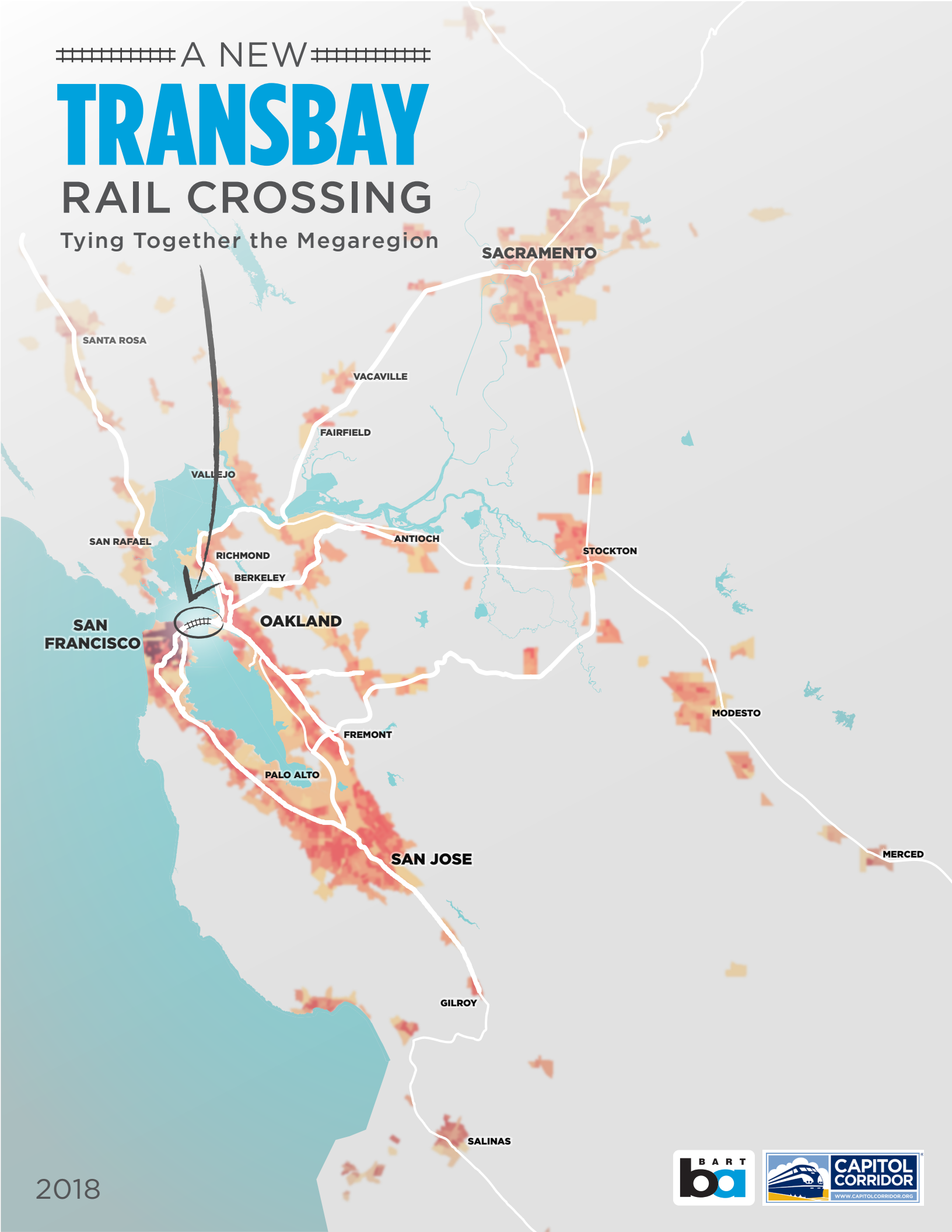


||||| A NEW |||||

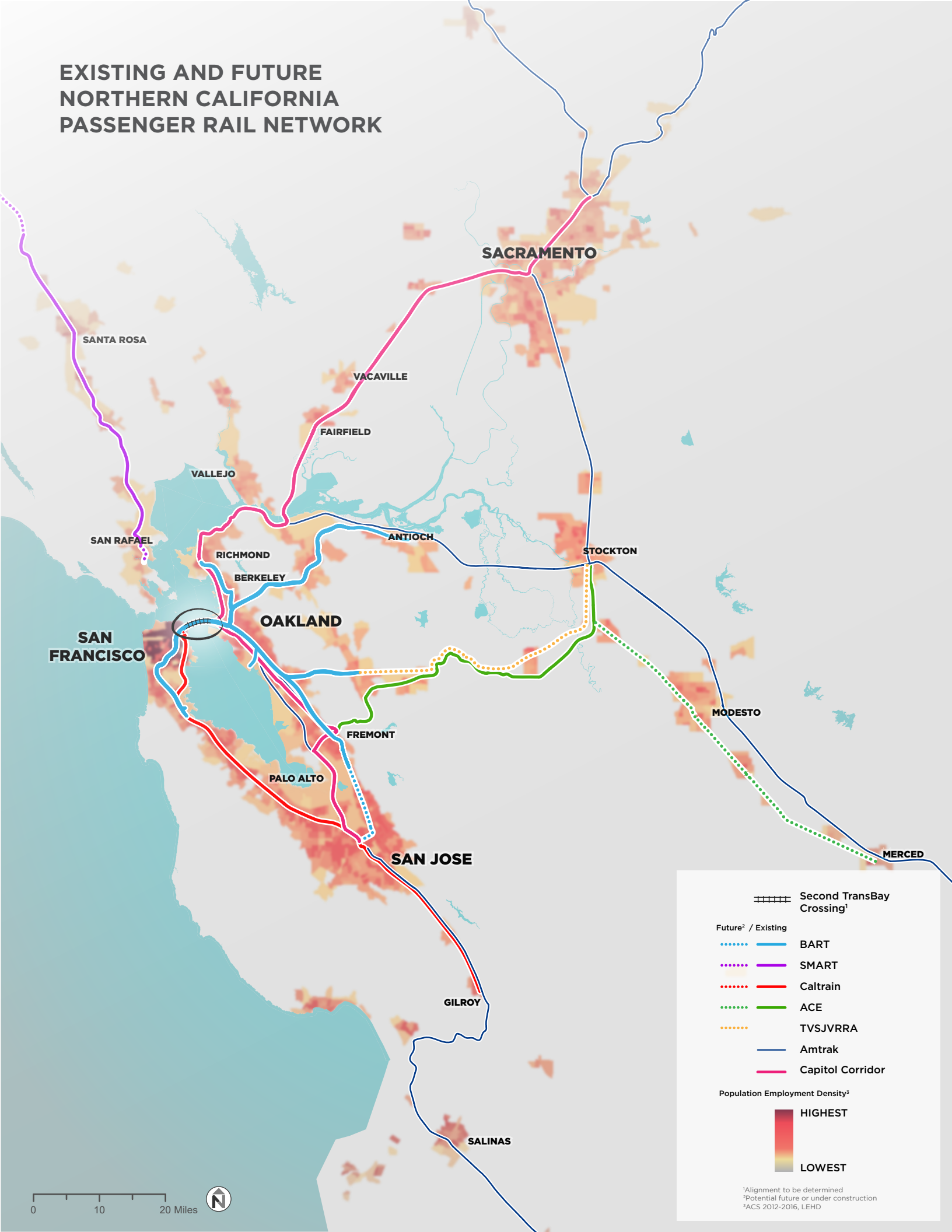
# TRANSBAY

## RAIL CROSSING

Tying Together the Megaregion



# EXISTING AND FUTURE NORTHERN CALIFORNIA PASSENGER RAIL NETWORK



Second TransBay Crossing<sup>1</sup>

Future<sup>2</sup> / Existing

BART

SMART

Caltrain

ACE

TVSJVRRRA

Amtrak

Capitol Corridor

Population Employment Density<sup>3</sup>

HIGHEST

LOWEST

<sup>1</sup>Alignment to be determined

<sup>2</sup>Potential future or under construction

<sup>3</sup>ACS 2012-2016, LEHD

0 10 20 Miles



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# INTRODUCTION

Our economy and quality of life in Northern California depend on rapid and reliable transit. After years of service to the region, BART, Capitol Corridor, Caltrain, ACE, SMART, and local transit agencies face major challenges. As the economy grows and more people ride transit, our transportation systems are becoming increasingly crowded and less reliable. To lay the foundation for the Northern California of the future, the New Transbay Rail Crossing study will evaluate the potential for a new rail crossing of the San Francisco Bay integrated with existing rail transit services to meet the growing travel demand, improve reliability, and provide more service to more people within an ever more tightly integrated Northern California megaregion.

