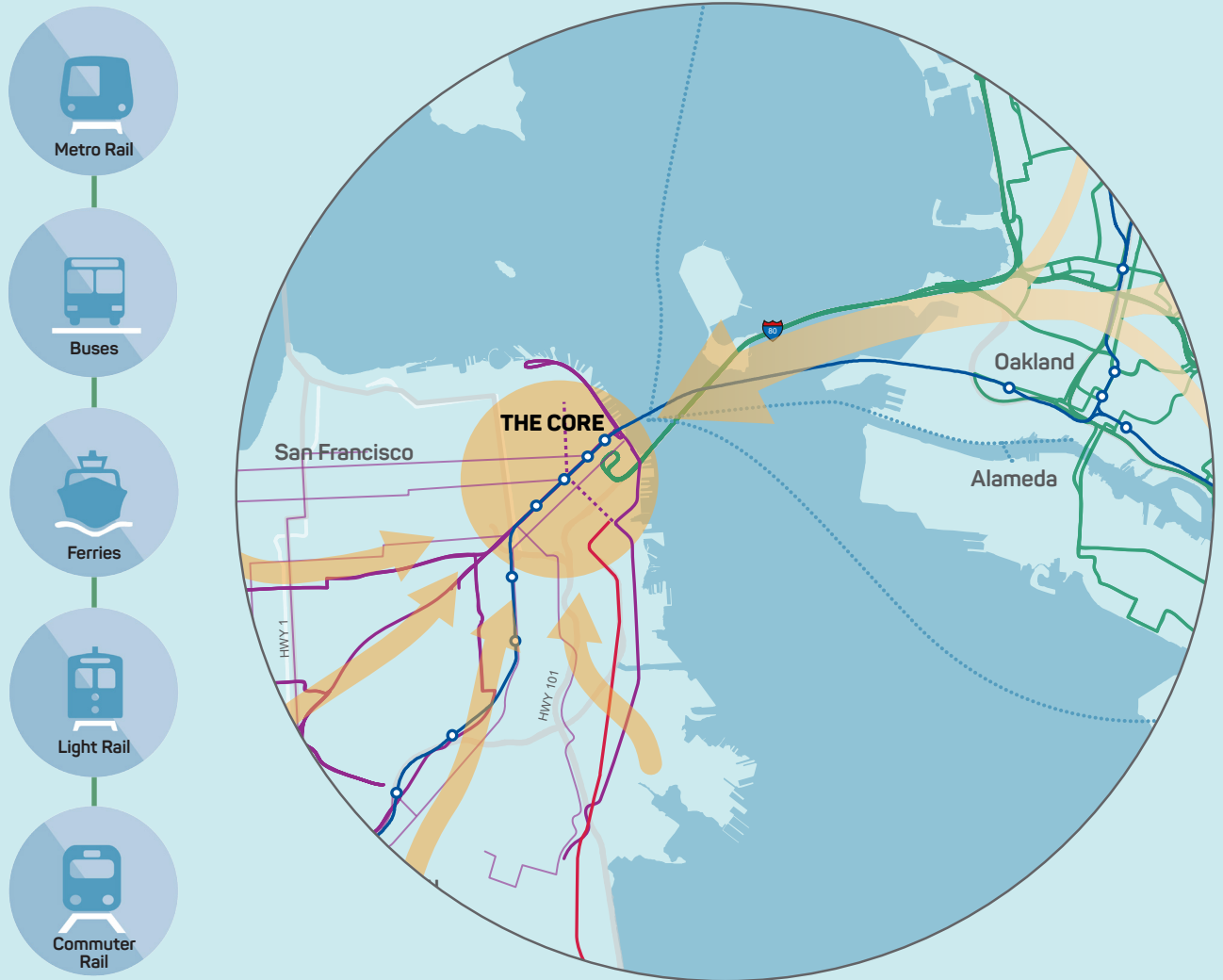


# CORE CAPACITY TRANSIT STUDY

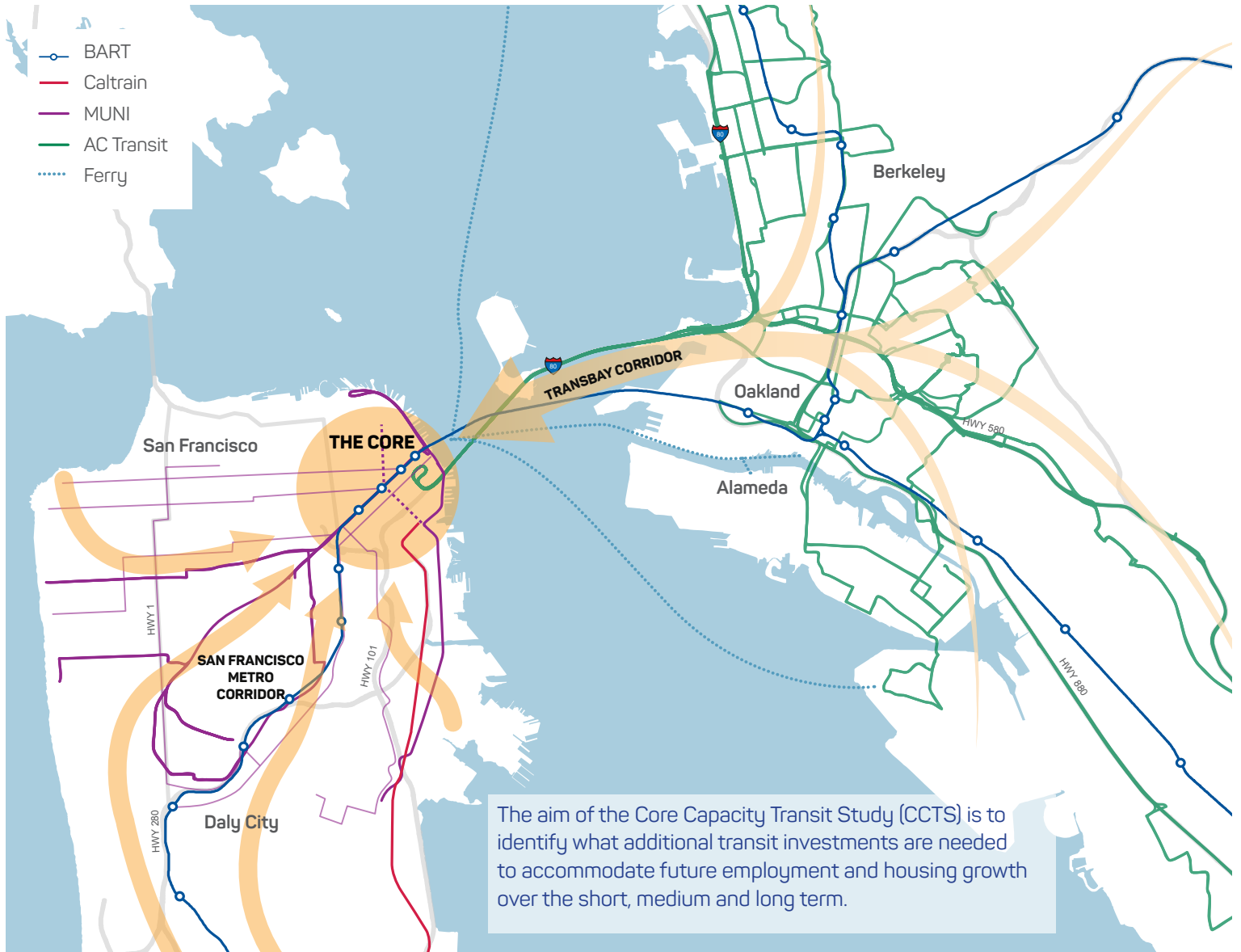
## SETTING THE SCENE



**Since emerging from the 2008 recession, the San Francisco Bay Area has experienced surging growth in population and employment, which has led to increasing transit ridership, especially for trips to and from the San Francisco Core.**

The current level of demand is placing significant strain on the transit networks serving the Core, with transit providers operating close to or above capacity levels. This limits their ability to be resilient in meeting customer needs, and it creates a ripple effect throughout the entire system during incidents such as service delays and breakdowns.

The aim of the Core Capacity Transit Study (CCTS) is to identify transit investments – beyond those operators are already planning – to meet today’s needs and accommodate demand for transit over the next 25 years.



