentage reduction is similar across all comparison geographies; however, the disparities between Equity Priority Communities and High-Resource Areas or the region as a whole persist.

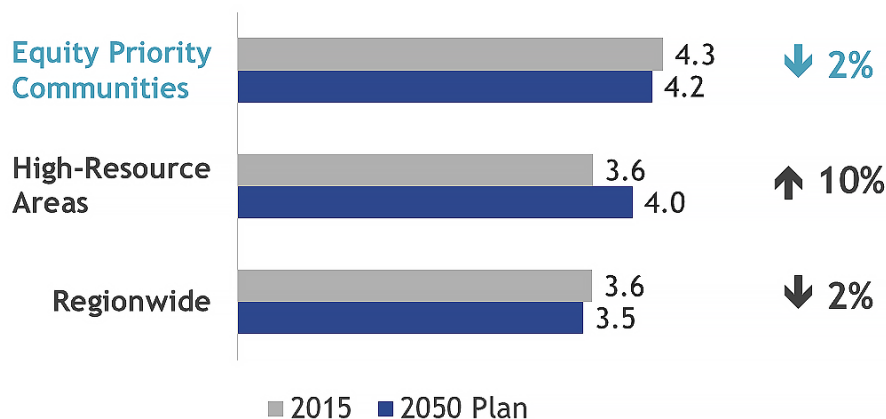
Figure 32. PM_{2.5} emissions density (daily tons of emissions per 10 square miles), 2015 vs. 2050 Plan by geography



Safety from Vehicle Collisions

This metric measures non-freeway fatalities on local roads from vehicle collisions with other vehicles, pedestrians, bicyclists. Freeway fatalities, while included in the corresponding metric in the Performance Supplemental Report, are not included here since they cannot be attributed to the comparison geographies. Further, the metric mainly captures the impact of change in vehicle miles traveled and speeds arising from Plan strategies, but does not capture design improvements and programs that may change driver behavior since they cannot be represented in the transportation model. The projected rate of non-freeway fatalities per 100,000 residents decreases slightly in Equity Priority Communities and the region due to more trips taken without cars and speed limit reductions (Figure 33). Regardless, the rate remains far from the vision zero goal. Street design enhancements and programs proposed in the Plan strategies are necessary to make meaningful reductions in these rates.

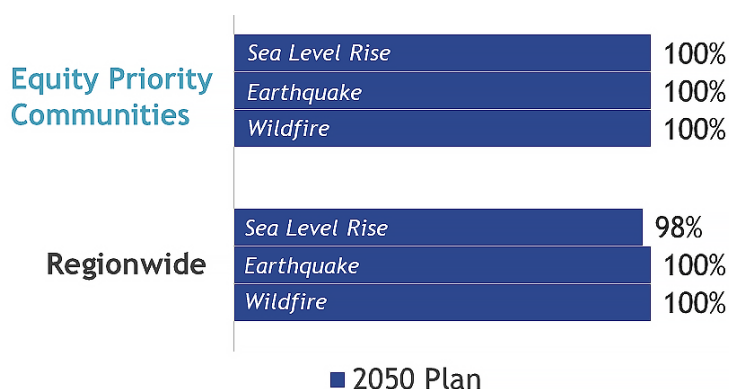
Figure 33. Annual fatalities per 100,000 residents (non-freeway only), 2015 vs. 2050 Plan by geography



Protection from Natural Disasters

Planned protection and adaption investments are prioritized in Equity Priority Communities to fully protect households that may be affected by 2 feet of sea level rise (Figure 34). The remaining 2% of households not protected by protection and adaptation investments are candidates for a managed retreat program. As such, the Plan's sea level rise adaption strategy accounts for the estimated cost of a managed retreat program. Means-based retrofit subsidies are also prioritized for residential buildings in Equity Priority Communities, enabling resiliency to earthquake and wildfire events for all at-risk households regionwide.

Figure 34. Share of risk-prone households that are protected from natural disasters, 2050 Plan by geography



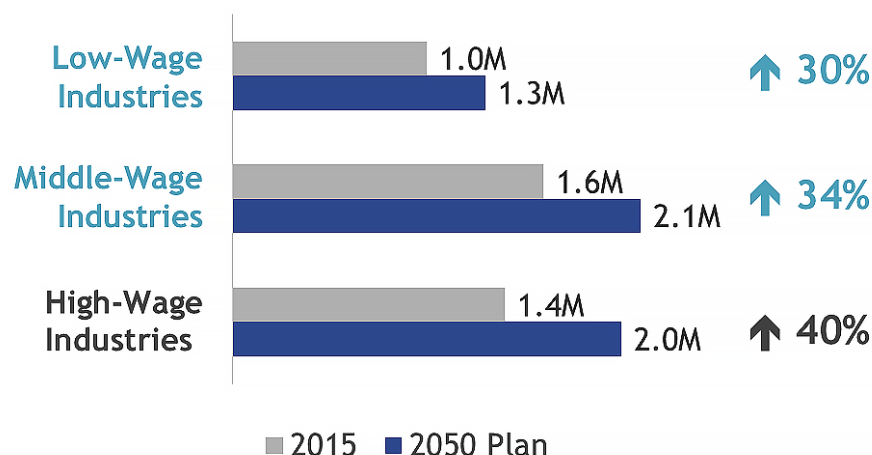
DESIRED EQUITY OUTCOME: Greater economic mobility for underserved populations.

Robust job growth in low and middle-wage industries under the Plan and a small but meaningful decrease in commute distance are positive indicators for greater economic mobility for workers with low incomes. While difficult to capture through metrics, various strategies in the Plan such as universal basic income, job training programs and high-speed internet investments in Equity Priority Communities are designed to enhance economic mobility for underserved populations.