In 1957, the *Rail Plan for the Bay Area* laid out an ambitious vision:

**“If the Bay Area is to be preserved as a fine place to live and work, a regional rapid transit system is essential ... A satisfactory solution to the Bay Area’s traffic problem cannot be reached by building freeways alone. The solution can be reached only through a system of mass rapid transit developed on the premise of moving people—not moving automobiles.”**

A few years later, Bay Area residents voted to create BART, which helped propel the region into its current status as one of the most economically prosperous and livable regions in the world. Today’s residents grapple with similar questions that our forbearers faced in the 1950’s.

Will we allow congestion and train crowding to again threaten our prosperity and quality of life, or will we build upon the investments of previous generations to create a better future for our region?

It’s time to look at how a second rail crossing of the San Francisco Bay can knit together the megaregion with a regional rail network that serves job centers in the Bay Area, as well as fast growing communities of the Sacramento and Northern San Joaquin Valley regions.

In the coming years, BART and its planning partners will work on the essential planning efforts needed to deliver a project of this scale and maximize the benefits for people in Northern California. This work will include analyses of travel markets and land use, operational and technical analyses, such as evaluating types of rail technology for a second crossing, and engagement with the public and planning partners across the state.



# PLANNING FOR THE FUTURE

## WHERE WE ARE TODAY

BART, Caltrain, ACE, SMART, and Capitol Corridor are essential to our quality of life and the health of our region's economy—connecting workers and businesses and providing an alternative to regional traffic congestion. All these services, however, are experiencing crowding and expansion constraints, most particularly in the transbay corridor between San Francisco and Oakland.

