2016 Performance Report

STATE OF THE TRANSPORTATION SYSTEM IN ALAMEDA COUNTY

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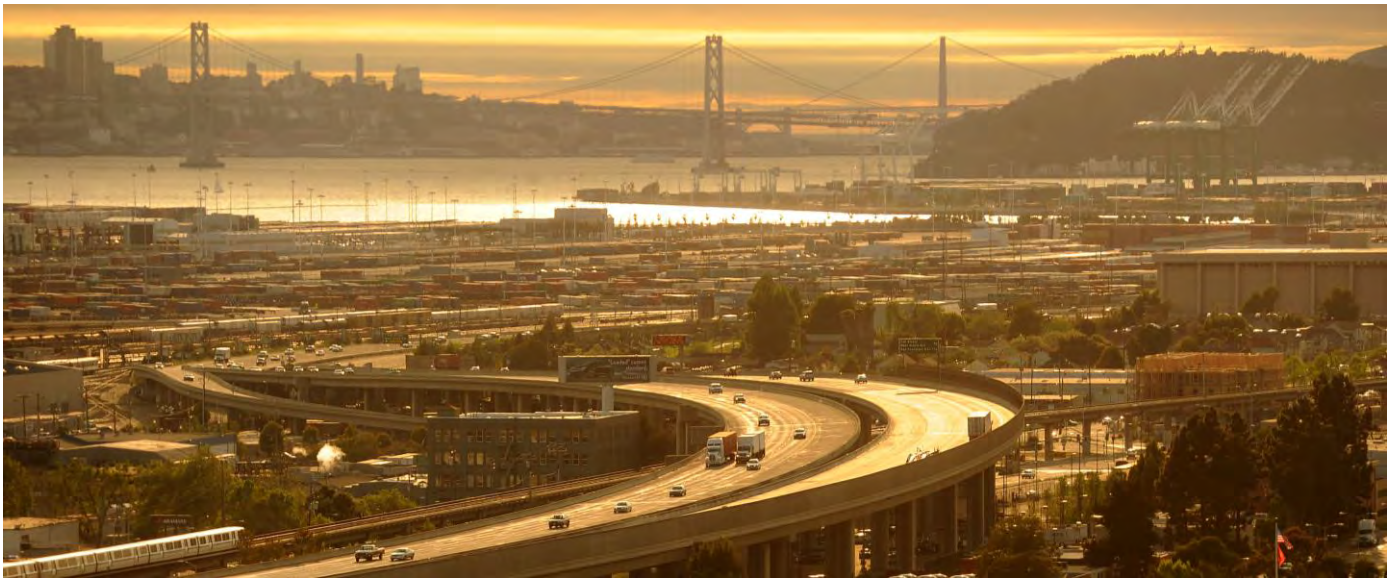


Alameda County's multimodal transportation network

Purpose of the Performance Report

Each year, the Alameda County Transportation Commission (Alameda CTC) evaluates the state of transportation in Alameda County, tracks trends in a series of performance measures, and prepares a Performance Report based on these trends. Using quantitative metrics to track progress toward specific goals, the performance measures in the Alameda CTC Performance Report are designed to be evaluated using existing data sources and to align with the goals of the Alameda Countywide Transportation Plan (CTP) and the Congestion Management Program (CMP) statute. The Performance Report fulfills Alameda CTC's requirements as the congestion management agency for Alameda County pursuant to California Government Code Section 65089(B)(2).

Alameda CTC identifies transportation needs and guides investments through the CTP, CMP, and Comprehensive Investment Plan (CIP) documents prepared on regular cycles to identify short-, medium-, and long-term projects and programs. The Performance Report is critical to assessing the success of past transportation investments and provides information on transportation system performance that helps identify needs that may require future investments.

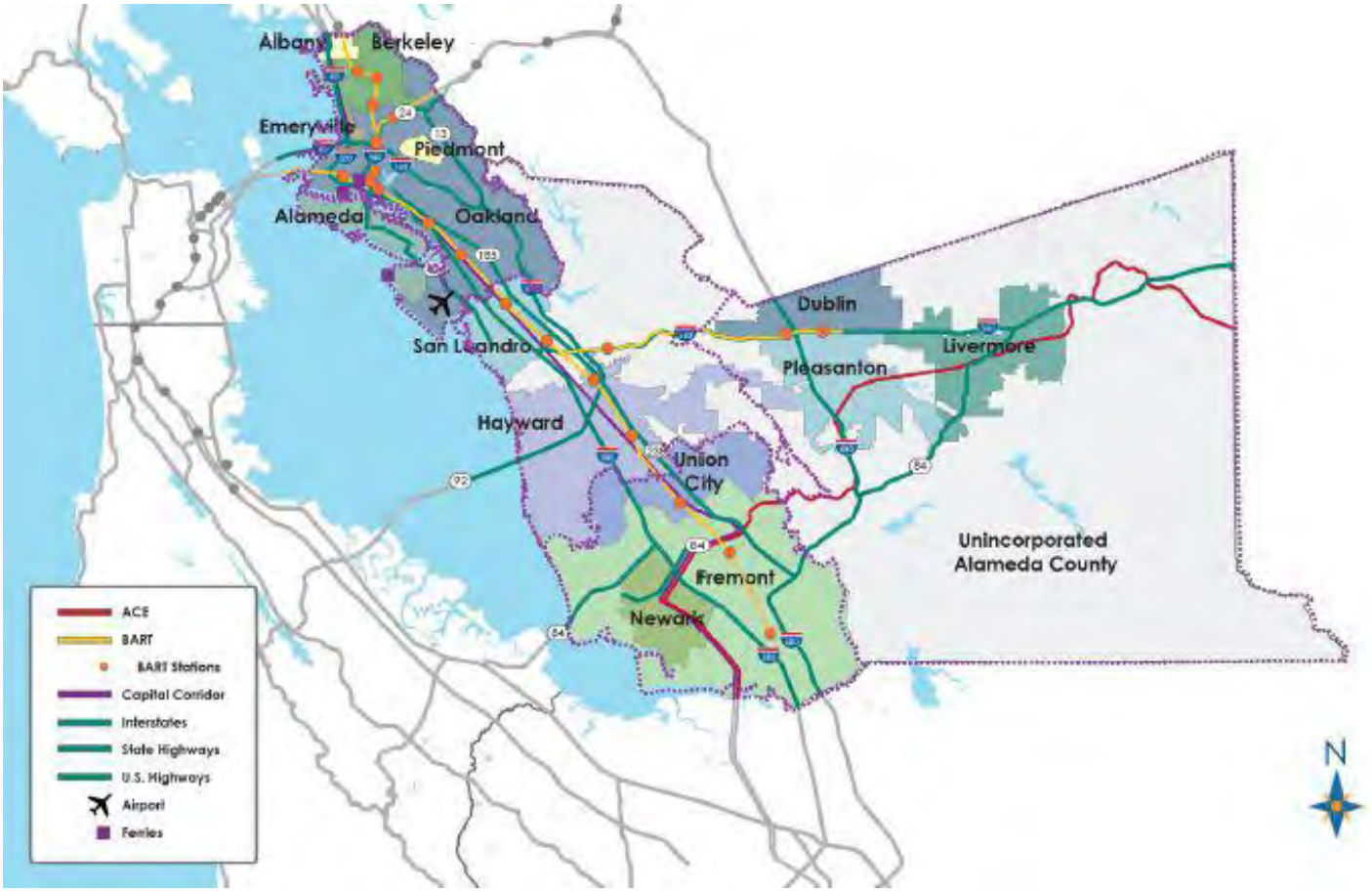
The Performance Report—together with Alameda CTC's other monitoring and analysis activities—provides a performance-

The Performance Report includes performance measures consistent with goals required by the CMP statute and articulated in **Alameda CTC's adopted** Countywide Transportation Plan. The Performance Report is designed to use either publicly available data sources that have widespread use within the transportation planning industry or data sources readily available from local jurisdictions and agencies. Emphasis is placed on measures for which new data are available on an annual basis. The Performance Report is published in the spring following the most recently completed fiscal year. However, due to lags in availability of some data sources, data on several measures may be from before the stated year of the report. Appendix B provides detailed information regarding all data sources used in the Performance Report.

Alameda CTC's mission is to plan, fund and deliver transportation programs and projects that expand access and improve mobility to foster a vibrant and livable Alameda County.

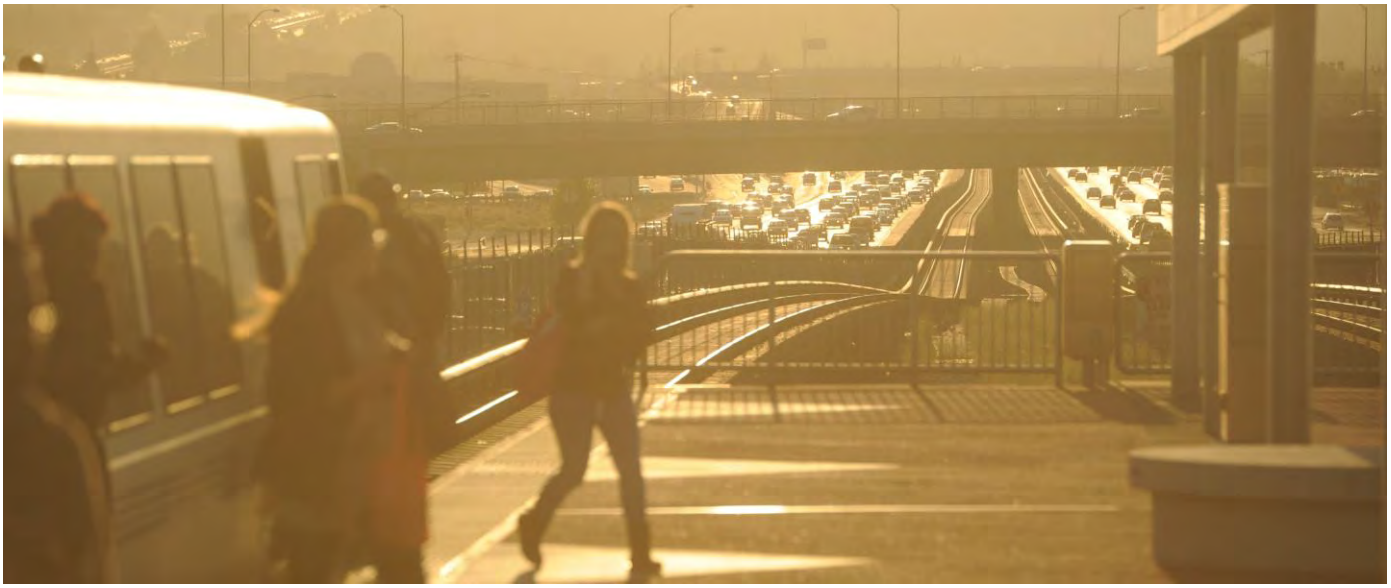
based evaluation of projects and programs in Alameda County and provides a framework for identification of projects and programs for inclusion in the CTP and CMP that can deliver benefits to all users.

This Performance Report is intended to cover fiscal year 2015-2016 (FY2015-16). However, some data sources are reported based on calendar years, and some data sources lag preparation of this report. Therefore, this report uses the most current data available in the early-2017 time frame, when Alameda CTC prepared the 2016 Performance Report.



Alameda County

Population: 1.61 million
Land Area: 739.02 sq. miles
No. of Jurisdictions: 15
No. of Highways: 6
No. of Transit Operators: 7
No of Road Miles: 3,978 (centerline miles)



The 2016 Performance Report describes transportation performance trends

Executive Summary

Alameda County's multimodal transportation network provides mobility and access for people and goods traveling within the county and beyond. Alameda CTC's 2016 Performance Report describes trends in a series of performance measures that track progress toward key goals across overall travel patterns, roadways, transit, paratransit, biking, walking, and livable communities.

Commute Patterns

Given its regional centrality, Alameda County's multimodal transportation system accommodates a significant share of the San Francisco Bay Area's commute travel demand. Roughly 30 percent of regional commutes involve Alameda County in some way, either traveling within, to, from, or through Alameda County. As a point of comparison, Alameda County only has 21 percent of the region's population.

Alameda County residents commute to work using various transportation modes, and the composition of commute modes has become more multimodal over the last decade. In 2015, 63 percent of Alameda County residents drove alone to work, down from 70 percent in 2005. This 7 percent decline represents a notable shift for a county with largely mature land use patterns and transportation infrastructure. Overall population growth (11 percent since 2005) has meant

that the absolute number of solo drivers has increased; however, this has been greatly outpaced by growth in non-driving modes. Between 2007 and 2015 the county saw 85,000 new commuters using transit, biking, walking, and working remotely, as compared to only 22,000 new commuters driving alone. Travel by BART and working from home exhibited the largest increases in commute mode share, while carpooling was the only mode to see a decline.

Alameda County residents' journey-to-work travel times also increased across all travel modes from 2005 to 2015; overall average travel time to work increased by about 4 minutes, and the county saw a doubling of the number of workers with an average commute time longer than 1 hour.

Roadways

Robust regional employment growth has led to increased traffic, particularly on freeways and bridges leading into Alameda County. From 2011 to 2015, average daily volumes increased at all of the county's gateways, with most growing by more than 5 percent. The growth in traffic in the I-680, Dumbarton, and Hayward-San Mateo corridors all topped 20 percent during this period, reflecting strong demand for travel to employment in the Peninsula and South Bay. As a point of comparison, BART boardings through the Transbay Tube also increased by more than 20 percent during this period.

Increased freeway volumes have meant slower commute speeds and increased congestion. Between 2014 and 2016, average p.m. peak-period freeway speeds declined by 3.5 miles per hour to 45.8 miles per hour. Similarly, between 2011 and 2015, the hours of delay where drivers were traveling less than 35 miles per hour increased by 91 percent on weekdays and 175 percent on weekends.

Local road state of repair, measured by the Pavement Condition Index (PCI), improved marginally from 2011 to 2015. Average PCI remained relatively constant, but the percentage of miles rated good or excellent was at its highest point in the

last decade at 40 percent, an increase of 4 percent from the prior year, which was the first full year period measured since the initial delivery of Measure BB funds. Increased local and state funding may portend future increases in PCI; however, Alameda County has seen significant roadway state of good repair issues emerge from recent wet weather that will be reflected in future data.

Collisions on Alameda County roadways increased from 2011 to 2015. Through this period, the number of fatalities increased 51 percent to 86, and the number of injury and fatal crashes combined increased by 19 percent to 7,429, or roughly one per every 200 Alameda County residents. These increases indicate that roadway safety requires continued attention through infrastructure, education, and enforcement interventions.

Transit

Transit plays a critical role in Alameda County by providing mobility and accessibility to individuals and businesses in the county and beyond. Overall transit ridership remained flat between FY2015 and FY2016 and has barely exceeded pre-recession levels, despite continued population and job growth and record levels of regional freeway congestion.

While transit ridership overall has remained flat, significant shifts have occurred from bus to BART, commuter rail, and ferry. BART, ACE, and WETA are all at record ridership levels and are pursuing fleet or service expansions.

Public bus ridership has declined by nearly 20 percent in Alameda County over the last decade, a trend observed nationally. This decline is generally reflected in negative trends in service efficiency and cost effectiveness metrics. A variety of factors may contribute to this decline in bus ridership including but not limited to competition from private shuttles and transportation networking companies (TNCs), shifts in locations of jobs during the region's economic recovery, and service cuts during the recession, many of which are still being restored.

While overall bus ridership is down, certain markets remain strong such as Transbay bus service (which has increased by 20 percent since 2007). In addition, journey-to-work bus mode share has held steady over the last decade, which may indicate shifts to private buses and declines in bus ridership on weekends and for non-work travel. All Alameda County bus operators are undertaking service expansions or restructuring, and several are pursuing pilots to partner with TNCs and offer more flexible service options.

Paratransit

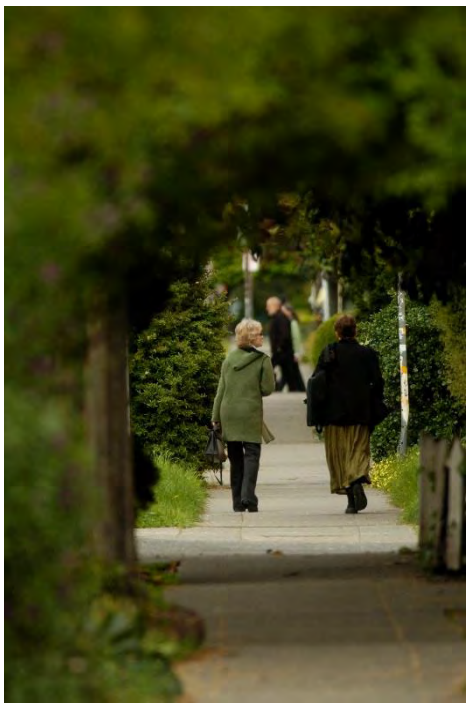
In Alameda County, four public transit operators are required to operate Americans with Disabilities Act (ADA)-mandated paratransit service: AC Transit, BART, LAVTA, and Union City Transit. In FY2016 there were approximately 20,000 ADA-mandated paratransit registrants countywide, and ADA-mandated paratransit delivered over 800,000 trips in FY2016, 91 percent of which East Bay Paratransit provided.

Cost efficiency continues to challenge ADA-mandated paratransit providers with costs per trip continuing to rise. On-time performance for all ADA-mandated providers has been above 90 percent since FY2008.

City-based, "non-ADA" paratransit programs play an important role in meeting the overall demand for transportation for seniors and people with disabilities, and provided over 142,000 trips in FY2016. In Alameda County, 10 cities have city-based paratransit programs. These programs were expanded in FY2016 due to Measure BB funding.

Bicycling and Walking

Bicycling and walking collectively comprise about 5 percent of Alameda County commutes and are critical for first- and last-mile access to transit and for travel to school, shopping, and other trip purposes. Safety remains a critical issue for increasing travel by biking and walking, as 18 percent of injury or fatal collisions involve bicyclists or pedestrians, far greater than their share of travel. Collisions involving bicyclists declined slightly from 2014 to 2015, but collisions involving pedestrians increased.



Alameda CTC supports efforts to increase safety for active transportation through education and encouragement measures and identifying and funding infrastructure improvements. Local jurisdictions have completed a number of projects to build out complete bikeway networks and close pedestrian infrastructure gaps, including implementing over 150 miles of bikeway over the last four years and completing 71 pedestrian capital projects. Several local jurisdictions in Alameda County have also adopted, or are considering adopting Vision Zero policies which commit them to reducing roadway-related fatalities to zero.

Livable Communities

Housing permitting is an important indicator of regional affordability and future transportation demand and commuting patterns. In 2015, Alameda County jurisdictions issued 4,612 housing permits, more than double the number of units permitted in 2014. However, the county's Regional Housing Needs Assessment target for 2007-2014 is 44,036 units, which equates to a target of 5,505 unit permits per year, or more units than were permitted in 2015. Further, 4,028 of the units permitted were in the Above Moderate Income category (87 percent), and the county fell far short of targets in other affordability categories. Permitting is an important milestone in the housing development process, but does not automatically lead to units being constructed, and the region has a significant housing shortage that has been exacerbated by the last five years of job growth in which the number of jobs has far outpaced the number of new units being built.

Alameda County saw a 12 percent decline in greenhouse gas emissions (GHG) due to transportation from 2006 to 2012 as estimated based on fuel sales in Alameda County. However, part of this decline is attributable to the blending of ethanol in gasoline which was blended at increasing fractions until 2010. GHG emissions from transportation have crept upward since 2012, as driving has increased.

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Alameda County transportation is truly multimodal

1. Alameda County's Transportation System

Multimodal Transportation System

Alameda County has an extensive, multimodal transportation system that facilitates the safe and efficient movement of people and goods. The physical transportation network includes freeways, highways, arterials, local roads, transit guideways and rolling stock, Class I railroad tracks, bicycling and walking lanes, paths, and sidewalks, and a major international airport and seaport. Together, this system ties the county to the larger region, connecting residents with jobs and activity centers while providing businesses with access to a broad regional and increasingly global economy.

TRANSPORTATION HUB

Alameda County is a gateway to the world for goods movement. Its extensive transportation network of roads, rails, buses, trails, and pathways moves goods to and from the county and carries millions of people each day to jobs, education, services, and recreation—serving more than 1.6 million residents—and supporting the economic engine of California, the U.S., and beyond.

Freeways

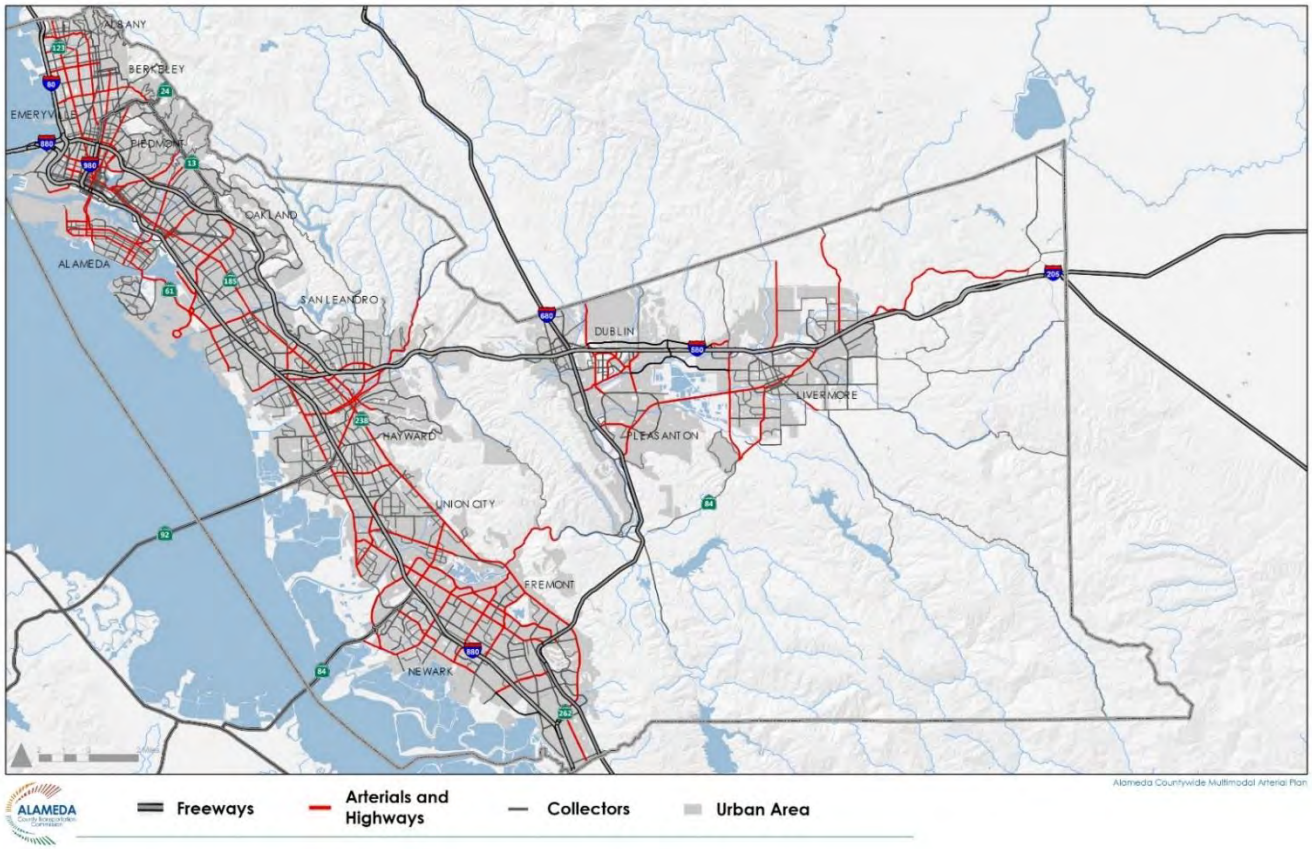
Six interstate freeways (I-80, I-238, I-580, I-680, I-880, and I-980) facilitate cross-county and regional accessibility. The 140 miles of Alameda County freeway system provides vital goods movement connections, linking businesses throughout the region and the state to global markets. Alameda County's freeway system also features an extensive network of carpool lanes and an emerging network of express lanes that currently exist along I-680 in the South County and I-580 in the East County and planned along I-680 and I-880. Alameda County is linked to neighboring counties by three toll bridges (San Francisco-Oakland Bay Bridge, Hayward-San Mateo Bridge, and Dumbarton Bridge) as well

as other natural geographic gateways (the Caldecott Tunnel and Altamont Pass).

Local Roadways

Beyond its freeway network, Alameda County has an extensive system of over 3,800 miles of local roadways. Figure 1.1 presents arterials and collectors in addition to the freeways. Many of the major arterial routes are conventional state highway routes that traverse many jurisdictions and are currently maintained by Caltrans. These major arterial routes serve important county- and regional-level connectivity functions, but are also frequently multimodal corridors with transit service, bikeways, and pedestrian accommodations. In many cases, arterial routes are also downtown main streets. The majority of Alameda County's roadway mileage is actually on local streets and roads, and roadways encompass not just the pavement but also curbs, gutters, sidewalks, signage, and traffic signals.