Employment Diversity

Growth in middle-wage job industries is essential for greater economic mobility of populations with low incomes. In the last few decades, middle-wage job growth has not kept pace with overall job growth in the Bay Area as well as nationally. For reference, the middle-wage industry job growth from 1990–2015 was 18% (0.68% annual growth rate), relative to overall job growth rate of 25% (0.90% annual growth rate). Under the Plan, while jobs in high-wage industries continue to outpace regionwide job growth, jobs in middle-wage industries keep pace (Figure 35), with some of this growth in Priority Production Areas. Middle-wage industry job growth rate between 2015 and 2050 Plan is forecasted at 34% (0.84% annual growth rate), while overall job growth rate is forecasted at 35% (0.86% annual growth rate).

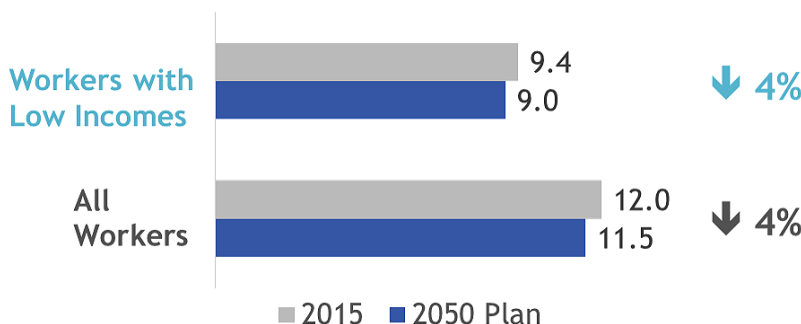
Figure 35. Number of jobs by industry type, 2015 vs. 2050 Plan by industry wage level



Employment Location

Commute distance is a critical indicator of jobs-housing balance and a measure of whether people are able to get to their desired jobs easily. Under existing 2015 conditions, workers with low incomes have an average commute distance of 9.4 miles, lower than the regional average of 12 miles. The Plan lowers the average commute distance by half a mile for all workers — a small yet meaningful shift in the right direction. This decrease is consistent for workers with low incomes.

Figure 36. Average commute distance in miles, 2015 vs. 2050 Plan by income group



Chapter 7 | Title VI and Environmental Justice Analysis

This chapter summarizes the methodology and results of the Title VI and Environmental Justice analyses for Plan Bay Area 2050. While both of these analyses are derived from the analyses in Chapter 5 and Chapter 6, they are detailed separately in this chapter in order to specifically address federal requirements related to nondiscrimination and environmental justice in the metropolitan planning process. All of the demographic analysis presented in this chapter makes use of the most recent data available at the time of the analysis — American Community Survey (ACS) 2014–2018. For more information on the legal, regulatory and policy framework underlying these analyses, see Chapter 2.

Title VI Analysis

The purpose of this analysis is for MTC to demonstrate compliance with federal laws and regulations related to Title VI of the Civil Rights Act of 1964. As an operating entity within DOT, the Federal Transit Administration (FTA) provides more specific guidance to metropolitan planning organizations on how to demonstrate Title VI compliance, as described in Chapter 2. Table 13 highlights the corresponding analysis included in this chapter that demonstrates compliance with these requirements, including the disparate impact analysis. The methodology and findings in each of the three analyses immediately follows the table.

Table 13. Federal Transit Administration requirements for Title VI analysis

FTA REQUIREMENT	CORRESPONDING PLAN BAY AREA 2050 ANALYSIS
“Demographic maps that overlay the percent minority and non-minority populations as identified by Census or ACS data ...”	Project mapping analysis that overlays projects that can be mapped over above-regional-average concentrations of people of color.
“[C]harts that analyze the impacts of the distribution of State and Federal funds in the aggregate for public transportation purposes...”	Population/use-based analysis of public transit investments using state and federal funding sources.
“An analysis of impacts identified in paragraph [above] that identifies any disparate impacts on the basis of race, color, or national origin” ⁴⁹	Disparate impact analysis comparing Plan Bay Area 2050 investments per capita and per rider for people of color and white populations.

Project Mapping Analysis

This qualitative assessment involves examining the distribution of transportation projects for any indication of systematic exclusion of communities with significant concentration of people of color or systematic imbalances within the distribution of transportation projects between such communities and the remainder of the region.

Methodology

Staff first mapped the share of people of color populations by census tract, identifying tracts that had significant concentrations of people of color above the regionwide share of 60% in 2018. Staff also mapped the Equity Priority Communities, a census tract level designation used throughout this report and described in Chapter 3. Among the 339 census tracts that are identified as Equity Priority Communities, 311 tracts had a concentration above the regionwide share in 2018. Staff then mapped all roadway and transit projects to show the spatial distribution of projects relative to Equity Priority Communities as well as other communities with a concentration of people of color above the regional mean.

49 FTA Circular 4702.1B, page VI-2. See: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Title_VI_FINAL.pdf

This assessment is intended to provide a regional-level analysis of the Plan's transportation investments. Individual projects that use federal and/or state transit funding will be subject to their own Title VI and environmental justice analyses prior to implementation, as required under federal and state laws. Further, this assessment only presents data visually. It does not use a metric to estimate the potential benefit or burden of each project on underserved communities. It also does not include projects that cannot be mapped. For example, a substantial share of total transportation funding in the Plan is dedicated to transit operators for sustaining transit operations, but this investment cannot be directly mapped.