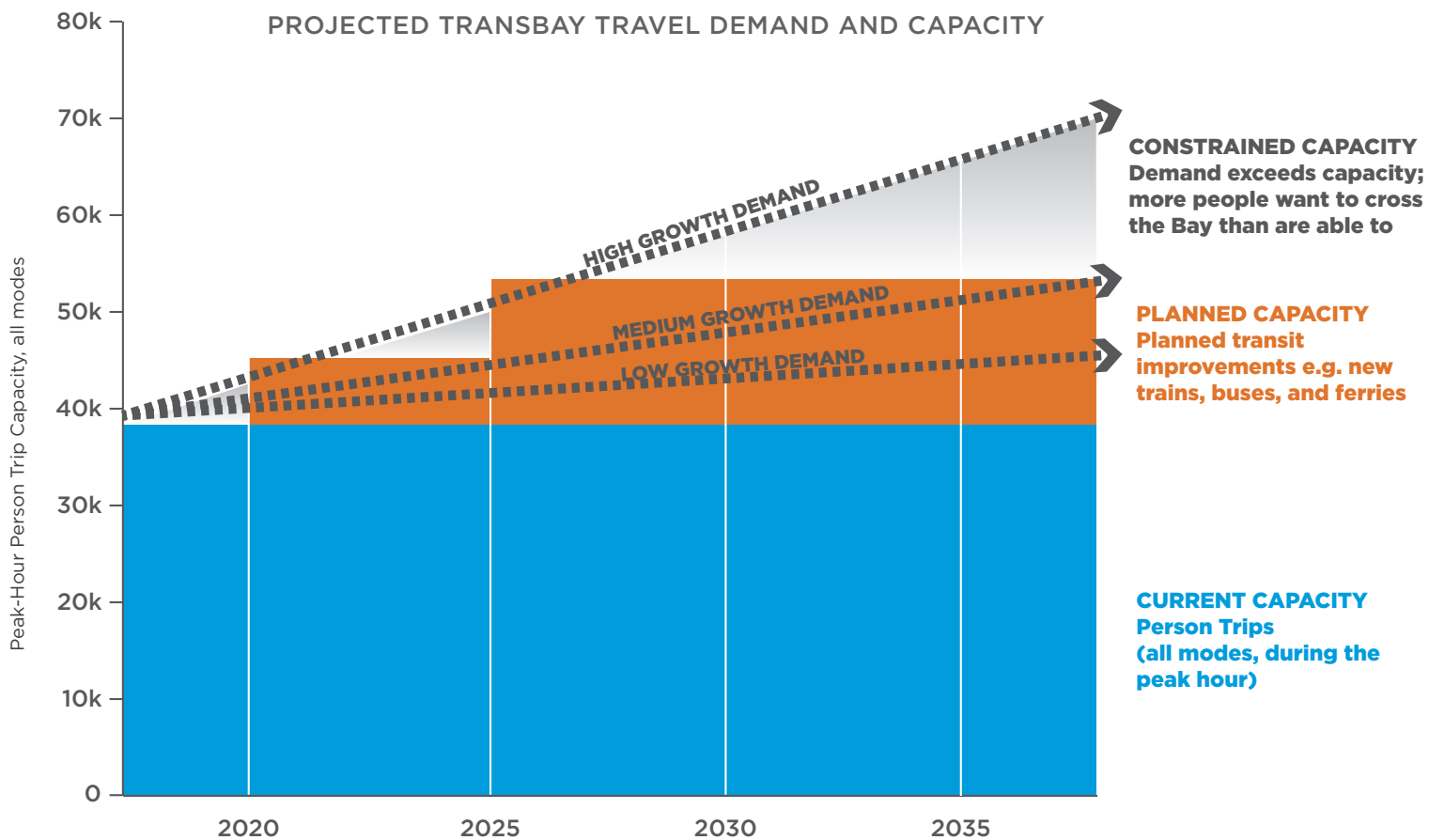
## BAY AREA'S POPULATION AND EMPLOYMENT

Since transbay BART service started in 1974, Bay Area population and employment have nearly doubled, stretching BART's capacity limits. Meanwhile, BART also faces operational limits, with multiple lines merging into a single tunnel under the Bay.

- BART has helped spur employment growth in the region's core, but that economic success has also led to crowded trains and a congested Bay Bridge.
- Near-term projects will provide improvements to the transbay bus and BART systems, but not enough to accommodate projected population and employment growth through 2040.
- High capacity transit is essential in an urban environment. During rush hour, nearly twice as many people cross the Bay on BART as on the Bay Bridge.







Source: Bay Area Core Capacity Transit Study (2017) [https://mtc.ca.gov/sites/default/files/CCTS\\_Final\\_Report.pdf](https://mtc.ca.gov/sites/default/files/CCTS_Final_Report.pdf)

Note: The Core Capacity Transit Study modeled three transbay travel demand scenarios. Planned improvements to all transit modes will increase projected capacity, but new capacity is needed long term.