Figure 1.1 Alameda County Roadway System



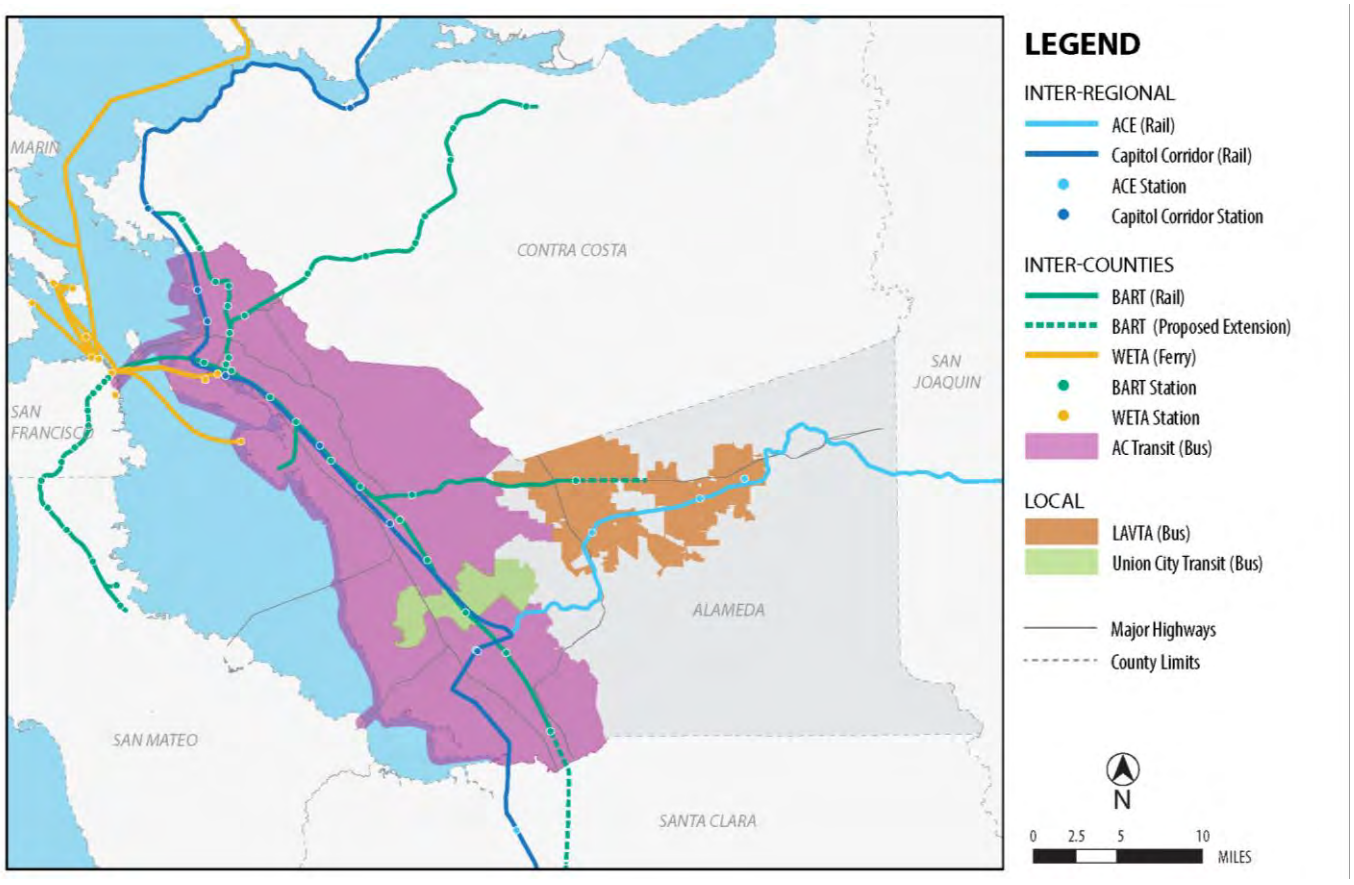
Source: Alameda CTC Countywide Multimodal Arterial Plan (2016).

On many roads, issues of delay, maintenance backlogs, and funding shortfalls affect driving trips as well as transit, bicycle, and pedestrian trips. The physical roadway infrastructure is supplemented by transportation demand management (TDM) programs that seek to maximize limited capacity by shifting trips from single-driver vehicle trips to transit, carpooling, walking, or biking trips.

Transit

Transit service in Alameda County includes rail, bus, ferry, and shuttle service provided by a number of operators (see Figure 1.2). The major operators in the county are San Francisco Bay Area Rapid Transit District (BART) and Alameda-Contra Costa Transit District (AC Transit), which account for the majority of transit usage and provide mobility at both a regional and intra-county level. Other smaller operators including Altamont Corridor Express (ACE), Capitol Corridor, Livermore Amador Valley Transit Authority (LAVTA), San Francisco Bay Area Water Emergency Transportation

Figure 1.2 Alameda County Transit Operator Service Areas



Source: Alameda CTC Countywide Transit Plan (2016).

Authority (WETA), and Union City Transit provide critical service to more specific travel markets. Transit service entails significant public investment in both capital and operations but yields considerable public benefits including congestion reduction, air-quality benefits, efficient utilization of space in urban environments, and mobility essential from both economic vitality and social equity standpoints.

Bicycle and Pedestrian Infrastructure

Alameda County has extensive infrastructure to serve walking and biking trips and continues to invest in making these modes more safe and convenient options for users and trips of all types. The countywide bicycle network includes 394 miles of bikeways comprised of major interjurisdictional routes, trails, and other routes that provide key linkages to transit and regional activity centers. This network is supplemented by local bicycle networks that connect to countywide bikeways. Pedestrian infrastructure includes every local road as well as trails and dedicated pathways, and the county prioritizes making pedestrian infrastructure more safe, accessible, and comfortable in areas of countywide significance such as downtowns and transit hubs. In addition to dedicated infrastructure, bicyclists and pedestrians are supported by educational and outreach programs and planning.

Goods Movement

Alameda County's transportation system moves freight in addition to people (Figure 1.3). The Port of Oakland is the third busiest container port on the West Coast, and this deep-water port has the distinction of being a net exporter, supporting commerce throughout Northern California and the Central Valley. Meanwhile, the Oakland International Airport is the second busiest cargo airport in California and moves significant volumes of high-value goods. These goods movement hubs are connected to the region and megaregion by freeways and railroads.

Figure 1.3 Alameda County Goods Movement Infrastructure

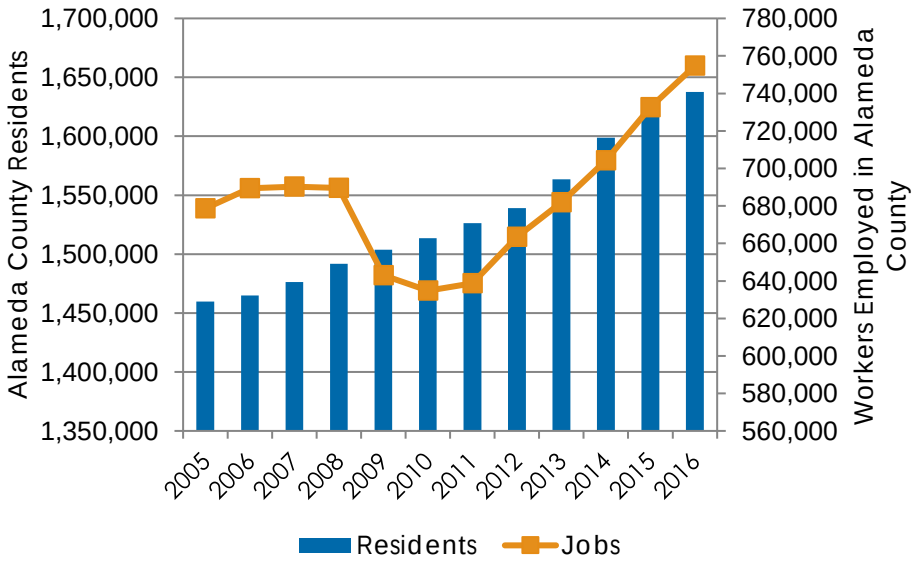
Source: Alameda CTC Goods Movement Plan (2016).

The major goods movement route connecting Central Valley agriculture and distribution centers to the Port of Oakland passes through Alameda County via I-580 and I-880, and two major Class I railroads connect Alameda County to the rest of the U.S.

Demand Factors

Steady population growth continued in 2016; Alameda County added just over 20,000 new residents, a 1.1 percent increase from 2015 (see Figure 1.4). Alameda County was the second-fastest growing county in the region. Since 2005, Alameda County's population has increased by nearly 178,000 residents, trailing only Santa Clara County for the largest percentage increase within the Bay Area during this period.

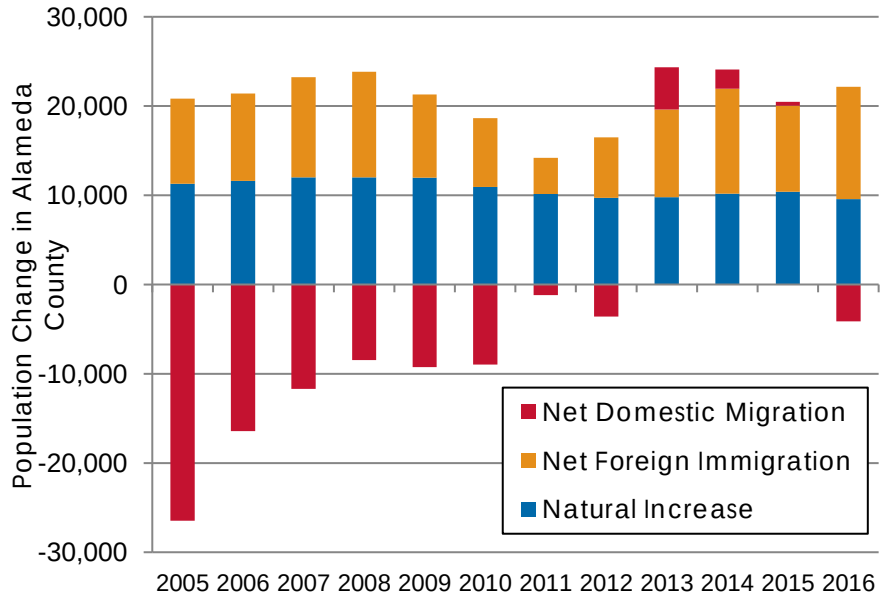
Figure 1.4 Alameda County Population and Job Trends



Source: Department of Finance E-2 Report and Bureau of Labor Statistics (BLS) Quarterly Census of Employment and Wages for Alameda County.

After three years of net domestic in-migration, Alameda County saw net domestic migration of residents out of the county to other counties in 2016. Nevertheless, Alameda County saw a net positive population increase in 2016 as a result of natural increase and foreign immigration (see Figure 1.5).

Figure 1.5 Alameda County Population Components of Change

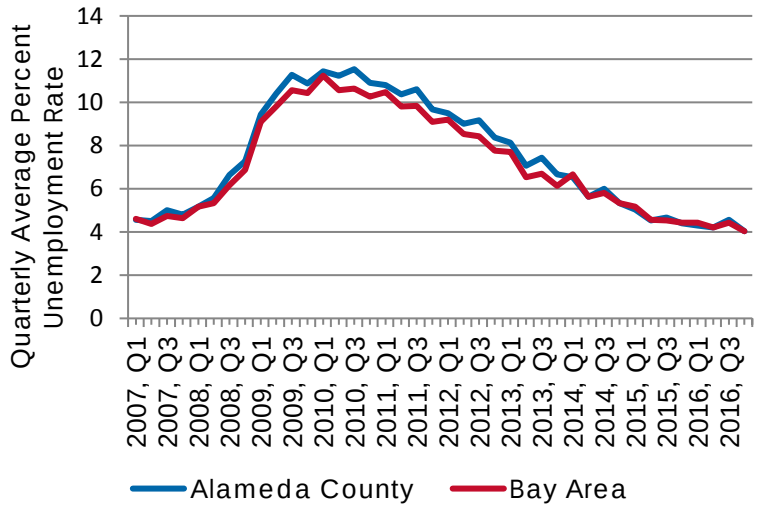


Source: Department of Finance E-2 Report.

Alameda County continued the trend of the past six years of strong job growth in 2016, adding roughly 22,000 jobs. Alameda County employment is well above pre-recession levels seen between 2006 and 2008 (Figure 1.4).

As Figure 1.6 illustrates, an earlier gap in unemployment rate between Alameda County and the region at large that existed throughout the recession has vanished; Alameda County's unemployment rate at the end of FY2016 (4.0 percent) is the same as the regional rate (4.0 percent). Both remain below the national average of 4.7 percent.

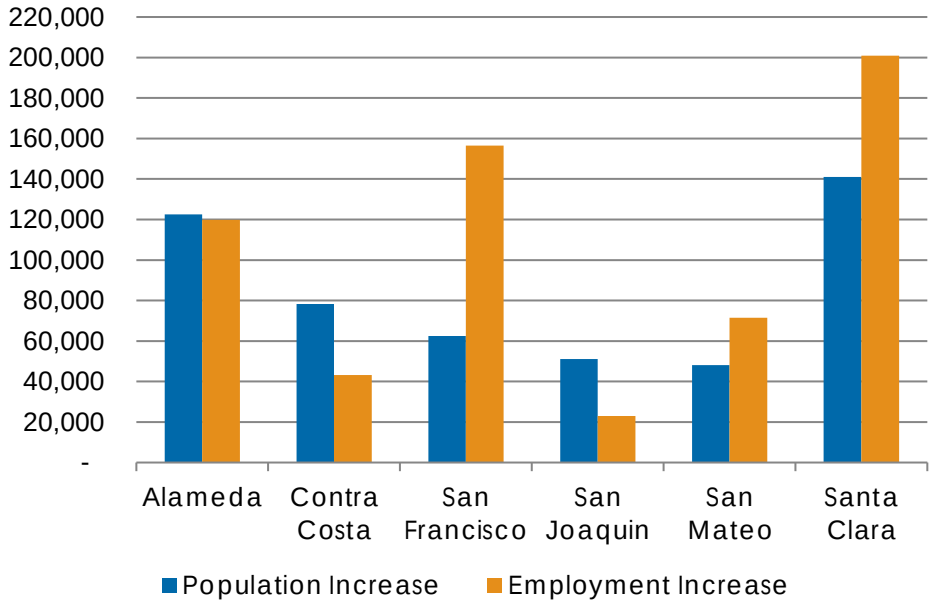
Figure 1.6 Alameda County and Regional Unemployment Rate



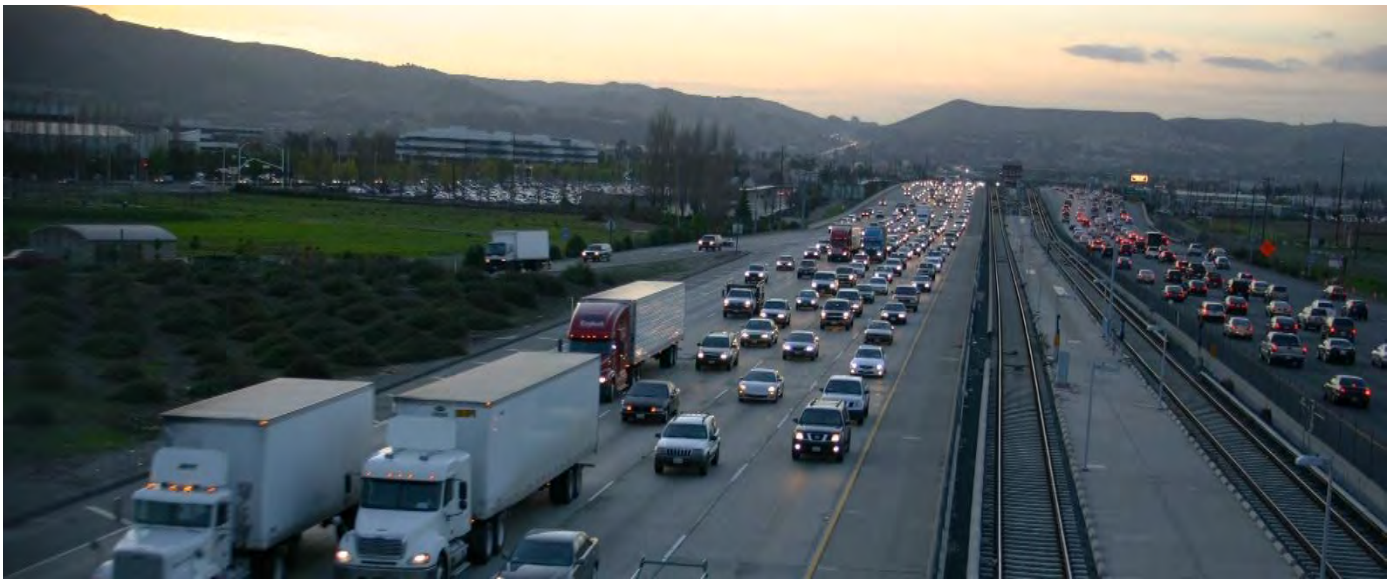
Source: BLS Local Area Unemployment Statistics for Alameda County and San Francisco-Oakland-San Jose Combined Statistical Area.

Furthermore, employment levels in Alameda County have surpassed figures seen in the early 2000s, when the county measured 710,000 jobs, just prior to the "dot com bust." Alameda County has the second largest total number of jobs in the Bay Area at 754,000, following Santa Clara County. While Alameda County's job growth has been matched by population growth, high rates of job growth in San Francisco and Santa Clara counties have not been matched by internal population growth (see Figure 1.7). This jobs-housing imbalance impacts regional transportation, as these job centers draw workers from an increasingly longer distance who often traverse congested regional "gateways," many of which are in Alameda County.

Figure 1.7 Employment and Population Growth by County (2010-2016)



Sources: Employment data from the U.S. Department of Labor, BLS; population data from the State of California, Department of Finance.



Evening rush hour on the I-580 corridor in the Tri Valley

2. Commute Patterns

Commute Flows (2015)[1]

Alameda County workers and businesses participate in a widespread regional economy which is reflected in our commute patterns. The county's central location within the nine-county San Francisco Bay Region makes it the natural focal point for much of the region's commute flow. Major Transbay infrastructure connecting Alameda County to San Francisco and the Peninsula further reinforces this position, with the county serving as the gateway to these growing employment centers. Figure 2.1 illustrates the relationship of local and regional commute flows.

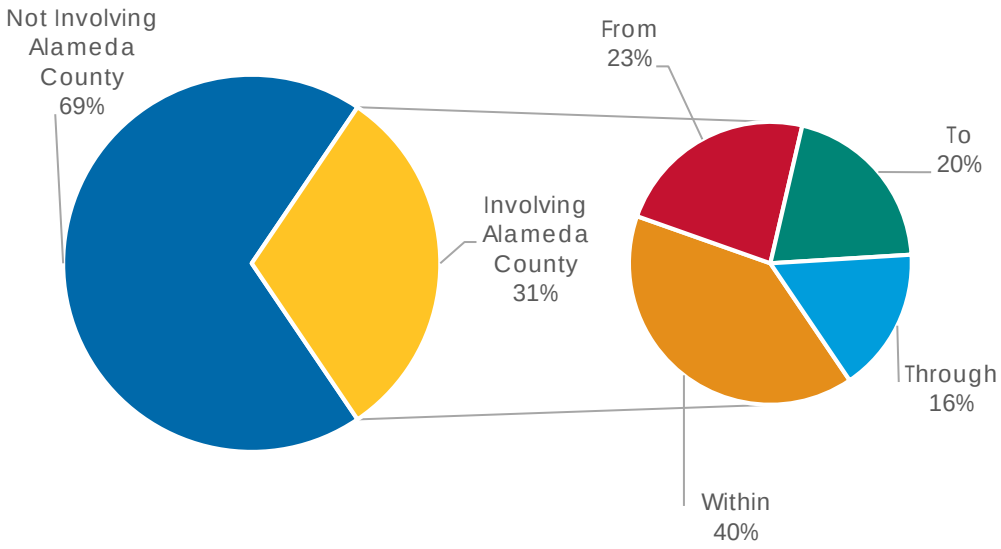
- Roughly one in three commutes regionwide involve Alameda County in some way, with commuters either traveling within, to, from, or through Alameda County. In comparison, Alameda County holds only 21 percent of the region's population.
- More than two-thirds of BATA toll bridge traffic travels to, from, or through Alameda County.
- Approximately 40 percent of commuters with travel involving Alameda County are residents who begin and end their work trips in Alameda County.

Roughly 30 percent of regional commutes involve Alameda County in some way, either traveling within, to, from, or through Alameda County. At the same time, the county is only home to 21 percent **of the region's** population.

[1]2015 data are the most current available for this measure as of report publication.

- A roughly equivalent number of workers commute from residences in Alameda County to jobs in other counties (23 percent) as commute from other counties to jobs in Alameda County (20 percent). In other words, Alameda County "imports" and "exports" a similar number of workers on a daily basis.
- A significant share (16 percent) of travel involving Alameda County is pass-through trips that originate from and proceed to points outside Alameda County (refer to Figure 2.1).

Figure 2.1 Alameda County and Regional Commute Flows in 2015



Sources: 2015 American Community Survey, 2015 Public Use Microdata Sample (PUMS) data.

Notes: "Through Alameda County" commute flow was computed by summing individual county origin-destination pairs that would require traveling through Alameda County. "Through Alameda County" and "Bay Area Regional" commuters include travel into and out of the megaregion, which includes counties adjacent to the nine-county San Francisco Bay Area.

Commute Pattern Data Sources

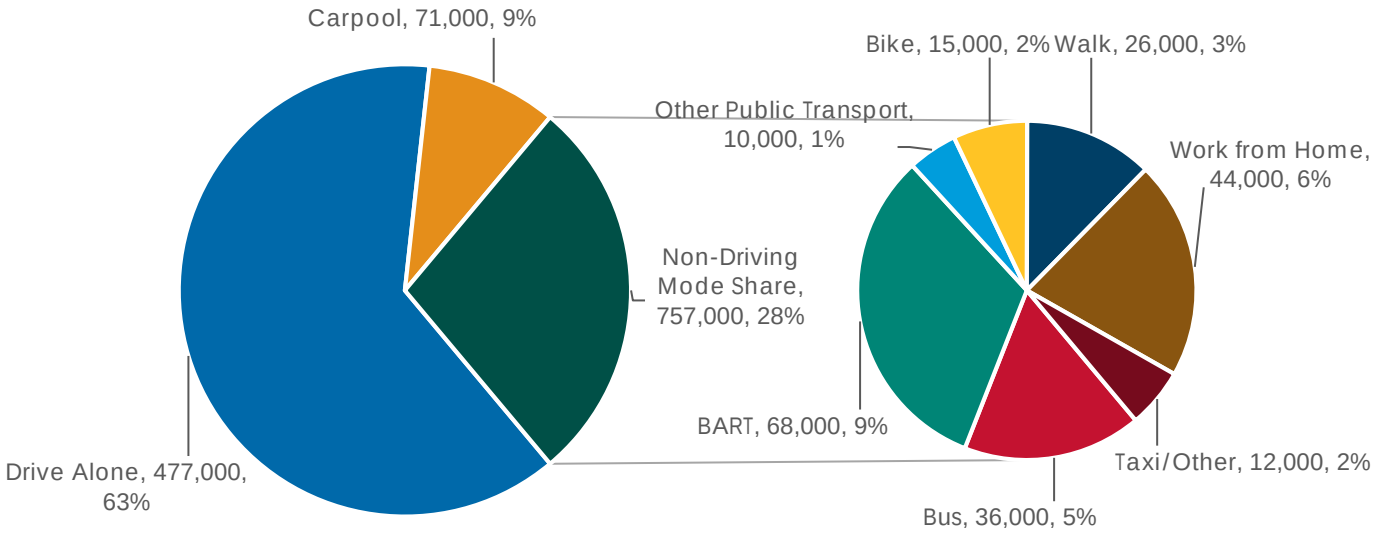
This report relies on national data sources including the U.S. Census Bureau's American Community Survey and Public Use Micro Survey data for information on commuting patterns. These data sources are publically available, frequently used within the transportation planning industry, and collected and reported on a consistent timeline, making them well-suited to performance-monitoring activities. Because they are nationally collected, these data sources typically do not gather information on emerging transportation modes particularly prominent in the Bay Area such as employer shuttles, transportation network companies, car sharing, or bike sharing. These data sources typically focus on work travel, but do not offer information on travel for other purposes such as school, shopping, or recreation. Regional Household Travel Surveys, conducted every 7-10 years, provide richer data on other travel modes and purposes, but are generally not well-suited to annual monitoring due to the infrequent availability of data and are not included in this report.

Journey-to-work Mode Share (2015)

Alameda County residents use a range of travel modes to commute to work (Figure 2.2):

- More than a third of Alameda County residents commute by some means other than driving alone (9 percent carpool; 28 percent use non-driving modes).
- Transit accounts for approximately half of non-driving commutes and 14 percent of overall commutes. Working from home is the next most prominent non-driving commute option.
- Walking and bicycling are modest but important contributors to the Alameda County commute mode mix. Walking and biking are also used to access other transportation modes, which is not captured in the following statistics.

Figure 2.2 Alameda County Journey-to-work Mode Share, 2015



Sources: 2015 American Community Survey, 2015 PUMS data.

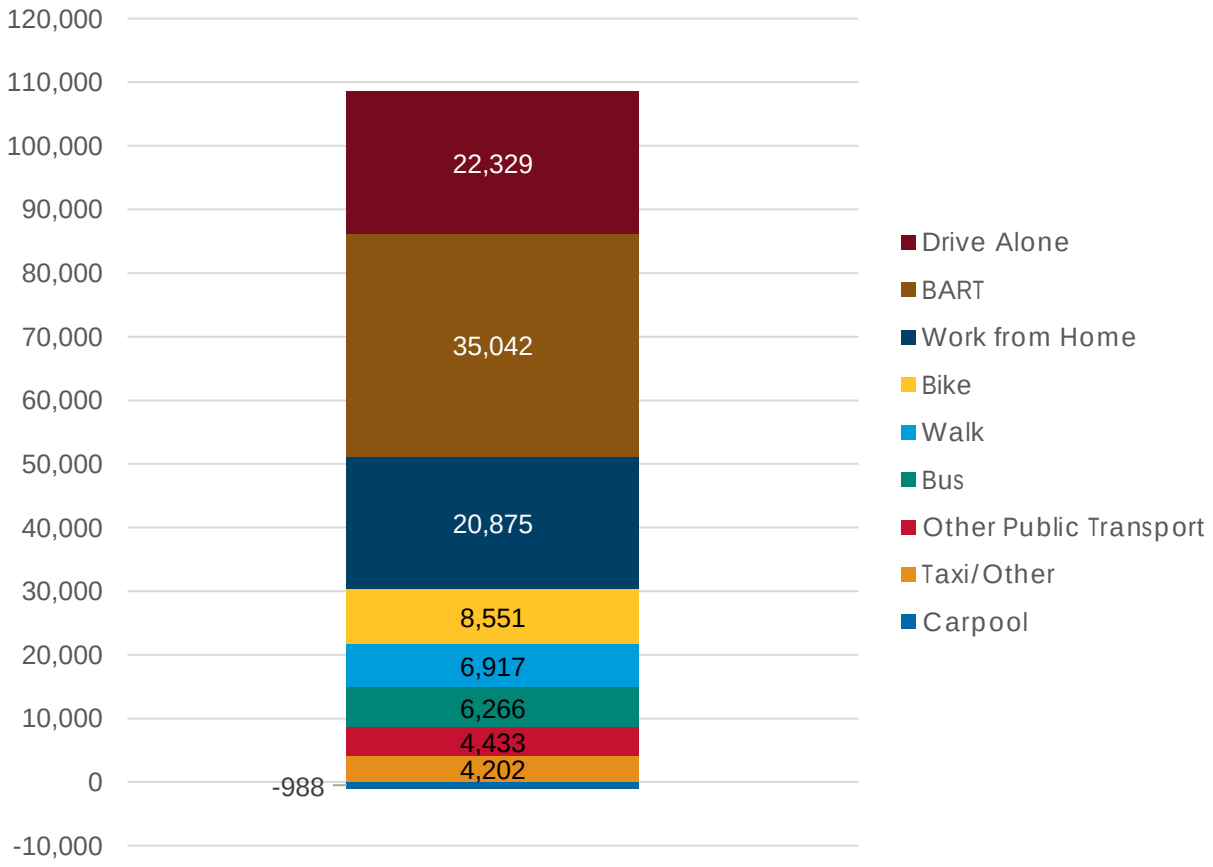
Long-term Trends in Mode Share (2000-2015)

Since 2000, Alameda County residents have gradually shifted to a more multimodal mix of commute types. Figure 2.3 and Table 2.1 summarize changes in commute mode share during this reporting period.