Findings

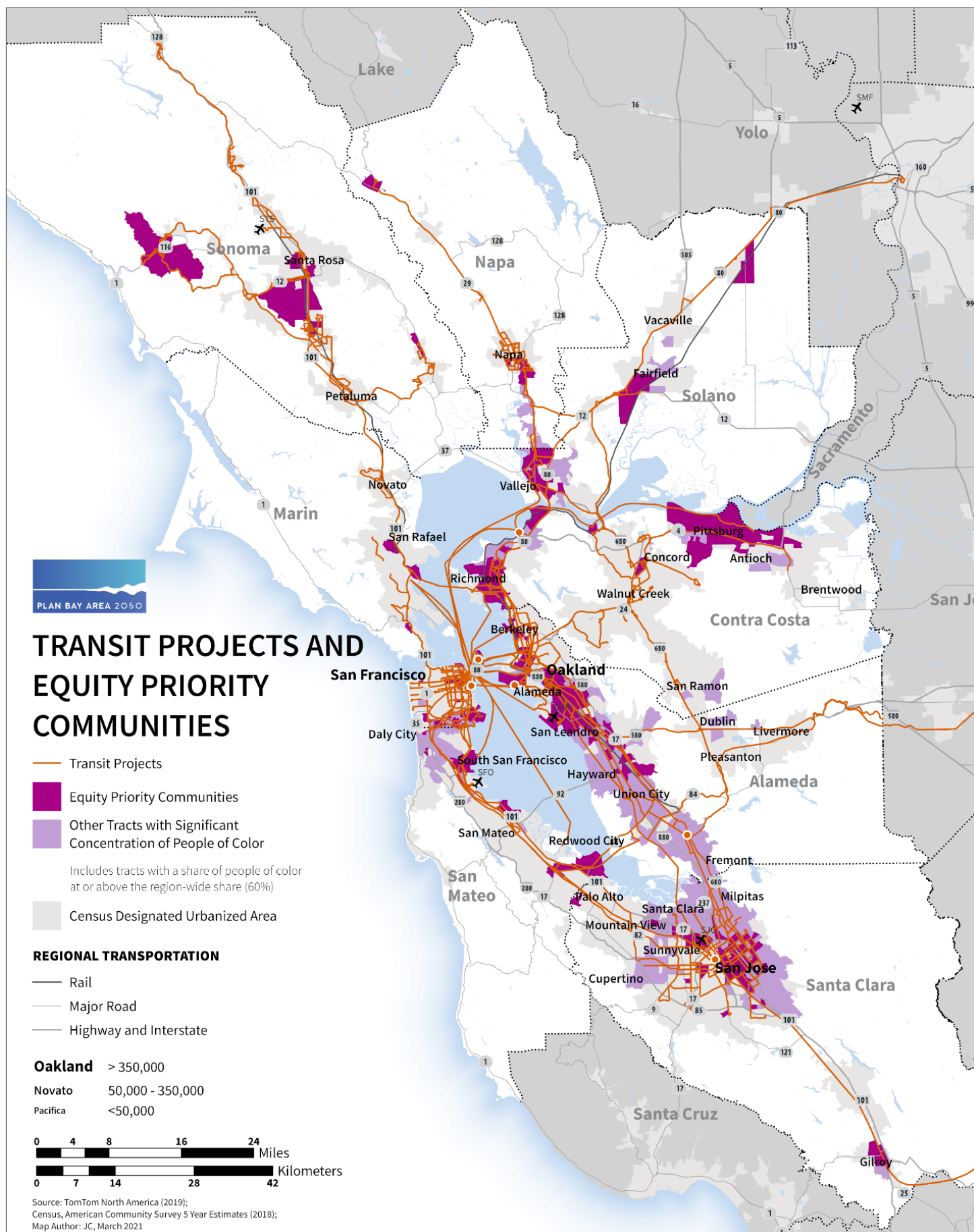
Demographic maps overlaying the share of people of color populations by census tract, and Equity Priority Communities can be found in Chapter 3 (Map 1 and Map 2). Map 9 and Map 10 depict the spatial distribution of transit and roadway projects relative to Equity Priority Communities and other communities with significant concentrations of people of color. Projects that represent transit stations or freeway interchanges are mapped as point features, and transit routes or roadway corridors as lines. It is essential to note that a significant number of projects could not be mapped, even when they represent a significant share of the funding in the Plan, such as maintenance and operation of the region's transportation system. The maps also do not distinguish between the relative magnitudes of investments in terms of project costs.

Since the Plan emphasizes a focused growth approach that calls for a majority of future housing and jobs growth to be located in Transit-Rich Areas, and since a majority of all Equity Priority Communities are located in the region's urban core, with the exception of those in Napa, Solano and Contra Costa counties, there is significant overlap between the projects included in the Plan and the region's Equity Priority Communities. Based on this limited and qualitative assessment, there does not appear to be any systematic exclusion of Equity Priority Communities or people of color populations from the benefits of the Plan, nor an imbalance in the spatial distribution of projects in the region.