## INTRODUCTION

The CCTS is a collaborative effort by seven Bay Area transportation agencies. The study will identify transit solutions for travel to and from the San Francisco Core that support sustainable economic growth and improve the quality of life for the region's residents, visitors, and workforce. The study will look at investments that could be implemented in the short term (within five years), medium term (within 15 years), or long term (within 25 years) to help steadily increase transit capacity and keep pace with anticipated population growth for the next quarter century. As an important step toward funding and implementation, study findings will be incorporated into the MTC's 2017 Plan Bay Area update, which functions as the region's transit-investment roadmap for the coming decades.

In the Transbay corridor, demand for trips to San Francisco for the three main transit providers, AC Transit Transbay bus service, BART rail service, and WETA ferry service, has grown 42% in the AM peak hour between 2010 and 2015. In the San Francisco Metro corridor, demand for trips for the three main transit providers – BART, Caltrain rail service, and SFMTA bus and light rail service – has grown 26% in the AM peak hour over the same period. The rapid pace of growth in both corridors has led to crowded conditions during peak periods, and anticipated growth will likely exacerbate these conditions.

The transit providers have been actively engaged in planning for improvements that would deliver more capacity over the next few years. Some of these planned or "prerequisite" projects have full funding commitments, but others do not. The study recognizes that securing the funding and delivering all of the prerequisite projects is one of the region's highest priorities. Funding and delivering additional improvements that emerge from the CCTS will be an important next step.



## PREREQUISITE PROJECTS

The agencies that are sponsoring the study have already identified a number of projects that can provide much needed increases in capacity in the next 10 to 15 years. Certain projects have full funding commitments and are in the final stages of design, construction, and implementation in the short term. Others have some funding identified but are not yet fully funded or in advanced stages of design.

For a full list of prerequisite projects, visit the study's web page: [mtc.ca.gov/core-capacity](http://mtc.ca.gov/core-capacity). Note that some of the projects that are required to increase capacity may not directly touch the rider but are nevertheless critical to being able to run more trains and longer trains (i.e. facilities that provide additional traction power for BART).

It is critical that the region identify full funding for all of the prerequisite projects as a first step in addressing capacity needs in the two corridors.



# TRANSBAY

## TRAVEL DEMAND

Roads and transit lines in the transbay corridor are crowded today, and travel demand will continue increasing in the coming years. BART is operating at 110% of its capacity standard during the morning peak hour, and the Bay Bridge continues to operate at capacity for vehicles in the peak hour.

The most recent regional long range plan, Plan Bay Area, projected that demand for morning peak-hour travel in the corridor would grow by 19% between 2010 and 2040. With an estimated 38,000 people traveling through the corridor in the morning peak hour in 2015, demand has already exceeded the 2040 projection. This illustrates the uncertainty inherent in trying to predict the future, and as such, the study is considering a range of potential future travel-demand levels: from a slow-growth scenario that would yield 44,000 morning peak-hour travelers in 2040 to a fast-growth scenario that would result in 70,000. Trains, buses, and ferries would need to handle most of that growth, given that the bridge is already at capacity for autos.