- Drive-alone mode share has declined by 4 percent since 2000, with the decline likely occurring entirely from 2010 onward. Nevertheless, due to population growth in Alameda County, the total number of solo drivers has significantly increased in absolute terms, even as the mode share has declined in comparative terms.
- While the number of solo drivers has increased since 2007, the number of new commuters using transit, biking, walking, and working from home (85,000) is nearly four times the number of new solo drivers (22,000).
- BART ridership saw the largest increase in mode share, followed by working from home and bicycling. The growth in BART mode share primarily occurred between 2010 and 2015.

- Bus ridership has seen a slight increase in both absolute number and commute mode share, even as bus operators have seen ridership declines. These divergent trends may indicate shifts from public buses to employer shuttles and may signal that transit ridership losses are largely from non-work travel.
- Carpooling has seen the largest decline (by over 4 percent since 2000) in mode share and is the only mode to have seen a decline in absolute numbers. There is potential for this number to rebound with the continued expansion of managed lane facilities as well as future growth in app-based ride-matching platforms.
- Since 2005, Alameda County has seen nearly as many new work-from-home commuters (21,000) as solo-driving commuters (22,000).

Figure 2.3 Change in Number of Commute Trips by Mode Since 2007



Source: 2007 and 2015 American Community Survey, Table B08006.

Table 2.1 Long-term Trends in Mode Share, Alameda County Residents

	Mode Share				Difference in Mode Share		Mode Share Margin of Error*
	2000	2005	2010	2015	2015 vs 2010	2015 vs 2000	2015
Drive Alone	66.4%	69.8%	66.9%	62.8%	-4.1%	-3.5%	0.9%
Carpool	13.8%	11.1%	10.8%	9.4%	-1.4%	-4.4%	0.5%
Bus	4.5%	4.6%	3.7%	4.8%	1.0%	0.3%	0.5%
BART	5.3%	5.1%	5.8%	9.0%	3.2%	3.7%	0.4%
Other Public Transport	0.8%	0.8%	1.3%	1.2%	-0.1%	0.4%	0.2%
Bike	1.2%	0.9%	1.4%	1.9%	0.5%	0.7%	0.2%
Walk	3.2%	2.9%	3.2%	3.4%	0.2%	0.2%	0.4%
Work from Home	3.5%	3.6%	5.6%	5.9%	0.3%	2.4%	0.4%
Taxi/Other	1.3%	1.2%	0.9%	1.6%	0.7%	0.3%	0.3%

Source: 2015 American Community Survey, Table B08006.

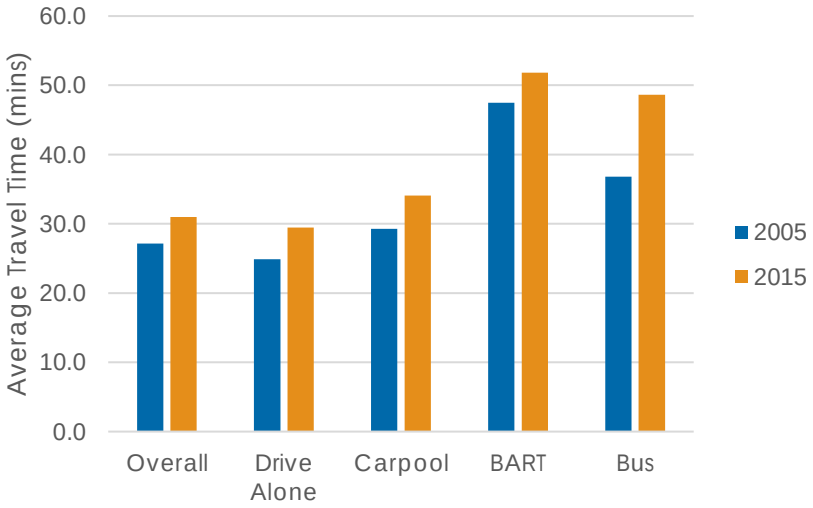
*Mode Share Margin of Error is the inherent statistical error within ACS data as calculated following Census Bureau guidelines; true mode share is expected to fall within a range of +/- this error margin with 90 percent confidence. Comparative yearly mode share differences smaller than this margin are not statistically significant.

Journey-to-work Travel Time

Journey-to-work travel times of workers living in Alameda County have generally increased over the last decade, as illustrated in Figures 2.4 and 2.5.

- Average travel time increased by about 4 minutes, from 27 minutes to 31 minutes between 2005 and 2015.
- The percentage of Alameda County residents with a commute travel time of more than 1 hour has more than doubled since 2005, from 8 percent of workers in 2005 to 17 percent of workers in 2015.
- Drivers generally have shorter commutes than transit riders in Alameda County. The average travel time for solo drivers is less than 30 minutes, and for carpoolers it is less than 35 minutes. The average travel time for both BART and bus riders exceeds 45 minutes.

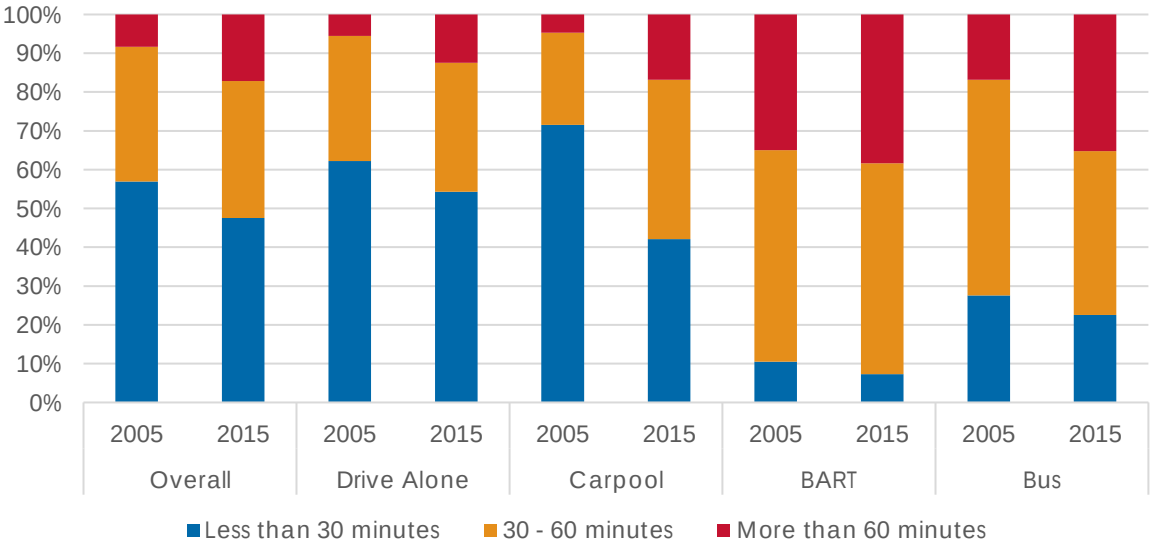
Figure 2.4 Average Journey-to-work Travel Time, 2015 vs. 2005



Source: 2015 American Community Survey, Tables B08006 and B08136.

- Among Alameda County residents taking the bus to work, there was significant growth in longer commutes (more than 1 hour) and a corresponding decline in mid-length commutes (30 minutes to 1 hour). This may reflect growth in long-distance Transbay bus commuting and in lengthy private shuttle use, as well as overall increases in congestion, resulting in longer bus travel times.
- Growth in travel time is likely a result of both increases in congestion as well as in daily commute distances.

Figure 2.5 Journey-to-work Travel Time by Mode and Length, 2015 vs. 2005



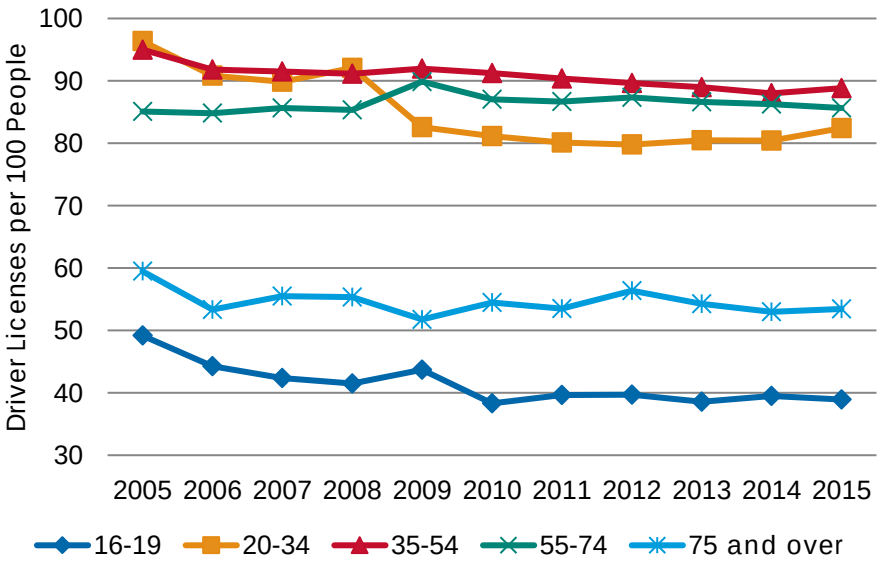
Source: 2015 American Community Survey, Table B08136.

Driver Licensing Rate

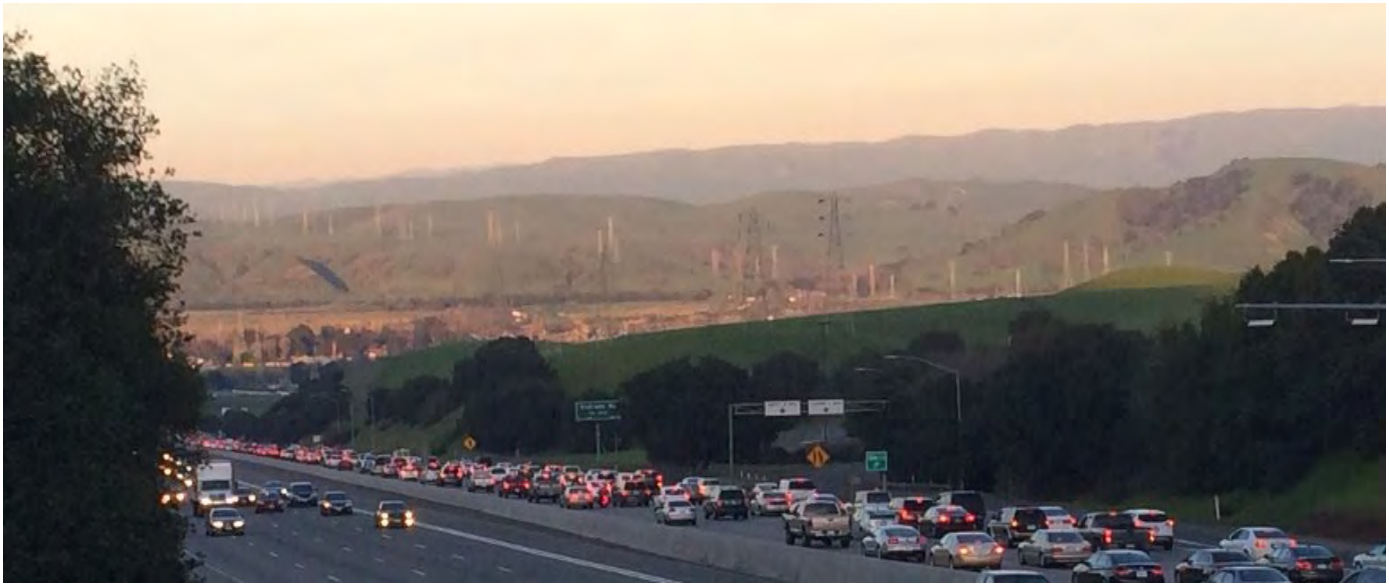
Since 2005, the driver license rate has declined from 88 licensed drivers per 100 residents to 81 licensed drivers per 100 residents, a trend that is consistent with national findings. Figure 2.6 illustrates changes in the driver license rate among different age groups:

- The rate of driver license possession has declined since 2005 among all age groups, except for those aged 55-74.
- The most significant drop in driver license rate over this period has been among 20-34 year olds, which declined from 96 licenses per 100 persons in 2005 to just 82 licenses per 100 persons in 2015.
- Notable declines in driver license rates were also seen for 16-19 year olds and 35-54 year olds. Individuals aged 75 and older held fewer licenses per 100 people in 2014 than in 2005; however, the rate has fluctuated over the last decade.
- Increases in population without a driver license generally imply an increased need for multimodal transportation options.

Figure 2.6 Alameda County Resident Driver Licenses per 100 People



Sources: California Department of Motor Vehicles, 2015 American Community Survey, Table B01001.



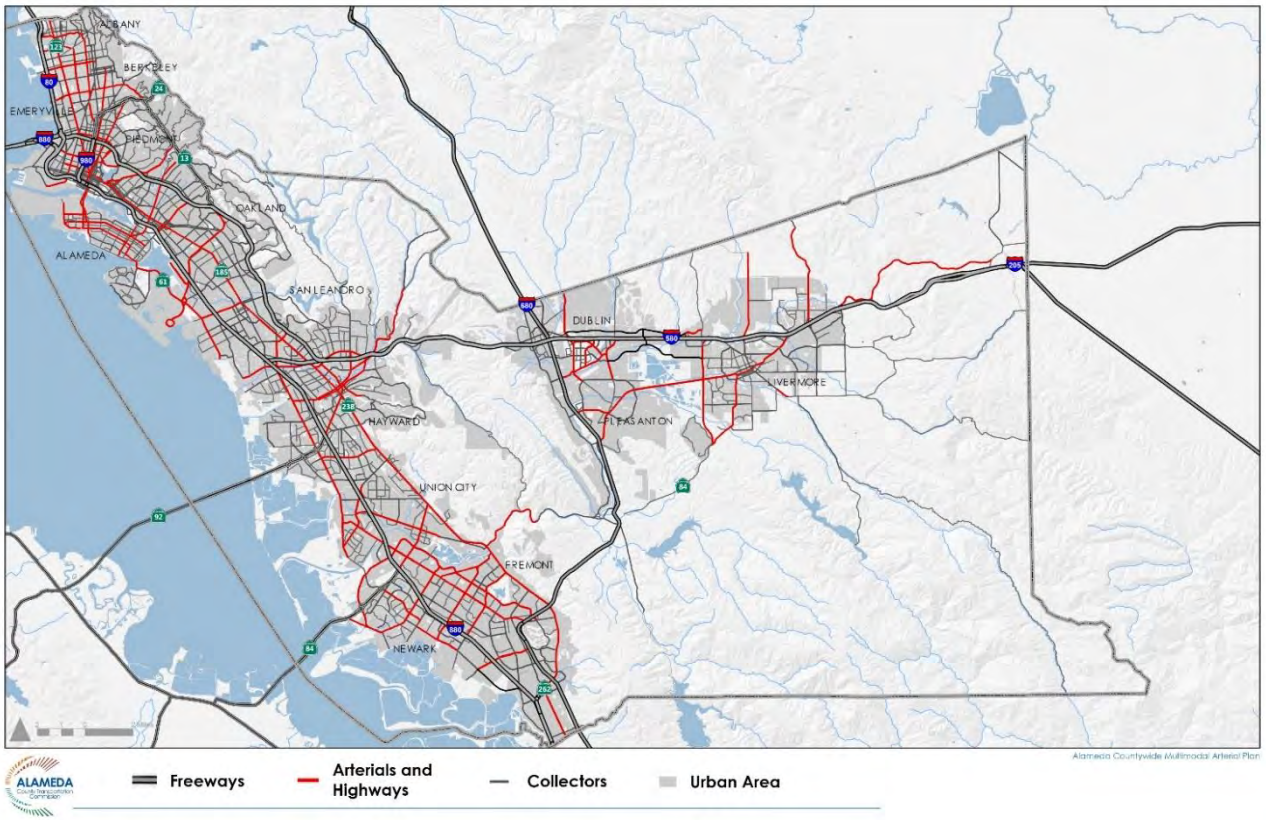
I-680 Sunol Northbound

3.Roadways

Overview

Alameda County holds an extensive network of roadways, currently standing at 3,9781 centerline miles[1] (see Figure 3.1).

Figure 3.1 Alameda County Roadway System



Source: Alameda County Multimodal Arterial Plan.

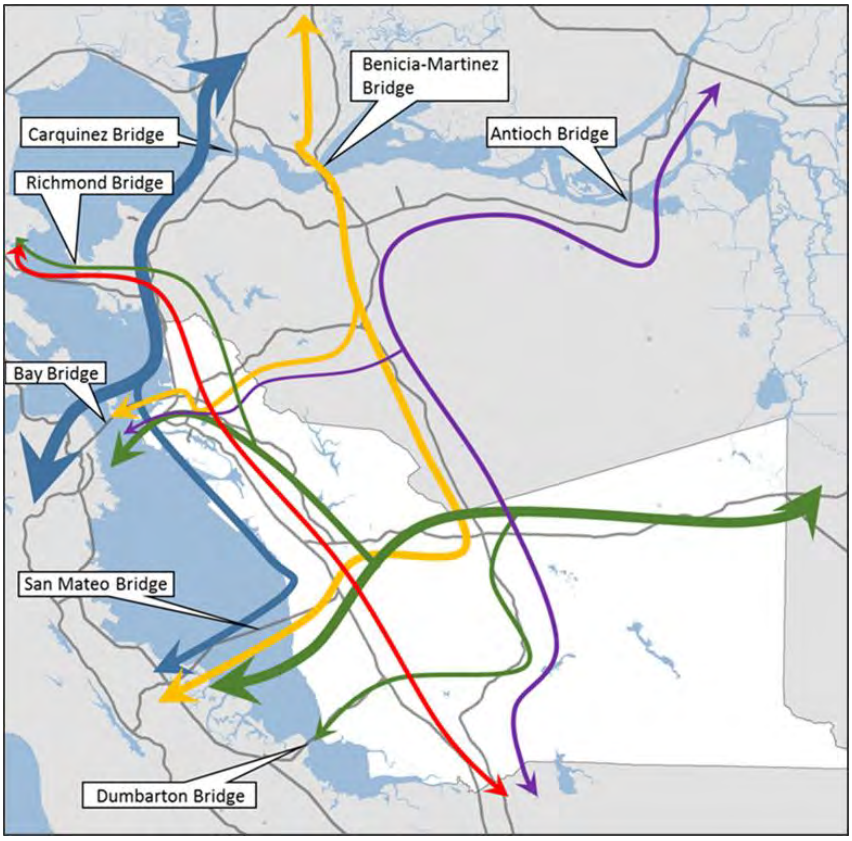
[1]2015 county level data as reported to the FHWA's Highway Performance Monitoring System.

Alameda County's roadway network includes freeways, highways, arterials, collectors, local roads, bridges and tunnels, as well as a growing network of carpool and express lanes. In the 3,978-mile roadway network, 140 miles are freeways, and the rest are lower-order roads. There are 39 miles of express lanes currently operational, and 71 miles are planned for the near future. The county is home to many of the region's most heavily used and congested corridors, all experiencing continued growth in travel volume and delay.

Gateway Traffic Volumes

Alameda County's road network is connected to the wider region by nine major "gateways" (Figure 3.2) used by travelers entering, exiting, and travelling through the county.

Figure 3.2 Alameda County Major Gateway Travel Flows Daily Traffic



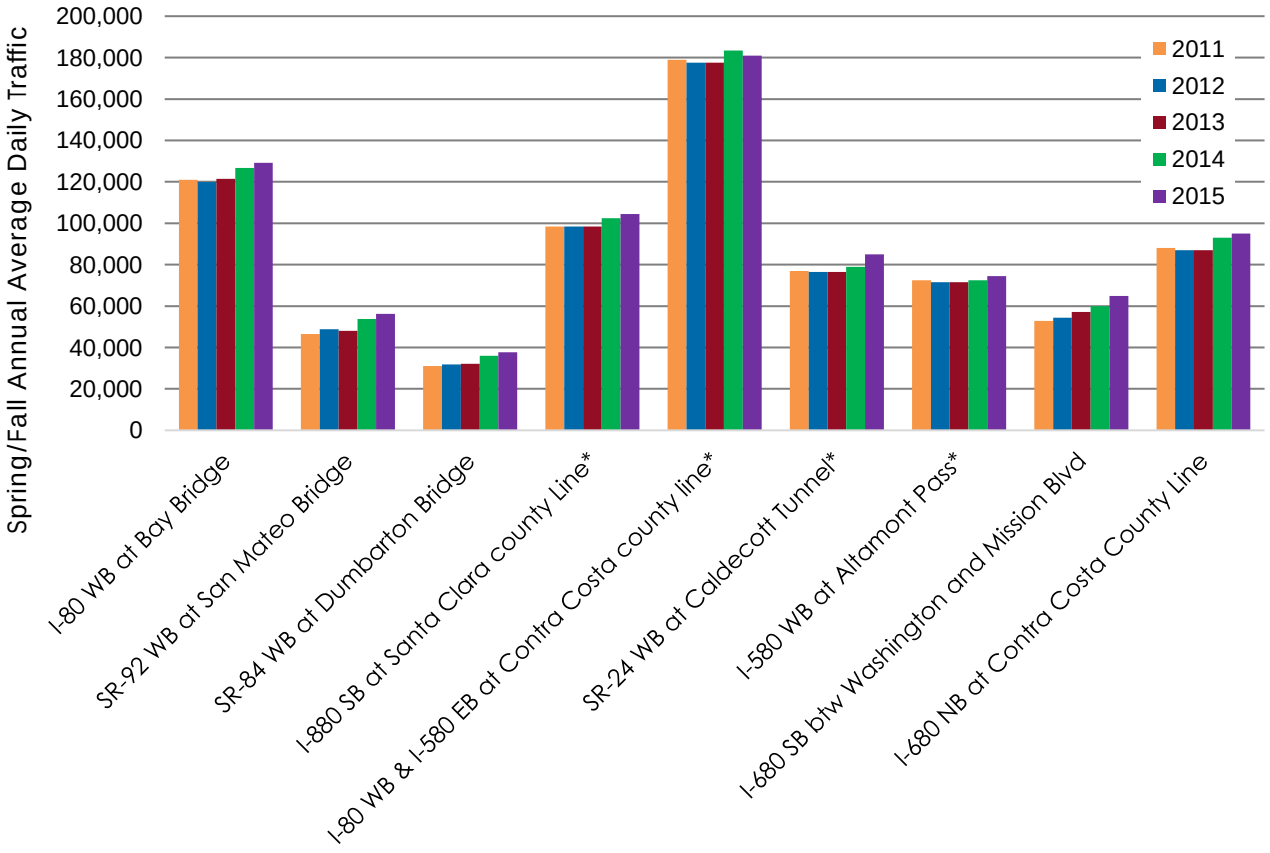
Alameda County's gateways include three toll bridges (San Francisco-Oakland Bay Bridge, Hayward-San Mateo Bridge, and Dumbarton Bridge) and six major regional highways (Interstates 880 and 680 at the Santa Clara County line, Interstates 80/580 at

the Contra Costa County line, and Interstate 680 at the Contra Costa County line, the SR-24 Caldecott Tunnel and I-580 at the Altamont Pass).

Figure 3.3 shows the peak travel season (spring and fall) annual average daily traffic from 2011 to 2015 for Alameda County's major gateways.

- All gateways have seen growth in traffic volumes since 2011, coinciding with strong economic recovery.
- While growth in traffic volumes partially reflects the region's economic success, several gateways rank among the region's most congested corridors with volumes well beyond capacity at peak hours of use.

Figure 3.3 Alameda County Gateway Annual Average Daily Traffic



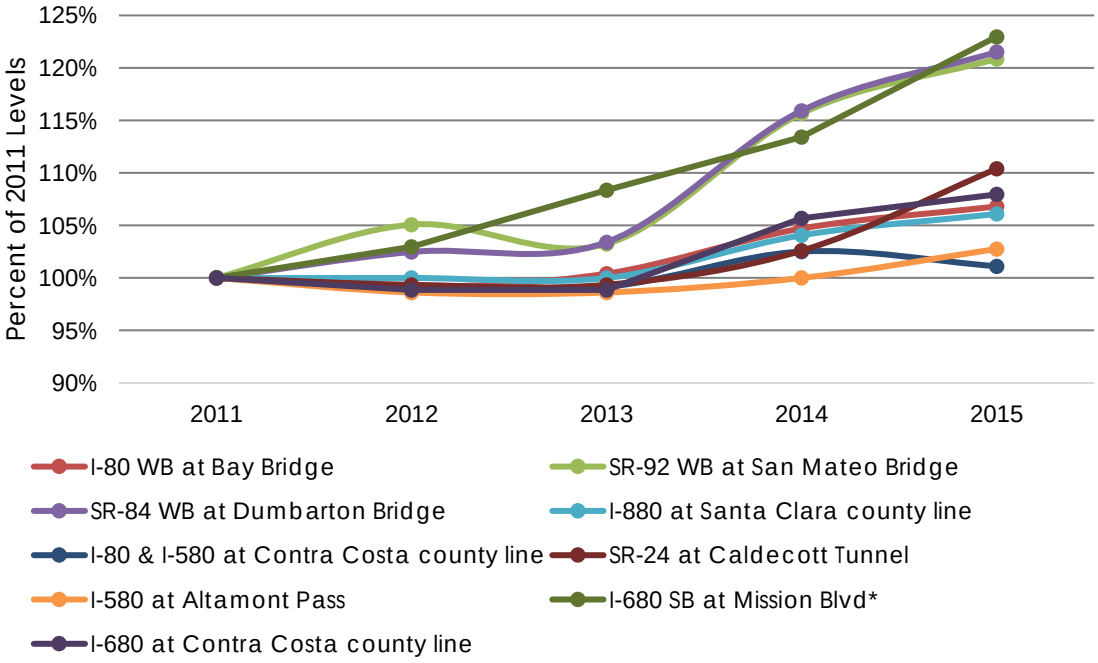
Sources: Bay Area Toll Authority, Sunol I-680 Express Lane Operations, Caltrans.

Notes: Data are averages of Tuesday-Thursday from spring and fall months (intended to represent a "typical" travel day). I-680 volumes include an express lane volume.
*Denotes half of bi-directional traffic volume is used to represent one-direction volume.