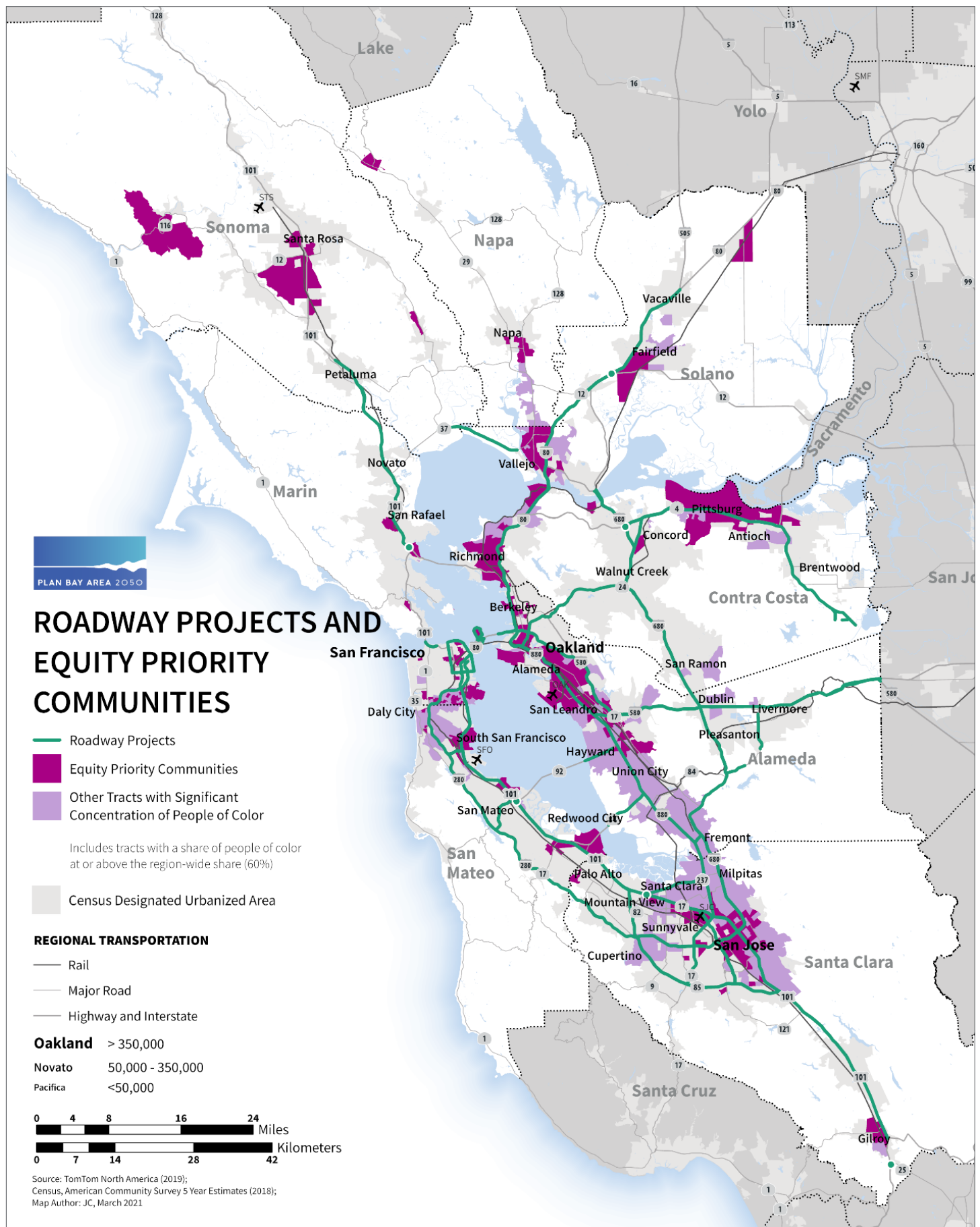
Population/Use-Based Analysis

This component of the Title VI analysis examines the impacts of the distribution of federal and state funds in the aggregate for transportation purposes. Specifically, the analysis compares the share of transportation investments in Plan Bay Area 2050 that benefit people of color relative to their system usage share and their population share, to determine if they are proportionate. The analysis is also carried out to examine impacts on people with low incomes.

Map 7. Plan Bay Area 2050 transit projects overlaid on Equity Priority Communities and other tracts with significant concentration of people of color



Map 8. Plan Bay Area 2050 transit projects overlaid on Equity Priority Communities and other tracts with significant concentration of people of color



Methodology

The methodology is identical to the use-based analysis described in Chapter 5, and it is calculated separately for transit and road investments. Essentially, transit investments by transit operator are allocated to people of color and white populations based on their respective shares of ridership on that particular transit system. The allocations by transit operator are then added for each population subgroup, to estimate the total transit investment shares allocated to people of color and white populations. The funding shares allocated to these population subgroups based on their use of the transit system constitute the “benefit” of the investments to those groups. The analysis is similar for road investments, but shares are calculated at the county level using shares of trips, given the constraints of demographic data for road trips. Shares of transit ridership are sourced from various transit passenger demographic surveys conducted between 2012 and 2019 through the Regional Transit Passenger Survey Program,⁵⁰ and shares of motor vehicle trips are sourced from the 2012 California Household Travel Survey (CHTS).

All transportation investments in Plan Bay Area 2050 are considered eligible for federal and state funding and hence within the scope of this analysis. This includes the nearly \$600 billion that the Plan invests in transportation until 2050 — all investments within the Transportation Element, and transportation-related investments within the Environment Element, such as sea level rise adaptation investments for highway and rail facilities (portion of EN1), clean vehicle initiatives (EN8) and transportation demand management initiatives (EN9) — all of which constitute the Regional Transportation Plan. Table 14 offers a breakdown of these transportation investments. Separate demographic data for bicycle and pedestrian investments use are not available; these investments are consolidated with road investments to allocate the investments at a county level. “Goods Movement” expenditures are consolidated with road investments, and “Other Programs” are assigned to transit or road investments based on the users they would primarily benefit.

Table 14. Plan Bay Area 2050: Regional Transportation Plan investments by mode

	INVESTMENT (\$ BILLION)	SHARE OF INVESTMENT
Public Transit	\$410	69%
Roadway/Bridge	\$147	25%
Bicycle and Pedestrian	\$20	3%
Goods Movement	\$2	<1%
Other Programs	\$13	2%
Total	\$591	100%