### Transbay Corridor

#### Existing Conditions

Westbound to SF Core  
AM Peak Hour

10,000 People in Cars

29,000 Transit Trips

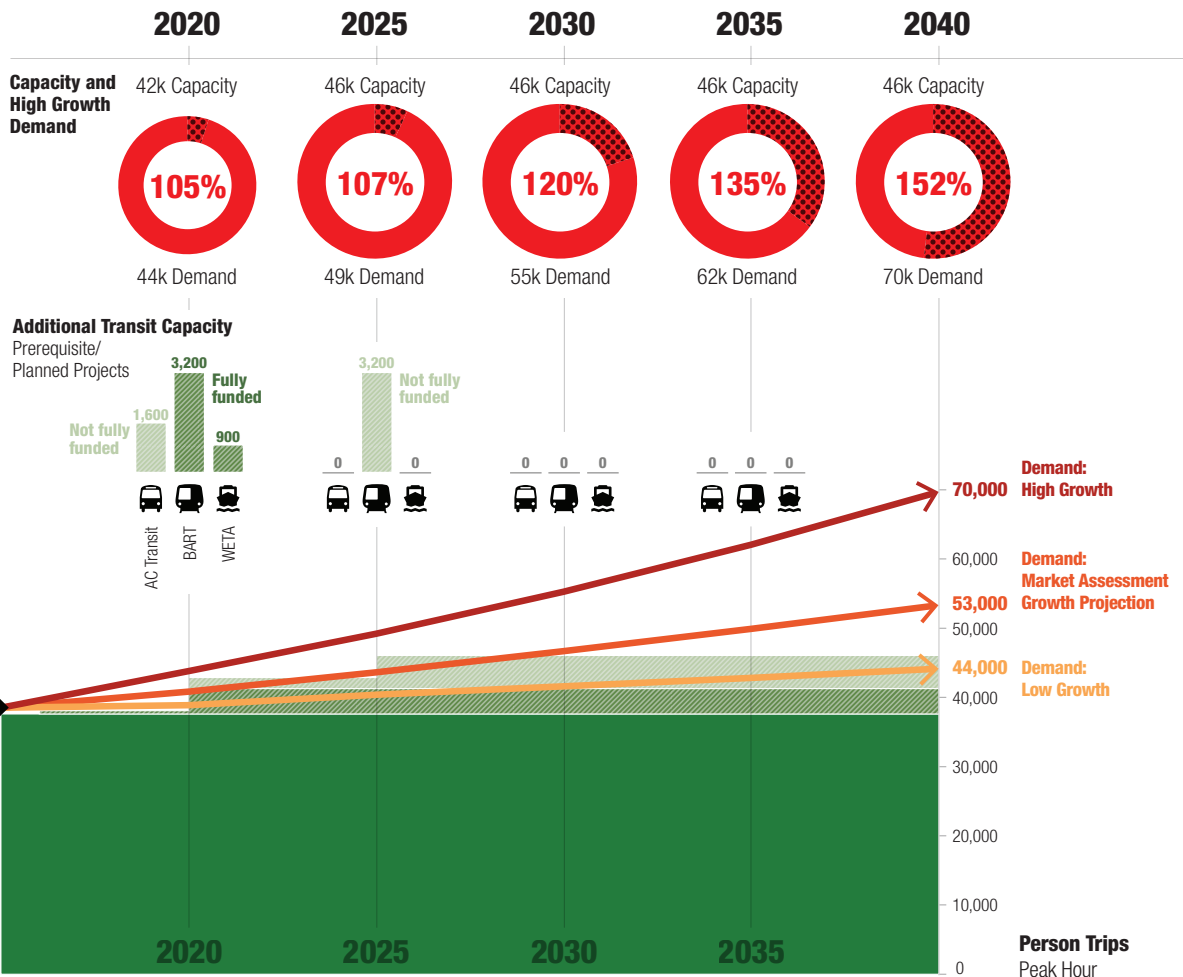
2,700 AC Transit & WestCAT bus  
25,000 BART  
1,300 WETA ferry

### 2015

37k Capacity



39k Demand



# TRANSBAY

## A CONSTRAINED SYSTEM

Travelers have a variety of travel choices in the transbay corridor, with metro rail, bus, and ferry routes that cover a broad swath of the East Bay. Each network faces unique capacity constraints.

- **Bay Bridge Congestion:** Traffic at the toll plaza and over the bridge slows buses down during peak travel times, making buses less attractive than already crowded rail service.
- **System Redundancy:** The rail system is organized with four branches merging into around a central trunk line with one set of tracks in each direction. There is no provision for express or passing tracks, and delays and outages can cascade across the system..
- **Limits on the Number of Trains that Can Run through the Center of the BART System:** BART is currently operating the maximum number of trains that can run through the Transbay Tube with the current train control technology, and operations are slow through the central Oakland junction due to tight curves..
- **Station Crowding:** Station platforms were built before it was conceivable that ridership could grow to as much as is currently being experienced on a daily basis.
- **Train and Bus Storage Limits:** As bus and rail systems purchase new vehicles, space to store and maintain them will grow increasingly constrained.
- **Multi-Modal Connectivity:** While ferries can avoid the congestion other systems must confront, historic land use patterns mean ferry terminals are located some distance from residential centers, requiring trip-lengthening connections.



# SAN FRANCISCO METRO

## TRAVEL DEMAND

Transit is many people's first choice for trips within San Francisco, which has caused crowded conditions on key lines that have persisted even with recent increases in service. Of five subareas analyzed as part of this study (the Northern Neighborhoods, Richmond, Sunset, Mission, and Bayshore), the Richmond and Sunset subareas are particularly strained, and they are projected to get even more so in the coming years.