Figure 3.4 illustrates the trend in gateway volumes since 2011 for each of Alameda County's major gateways.

- The fastest growing gateway in Alameda County since 2011 in percentage terms, has been I-680 at Mission Boulevard connecting to Santa Clara County, with a 23 percent increase in average daily volume.
- Volumes over the San Mateo Bridge and Dumbarton Bridge have also both grown just over 20 percent since 2011. The fastest growing gateways reflect the strong influence of growing job centers in the Peninsula and South Bay on commuting patterns.
- As a point of comparison, overall BART boardings systemwide have increased by 23 percent between 2011 and 2015 (volumes through the Transbay Tube likely greatly exceed the systemwide growth). In other words, the growth in volume on Alameda County's fastest growing highway gateways is comparable to the growth in BART ridership systemwide.

Figure 3.4 Alameda County Gateway Volume Trend Since 2010



Sources: Bay Area Toll Authority, Sunol I-680 Express Lane Operations, Caltrans.

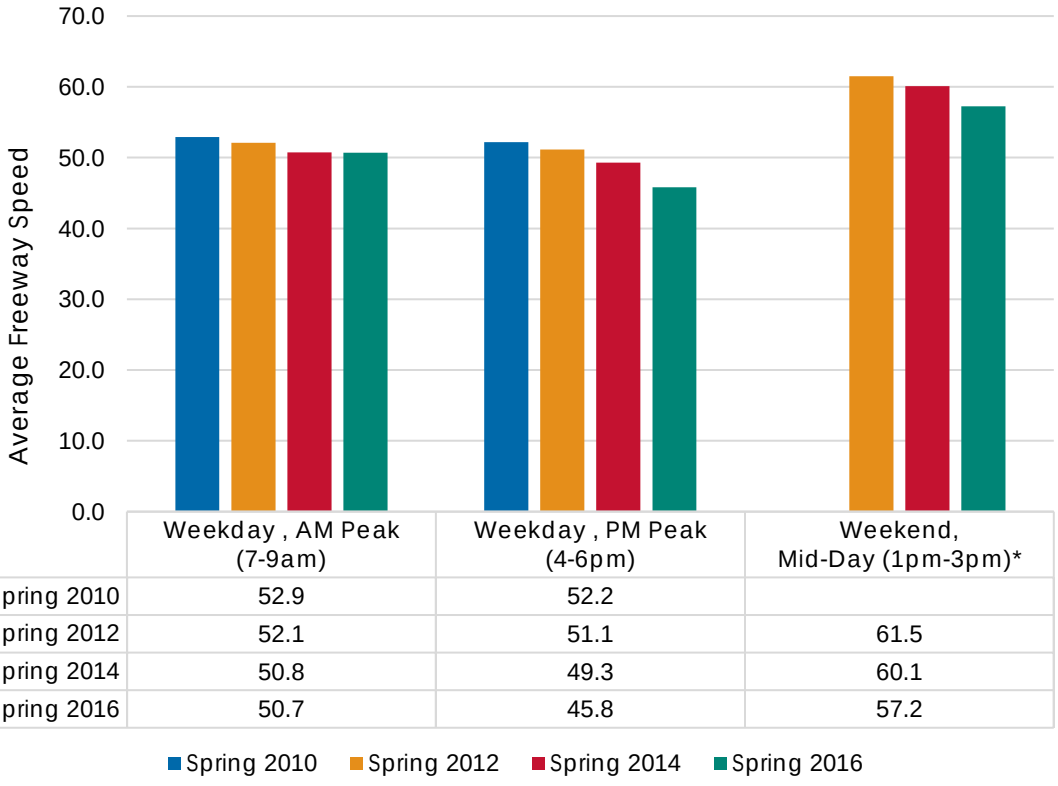
Notes: Data are averages of Tuesday-Thursday from spring and fall months (intended to represent a "typical" travel day).
*I-680 volumes include express lane volume.

Travel Speeds

Figure 3.5 below shows overall average freeway speeds based on averages from Alameda CTC's biennial roadways levels of service (LOS) monitoring.

- Average travel speed on Alameda County freeways declined for all time periods from 2010 to 2016, a function of increasing congestion from a robust economy.
- The decline in weekday a.m. peak-hour speed since 2010 has moderated slightly between 2014 and 2016.
- Weekday p.m. peak-hour speed has experienced the sharpest decline and remains the slowest travel period.
- Weekend midday has also experienced speed reduction, which likely reflects an increase in discretionary travel.

Figure 3.5 Average Freeway Travel Speeds by Time of Day (2010-2016)



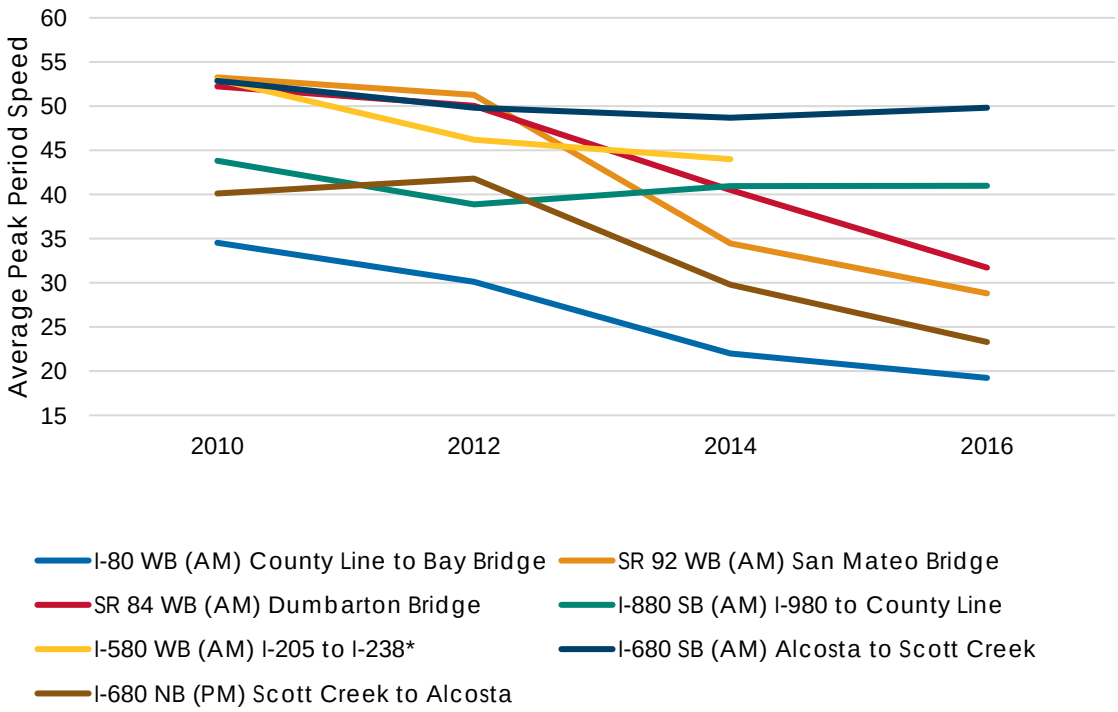
	Weekday , AM Peak (7-9am)	Weekday , PM Peak (4-6pm)	Weekend, Mid-Day (1pm-3pm)*
Spring 2010	52.9	52.2	
Spring 2012	52.1	51.1	61.5
Spring 2014	50.8	49.3	60.1
Spring 2016	50.7	45.8	57.2

Sources: INRIX Commercial Speed Data, Alameda CTC 2016 Level of Service Monitoring Report.

Figure 3.6 shows average freeway travel speeds at major Alameda County gateways based on Alameda CTC's biennial roadways LOS monitoring.

- Average travel speeds have declined during peak periods for most major gateway corridors.
- Declines in peak-period speeds between 2010 and 2016 were greatest on the westbound lanes of SR-92 through the San Mateo Bridge (-46 percent), the westbound lanes of I-80 from the Contra Costa County line to the Bay Bridge (-44 percent), and the northbound lanes of I-680 from the Santa Clara County line (Scott Creek Rd.) to the Contra Costa County line (Alcosta Blvd.) (-42 percent).
- Systemwide bus speed information is available in Chapter 4. Corridor-level speed data for transit is not readily available but is expected to be included in future reports.

Figure 3.6 Average Peak-Period Gateway Corridor Travel Speeds



Source: Alameda CTC 2016 Level of Service Monitoring Report.

Note: SR-24 is not shown, as data points include an anomaly.
*I-580 westbound a.m. between I-205 and I-238 data is excluded during the express lane ramp-up period.

Freeway Congestion

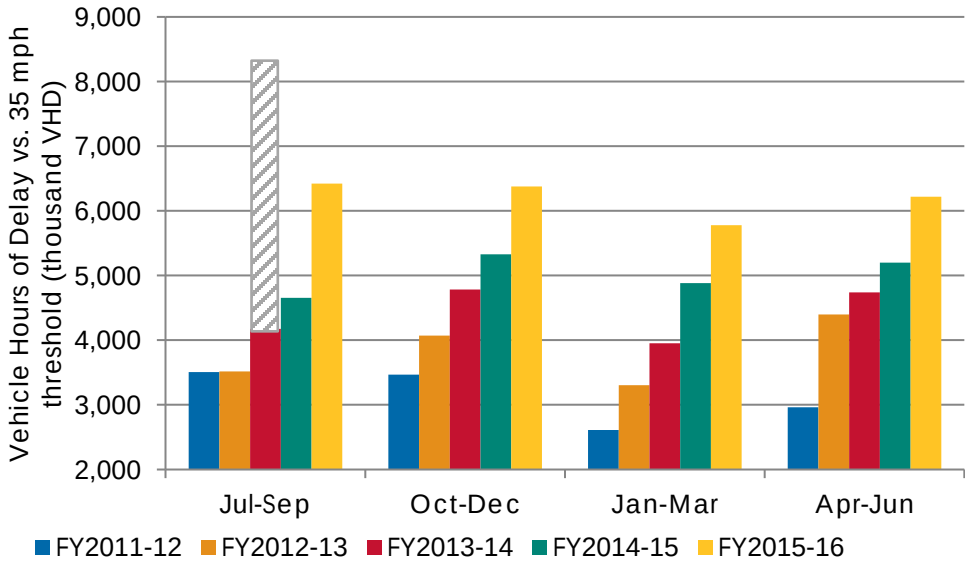
Figure 3.7 and Table 3.1 show the trend in delay on freeway facilities in Alameda County, by quarter.

- Freeway delay in Alameda County increased by 24 percent overall from FY2014-15 to FY2015-16. This overall increase corresponds to a 24 percent increase in weekday freeway delay and a 17 percent rise in weekend freeway delay.
- Freeway delays vary seasonally. Weekday delays are lowest in Quarter 1 (January through March) and Quarter 2 (April through June) and highest in Quarter 2 (April through June) and Quarter 3 (July through September) when there are more recreational trips.
- Seasonal variation in vehicle delays has changed slightly from FY2011-12 to FY2015-16.
- If included in the statistics, the closure of the Bay Bridge from August 28, 2013 to September 3, 2013 would have more than doubled the vehicle hours of delay in FY2013-14 Quarter 3.

FREEWAY CONGESTION DEFINED

Freeway congestion is defined as a condition with an excess of vehicles on a portion of freeway at a particular time, resulting in a slower speed than if the freeway volume is not excessive (or is operating at a free-flow speed). This report defines severe freeway delay as the additional time it takes a vehicle to travel a freeway segment due to the segment operating at a speed of less than 35 mph, which is the speed at which vehicle flow begins to diminish.

Figure 3.7 Total Severe Freeway Delay*



Source: INRIX Commercial Speed Data.

Notes: *The Bay Bridge was closed to traffic from August 28, 2013 (8 p.m.) to September 3, 2013 (5 p.m.). Grey hatched column indicates the additional vehicle hours of delay incurred in 2013 Quarter 3 from the Bay Bridge Closure.

Table 3.1 Total Severe Freeway Delay (thousand vehicle hours of delay vs. 35 mph threshold)*

		Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Fiscal Year Total
Weekday	FY2013-14	3,717	4,396	3,644	4,199	15,955
	FY2014-15	4,093	4,892	4,333	4,521	17,839
	FY2015-16	5,643	5,825	5,279	5,440	22,188
	1-year % Change	38%	19%	22%	20%	24%
Weekend	FY2013-14	456	388	310	541	1,695
	FY2014-15	560	437	550	677	2,224
	FY2015-16	778	552	502	779	2,610
	1-year % Change	39%	26%	-9%	15%	17%
Overall	FY2013-14	4,172,649	4,783,997	3,953,554	4,740,022	17,650,222
	FY2014-15	4,652,882	5,328,964	4,882,817	5,198,132	20,062,796
	FY2015-16	6,421,407	6,376,993	5,780,901	6,218,982	24,798,283
	1-year % Change	38%	20%	18%	20%	24%

Source: INRIX Commercial Speed Data.

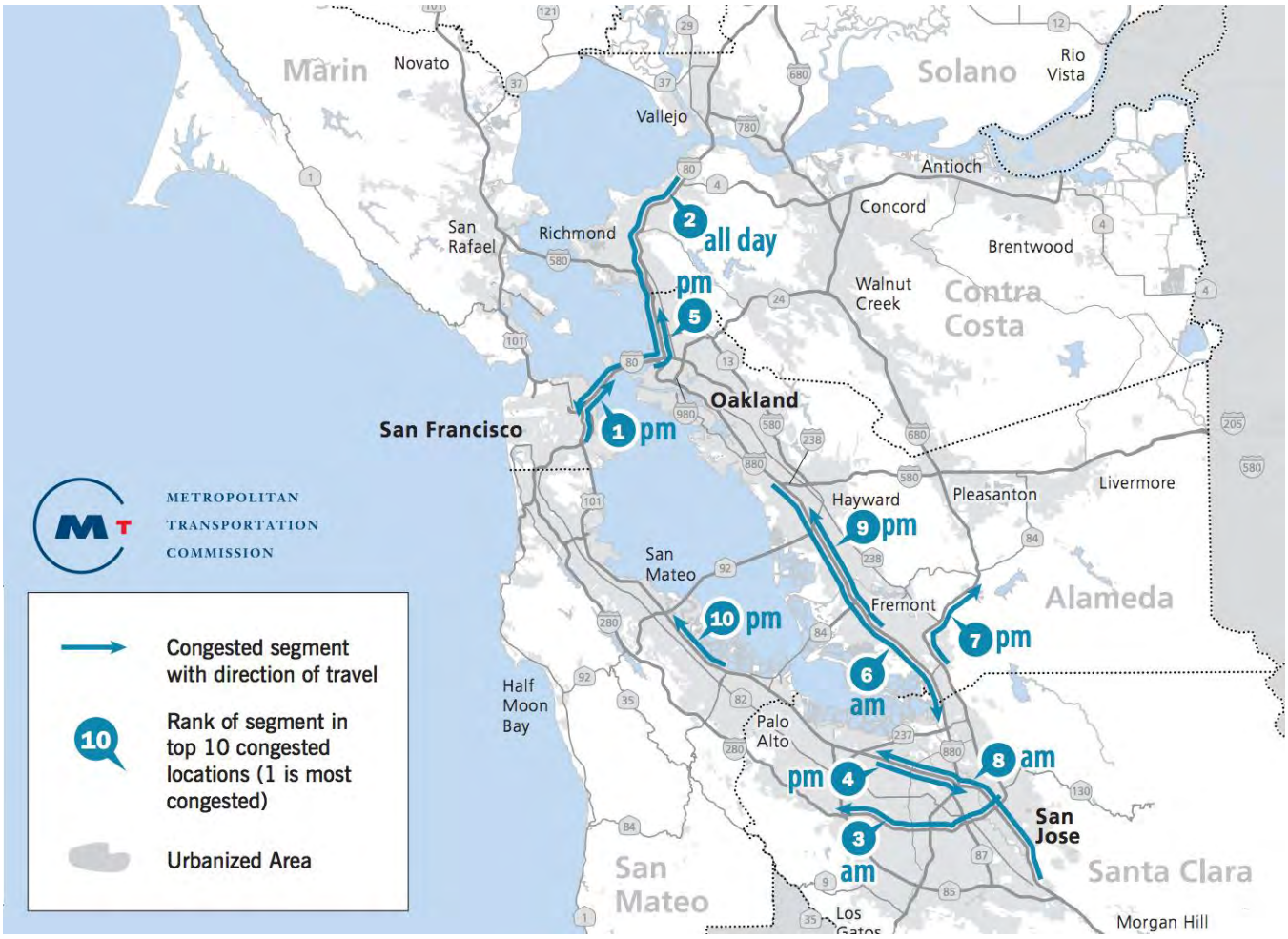
Notes: Vehicle hours of delay vs. 35 mph threshold refers to increased time that it takes a vehicle to travel a freeway segment due to the segment operating at a speed of less than 35 mph.
*FY2013-16 data does not include delay during the period of the Bay Bridge closure from August 28, 2013 (8 p.m.) to September 3, 2013 (5 p.m.).

As part of its Vital Signs program, MTC produces an annual ranking of the Bay Area's top 10 most congested corridors. For 2015, the most recent year available, five of the top 10 MTC-identified most-congested freeway segments are in Alameda County:

- Interstate 80, westbound from SR-4 to US-101 in the a.m. peak period
- Interstate 80, eastbound from West Grand Avenue to Gilman Street in the p.m. peak period
- Interstate 880, southbound from SR-238/Washington Avenue Exit to SR-237/West Calaveras Boulevard in the a.m. peak period
- Interstate 680, northbound from SR-262 to SR-84 in the p.m. period
- Interstate 880, northbound from Mowry Avenue to A Street in the p.m. peak period

Figure 3.8 shows the top 10 most congested corridors for 2015. MTC is anticipated to update the ranking for 2016 soon. The updated data will be included in the 2017 Performance Report.

Figure 3.8 Top 10 Most Congested Corridors for 2015



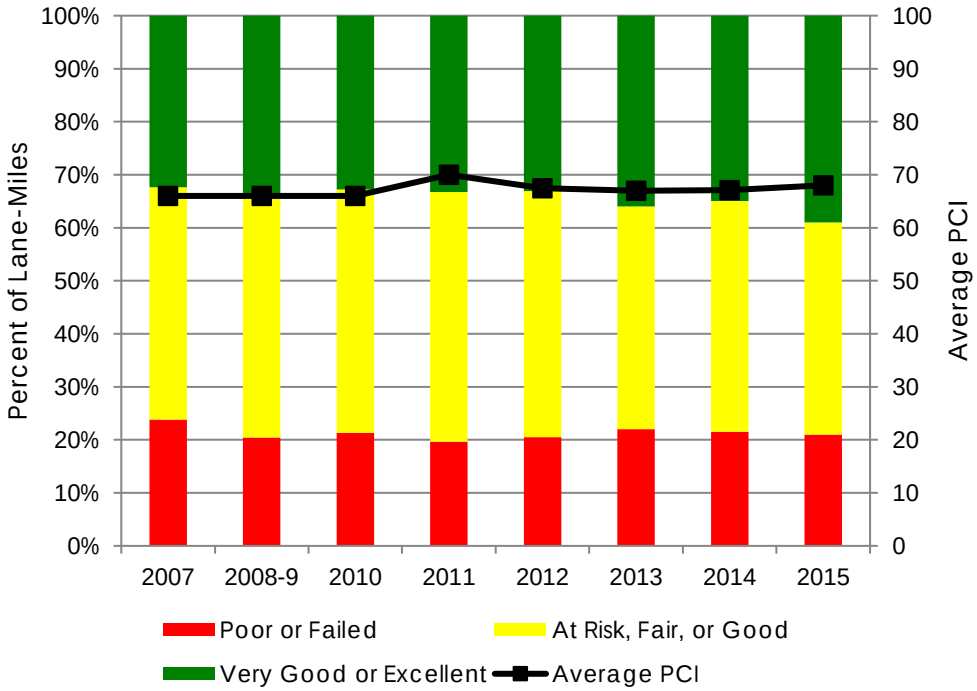
Source: MTC Vital Signs, 2015.

Local Road State of Repair

Pavement condition has largely remained constant in Alameda County from 2007 to 2015 (refer to Figure 3.9).

- According to 2015 data, 21 percent of the centerline mileage in Alameda County has a pavement condition index (PCI) of "poor" or "failed." Additional miles are "at risk," meaning they will deteriorate rapidly if not repaved soon.
- Dublin has the best PCI in Alameda County at 84.
- San Leandro has the lowest PCI in Alameda County at 54.
- In general, the highest PCIs are in East County, and the lowest PCIs are in North County and Central County, which may reflect the average age of roadways (refer to Table 3.2).
- The percentage of miles rated very good or excellent increased to nearly 40 percent, the highest in the last decade, an increase of 4 percent year over year, in the first full period measured since the initial delivery of Measure BB funds.

Figure 3.9 Pavement Condition Index in Alameda County



Source: MTC Street Saver database.

Note: Average PCI is based on a weighted average of functional classifications, with weighting based on centerline mile distance.

Table 3.2 Local Average Pavement Condition Index

	2006	2007	2008-9	2010	2011	2012	2013	2014	2015
Alameda	60	64	63	72	67	66	68	67	72
Alameda County	72	69	75	73	72	71	71	71	70
Albany	66	63	60	58	56	58	55	56	61
Berkeley	61	60	58	61	58	58	58	58	57
Dublin	82	80	80	87	84	87	85	85	84
Emeryville	78	76	74	80	79	75	73	80	80
Fremont	68	66	64	63	63	63	67	69	72
Hayward	69	68	69	70	68	69	67	66	68
Livermore	79	77	77	80	78	76	77	76	77
Newark	69	67	71	68	75	76	76	76	76
Oakland*	61	57	58	54	60	61	58	56	56
Piedmont	69	67	72	72	74	67	67	67	61
Pleasanton	75	76	78	77	76	77	78	78	80
San Leandro	60	59	56	56	56	57	57	56	54
Union City*	75	75	79	80	78	80	79	83	82

Source: MTC StreetSaver database.

Notes: Average PCI is based on a weighted average of functional classifications, with weighting based on centerline mile distance.
*PCI was correlated from an alternate scale prior to 2007.

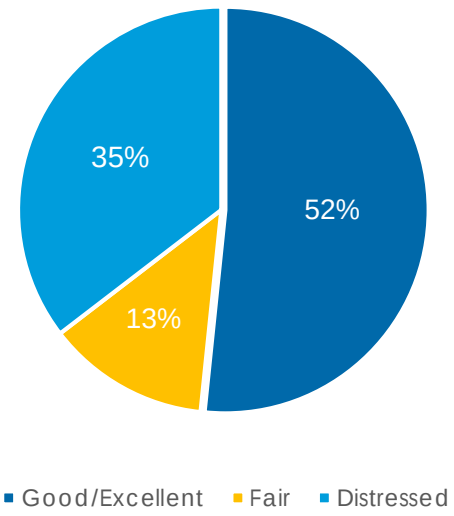
Freeway and Highway State of Repair

The majority of Alameda County's state highway system lane miles are in good condition.

- To identify distressed pavement, Caltrans assesses the ride quality and structural distress on each pavement lane mile on the state highway system. There are three condition states:
    - Good/excellent condition with no or few potholes or cracks.
    - Fair condition with minor surface distress that only needs corrective maintenance.
    - Distressed condition with poor ride quality, significant or extensive pavement cracks.
- Figure 3.10 shows that in 2013 (the most recent data available), 35 percent of Alameda County's state highway system lane miles were in distressed condition. Further analysis is needed to identify the locations of these distressed roadways in Alameda County.

A very rainy winter in 2016-2017 has resulted in significant highway state of good repair issues; this will be reflected in future years' data.

Figure 3.10 2013 Alameda County State Highway Lane Miles – Pavement Condition



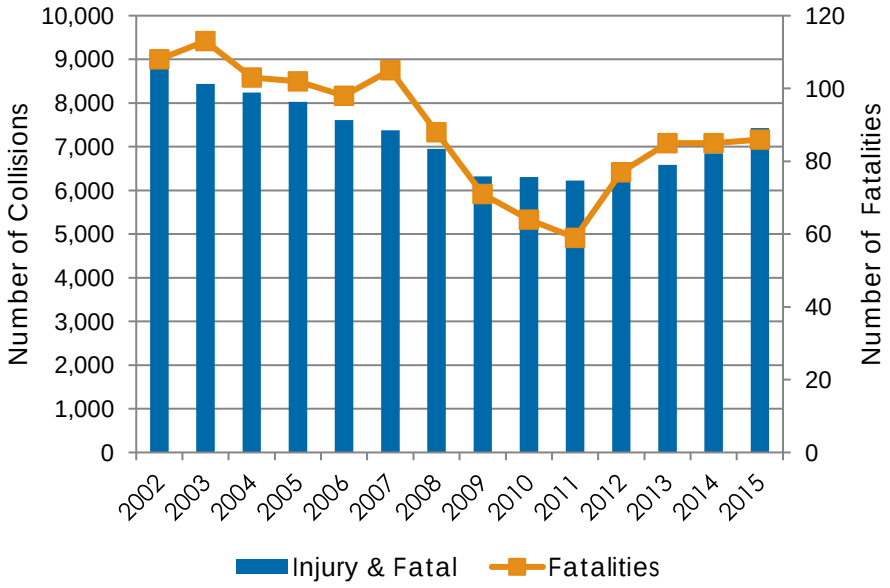
Source: MTC Vital Signs (most recent data available).

Safety

From 2002 to 2011, collisions in Alameda County declined steadily (refer to Figure 3.11 below and Table 3.3 on the next page). However, collisions have since increased from 2011 to 2015 (the most recent year data is available), a reflection of similar national trends:

- The number of fatalities increased by 51 percent to 86 total fatalities in 2015 from the most recent low of 57 in 2011. There was one more fatality in 2015 than in 2014.
- The number of injury-causing and fatal collisions increased by more than 19 percent to 7,429 from 2011 to 2015. Injury- and fatality-causing collisions increased by 8 percent from 2014. Table 3.4 shows collision rates in Alameda County from 2006 to 2015.
- Unsafe speed was the most common cause of injury and fatal collisions in 2015 and accounted for more than twice as many collisions as the next highest cause (refer to Figure 3.12).