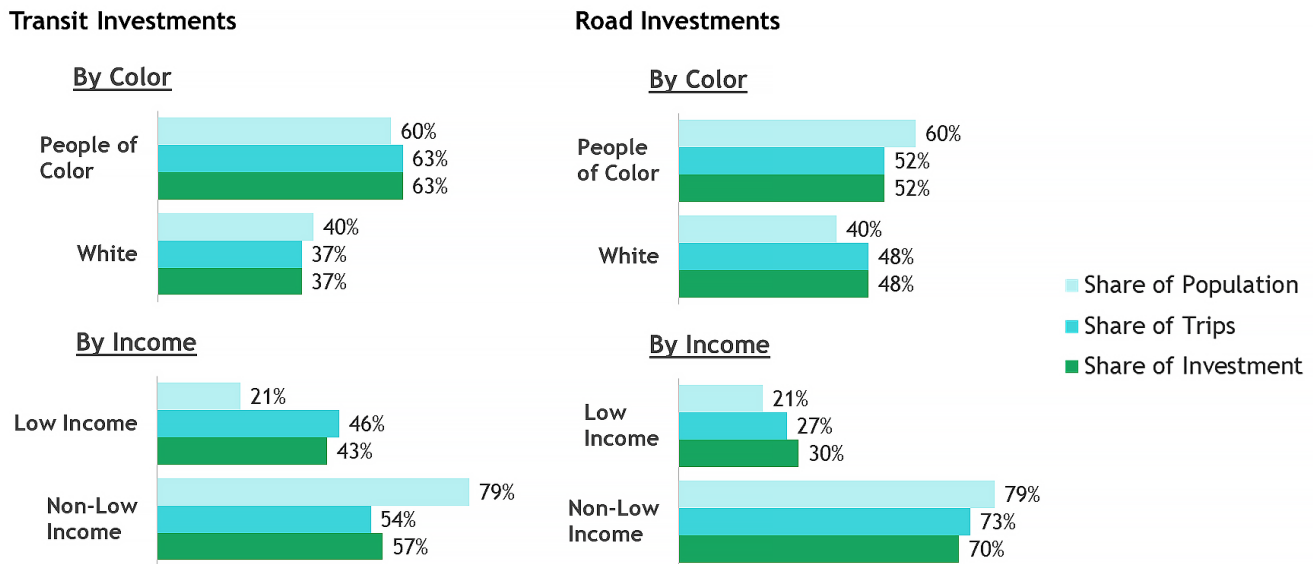
NOTE: Numbers may not add up to total due to rounding.

50 Regional Transit Passenger Survey Program: <http://bayareametro.github.io/transit-passenger-surveys/>

Findings

The results of this analysis are shown in Figure 37. The share of transit investments that benefits people of color (63%), with respect to their current use, is proportional to the share of ridership (63%). The share of transit investments that benefits people with low incomes, with respect to their current use, is slightly lower than the share of ridership. In the case of road investments, the share of investments that benefits people of color (52%), with respect to their current use, is proportional to the share of trips (52%). The share of road investments that benefits people with low incomes (30%), with respect to their current use, is marginally higher than the share of trips (27%).

Figure 37. Transit and road investment shares relative to share of population and ridership/trips, by color and income



Disparate Impact Analysis

This Title VI analysis component examines if there are any disparities in the impacts of the distribution of federal and state funds toward public transit investments on the basis of color. Similar to the methodology used in Plan Bay Area 2040, the analysis considers funding distribution at the person level to identify any disparities in benefits of public transit investments. Benefits to people of color and white populations are compared on a per-capita and per-rider basis.

Methodology

This analysis uses the share of transit investment that benefits people of color and white populations from the use-based analysis described earlier. Transit investments over the plan period by transit operator are allocated to people of color and white populations based on their respective shares of ridership on that particular transit system. The allocated funding is then divided by the population of the subgroups to determine the per capita benefits, and also by the transit ridership of the subgroups to determine per rider benefits.

Findings

MTC's disparate impact analysis of plan investments reveals that the people of color population in the region would receive 63% of Plan Bay Area 2050 transit investment benefits, higher than the share received by the white population at 37% (Table 15). In different terms, the Plan invests \$56,100 per capita toward people of color, relative to \$49,500 per capita toward white people.

Table 15. Disparate Impact Analysis results, population-based

	POPULATION (2018)		PLAN BAY AREA 2050 TRANSIT INVESTMENTS (2021–2050)		PER CAPITA BENEFIT (2021–2050)
	#	%	\$ million	%	\$
People of Color	4,630,000	60%	\$259,500	63%	\$56,100
White	3,046,000	40%	\$150,700	37%	\$49,500

NOTE: Dollar values shown in year of expenditure dollars.

SOURCE: U.S. Census Bureau American Community Survey 2014–2018, National Transit Database, Regional Transit Passenger Survey Program 2012–2019, MTC’s analysis of Plan Bay Area 2050 Investments

When compared on a per rider basis, the Plan invests \$233,800 per rider toward people of color, relative to \$231,200 per capita toward white people. Based on these results, presented in Table 15 and Table 16, MTC concludes that there are no disparate impacts of the distribution of federal and state transit funds and that Plan Bay Area 2050 is in compliance with Title VI of the Civil Rights Act of 1964.

Table 16. Disparate Impact Analysis results, ridership-based

	TRANSIT RIDERSHIP (2018)		PLAN BAY AREA 2050 TRANSIT INVESTMENTS (2021–2050)		PER RIDER BENEFIT (2021–2050)
	#	%	\$ million	%	\$
People of Color	1,110,000	63%	\$259,500	63%	\$233,800
White	649,000	37%	\$150,700	37%	\$231,200

NOTE: Dollar values shown in year of expenditure dollars.

SOURCE: U.S. Census Bureau American Community Survey 2014–2018, National Transit Database, Regional Transit Passenger Survey Program 2012–2019, MTC’s analysis of Plan Bay Area 2050 Investments

It is worth noting that the calculating the shares of benefit that are attributed to population subgroups is based on current transit usage patterns. The Plan invests in strategies that are designed to increase transit accessibility for households with low incomes, which might change future usage patterns. Such strategies include means-based transit fare subsidies, seamless transit and affordable housing production and preservation in Transit-Rich Areas. These strategies are expected to drive an increase in ridership among people of color, thereby increasing the share of benefits attributed to this subgroup relative to white people.

Environmental Justice Analysis

The purpose of this analysis is for MTC to demonstrate compliance with federal laws and regulations related to Executive Order 12898 and the associated DOT Order on Environmental Justice, wherein MTC must assist DOT, FTA and FHWA in their mission “to avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects,” on environmental justice (EJ) populations.