Between 2010 and 2015, the number of morning peak-hour trips across the SF Metro corridor grew by nearly 10%, with the most robust growth in travel from the Sunset (17%) and Mission (11%) subareas. Demand for travel from the Sunset subarea (which covers the whole Muni Metro service area in western San Francisco) is currently estimated to be 12% over capacity, which means conditions are regularly crowded enough during peak periods that some passengers must wait for several trains before finding room to board. Others are likely deciding to avoid the system entirely during these congested times. Lines connecting to the Richmond subarea (served only by several high-demand bus lines) are nearly as crowded, and the three other subareas are only slightly less so, at around 90% of capacity on average.

Over the coming decades, morning-peak-hour demand for travel is expected to exceed available capacity in the Sunset and Richmond corridors, growing from approximately 15,000 trips in 2015 to roughly 18,000 by 2040 in each of the corridors.

### Sunset Corridor



Existing Conditions  
Inbound to SF Core  
AM Peak Hour

4,550 People in Cars  
8,050 Transit Trips  
750 Bike/Ped

### Richmond Corridor



Existing Conditions  
Inbound to SF Core  
AM Peak Hour

4,400 People in Cars  
6,000 Transit Trips  
5,400 Bike/Ped

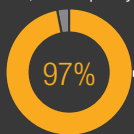
## 2015

13,350 Capacity



14,950 Demand

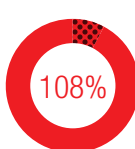
15,800 Capacity



15,350 Demand

## 2020

14,400 Capacity



15,550 Demand

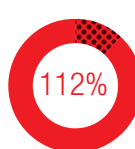
15,900 Capacity



15,950 Demand

## 2025

14,400 Capacity



16,100 Demand

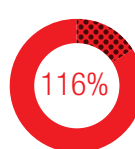
15,900 Capacity



16,550 Demand

## 2030

14,400 Capacity



16,700 Demand

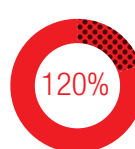
15,900 Capacity



17,200 Demand

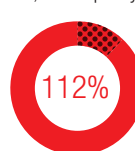
## 2035

14,400 Capacity



17,350 Demand

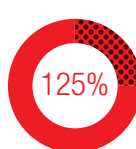
15,900 Capacity



17,850 Demand

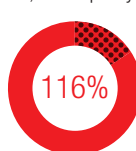
## 2040

14,400 Capacity



18,000 Demand

15,900 Capacity



18,500 Demand

# SAN FRANCISCO METRO

## A CONSTRAINED SYSTEM

SFMTA's light rail system combines historic streetcar routes in western San Francisco with a modern rapid transit spine in the Muni Metro Tunnel. The tensions between these two parts of the system explain many of the challenges the system faces today.

- **Congestion on the Surface:** Light rail trains can be delayed by traffic, making travel times slower and less predictable. When conditions are crowded, it can also take longer for passengers to get on and off trains, exacerbating delays.
- **Unpredictability at Subway Entry Points:** When trains on different lines arrive at the same entrances to the subway at the same time, one train must wait for the other, leading to unpredictable delays for certain riders.
- **Muni Metro Subway Reliability:** The fact that travel times on the surface can vary widely prevents SFMTA from sequencing trains in a way that maximizes the potential capacity of the subway by making spacing between trains longer than ideal.
- **System Flexibility:** All five SFMTA rail lines operate in a single subway. With limited locations where trains can be pulled off the main tracks, even small disruptions result in significant delays to all rail lines. Caltrain faces similar issues, with a limited number of passing tracks along the Peninsula.
- **Too Few Rail Cars in Service:** SFMTA and Caltrain are both in the process of buying new train cars, but the agencies currently lack enough cars at any given time to run many more trains per hour – or longer trains – than they do today.

# NEXT STEPS

The Core Capacity Transit Study will continue studying capacity needs, developing and evaluating solutions, and crafting an implementation and funding strategy through the beginning of 2017.

## PROJECT SCHEDULE

2016								2017		
MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR
Project and Package Development										
Project and Package Evaluation										
						Public Outreach				
							Develop Implementation and Funding Strategy			
									Draft and Final Report	



### CORE CAPACITY TRANSIT STUDY



## READ MORE, ASK QUESTIONS, AND SHARE YOUR THOUGHTS

Visit: [mtc.ca.gov/core-capacity](http://mtc.ca.gov/core-capacity)

Contact: Matt Maloney ([mmaloney@mtc.ca.gov](mailto:mmaloney@mtc.ca.gov))

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