Figure 3.11 Total Yearly Injury and Fatality Causing Collisions (2015)



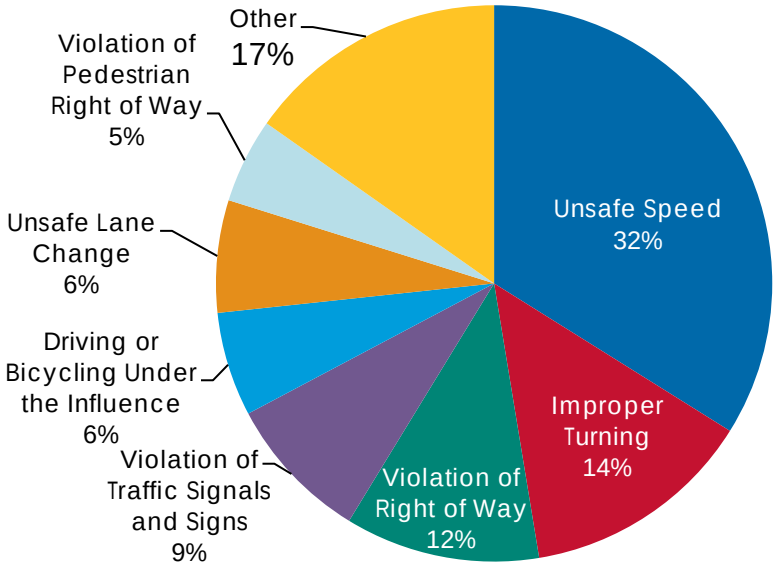
Source: The California Highway Patrol Statewide Integrated Traffic Record System database (2002-2015).

Table 3.3 Injury and Fatal Collision Totals in Alameda County (2006-2015)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Fatal Collisions	89	99	82	61	62	57	72	85	85	86
Injury Collisions	7,518	7,276	6,867	6,259	6,244	6,168	6,533	6,497	6,763	7,343

Source: The California Highway Patrol Statewide Integrated Traffic Record System database (2006-2015).

Figure 3.12 Causes of Injury and Fatal Roadway Collisions (2015)



Source: The California Highway Patrol Statewide Integrated Traffic Record System database (2006-2015).

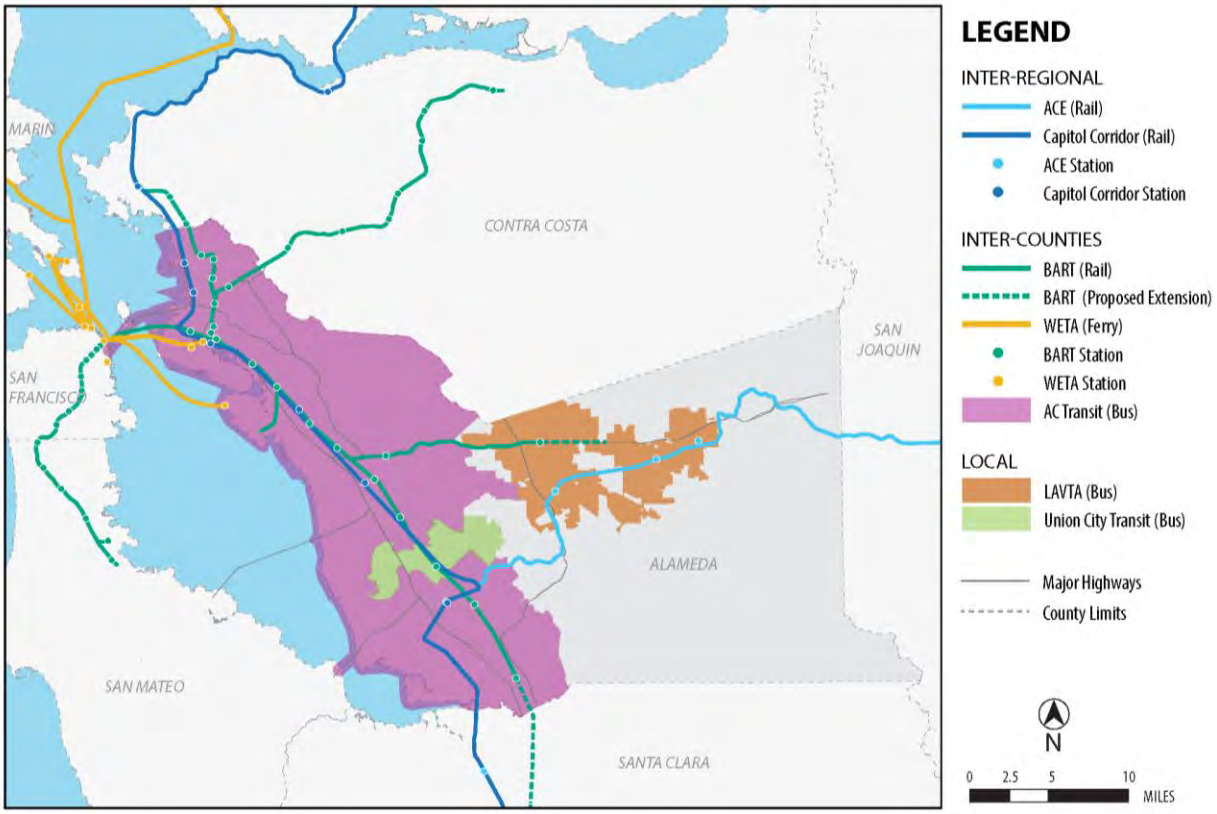
BART passengers wait to board a Richmond bound train

4. Transit

Overview

Alameda County is one of California's and the nation's most transit-rich environments. Home to seven transit agencies operating across metro rail, commuter rail, bus, ferry, and automated guideway services, the county is truly multimodal.

Figure 4.1 Alameda County Transit Service



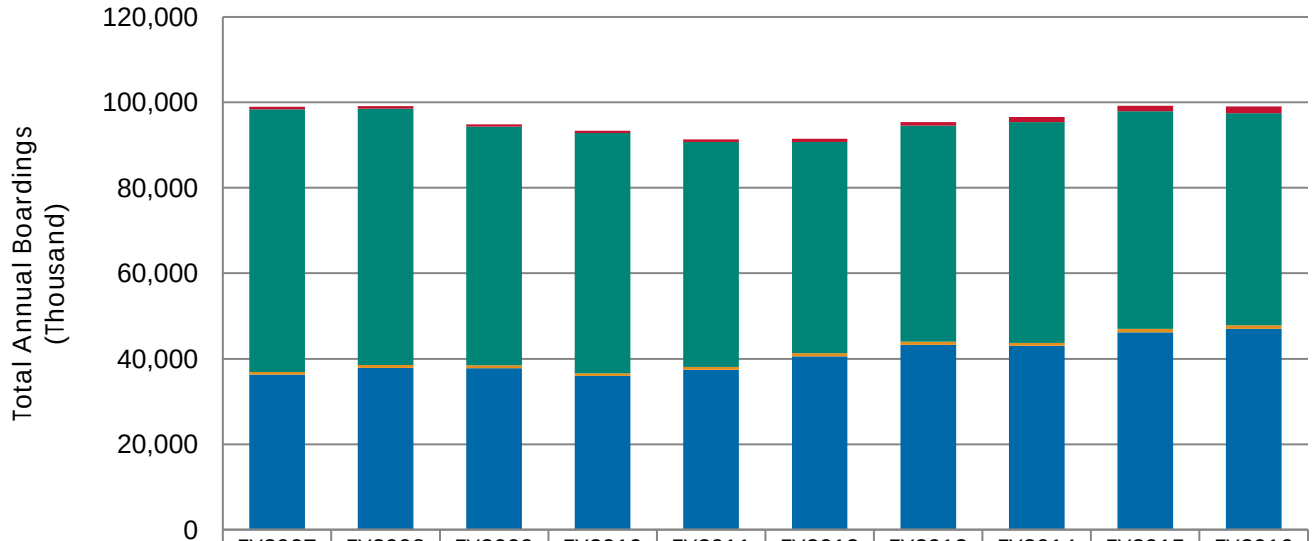
Source: Alameda CTC Countywide Transit Plan (2016).

Overall transit performance information in this report is based on data regarding aggregate service and financial performance from the county's transit operations as well as detailed operator performance.

Ridership

There were nearly 100 million boardings in Alameda County among transit operators in FY2016, a figure that has remained relatively steady over the last 10 years, growing by about 0.1 percent since FY2007 (see Figure 4.2). However, this sustained level of transit ridership comes despite continued population and job growth along with regionwide increases in highway congestion. This overall stability in ridership masks significant ridership declines among Alameda County bus operators that have been counterbalanced by strong ridership growth for BART, WETA, and commuter rail operators.

Figure 4.2 Transit Operator Annual Boardings in Alameda County (in thousands)



	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016
Ferry	577	603	543	568	609	728	851	1,152	1,285	1,587
Bus	61,491	60,043	55,871	56,212	52,640	49,457	50,561	51,663	50,922	49,630
Commuter Rail	596	690	665	630	681	769	739	736	838	848
BART	36,297	37,829	37,809	35,971	37,400	40,528	43,264	43,004	46,162	46,984

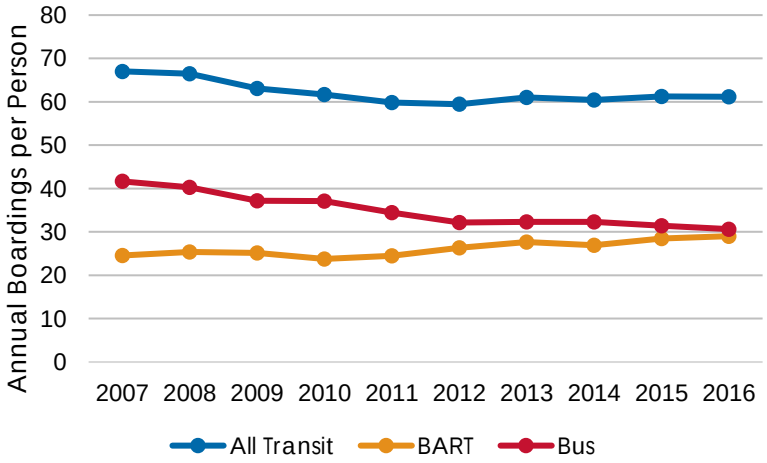
Sources: National Transit Database (FY2007-FY2015), provisional data from transit operators (FY2016).

Note: All data in thousands. Bus category includes AC transit, Union City Transit, and LAVTA. Commuter Rail category includes ACE and Capitol Corridor. Ferry category includes WETA. Data reflects only Alameda County boardings. AC Transit boardings in Alameda County are based on a fraction of route miles.

- BART has seen significant ridership growth in the county over the past decade, growing by over 10 million annual boardings since FY2007. However, growth has slowed from 3 million additional boardings between FY2014 to FY2015 to 800,000 from FY2015 to FY2016.
- Bus ridership in Alameda County has declined significantly over the last decade. Total bus boardings by all operators were 19 percent lower in FY2016 than in FY2007. Bus boardings continued to decline in FY2016 after small increases were noted in FY2013 and FY2014.
- Commuter rail and ferry services have seen significant ridership growth since FY2007, including some of the fastest growth in percentage terms.
- One notable trend in Alameda County over the last decade is a decline in bus ridership, as rail ridership has increased. However, while bus ridership is down overall, certain travel markets have maintained strong performance. For instance, AC Transit's Transbay service ridership has grown over the last decade by nearly 20 percent, comparable to BART.
- In addition, while public bus operators' overall ridership has declined, bus commute mode share has remained stable (refer to Chapter 2). This may indicate shifts to private buses (e.g., employer shuttles) as well as point to non-work travel as the main source of bus ridership declines.
- Transit patronage declines are a national trend, and transit agencies are working to better understand these shifts. Factors that may impact ridership include service quality, changing regional travel patterns, the growth of transportation network companies (TNCs) and private employer shuttles, growth in telecommuting and flexible work schedules, lower gasoline prices and the role of increasing congestion on transit travel time and reliability. Further investigation is needed to fully understand reasons behind transit ridership shifts.

While overall transit ridership has increased slightly from FY2007, annual boardings per capita have declined from a high of 67 in FY2007 to a current level of 61 in FY2016 (Figure 4.3).

Figure 4.3 Alameda County Transit Boardings per Capita



Sources: National Transit Database (FY2007-FY2015), provisional data from transit operators (FY2016). American Community Survey 1-year population estimates.

Transit Pilot Programs

In this rapidly changing transportation climate, Alameda County transit operators have been seeking to identify new and improved ways to address rider needs and overall organizational goals. LAVTA has launched Go Dublin!, a first- and last-mile connection option, while AC Transit has launched AC Transit Flex, an on-demand service to better serve low transit coverage areas. Additionally, BART has launched a public/private partnership carpool program to increase BART access. All of these programs are active as pilots, and their effectiveness and applicability for larger scale implementation are being monitored.

Service Utilization

Service utilization is a ratio of how many people use transit (service consumed) to how much service is provided (supply). Table 4.1 shows service utilization for Alameda County transit operators, measured in boardings per revenue vehicle hour. Figures 4.4 and 4.5 show trends in service utilization for large and small operators, respectively.

- Between FY2007 and FY2016, BART, ACE, and WETA have generally seen increases in service utilization, indicating they are carrying more passengers per hour of service operated.
- BART's service utilization has steadily climbed since FY2007, reflecting the continued growth in ridership on the system. BART now carries eight more passengers per revenue vehicle hour (rail cars being counted as vehicles) than it did in FY2007. However, between FY2015 and FY2016, BART's service utilization saw a slight decline, reflecting a 10 percent increase in revenue vehicle miles operated as part of measures taken to address peak-period crowding.
- AC Transit's service utilization has declined over the last decade, due largely to falling ridership numbers. Starting in June 2016, the agency began to undertake significant service restructuring as part of its Service Expansion Plan, called ACGo, which aims to better match demand while improving reliability; ACGo will continue to be implemented in phases through 2017.
- LAVTA and Union City Transit have experienced drops in service utilization since FY2007. LAVTA ridership generally has not recovered, even as service was restored after recession-period service cutbacks; LAVTA recently realigned routes to improve ridership and eliminate unproductive routes, implementing changes as part of its 2016 Comprehensive Operations Analysis. Union City Transit underwent major route restructuring in 2014; however, ridership is still declining with these changes.
- WETA's service utilization has increased significantly since FY2007. Over this period, WETA experienced a near doubling of boardings per revenue hour, even as the service has expanded significantly in Alameda County, illustrating strong demand for Transbay service.

SERVICE UTILIZATION DEFINED

Service utilization is a ratio of how many people use transit (service consumed) to how much service is provided (supply). It can be measured using boardings per revenue vehicle mile (RVM) or revenue vehicle hour (RVH). An increase in service utilization is a positive outcome for a transit operator, as it implies more people rode transit for the same level of service operated, or that the operator served the same number of passengers while operating less service (incurring fewer costs).

Table 4.1 Transit Operator Boardings per Revenue Vehicle Hour

	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016
BART	59	59	59	61	63	65	69	70	70	67
ACE	36	41	35	35	37	39	40	44	48	46
AC Transit	37	35	32	33	34	33	34	34	33	30
LAVTA	18	16	16	17	15	14	14	13	13	13
Union City	11	11	12	11	12	13	13	11	10	9
WETA	85	92	86	90	101	110	104	129	140	158

Sources: National Transit Database (FY2007-FY2015), provisional data from transit operators (FY2016).

Note: Reflects systemwide operating statistics. For rail operators, boardings per revenue passenger car hour are presented. WETA reflects only Alameda County lines. Data for Capitol Corridor is unavailable, as Capitol Corridor does not report to FTA's National Transit Database.

Figure 4.4 Large Operator Boardings per Revenue Vehicle Hour Trend

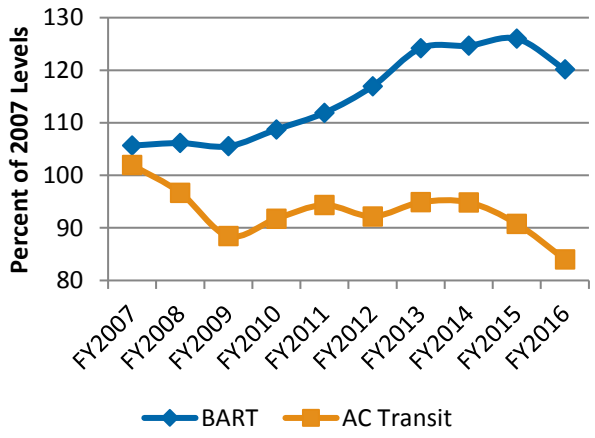
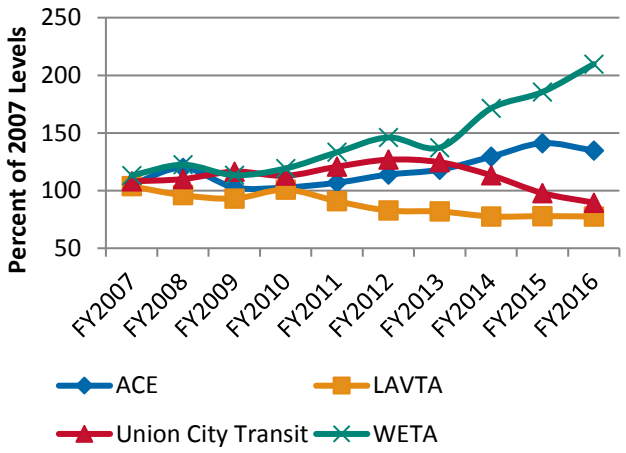


Figure 4.5 Small Operator Boardings per Revenue Vehicle Hour Trend



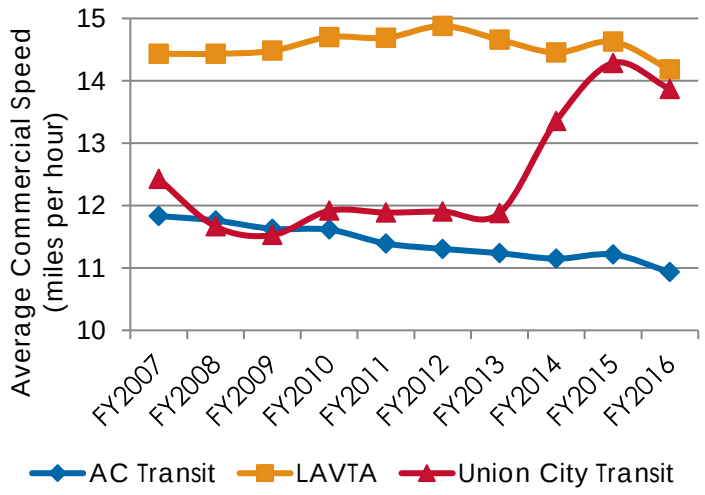
Sources (Figures 4.4-4.5): National Transit Database (FY2007-FY2015), provisional data from transit operators (FY2016).

Note: Reflects systemwide operating statistics. For rail operators, boardings per revenue passenger car hour are presented. Data for Capitol Corridor is unavailable, as Capitol Corridor does not report to FTA's National Transit Database.

Bus Operator Commercial Speed

Commercial speed is the average speed that buses achieve during service, accounting for delays from traffic signals, passenger boarding and alighting, and other factors. Figure 4.6 shows commercial speed for Alameda County's three bus operators.

Figure 4.6 Bus Operator Commercial Speed



Sources: National Transit Database (FY2005-FY2015), provisional data from transit operators (FY2016).

- All Alameda County bus operators experienced a decline in overall average commercial speed between FY2015 and FY2016.
- AC Transit has experienced a gradual decline in speed over the last 10 years, falling from nearly 12 mph in 2007 to slightly under 11 mph in 2016, a considerable change for a systemwide average statistic. Further analysis is needed to identify sources of AC Transit service delays, slow speeds, the role of local versus Transbay service, trunk routes versus other community routes, and where on their system delays are occurring.
- LAVTA generally has high commercial speeds, which likely reflects differences in the built environment, stop spacing, congestion levels on local streets, and other characteristics, as compared to other Alameda County bus operators. Nevertheless, FY2016 saw a decline in speed.
- Union City's service restructuring in 2014 allocated additional service to employment centers in the western part of the city, which resulted in higher commercial speeds; FY2016 nevertheless saw a slight decline in speed from the year before.

COMMERCIAL SPEED DEFINED

Commercial speed is the average speed that buses travel, taking into account delays from traffic signals, passenger boarding and alighting, and other factors. Average commercial speed is computed as the ratio of RVMs to RVHs. Commercial speed on particular routes or at particular times of day may be quite different than the operator overall systemwide average speed. Low commercial speed means riders do not get to their destination as quickly, and more buses must be assigned to a route (greater costs) to maintain the same frequency of bus arrivals.

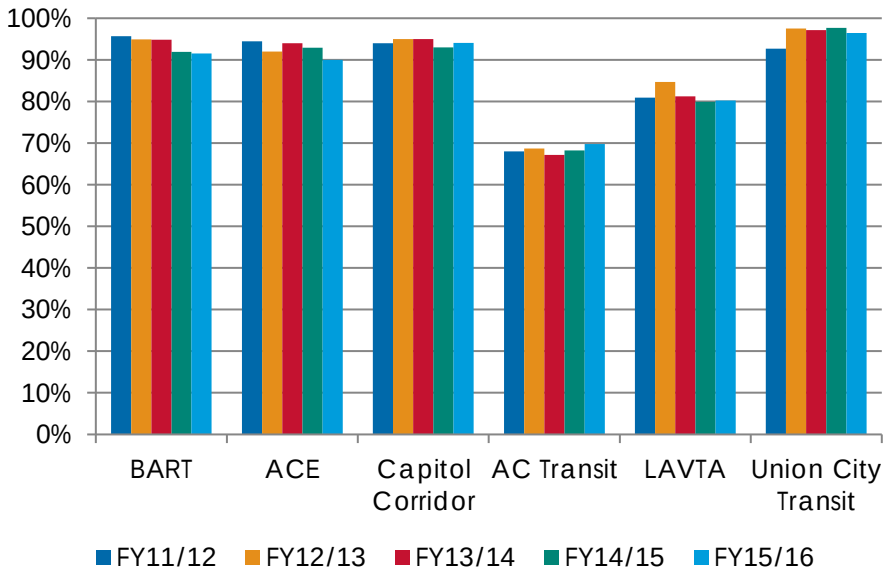
ON-TIME PERFORMANCE DEFINED

On-time performance is the percentage of trips **that a transit operator's** vehicle arrives at its stop/station within some allowable threshold of the scheduled time. Operators **define "on-time"** differently, but no more than five minutes late or one minute early is a typical definition.

On-time Performance

On-time performance is the percentage of trips that a transit operator's vehicle arrives at its stop within a given threshold of the scheduled time. Figure 4.7 shows on-time performance data since FY2011-12 for Alameda County transit operators.

Figure 4.7 Alameda County Transit Operator On-time Performance



Source: Transit operators.

Note: On-time performance measures are not captured within the FTA National Transit Database. Alameda CTC does not record on-time performance measures for WETA.

- Most transit operators saw minimal change in on-time performance in FY2016 compared to FY2015.
- BART has seen a reduction in on-time performance from approximately 96 percent in FY2012 to approximately 92 percent in FY 2016. Aging equipment along with increased BART police activity that cause service delays and system crowding may be contributing factors.

- AC Transit has seen a slight improvement in on-time performance between FY2012 and FY2016, but the systemwide average remains below 70 percent. AC Transit operates many routes in dense urban conditions which complicates delivery of reliable service. In addition, many AC Transit routes have frequent headways (e.g., 15 minutes or less) meaning that despite delays, passengers may not wait as long on average. Mean time between vehicle failures has increased by nearly one third, a major improvement on a key reliability factor.

Cost Efficiency

Cost efficiency in this report refers to a transit operator's operating cost normalized by the number of riders served. Table 4.2 shows cost efficiency performance data since FY2007 for Alameda County transit operators, while Figures 4.8 and 4.9 show trend lines for large and small operators, respectively.

- BART's cost per rider has declined 13 percent between FY2007 and FY2013 and has been stable since, reflecting ridership trends and relatively flat operating costs.
- AC Transit's cost per rider has increased over the last 10 years. This increase primarily reflects an increase in the cost of providing service (the cost per revenue vehicle hour has increased 29 percent since FY2007, adjusted for inflation) paired with a decline in ridership and an increase in revenue vehicle miles. This trend accelerated between FY2015 and FY2016.
- LAVTA has seen a steady increase in cost per rider over the last decade. LAVTA has greatly reduced its cost per revenue vehicle hour over the last five years, but lower ridership has resulted in a higher cost per rider.
- Union City Transit has seen a sharp increase in cost per rider since FY2013, which primarily reflects lower ridership during this period.

COST EFFICIENCY DEFINED

Cost efficiency in this report refers to a transit operator's operating cost normalized by the number of riders served. Cost efficiency is an important metric to track, as transit operators have limited resources, and increases in operating costs mean an operator is unable to provide an equivalent level of service for the same level of funding. Cost per rider can be reduced by controlling costs or attracting additional riders. Note that the costs used to compute cost efficiency here do not include capital costs, which can vary substantially between rail and bus operators.

- WETA experienced a spike in cost per rider in FY2013 (a period which saw a merger of ferry services) but has since reduced the cost per rider to a near 10-year low, primarily through significant increases in ridership.
- ACE's cost per rider has fallen nearly 30 percent since FY2007 largely as a result of ridership growth. Capitol Corridor's cost per rider have risen slightly over this period.

Table 4.2 Transit Operator Cost per Rider ($2016)

	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016
BART	$5.22	$5.00	$5.04	$5.04	$4.65	$4.60	$4.54	$4.51	$4.44	$4.53
ACE	$19.08	$17.17	$18.58	$20.79	$18.74	$17.34	$17.35	$15.34	$17.16	$13.47
Capitol Corridor	$33.83	$32.44	$35.68	$39.18	$37.68	$36.47	$37.10	$41.41	$40.45	$36.61
AC Transit	$4.98	$5.23	$5.83	$5.75	$5.70	$6.13	$5.82	$5.73	$5.96	$7.22
LAVTA	$6.28	$6.64	$6.94	$7.54	$7.75	$8.04	$7.81	$8.40	$7.99	$8.22
Union City	$7.81	$7.24	$6.74	$7.41	$6.99	$6.85	$7.26	$9.36	$11.21	$11.38
WETA	$10.99	$11.01	$11.44	$10.43	$12.61	$10.46	$17.00	$13.90	$12.83	$10.79

Sources: National Transit Database (FY2007-FY2016), provisional data from transit operators (FY2016).

Note: Reflects systemwide operating statistics. WETA reflects only Alameda County lines.