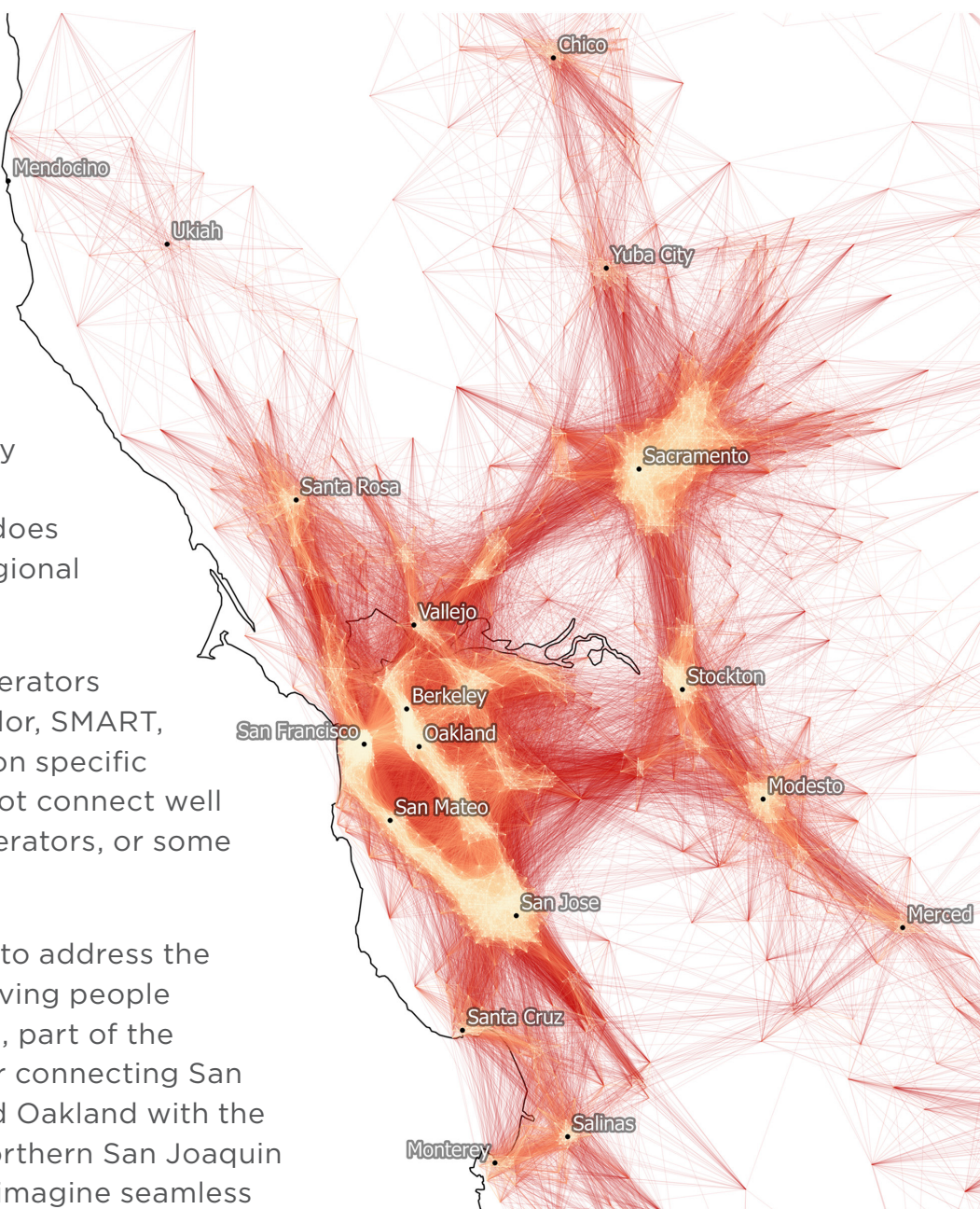
## WE ARE A MEGAREGION

The Bay Area and much of the Sacramento and Northern San Joaquin Valley regions increasingly operate as an interconnected megaregion, with commerce and commutes crossing historic boundaries between the nine-county Bay Area, the Sacramento region, the Northern San Joaquin Valley, and the Monterey Bay region. Our current transportation system does not reflect this megaregional structure.

Current regional rail operators (Caltrain, Capitol Corridor, SMART, and ACE) concentrate on specific travel markets but do not connect well to each other, other operators, or some key destinations.

As we think about how to address the acute constraints in moving people around the megaregion, part of the answer may lie in better connecting San Jose, San Francisco and Oakland with the Sacramento and the Northern San Joaquin Valley regions. Can we imagine seamless connectivity among Northern California's major employment hubs? Could we improve job opportunities in the Central Valley and housing affordability for Bay Area workers by creating faster and more seamless rail connections? Key pieces of new infrastructure may be needed to realize this goal.