Methodology

For the EJ analysis in this report, adverse effects are estimated using the measures of disparities presented in Chapter 6 (Table 11) to determine whether EJ populations share in the benefits of the Plan’s investments without bearing a disproportionate share of the burdens. The disparity measures were selected based on their ability to measure whether the Plan achieves desired equity outcomes, and they were reviewed by the MTC Policy Advisory Council Equity and Access Subcommittee and Regional Equity Working Group.

To make the determination, this analysis uses DOT’s definition of a “disproportionately high and adverse effect,” which relies on meeting the following two conditions:

- An adverse impact is predominately borne by people of color and/or low-income populations; and
- An adverse impact on people of color and/or low-income populations is significantly more severe or greater in magnitude than the adverse effect on white and/or non-low-income populations.

To test the first condition, the analysis compares the effect of the 2050 No Project Alternative and the 2050 Plan on EJ populations to answer the question “Does the Plan have an adverse impact on EJ populations?” This analysis shows whether the measure is moving in the right direction for EJ populations. To test the second condition, if there is an adverse impact, the analysis compares the effect of the Plan on EJ populations and non-EJ populations to answer the question “Is the adverse impact disproportionately high?” An EJ population is determined to experience “disproportionately high and adverse effect” when answers to both questions are “Yes.”

Findings

The results of the analysis are summarized in Table 17. The disparity measures are organized by the five guiding principles of Plan Bay Area 2050: Affordable, Connected, Diverse, Healthy and Vibrant.

Affordable

The Plan makes significant headway in improving affordability for all residents, with a greater reduction in the share of income spent on housing and transportation for EJ populations. While total transportation expenditures, including transit fares, are lowered for all, households are forecasted to experience higher out-of-pocket expenses for auto trips. Increased parking fees and freeway tolling that contribute to these higher per-trip expenses are critical for managing congestion and curbing greenhouse gas emissions. However, the impacts are not disproportionately high on EJ populations, in part due to the means-based tolling that provides discounts for drivers with low incomes.

Connected

EJ populations in the Bay Area live closer to transit and have higher accessibility to regionwide jobs than the overall population today. The Plan further enhances these outcomes, through inclusionary zoning, focused growth of affordable housing in Transit-Rich Areas and transit service expansion.

Diverse

The Plan is designed to increase access to opportunity for EJ populations by enabling more affordable housing in areas rich with transit and the region's best schools, parks and other amenities and creating more inclusive communities. With production and preservation investments in affordable housing in High-Resource Areas, strengthened renter protections and targeted rental and mortgage assistance programs, the Plan also enhances the ability to stay in place and reduces the risk of displacement.

Healthy

Across all the measures used to determine health and safety outcomes, the Plan improves outcomes for EJ populations. Expected benefits include increased access to community parks and improved park maintenance, enhanced air quality, fewer fatalities and injuries from vehicle collisions and increased protections from potential sea level rise, earthquake and wildfire events.

Vibrant

Robust job growth in low- and middle-wage industries and a small but meaningful decrease in commute distance are positive impacts under the Plan that would enable greater economic mobility for EJ populations. While difficult to capture through metrics, various strategies in the Plan such as universal basic income, job training programs and high-speed internet investments in Equity Priority Communities are also designed to enhance economic mobility for underserved populations.

Based on these forecasted impacts of the Plan, MTC finds no disproportionately high and adverse impact on EJ populations.

Table 17. Environmental Justice Analysis results for the Plan

GUIDING PRINCIPLE	DISPARITY MEASURE	DOES THE PLAN HAVE AN ADVERSE IMPACT ON EJ POPULATIONS?	IS THE ADVERSE IMPACT DISPROPORTIONATELY HIGH?
 AFFORDABLE	Housing and Transportation Affordability	No	n/a
	Transportation Expenses	Mixed (No for Transit Expenses, Yes for Auto Expenses)	No
 CONNECTED	Proximity to Transit	No	n/a
	Accessibility to Jobs	No	n/a
 DIVERSE	Access to Opportunity	No	n/a
	Ability to Stay in Place	No	n/a
 HEALTHY	Access to Parks	No	n/a
	Air Quality Impacts	No	n/a
	Safety from Vehicle Collisions	No	n/a
	Protection from Natural Disasters	No	n/a
 VIBRANT	Employment Diversity	No	n/a
	Employment Location	No	n/a

Chapter 8 | Next Steps

Beyond Plan Bay Area 2050, MTC and ABAG are committed to advancing equity in the region and implementing actions that bring life to our plans. The Equity Platform adopted in 2019 provides a helpful framework to discuss the next steps for MTC and ABAG in implementing equitable outcomes under the plan. As we look forward to plan implementation, this chapter identifies next steps based on the four pillars of the platform: Define and Measure; Listen and Learn; Focus and Deliver; and Train and Grow.

Define and Measure

In order to effect change, MTC and ABAG first need to know our constituency and from what baseline to measure progress. The right data leads to the right information, which can then shape the appropriate policy. As we seek to level the playing field, and close inequities, we must ask ourselves: Who are the historically underserved communities, and what defines them? Is it something inherent, like age, gender, ability, or race? Is it location, often affected by gentrification? Is it functional, driven by income, education, or access to jobs?

MTC and ABAG staff acknowledge that the existing Equity Priority Communities⁵¹ framework, which has been in use since 2009, has challenges that must be addressed in the longer term. For instance, the share of the Bay Area's population with low incomes has been sharply declining. When the Plan Bay Area 2040 EPCs were adopted, 25% of the region's population had low incomes (2010–2014 ACS); this share fell to 21% when EPCs were adopted for Plan Bay Area 2050 (2014–2018 ACS). Another trend that challenges the existing framework is the lowered geographic concentration of people with low incomes and people of color due to ongoing gentrification and displacement and the suburbanization of poverty in the Bay Area. Shifts in EPCs at the county level are significant, reflecting racialized displacement, further evidenced in other Bay Area displacement research.⁵²

While the recalculating concentrations thresholds based on the distribution of tract-level concentrations for Plan Bay Area 2050 helps capture such shifts, the existing framework may fail to identify places where displaced populations or populations at risk of displacement reside if the concentration of those tracts falls below the established thresholds. Further, seniors and persons with disabilities are groups that are much less concentrated and more evenly spread out across the region than other underrepresented communities. Due to this, analysis based on the existing framework would not sufficiently capture disparities in impacts on these populations.