Figure 4.8 Large Operator Cost per Rider Trend

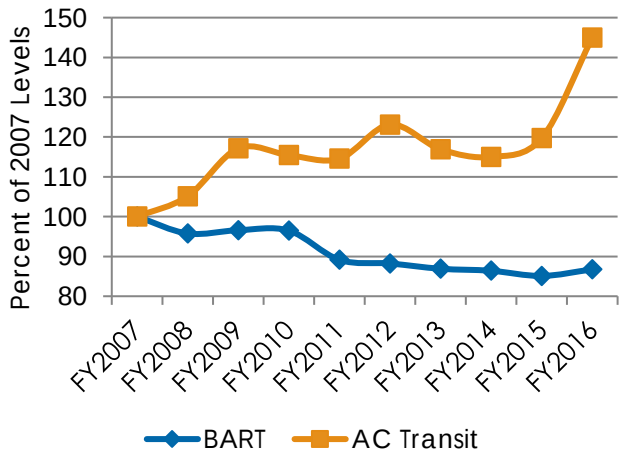
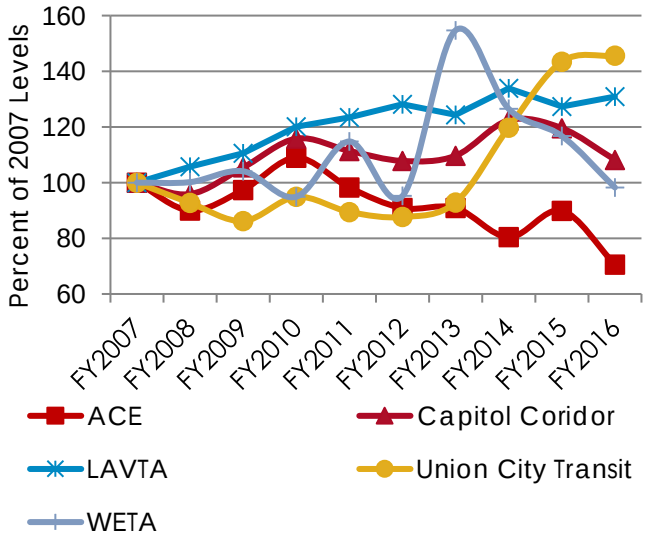


Figure 4.9 Small Operator Cost per Rider Trend



Sources (Figures 4.8-4.9): National Transit Database (FY2007-FY2015), provisional data from transit operators (FY2016).

Note: Reflects systemwide operating statistics. WETA reflects Alameda County lines only.

Farebox Recovery

Farebox recovery is the percentage of a transit agency's operating expenses covered by passenger fare revenues. Table 4.3 shows farebox recovery performance for Alameda County transit operators since FY2007.

- ACE and WETA saw improvements in farebox recovery ratios in FY2016. Capitol Corridor experienced a slight decline in FY2016. Farebox recovery ratios have generally been improving or stable since FY2007.
- BART has seen an improvement in its farebox recovery ratio over the last decade from 61 percent in FY2007 to 78 percent in FY2016. It has the highest farebox recovery rate for Alameda County transit operators and one of the highest in the nation.
- AC Transit has maintained its farebox recovery between 18 and 21 percent over the last decade.
- Both LAVTA and Union City Transit have seen reductions in their farebox recovery ratios since FY2007 as ridership has declined, but costs have not gone down.
- Rail and ferry operators generally operate at considerably higher farebox recovery ratios than bus operators, reflecting the fact that their cost structure is more capital-intensive and less labor-intensive (with capital costs not factoring into farebox recovery calculations). Rail and ferry fares also tend to be significantly higher than for bus service.

FAREBOX RECOVERY DEFINED

Farebox recovery ratio refers to the percentage **of a transit agency's** operating expenses that are covered by passenger fare revenues (as opposed to other sources such as parking revenues, advertising revenues, and subsidies). Farebox recovery does not include capital costs.

Table 4.3 Alameda County Transit Operator Farebox Recovery Ratios

	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016
BART	61%	64%	66%	72%	76%	75%	77%	78%	80%	78%
ACE	37%	38%	37%	34%	37%	34%	39%	44%	40%	49%
Capitol Corridor	48%	55%	47%	47%	48%	50%	51%	50%	52%	51%
AC Transit	18%	18%	18%	18%	18%	19%	20%	21%	19%	18%
LAVTA	19%	18%	18%	19%	18%	16%	19%	15%	16%	15%
Union City	14%	13%	14%	12%	15%	15%	13%	11%	9%	9%
WETA	51%	49%	53%	57%	53%	49%	45%	51%	52%	62%

Sources: National Transit Database (FY2007-FY2015), provisional data from transit operators (FY2016).

Note: Reflects systemwide operating statistics.

Fleet Age

Transit fleets maintain a state of good repair in large part by regular maintenance, rehabilitation, and replacement of aging fleet vehicles. Average fleet age ideally should remain below the typical useful life of vehicles.

- BART and WETA both have fleets consisting of vehicles on average at or beyond their typical useful life. Other operators generally have fleets with average ages below their typical useful life.
- BART in particular has one of the oldest fleets of train cars among its peer transit systems nationwide, though it is in the process of procuring new rail cars, the first shipment of which is expected to enter service in 2017.
- AC Transit unveiled a shipment of new buses in FY2014 and is continuing to replace old buses, which has brought the average age of its fleet down to seven years.

Table 4.4 Alameda County Transit Operator Fleet Characteristics

	Fleet Size	Average Age	Typical Useful Life
BART: Rail Cars	669	37	25
BART: Automated Guideway Vehicles	12	2	20
ACE: Locomotives	6	16	30
ACE: Passenger Cars	30	14	40
AC Transit: Buses	598	7	15
AC Transit: Articulated Buses	85	9	15
LAVTA: Buses	66	12	15
Union City Transit: Buses	20	5.	12
WETA: Ferry Boats	11	15	15

Source: Transit operators.

Note: Data for Capitol Corridor unavailable, because Capitol Corridor does not report to FTA's National Transit Database. BART's Oakland Airport Connector uses automated guideway vehicles.

Service Interruptions

For the most part, transit operators saw an increase in the time or distance operated between service interruptions in FY2016 over the year before, indicating a reduced frequency of service interruption for better overall service reliability. Time or distance operated between service interruptions has improved among all operators significantly since FY2009.

- AC Transit experienced a particularly large increase in miles between mechanical failures since FY2009, likely a result of the introduction of new buses.
- BART continued to experience improvement in mean time between service delays in FY2016, an improvement of 73 percent since FY2009, reflecting success in its tightly adhered to preventative maintenance program. However, failures of wayside equipment (control devices and track circuits that controls train speed, stopping, and safe spacing) as well as increased crime and disruptive behavior in recent years have led to lower overall on-time performance not reflected in this metric.
- LAVTA experienced a small decline in miles between mechanical failures, while Union City Transit continued to see a substantial increase in the number of miles between mechanical failures.

Table 4.5 Alameda County Transit Operator Time/Distance Between Service Interruptions

	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016
Rail	Mean Time Between Service Delay							
BART	2,683	2,796	2,995	3,216	3,758	3,584	4,000	4,649
ACE	546	438	388	2,438	2,438	5,530	n/a	n/a
Bus and Ferry	Average Miles Between Mechanical Failure							
AC Transit	4,656	5,727	7,941	6,556	8,244	5,367	6,082	8,042
LAVTA	4,904	4,837	6,353	15,249	17,397	13,249	17,948	17,662
Union City Transit	3,880	4,902	11,402	13,749	16,505	15,535	22,015	26,571

Sources: National Transit Database (FY2009-FY2015), provisional data from transit operators (FY2016).

Note: Reflects systemwide operating statistics. Data for Capitol Corridor is unavailable, as Capitol Corridor does not report to FTA's National Transit Database. Alameda CTC does not report service interruption measures for WETA, as small fleet size and rapidly expanding service leads to wide variation between years.

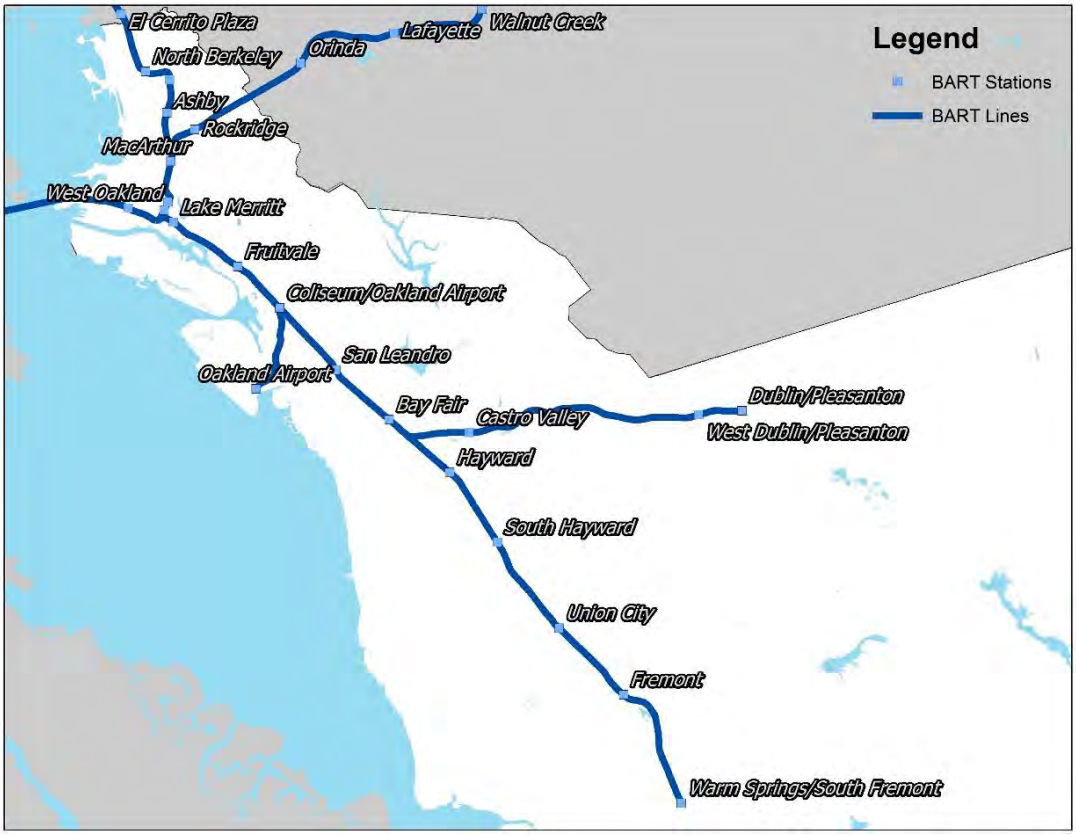
Detailed Transit Operator Performance

Performance data for Alameda County's main transit operators —BART, AC Transit, ACE, LAVTA, Union City Transit, WETA and Capitol Corridor—is provided below. Data from 2016 has been provided by operators and is provisional; data from 2015 and prior is from the FTA's National Transit Database unless otherwise stated. All financial information is provided in real (2016) dollars.

San Francisco Bay Area Rapid Transit District (BART)

BART is a heavy rail operator that provides regional transit service in four counties in the San Francisco Bay Area. BART carries over 460,000 riders per day, and 22 of the 46 BART stations are located in Alameda County. Figure 4.11 shows trends in ridership, service operated, operating costs, and fare revenue, while Figure 4.12 shows BART performance trends.

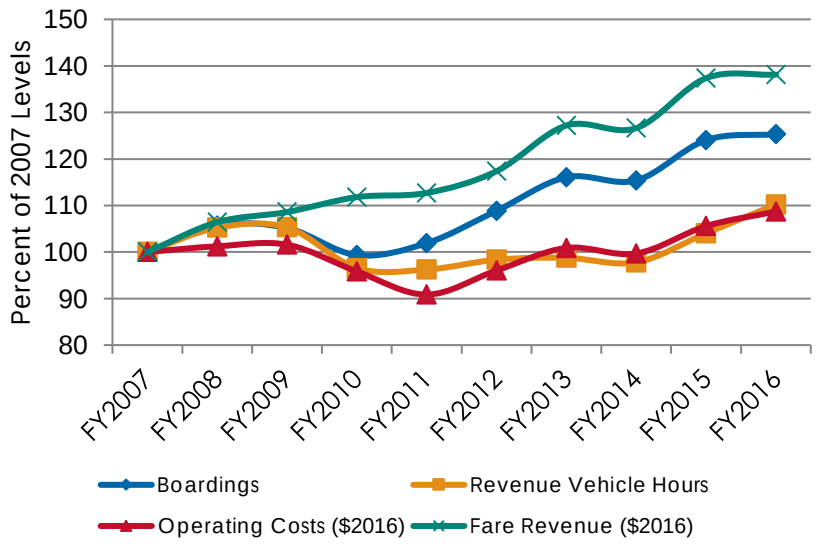
Figure 4.10 Alameda County BART service (2017)



- BART has experienced significant growth in ridership over the last decade. While growth has flattened over the last year (following an 8 percent increase in 2015), overall ridership has grown by 26 percent since 2007.

- BART's ridership growth over the last decade likely reflects overall regional population and job growth. Additional factors could include increasingly regional commute patterns, strong job creation in San Francisco, rising congestion on the Oakland/San Francisco Bay Bridge and other major highways served by parallel BART service, maturation of transit oriented development projects, system expansions, along with marketing and planning around major events. Further analysis is needed to determine factors contributing to ridership with certainty.

Figure 4.11 BART Ridership, Revenue Vehicle Hours, Operating Cost, and Fare Revenue Trends

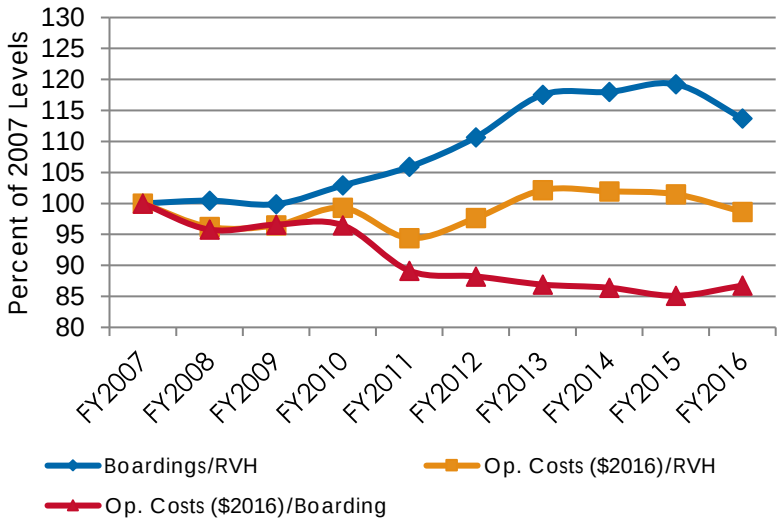


Sources: National Transit Database (FY2007-FY2015), provisional data from transit operators (FY2016).

- BART saw a modest slowdown in ridership growth in FY2016. Continued ridership growth in the East Bay to San Francisco commute market is likely constrained by peak-period Transbay service congestion, constraints at Embarcadero and Montgomery Stations, and peak-hour train overcrowding which will begin to be addressed with the introduction of new cars into service in 2017.

- BART took measures to ease peak-hour crowding in FY2015-2016, as reflected in the growth in revenue vehicle hours operated. The imminent arrival of new fleet cars will further enable BART to add additional peak-period trains for still-needed capacity.
- Although overall costs have grown since FY2007, BART has largely kept the costs of operating its services on a per-unit basis (operating cost per RVH) nearly constant in real dollars since FY2007.

Figure 4.12 BART Performance Statistics Trend



Sources: National Transit Database (FY2007-FY2015), provisional data from transit operators (FY2016).

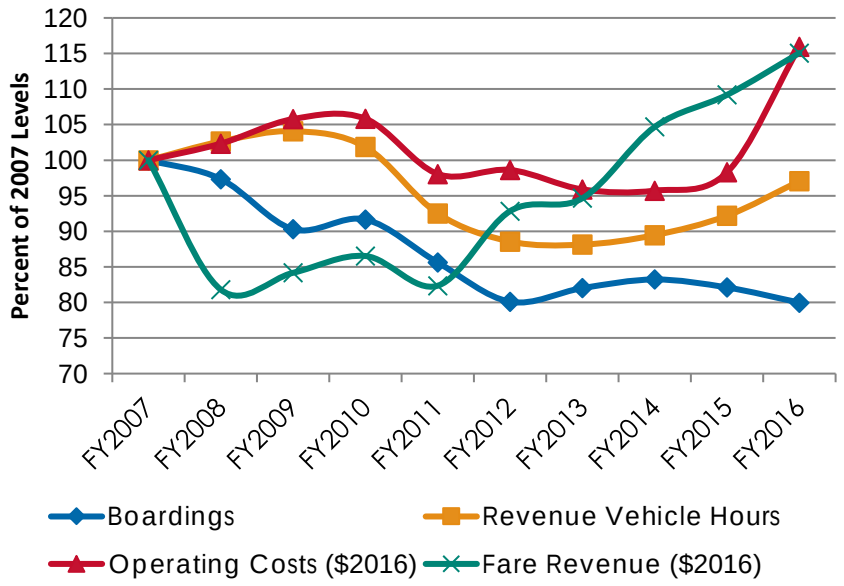
- BART fare revenue growth has outpaced ridership growth, even after adjusting for inflation. This is possibly due to the increasing ratio of Transbay service use (for which fares are higher) to non-Transbay service use (for which fares are lower).

Alameda-Contra Costa Transit District (AC Transit)

AC Transit is the second largest bus operator in the San Francisco Bay Area, carrying nearly 150,000 riders per day and providing both local and Transbay service for Alameda and Contra Costa counties. Roughly 90 percent of AC Transit's service area is in

Alameda County, covering North, Central, and South County. Figure 4.13 shows trends in ridership, service operated, operating costs, and fare revenue, while Figure 4.14 shows trends in ridership for different types of AC Transit service. Figure 4.15 shows trends in performance statistics for AC Transit.

Figure 4.13 AC Transit Systemwide Ridership, Revenue Vehicle Hours, Operating Cost, and Fare Revenue Trends



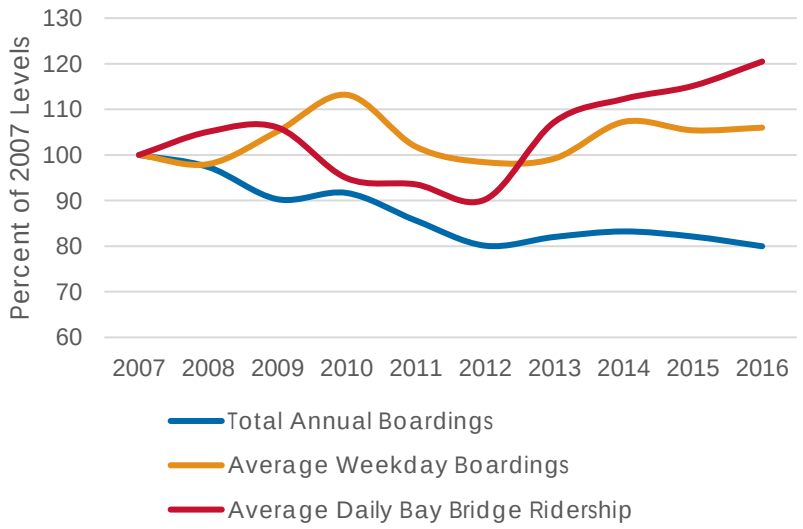
Sources: National Transit Database (FY2005-FY2014), provisional data from transit operators (FY2015).

- AC Transit ridership declined slightly in FY2016. Although overall service has been restored to close to pre-recession levels, ridership remains below prior highs. AC Transit began to expand service in FY2014, focusing on re-establishing routes and services reduced by 2010 service cuts, increasing service to priority development areas and transit-oriented developments, and improving connections to attractions not previously served well. These improvements will continue through FY2017 as part of the Service Expansion Plan called ACGo and are supported in part by Measure BB revenues.

- AC Transit's overall system ridership has declined 20 percent from the 67 million boardings per year in FY2007 to 54 million boardings in FY2016. However, this decline has not been uniform across all types of service. Average weekday boardings are slightly above 2007 levels,

and Transbay service across the Bay Bridge is 20 percent above 2007 levels. The divergent trends across different travel markets and service types speak to regional job market trends (e.g., strong job growth in San Francisco).

Figure 4.14 AC Transit Ridership by Service Types



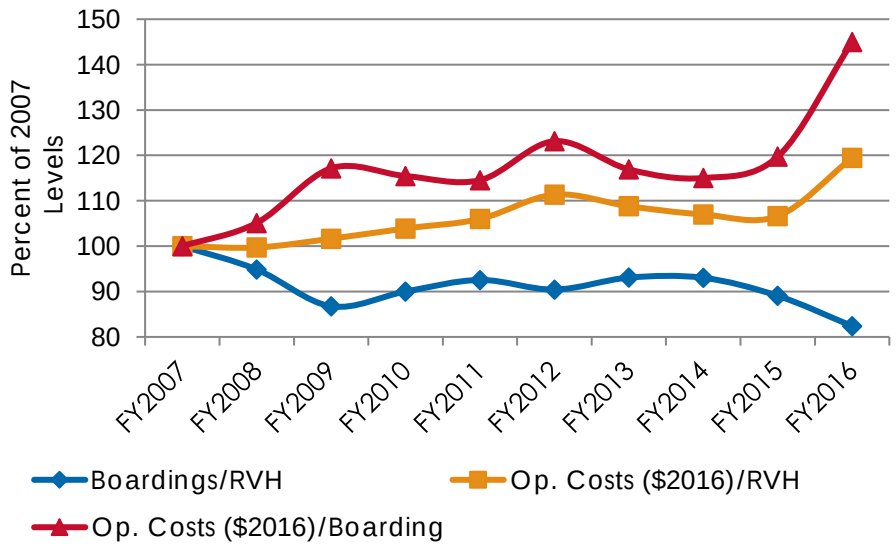
Sources: National Transit Database (FY2005-FY2014), provisional data from transit operators (FY2015).

- AC Transit expanded service in 2016 as part of ACGo, which aimed to reconfigure routes to improve frequency and reliability, increase hours of service on nights and weekends, and improve connections to key destinations and high-density areas. Service will continue to be restructured through 2017 as part of ACGo. However, it is unclear why ridership continues to decline despite these improvements—additional study is needed. Possible causes may include competition from rideshare options (especially during non-peak hours), a decline in commercial speed due to roadway congestion, and ridership adjustments to service changes.
- Preliminary FY2016 data shows a significant increase in overall operating costs after staying relatively flat over the FY2009-FY2014 period; total operating costs are now 16 percent higher than in FY2007 in real dollars.

This is primarily a result of continued service expansion; additionally, operating expenses per RVH have grown over the last decade and are now 19 percent higher than in FY2007. The agency has been exploring the use of more cost-effective demand-responsive service in low ridership areas through its pilot Flex service.

- AC Transit has grown fare revenue over the last decade by 15 percent; much of this growth has occurred since a 2014 change in fare policy which eliminated free transfers.

Figure 4.15 AC Transit Systemwide Performance Statistics Trend



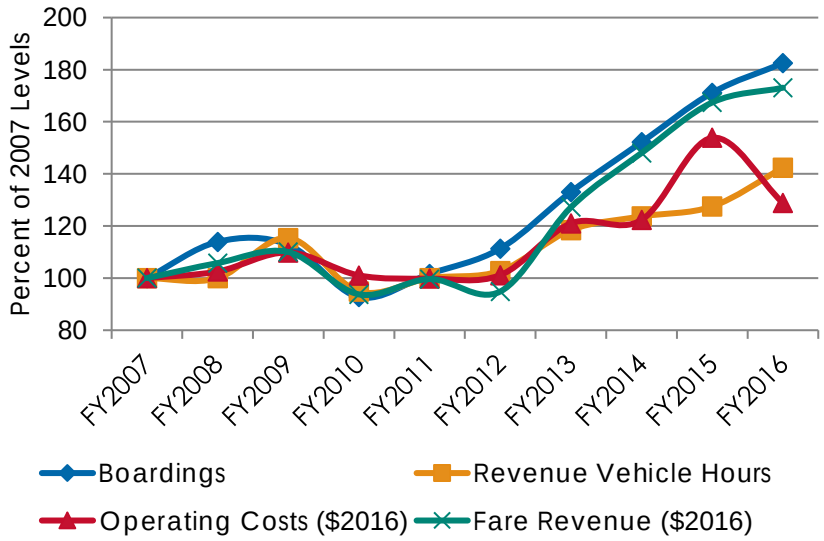
Sources: National Transit Database (FY2007-FY2015), provisional data from transit operators (FY2016).

Altamont Corridor Express (ACE)

ACE offers rail service between San Joaquin County, Alameda County, and Santa Clara County. The service includes four daily trains in each direction and stops at four stations in East and South Alameda County. ACE carries nearly 5,000 riders daily, many of whom make trips of 50 or more miles. Figure 4.16 shows trends in ridership, service operated, operating costs, and fare revenue, while Figure 4.17 shows trends in performance statistics for ACE.

- ACE saw an increase in ridership for the sixth consecutive year; ridership has grown 83 percent since FY2007. Expanded service and growing congestion on I-580 and I-680 are potential contributing factors to the increase in ridership.
- ACE added a fourth daily train in FY2014 and has maintained the same level of service frequency since that time. ACE's short- and long-term goals, as described in the ACE Forward effort, are to add more service frequency during both morning and evening commuting hours.
- ACE has seen a steady increase in service utilization since FY2009, as ridership growth has outpaced the additional service hours from a fourth daily train.

Figure 4.16 ACE Ridership, Revenue Vehicle Hours, Operating Cost, and Fare Revenue Trends

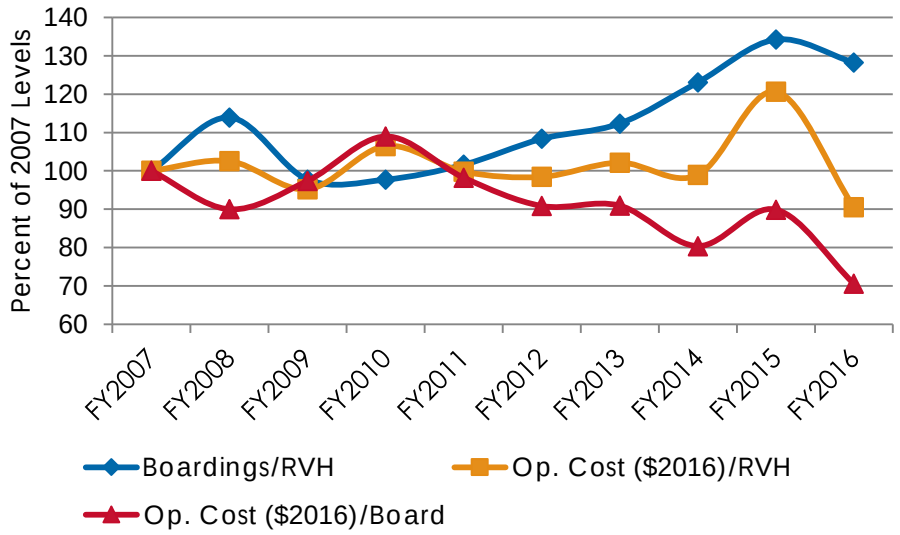


Sources: National Transit Database (FY2007-FY2015), provisional data from transit operators (FY2016).