### MEGAREGION COMMUTES



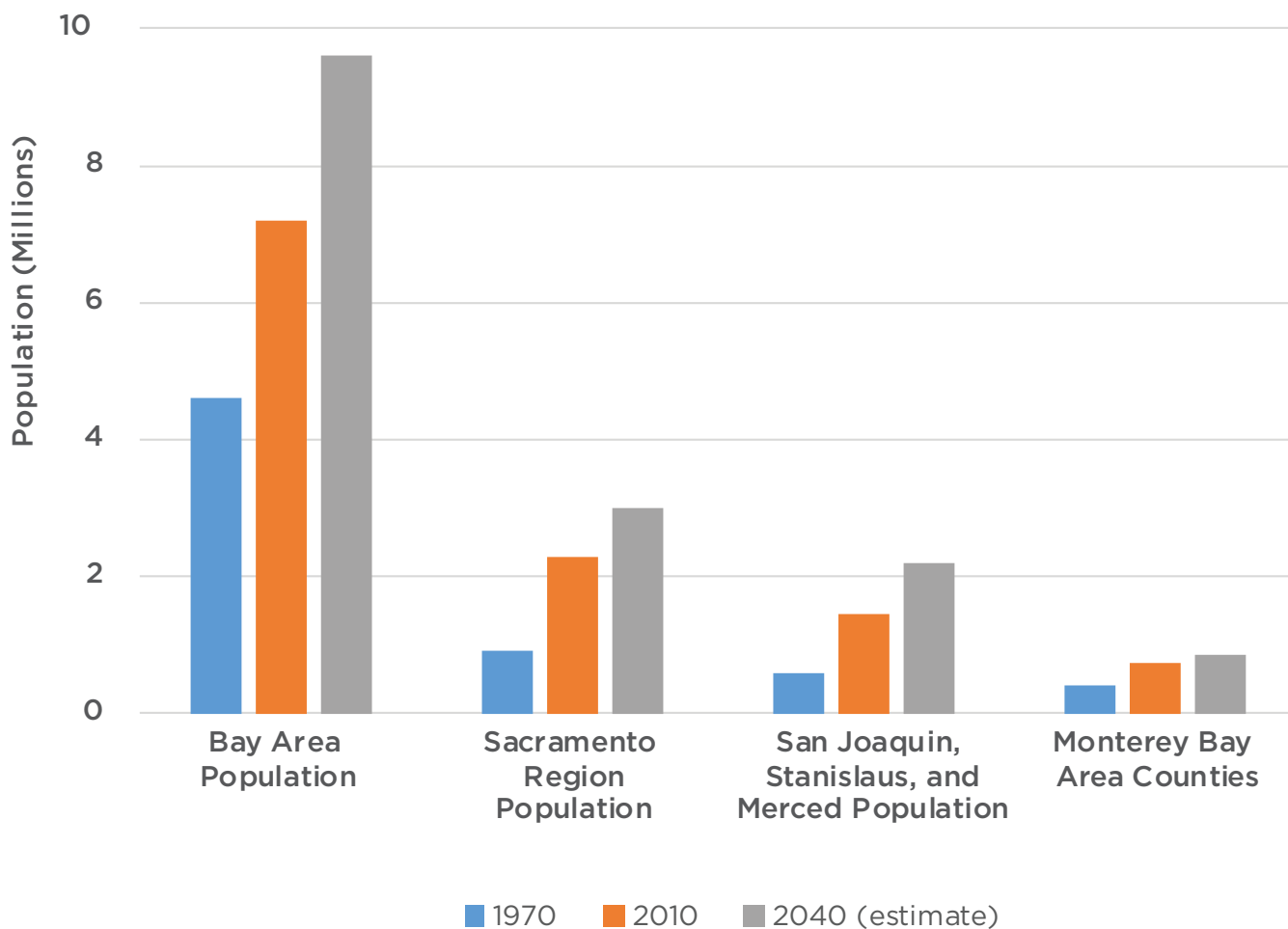
Source: Dash Nelson G, Rae A (2016) An Economic Geography of the United States: From Commutes to megaregions. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0166083>