A reexamination of the framework was not possible due to resource constraints during the Plan Bay Area 2050 planning timeframe; however, initial recommendations for consideration in the future are provided below:

- **Overall Definition**

- Consider different “typologies” of Equity Priority Communities that can directly relate to specific issues under an umbrella definition, e.g., transit deficient, rent burdened, displacement pressure, food deserts.
- Tie definition with historical issues that have shaped Equity Priority Communities.

- **Methodology**

- Include flexibility, e.g., changes in definition of low-income, differences across sub-regions.
- Address issues arising from gentrification and displacement over time.
- Consider that some demographic groups do not lend themselves to place-based equity discussions given lack of concentration, e.g., seniors, people with disabilities, LGBTQ+ communities.
- Coordinate with local governments and non-profits that have on-the-ground knowledge.

51 Formerly referred to as Communities of Concern.

52 Rising Housing Costs and Re-Segregation in the San Francisco Bay Area, 2019, Urban Displacement Project.

- **Use of Framework**

- Recognize that place-based discussion is only one dimension and do not over-rely on the Equity Priority Communities framework in analyses.
- Co-relate disinvestment in communities with inequities arising from concentrated affluence and whiteness.

Listen and Learn

Plan Bay Area 2050 employed innovative engagement methods and staff actively engaged with people who were historically underrepresented, including youth, those with Limited English Proficiency and residents of Equity Priority Communities. This engagement effort required developing new avenues of public engagement specific to the plan, especially in light of the COVID-19 pandemic. Looking forward, MTC and ABAG staff want to further enhance this foundation of listening to the public to be able to amplify the voices of those who have been excluded from the decision-making table. Toward this, MTC and ABAG staff are seeking to:

- Advance equitable public engagement by ensuring that at least 70% of our engagement activities emerge from low-income communities and communities of color.
- Advance authentic community engagement by moving at the speed of trust, deeply listening to communities to identify and present solutions to on-going challenges within their areas.
- Engage early to guide planning design and development.
- Engage with communities through partners to ensure we meaningfully listen to community concerns, ideas, and solutions.
- Continue investing in community-based organizations as equal partners to cultivate deep trust, moving beyond transactional to transformative change by authentically showing up and listening in the community.
- Take advantage of different modes of communication to ensure more and new participation from underserved and underrepresented communities.
- Enhance non-traditional means of engagement, including intercept interviews and pop-up workshops
- Cultivate trusting partnerships, translate feedback into actual policy changes and provide inclusive opportunities to participate, regardless of language or ability.

Focus and Deliver

Focusing agency efforts and delivering on the plan is perhaps the most critical pillar toward implementing the plan. MTC and ABAG recognize that advancing equity is a collective action that requires our traditional partners and renewed multi-sector partnerships with health, community-rooted organizations such as faith-based entities, and civic and community groups. The Plan Bay Area 2050 Implementation Plan draws the path toward short-term tangible actions that MTC and ABAG can take to accelerate the Plan's long-range strategies over the next one-to-five years, identifying where the agencies must lead, partner or support. While the complete list of actions can be found in the Plan Bay Area 2050 Implementation Plan Briefs, this section highlights critical equity-focused actions through three major implementation vehicles: Advocacy and Legislation; New, Existing or Restructured Initiatives; and Planning and Research.

Advocacy and Legislation

Seek New Revenues

Equitable outcomes of Plan Bay Area 2050 are reliant on new revenues across all four elements of the Plan. To implement transportation strategies, new revenues are needed for realizing community-led enhancements, transit fare reform, a regionwide means-based fare program,⁵³ complete streets and Vision Zero investments, and expanding local and regional transit. In the Housing element, ambitious targets for preservation and production of affordable housing and planned rental, mortgage and small-business assistance programs depend on new revenues. Strategies in the Economy Element to improve broadband access for families with low incomes and to provide for a universal basic income also call for new revenue sources. The Environment Element includes a wide range of strategies to improve resiliency, enhance park space, and invest in climate-related initiatives — all prioritized in Equity Priority Communities. In order to implement these strategies, MTC and ABAG will continue to advocate for legislative changes at both state and federal levels, explore regional measures and help better coordinate existing funding streams.

Advocate for Enabling Legislation

Various Plan strategies depend on enabling legislation. For instance, existing state laws and federal regulations preclude conversion of freeway lanes to priced facilities that can generate revenues for reinvestment toward equitable outcomes. Stronger renter protections and the greater mix of housing densities and types in the plan require legislative changes at the state level. Expanding resilience and climate initiatives call for increased legislative authority and establishing clearer roles and responsibilities for planning, funding and implementation. MTC and ABAG will take on these actions as near-term priorities to enable the agencies to implement the plan's strategies.