- ACE saw a decline in operating costs in FY2016, following a sharp increase in FY2015. ACE has generally kept cost per RVH steady over the last decade, though it is now 9 percent lower in real dollars than in FY2007. At the same time, ACE has significantly reduced its cost per rider by 29 percent since FY2007, largely by attracting greater patronage.

- ACE has seen fare revenue increases that have outpaced ridership growth since FY2013.

Figure 4.17 ACE Performance Statistics Trend



Sources: National Transit Database (FY2005-FY2014), provisional data from transit operators (FY2015).

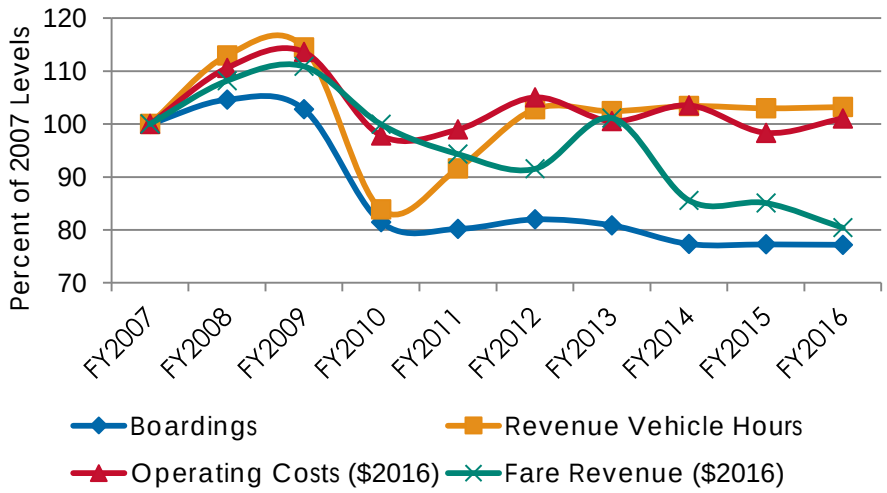
Livermore Amador Valley Transit Authority (LAVTA)

LAVTA operates Wheels bus service, the primary bus service in the Tri-Valley area of Alameda County. LAVTA operates local and rapid bus service within the Tri-Valley as well as express routes to destinations in Contra Costa County. LAVTA carries nearly 6,000 riders per day. Figure 4.18 shows trends in ridership, service operated, operating costs, and fare revenue, while Figure 4.19 shows trends in performance statistics for LAVTA.

- LAVTA's ridership has remained flat since FY2014 and is slightly lower than during the recession; it is at the lowest level since FY2007, declining 23 percent since then.
- Between 2011 and 2012, LAVTA restored service to levels similar to those operated prior to cuts instituted during the recession. This service restoration has generally not resulted in a ridership recovery, a trend seen both locally and nationally among bus operators.
- LAVTA has recently implemented the recommendations from its 2016 Comprehensive Operations Analysis (COA)

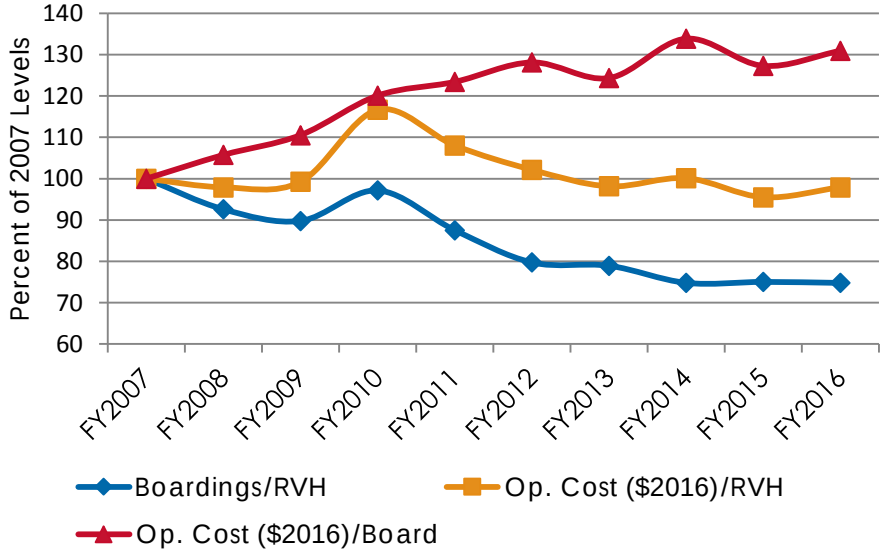
that restructured routes to better match service patterns to demand to increase ridership and service efficiency. Preliminary data reflecting COA implementation indicates improvement in on-time performance and an initial ridership recovery, and the first full year of data reflecting the COA will be reflected in the 2017 Performance Report. The agency has also recently launched a pilot partnership to offer subsidized trips through rideshare services.

Figure 4.18 LAVTA Ridership, Revenue Vehicle Hours, Operating Cost, and Fare Revenue Trends



Sources: National Transit Database (FY2005-FY2014), provisional data from transit operators (FY2015).

Figure 4.19 LAVTA Performance Statistics Trend



Sources: National Transit Database (FY2007-FY2015), provisional data from transit operators (FY2016).

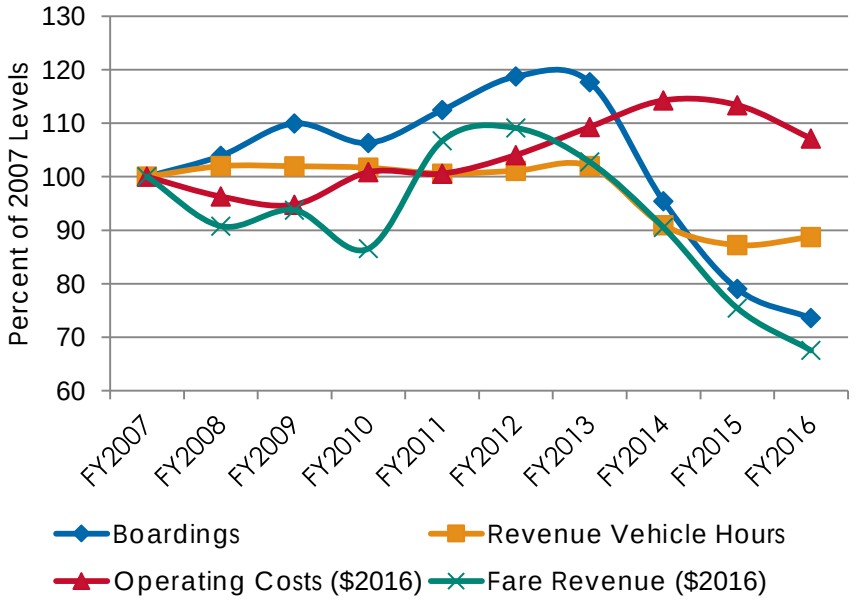
- LAVTA's cost per RVH has remained relatively steady since FY2013; costs per unit service operated are equivalent to LAVTA's FY2007 level. LAVTA, which is a contract operator, has generally been successful at containing costs over the last decade. This is likely due to the agency's comparative ability to negotiate contracts for frequently.
- Despite cost containment success, the decline in ridership has resulted in the cost per passenger served to rise by 31 percent since FY2007.
- Fare revenues have declined by 20 percent since FY2007, largely the result of the decline in ridership.

Union City Transit

Union City Transit is operated by and provides bus service within the City of Union City. Union City Transit operates nine routes and carries around 1,000 passengers per day. Figure 4.20 shows trends in ridership, service operated, operating costs, and fare revenue, while Figure 4.21 shows trends in performance statistics for Union City Transit.

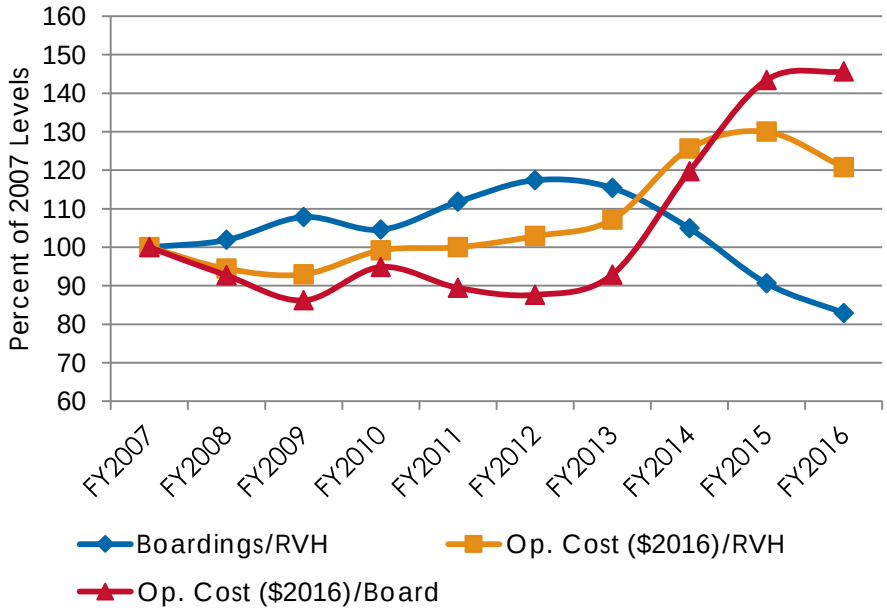
- Union City Transit instituted significant service restructuring and fare increases in October 2013.
- The agency's service restructuring introduced pilot routes that increased coverage area, but necessitated a reduction in service frequencies on some routes. Following these changes, the agency experienced a 37 percent decline in ridership in the between FY2013 and FY2016.
- This sharp decline in ridership has similarly lead to declines in service utilization (boardings per RVH) as well as fare revenue, and an increase in operating cost per rider (a 57 percent increase from FY2013 to FY2016).
- Union City Transit implemented additional service changes on August 1, 2015 to address ridership declines; however, ridership continued to fall through FY2016.

Figure 4.20 Union City Transit Ridership, Revenue Vehicle Hours, Operating Cost, and Fare Revenue Trends



Sources: National Transit Database (FY2005-FY2014), provisional data from transit operators (FY2015).

Figure 4.21 Union City Transit Performance Statisticss Trends



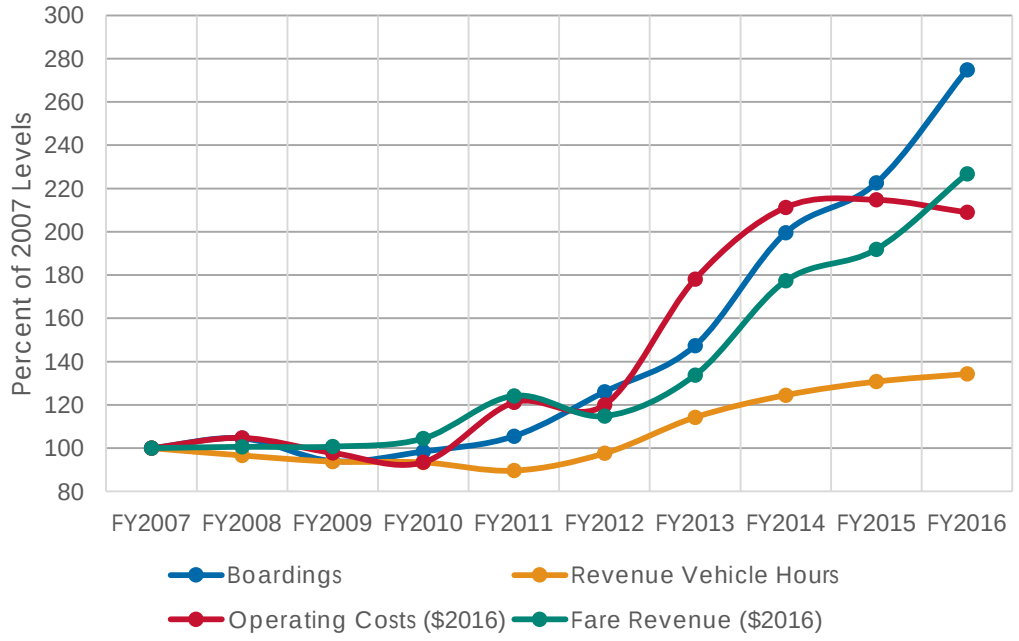
Sources: National Transit Database (FY2007-FY2015), provisional data from transit operators (FY2016).

San Francisco Bay Area Water Emergency Transit Authority (WETA)

WETA operates ferry service between destinations in the East Bay and San Francisco. WETA was formed through the merger of previously independently operated ferry services. WETA terminals in Alameda County are located at Jack London Square in Oakland, Main Street in Alameda, and Harbor Bay in Alameda. WETA carries over 6,000 passengers daily and serves as an important lifeline function in the event that bridges or the BART Transbay Tube are out of service. Figure 4.22 shows trends in ridership, service operated, operating costs, and fare revenue, while Figure 4.23 shows trends in performance statistics for WETA's Alameda County services.

- WETA saw continued strong ridership growth in FY2016, rising 23 percent over FY2015; this is an extension of major growth on its Alameda County lines since FY2010.

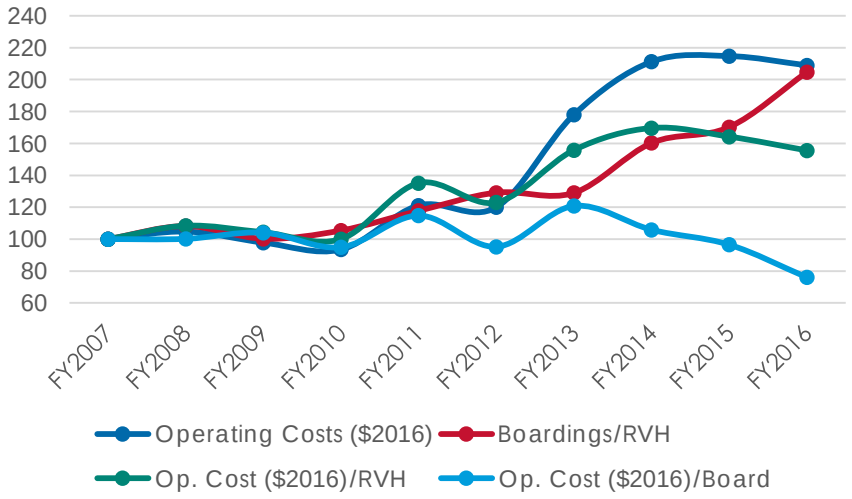
Figure 4.22 WETA Ridership, Revenue Vehicle Hours, Operating Cost, and Fare Revenue Trends



Sources: National Transit Database (FY2005-FY2014), provisional data from transit operators (FY2015).

- WETA ridership in FY2016 was nearly triple pre-recession levels. The long-term increase may reflect strong economic performance in San Francisco and the Peninsula, particularly in neighborhoods located near ferry terminals, growing congestion on the Bay Bridge and BART Transbay service as well as the addition of a new line to South San Francisco.
- Strong ridership growth has generally meant that WETA has increased service utilization (boardings per RVH) since FY2010 and over the last decade. This is likely the result of high demand for Transbay service and acute congestion on the Bay Bridge.
- WETA has seen significant cost increases over the last five years, likely reflecting costs associated with the consolidation of several smaller ferry services into a single agency. However, operating costs rose only slightly in FY2016, while operating costs per RVH continued to decline (Figure 4.23).
- Strong growth in ridership with subsequent growth in revenue, combined with a flattening of operating costs, have significantly improved WETA's farebox recovery ratio to 62 percent, the second highest among Alameda County transit operators.

Figure 4.23 WETA Performance Statistics Trend



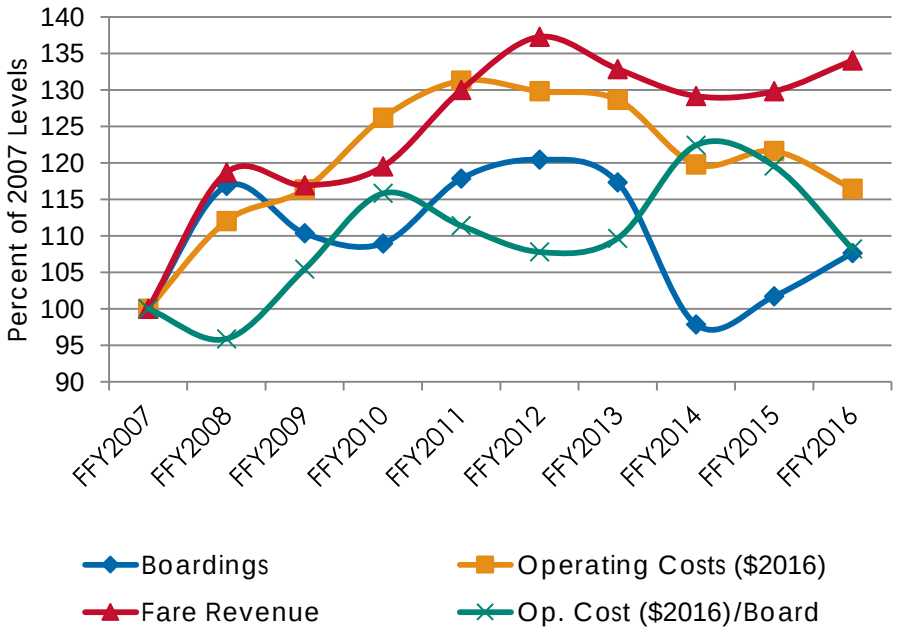
Sources: National Transit Database (FY2007-FY2015), provisional data from transit operators (FY2015).

Capitol Corridor

BART operates Capitol Corridor rail service between San Jose and Auburn with six stations in Alameda County, including 30 daily trains between Jack London Square and Sacramento and 16 daily trains between San Jose and Sacramento. Figure 4.24 shows trends in ridership, operating costs, fare revenue, and cost per rider for Capitol Corridor.

- Capitol Corridor saw continued growth in ridership in FY2016, up 10 percent above FY2014 levels.
- Capitol Corridor has reduced operating costs since FY2011, falling 11 percent since that year, the result of lower diesel fuel costs and increased use of e-ticketing. FY2016 costs remain 16 percent higher than those of FY2007.
- Fare revenue has increased 34 percent since FY2007, overcoming higher operating costs to boost the farebox recovery ratio to 55 percent, the third best rate in Alameda County.

Figure 4.24 Capitol Corridor Ridership, Operating Cost, Cost per Passenger, and Fare Revenue Trends



Source: Capitol Corridor Joint Powers Authority.

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Hayward city-based program providing service

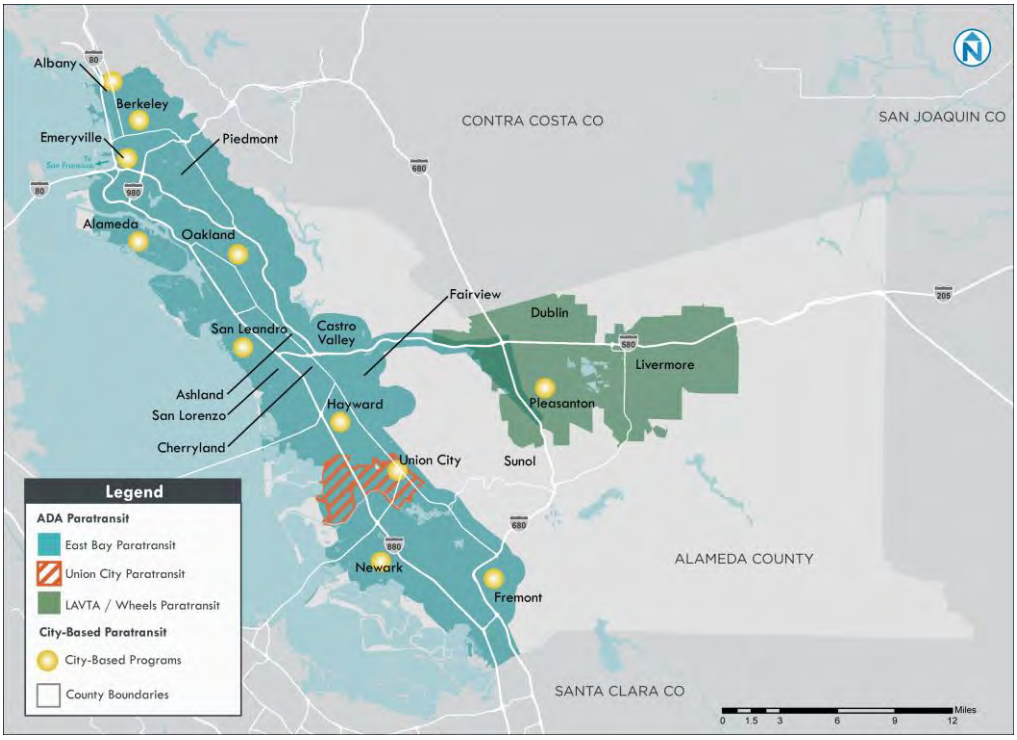
5.Paratransit

Paratransit Service Overview

The 1990 federal Americans with Disabilities Act (ADA) requires all public transit systems to be fully accessible to people who cannot ride regular buses and trains due to a disability. This requires transit operators to provide complementary service to certified eligible users. This service is referred to as "ADA-mandated paratransit."

In Alameda County, city-based, "non-ADA" paratransit programs play an important role in meeting the demand for transportation for seniors and people with disabilities by providing a variety of services to meet their needs, which may not be met entirely by ADA-mandated paratransit.

Figure 5.1 Alameda County Paratransit Program



Sources: ADA transit operators, city-based transportation programs.

Together, ADA-mandated paratransit and city-based paratransit services are generally or collectively referred to as "paratransit." Because ADA-mandated paratransit provided 85 percent of all FY2016 paratransit trips countywide, this report primarily focuses on the performance of ADA-mandated services.

ADA-mandated Paratransit

For certified eligible users, "ADA-mandated" paratransit service must be provided:

- Within a 3/4-mile radius of a regular bus or rail route
- The same days and hours that regular service is offered
- At not more than twice the standard fixed route fare
- The next day and without prioritization of trips or a pattern or practice of denials

Four public transit operators in Alameda County are required to operate ADA-mandated paratransit: AC Transit, BART, LAVTA, and Union City Transit.

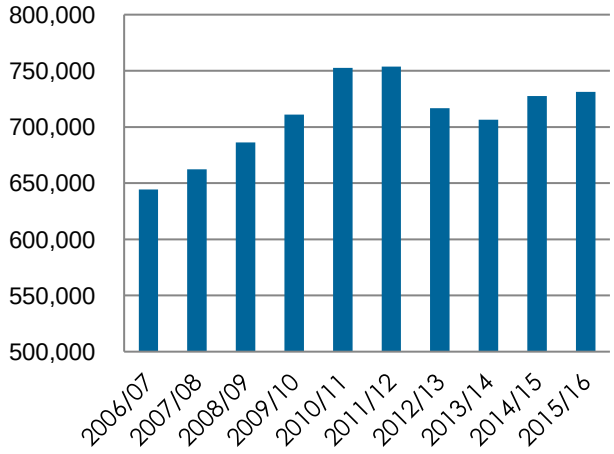
- AC Transit and BART partner to operate East Bay Paratransit (EBP) to more efficiently provide mandated ADA service in their respective and overlapping service areas.
- EBP is the largest ADA operator in Alameda County and one of the larger ADA operators in the region.
- All public transit operators in Alameda County contract their ADA-mandated paratransit service to private brokers and/or transportation providers.

ADA-mandated Paratransit Ridership

Ridership for ADA-mandated ridership is calculated by one-way passenger trips. This data usually excludes companions or attendants who may accompany the certified eligible passenger. Unlike fixed-route transit, in general, ADA-mandated paratransit providers do not try to increase ridership. Ideally, making fixed-route transit services as accessible as possible (including an accessible path of travel to stops and stations) reduces the need for ADA-mandated paratransit, which is more expensive to provide.

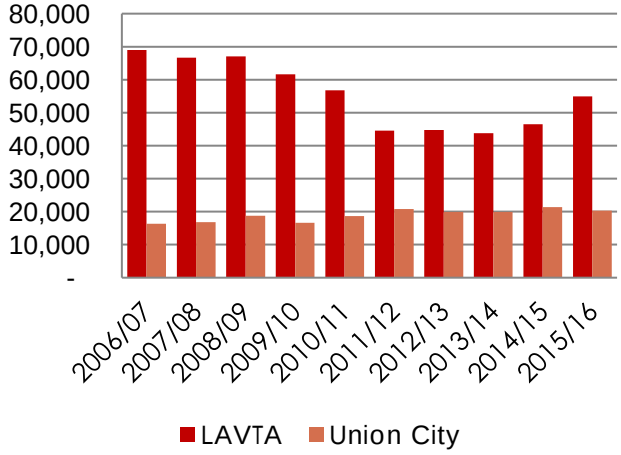
- ADA-mandated paratransit delivered over 795,000 trips in Alameda County in FY2016. EBP provided 91 percent of those trips.
- Overall ridership is increasing after a decline. LAVTA was showing a decline from FY2010 through FY2014, but has been increasing the last two fiscal years. Union City ridership has been relatively consistent, generally between 16,000-20,000 trips per year, with each of the last 5 years close to 20,000.
- In FY2016 there were approximately 20,000 ADA-mandated paratransit registrants overall. Of these, 88 percent were registered with EBP, 7 percent with LAVTA, and 5 percent with Union City.

Figure 5.2 East Bay Paratransit Annual Trips



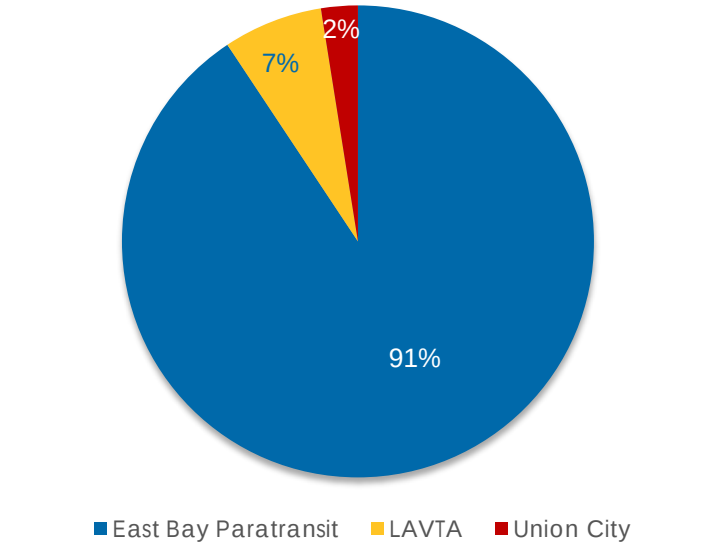
Source: East Bay Paratransit.