# THE FUTURE OF THE BAY AREA AND THE MEGAREGION

## WHERE WE ARE GOING AND HOW WE ARE PLANNING FOR IT

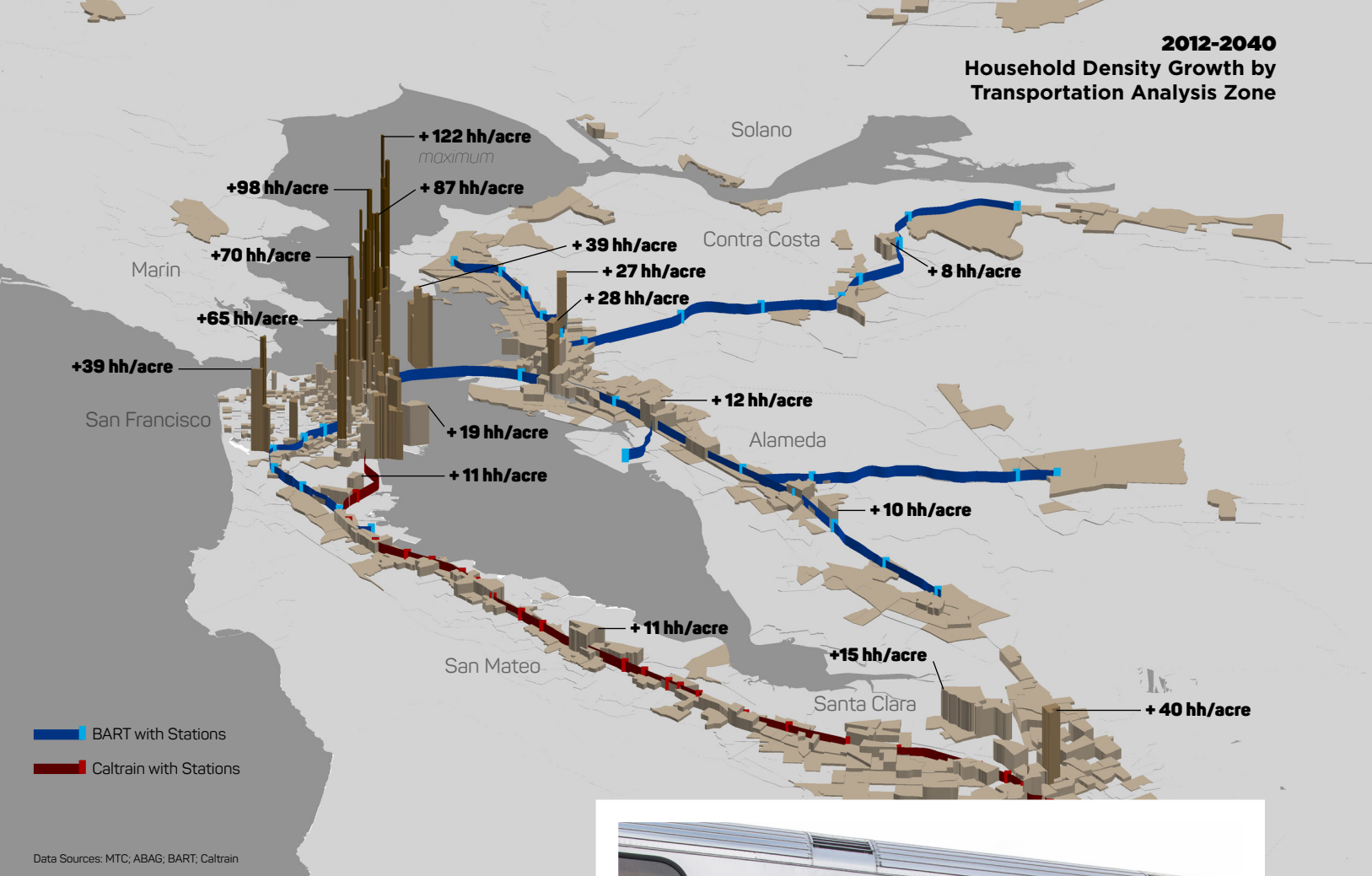
The Northern California megaregion is the most economically productive region in the country, on a per capita basis, and its GDP exceeds Switzerland's. By 2040, the Bay Area's population is expected to grow by an additional 2.1 million residents. The Sacramento and Northern San Joaquin Valley regions have some of Northern California's fastest growing cities, with San Joaquin and Stanislaus counties expected to grow by over 40% by 2040.