New, Existing or Restructured Initiatives

Realign or Restructure Existing MTC and ABAG Programs with Plan Strategies

MTC and ABAG will seek greater strategic alignment of various existing initiatives with the plan. For instance, MTC is realigning its Express Lanes program through the Regional Express Lanes Strategic Plan⁵⁴ to have a larger focus on equitable outcomes and cost-effectiveness. The Active Transportation Program⁵⁵ and the Vision Zero shared data initiative are other such transportation programs that MTC will seek to realign with the plan. MTC and ABAG will also align programs in housing, such as the Regional Housing Technical Assistance Program⁵⁶ and the Priority Development Area (PDA) Program,⁵⁷ to: provide capacity-enhancing support for local jurisdictions; support jurisdictions with plans and policies to increase the supply of affordable housing; enable local governments to develop context-specific inclusionary zoning and affordable housing incentives; promote planning and redevelopment of malls and office parks in PDAs and other Plan Bay Area 2050 growth geographies; plan for public land reuse and advance residential and mixed-use projects with a large share of affordable housing. Various existing programs within MTC must also be restructured to meet the bold objectives of the plan. MTC's Lifeline Transportation Program,⁵⁸ a program that funds projects and programs that meet mobility and access needs of low-income populations in the region, must be redesigned to scale up and enable community-led transportation enhancements proposed in the Plan. MTC's Climate Initiatives Program⁵⁹ is planned for significant expansion and the agency will restructure this initiative and prioritize investments for electric vehicles in Equity Priority Communities, while determining appropriate means-based incentives.

53 See [Clipper START Means-Based Fare Discount Program Pilot](#).

54 See [MTC Bay Area Express Lanes Network Strategic Plan \(2021\)](#).

55 See [MTC Active Transportation Program](#).

56 See [ABAG Housing Technical Assistance Program](#).

57 See [ABAG Priority Development Areas Program](#).

58 See [MTC Lifeline Transportation Program](#).

59 See [MTC Climate Initiatives Program](#).

Launch New Initiatives that Advance Equity

MTC and ABAG will lead, partner or support in launching and delivering pilot projects to accelerate various strategies in the plan. Strategies most suited for this are tenant protection and anti-displacement programs, affordable housing preservation (e.g., Bay Area Preservation Pilot Program⁶⁰), affordable housing production (e.g., Regional Affordable Housing Application Platform (“Doorway”) and the Affordable Housing Pipeline Database⁶¹) and shoreline adaptation programs — with a goal of providing financial support to lower-resource jurisdictions to advance equity goals.

Planning and Research

Adopt an Equity Lens Approach in Planning or Research

Planning and research studies are imperative actions in the near term to deep dive into new strategies such as complete streets and micro-mobility, freeway pricing, use of public land for housing, sea level rise adaption planning and building retrofits. MTC and ABAG will take an equity lens approach in these studies to ensure that these strategies benefit and uplift historically underserved populations.

Support the Coordinated Public Transit–Human Services Transportation Plan

MTC’s most recent⁶² Coordinated Public Transit–Human Services Transportation (Coordinated) Plan seeks to improve transportation coordination in the region to address the mobility needs of people with low incomes, seniors, people with disabilities and veterans. With strategies to support safety of road users, lower transportation costs for people with low incomes and improve availability of transportation information, Plan Bay Area 2050 is consistent with and supports the vision of the Coordinated Plan. MTC and ABAG will ensure that implementation efforts of Plan Bay Area 2050 are consistent with the next iteration of the Coordinated Plan which will be completed in 2022.

Plan for Equitable Post-COVID-19 Pandemic Recovery

The COVID-19 pandemic exposed great divisions in our region and society at large and has further exacerbated economic, social and health inequities. To equitably implement the plan’s strategies, MTC and ABAG will partner with key stakeholders to conduct regional studies related to inclusive post-COVID recovery, megaregional economic needs, and closing the “digital divide.” including the intersection of broadband infrastructure development with transportation project delivery. MTC will coordinate the implementation of recommendations from the Blue Ribbon Transit Recovery Task Force,⁶³ which was convened to guide the regional response of Bay Area transit to the pandemic with a focus on equity. MTC and ABAG will also further study post-pandemic commute patterns, especially those of essential and transit-dependent workers, and make recommendations for network modifications to better suit their mobility needs.

60 See [Transit-Oriented Affordable Housing Fund \(TOAH\) - Bay Area Preservation Pilot Program](#).

61 See [Momentum For Lasting Solutions](#) (February 2021) for proposed pilot projects.

62 The current Coordinated Plan was adopted in 2018 and can be found [here](#).

63 See [Blue Ribbon Transit Recovery Task Force](#).

As important as it is to look outward to advance equity with Plan Bay Area 2050, MTC and ABAG are committed to looking inward, building a culture of equity and eliminating internal disparities so as to be best positioned to implement the plan. The agency is seeking to undertake an equity assessment on its internal operations and develop an equity strategic plan, including devoting resources to staff training, metrics and evaluation, and recruitment and retention strategies. This focus area looks at the internal processes of the agency, including but not limited to an equity audit, recruitment practices, retention within the agency, professional development opportunities, succession planning, contracting practices, cultural assessments and mentoring opportunities.

MTC and ABAG are also seeking to restructure protocols and procedures to assess and understand the impact of resource investments on systemically marginalized communities. This involves designing and applying an equity toolkit to assess policies and practices and evaluating through an equity lens the distribution of benefits and burdens — who pays and who decides. Through data-informed approaches both experiential and quantitative, the agency is looking to enhance decision-making related to transportation, affordable housing, and other public infrastructure investments by developing a better understanding of the types of investments that best advance equity. The initiative will develop tools to track and evaluate investments and policies to ensure successful outcomes, and also create internal policies to foster and promote a learning environment.

As MTC works toward further fusing equity into its operations and portfolio of work on a wide range of agency and project-specific matters, the agency has developed an Equity Consultant Bench⁶⁴ comprised of equity consultants and non-profits dedicated to advancing equity across a variety of platforms, including transportation, housing, and more. Services from this bench will help advance our Equity Platform and increase staff access to a diverse group of equity-focused professionals and thought leaders. Cooperative use language included in the contracting allows for our partner agencies to pick from the dozens of vetted firms with the experience to help public agencies adopt an equity lens approach and incorporate equity into projects and programs.

64 For more information, see [MTC-ABAG Equity Bench Consultant Catalog](#)

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