MEGAREGION POPULATION GROWTH





**2012-2040**  
Household Density Growth by  
Transportation Analysis Zone



*Plan Bay Area*, the regional transportation and land use plan for the Bay Area, focuses most job and housing growth near transit to help reduce congestion and greenhouse gas emissions, and preserve open space. The map above shows a residential growth scenario linked to BART and Caltrain systems as part of the analysis for *Plan Bay Area*. The transportation and land use plans for other parts of the megaregion—put together by the Sacramento Area Council of Governments, San Joaquin Council of Governments, Stanislaus Council of Governments, Merced County Association of Governments, and the Association of Monterey Bay Area Governments—call for similar growth patterns.



**Increased transit across the Bay is the linchpin of a transit-oriented growth strategy.** With increased capacity in the transbay corridor, vibrant job centers on both sides of the Bay can continue to grow, supported by an increasingly diverse set of transit-oriented housing options throughout the region. Better connectivity across rail systems could reorder megaregional growth patterns, bringing cities where residents have long commutes within a much quicker and more environmentally friendly ride of each other. Multiple job centers within the megaregion can benefit from the improved rail connections, including Sacramento, Stockton, and Modesto.

**Our megaregion's adopted Sustainable Communities Strategies provide a strong foundation for directing growth near rail transit.** Making new rail investments cost-effective, and addressing our housing affordability and congestion crises, requires government agencies to continue implementing these plans.

**A new transbay crossing project will help us decide where we want to grow over the next 50 years** and how we will support that growth through major infrastructure investments. These investments will knit together our megaregion; a large-scale regional rail investment could bring Sacramento within an hour of the Bay Area core, and allow direct access between East Bay and Peninsula destinations.



Long range planning goals from the Bay Area and the Central Valley regional planning agencies:

- Tackle problems that cross boundaries and require regional solutions
- Ensure a high quality of life for the future
- Provide a range of housing and transportation choices
- Connect transportation investments and land use
- Achieve equitable access to housing, employment, and opportunities
- Expand economic prosperity
- Preserve open spaces, natural resources, and farmland



# BENEFITS OF A NEW RAIL CROSSING

A key question this study will address is whether the next transbay crossing should use BART technology or standard-gauge rail technology – or both. BART tracks are a wider gauge than the other rail lines in the Bay Area, so BART trains cannot share tracks with Caltrain, ACE, High Speed Rail, SMART, or Capitol Corridor. Each technology has different advantages.

## A new BART rail crossing in the transbay corridor has the potential to:

- ✓ **Double** the the capacity of BART across the San Francisco Bay
- ✓ **Reduce crowding** during peak periods
- ✓ **Reduce delays** by making the system more flexible
- ✓ **Increase BART's resiliency** in the face of natural disasters and other disruptions
- ✓ **Create seamless connections** between BART and other rail systems

## A standard-gauge rail crossing along with other regional rail improvements have the potential to:

- ✓ **Tie together the megaregion,** connecting the Peninsula, Silicon Valley, San Francisco, Oakland, and Sacramento on a single line
- ✓ **Better connect growing** Sacramento and Northern San Joaquin Valley communities to the Bay Area's strong economy
- ✓ **Support economic development** in Sacramento and the Northern San Joaquin Valley
- ✓ **Fully leverage** Caltrain modernization, High Speed Rail, and Transbay Terminal investments to maximize their utility

**It may be possible to build a new rail crossing with room for both BART *and* standard-gauge rail, and this study will consider how that could work.**





# THE WORK AHEAD

## WE ARE HERE



### STEP ONE

Initiate New  
Transbay Rail  
Crossing Work



### STEP TWO

Establish  
Project Team



### STEP THREE

Conduct  
Project  
Analyses



### STEP FOUR

Deliver  
Recommendations



### STEP FIVE

Environmental  
Review



### STEP SIX

Funding



### STEP SEVEN

Finalized Design  
and Engineering



### STEP EIGHT

Begin Construction



### STEP NINE

Open for Service

## WHAT'S NEXT

Over the coming months, BART and its partners will work to define and scope this project. Whether you're a commuter, a business manager, or another stakeholder, we will want your input as we begin to conduct our project work. Look for announcements from BART in 2019 for ways to get involved and help us create a connected transit network that supports our thriving megaregion.