Figure 5.3 LAVTA and Union City Transit Annual ADA-mandated Trips



Source: ADA transit operators.

Figure 5.4 ADA-mandated Ridership by Provider



Source: ADA transit operators.

ADA-mandated Paratransit Trip Distance and Duration

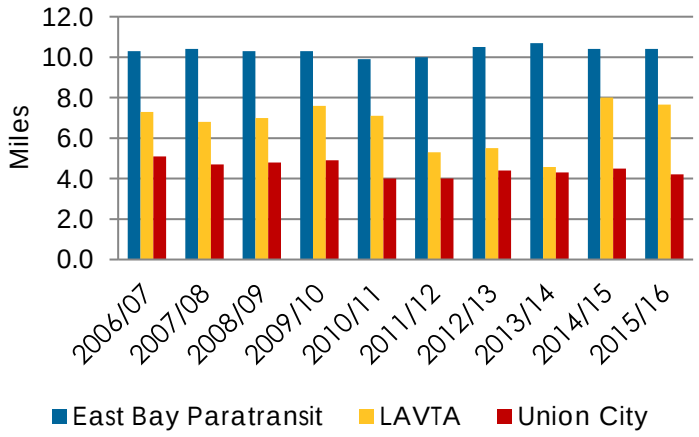
Trip distance can vary greatly between ADA-mandated paratransit providers, depending on the overall service area and types of trips made most frequently. Trip duration is affected by trip distance as well as the number of stops and other factors; duration has an effect on consumer satisfaction.

- The EBP service area is considerably larger than the LAVTA and Union City service areas. EBP's trips average 10 miles, roughly twice the average trip distance of the other two providers. The average trip distances for EBP and Union City have remained fairly consistent, while LAVTA's has varied in the last 5 years.
- EBP and LAVTA trip durations average 35-40 minutes, one-way. Union City does not collect exact data, but trip duration is generally below 20 minutes due to the smaller service area.
- For FY2016, eight of the 15 most frequent destinations in the EBP service area were dialysis centers. Others were

the four Regional Center of the East Bay sites (located in Hayward, Oakland, San Leandro, and Union City), one adult day care and one organization supporting children with special needs in Fremont, and one assisted living center in Union City.

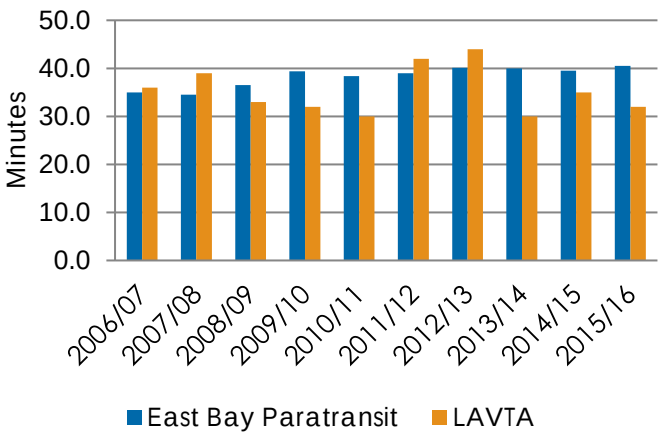
- LAVTA reported that riders traveled most frequently to dialysis centers, nursing homes, hospitals, senior centers, and senior housing complexes.
- Union City reported that riders traveled to dialysis centers, adult day care facilities (regional centers), an organization supporting people with developmental disabilities, medical offices, and local shopping centers.

Figure 5.5 Average Paratransit Trip Distance



Source: ADA transit operators.

Figure 5.6 Average Paratransit Trip Duration



Source: ADA transit operators.

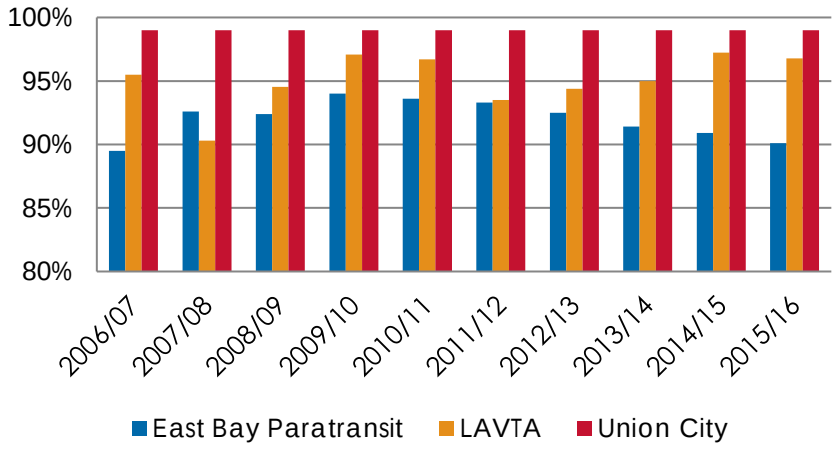
ADA-mandated Paratransit On-time Performance

On-time performance is generally correlated with consumer satisfaction. A couple of regulatory requirements have an effect on on-time performance: rides can be requested one day in advance, and providers cannot accept subscription (recurring daily or weekly) trips for more than 50 percent of trips. This means that the schedules and routes must be recreated every day. Staff must also be able to adjust the schedules to accommodate missed connections, absent drivers, and non-operating vehicles. The brokers and/or transportation providers use scheduling software and vehicle mobile data terminals to accomplish this. Service area size also impacts on-time performance, as longer trips have more potential for disruptions.

On-time performance for all providers has been at or above 90 percent since FY2008. The on-time performance of the largest ADA provider shows a slight decline, but consumer satisfaction remains consistent. The EBP FY2016 rider survey reports that 77 percent of riders are satisfied or very satisfied with the service.

- Union City does not conduct consumer surveys, but its on-time performance has remained consistent at 99 percent for the last 10 years.
- LAVTA has been measuring satisfaction since 2010 and averages 4.3 on a 5-point scale, and on-time performance has increased or remained consistent for the last five fiscal years.

Figure 5.7 Average Annual Paratransit On-time Performance



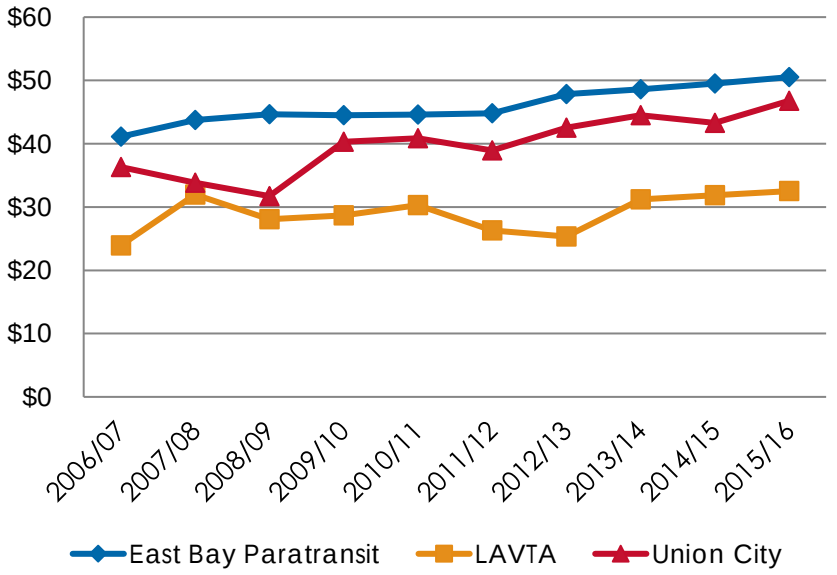
Source: ADA transit operators.

ADA-mandated Paratransit Cost-efficiency

Cost efficiency is a challenging issue for ADA-mandated paratransit because of the need for flexibility and capacity and next-day scheduling. Transit providers are always looking for greater efficiencies while maintaining compliance with ADA-mandated service requirements. Improvements in software and technology and more accurate eligibility certification are examples of this.

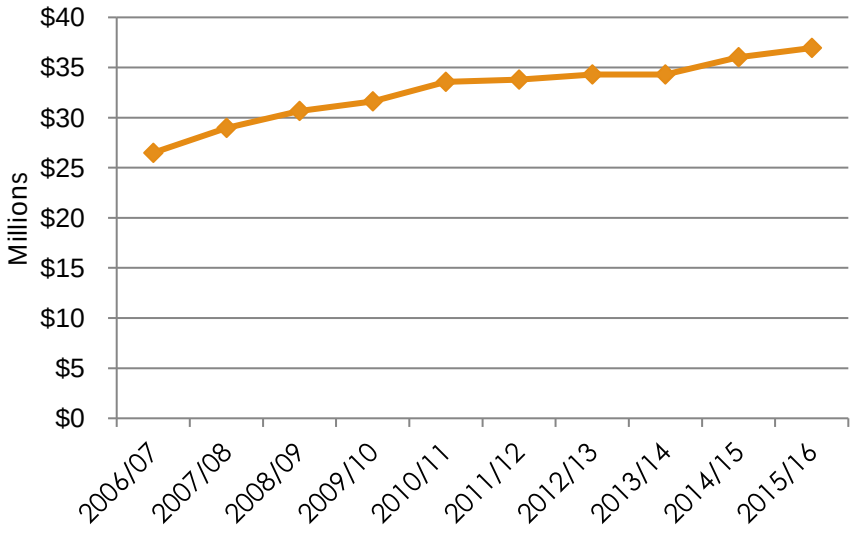
- Overall, operator cost per trip is rising. In FY2016 costs increased over prior years for all three ADA-mandated paratransit providers.
- EBP reports that its cost increase in recent years is due in part to the purchase of new vehicles as part of a conversion to a van fleet and the development of a comprehensive emergency plan (an effort to prepare the agency, drivers, and riders to deal with large emergencies such as earthquakes).
- LAVTA changed transportation providers in 2014, which has increased its costs.
- Overall operating costs also appear to be on an upward trend for all ADA-mandated paratransit providers.

Figure 5.8 Paratransit Operator Cost per Rider



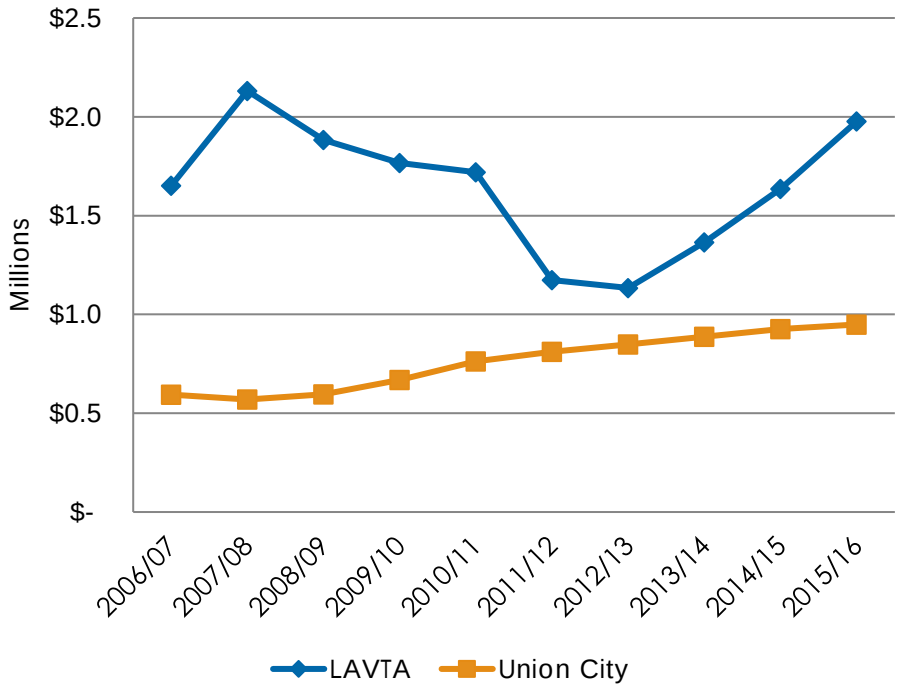
Source: ADA transit operators.

Figure 5.9 East Bay Paratransit Annual Operating Costs



Source: ADA transit operators.

Figure 5.10 LAVTA, Union City Paratransit Annual Operating Costs



Source: ADA transit operators.

City-based Paratransit Programs

While ADA-mandated paratransit provides the vast majority of paratransit trips countywide, city-based paratransit programs play an important role in meeting the overall demand for paratransit services, by providing a variety of services to meet the needs of seniors and people with disabilities, which cannot be entirely met by ADA-mandated paratransit. Alameda CTC funds operations for city-based paratransit programs which provide a range of services including pre-scheduled trips, same-day trips, wheelchair-accessible trips, travel training, and other services for seniors and people with disabilities. The program goal is to ensure that seniors and people with disabilities in Alameda County can meet their daily needs and maintain a high quality of life through accessible transportation options.

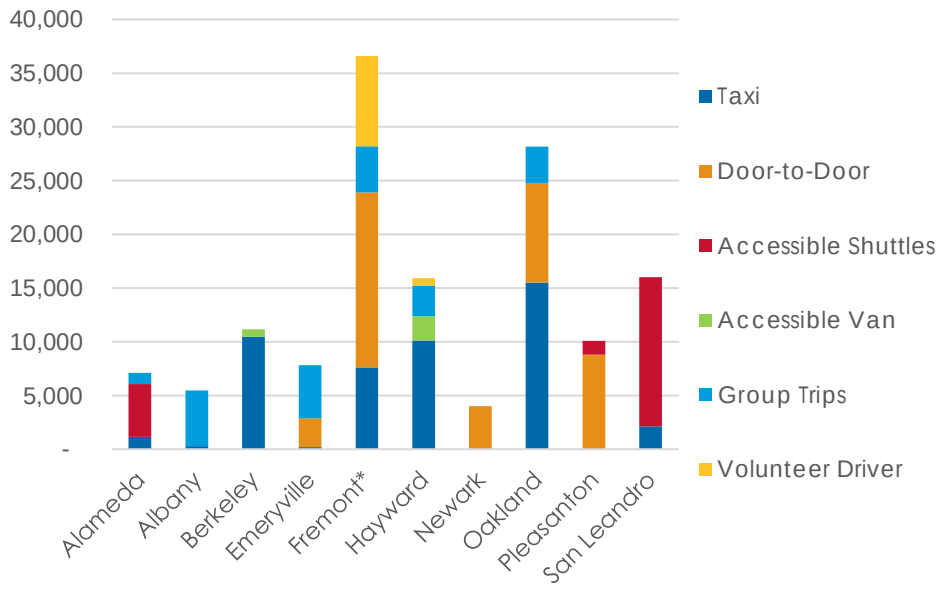
City-based paratransit programs are an increasingly important component of the transportation system, as the senior population in Alameda County continues to grow, many of whom are not eligible for ADA-mandated services.

- There are 10 city-based paratransit programs in Alameda County, designed to meet the needs of consumers in each area of the county.
- The types of services include taxi subsidy programs, shuttles, group-trip programs, volunteer driver services, and accessible door-to-door service to supplement the ADA-mandated services. City-based paratransit programs can also fund travel training and mobility management programs, as well as scholarships/ subsidized fares and meal delivery in special cases.
- City-based paratransit programs delivered over 142,000 trips in Alameda County in FY2016. This was an increase of 6,000 trips over FY2015. This significant increase was likely due to the passage of the Measure BB sales tax which provided funding for program expansion.

Most city-based programs have incorporated mobility management concepts and practices into their services to improve efficiency and customers' ability to access services. Mobility management is a comprehensive approach to transportation focused on individual customer travel needs rather than a "one size fits all" solution.

Mobility management improves awareness of transportation options and reduces customer confusion, expands travel options and access for consumers, and provides more cost-effective and efficient services through improved coordination and partnerships. Examples of mobility management strategies include travel training, individualized transportation information, and trip planning services.

Figure 5.11 FY2016 City-based Paratransit Trips



Sources: Alameda CTC Direct Local Distributions Compliance Reports, Paratransit Gap Grant Progress Reports.

Note: Fremont provides taxi and volunteer driver trips for Newark and Union City as well as door-to-door trips for Newark.

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Alameda CTC Bicycle Safety Education Program participants

6. Biking

Overview

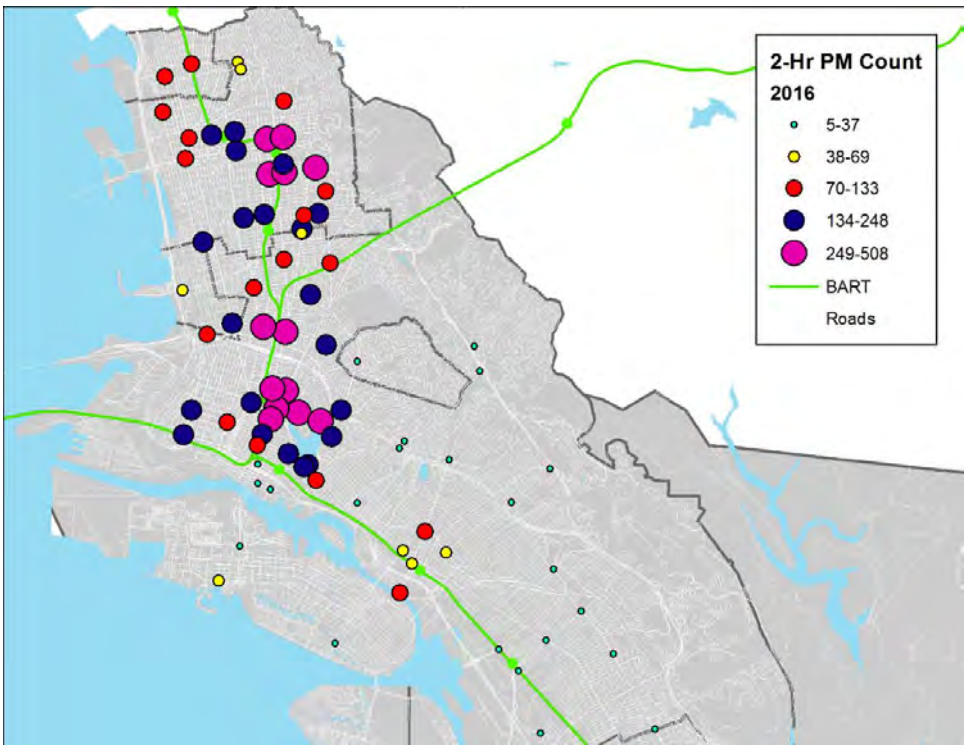
Alameda County's temperate weather provides a highly supportive environment for outdoor active transportation. Biking is a quick and efficient way to travel short distances, affordable, pollution and emission free, and is linked to positive public health outcomes. The percent of Alameda County residents commuting to work by bicycle has nearly doubled over the last decade to 2 percent, which is considerable given the size of total commute trips.

Counts

Alameda CTC conducts counts of bicyclists to measure bicycling levels for all purposes (commuting, school, shopping, social/recreation, etc.). Alameda CTC's count program includes both manual and automated counting. Manual counts are conducted less frequently (e.g., annual or biennial one-day counts) at a large set of locations and provide insight into variation in bicycling levels between different parts of the county and land use contexts. Automated counters are installed at a few locations on a permanent basis and continuously collect data, providing insight into the level of bicycling over time, as well as differences by time of day, day of week, and season. Alameda CTC also incorporates data from local count programs into its program. Appendix D describes the count program methodology in greater detail.

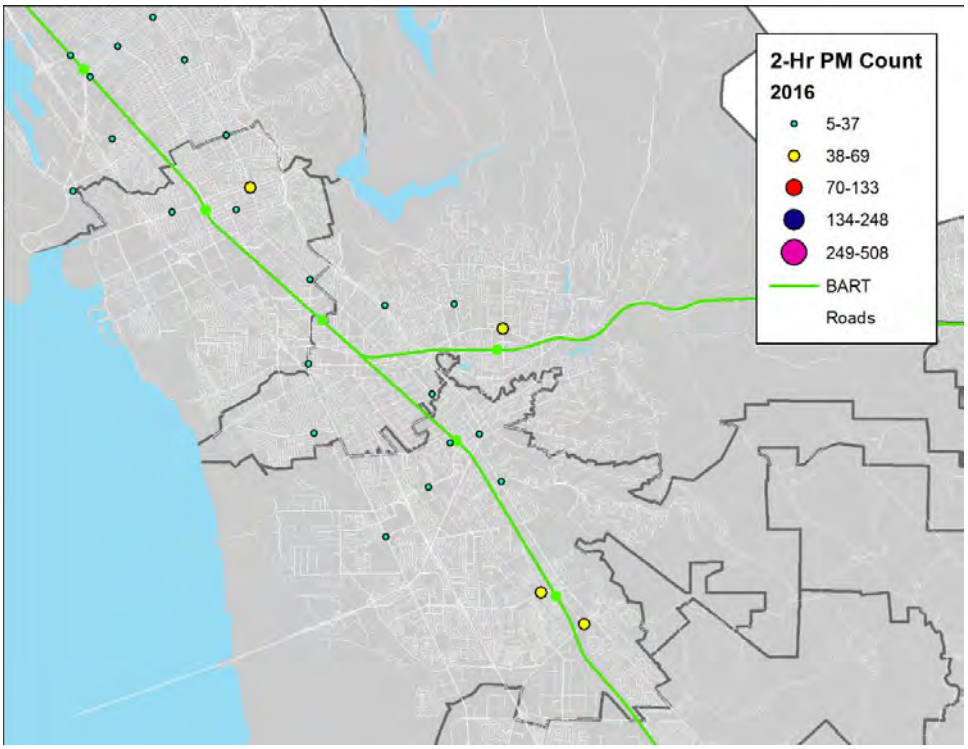
Figures 6.1-6.4 show the number of bicyclists counted at manual count locations in 2016 (p.m. peak-period counts).

Figure 6.1 2016 North County P.M. Peak-period Bicycle Counts (4-6 p.m.)



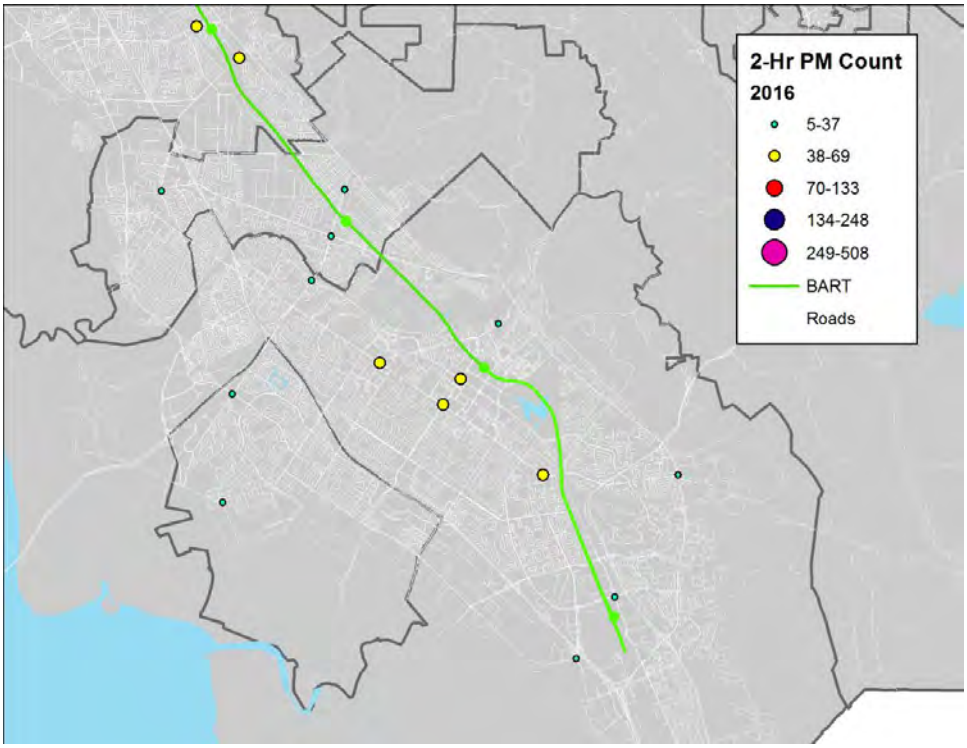
Source: Countywide Bicycle and Pedestrian Count Program.

Figure 6.2 2016 Central County P.M. Peak-period Bicycle Counts (4-6 p.m.)



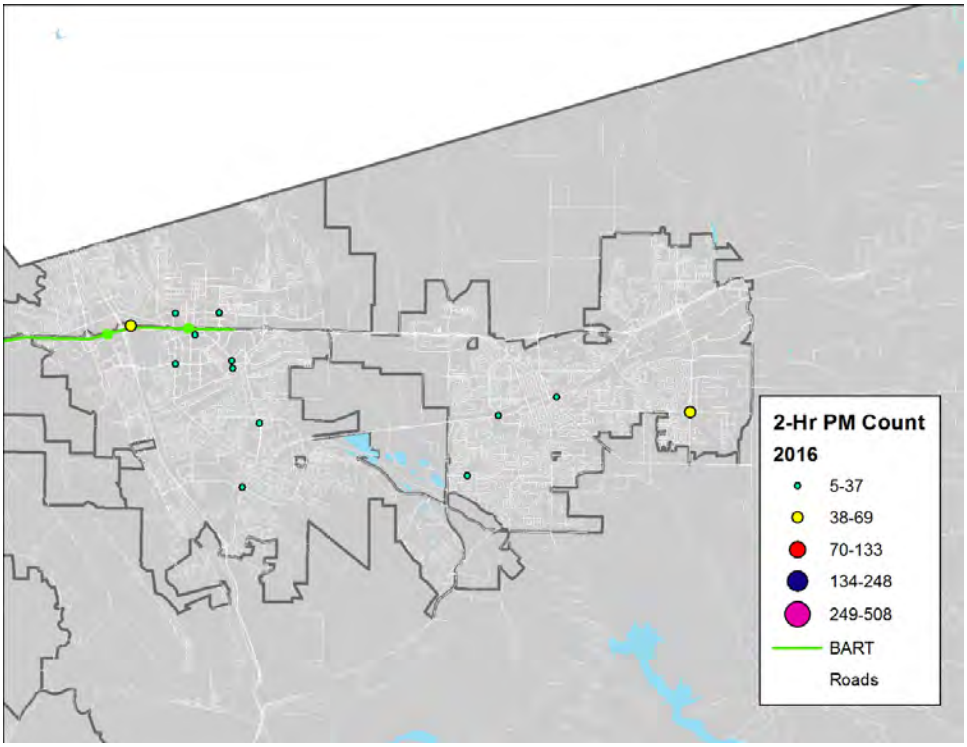
Source: Countywide Bicycle and Pedestrian Count Program.

Figure 6.3 2016 South County P.M. Peak-period Bicycle Counts (4-6 p.m.)



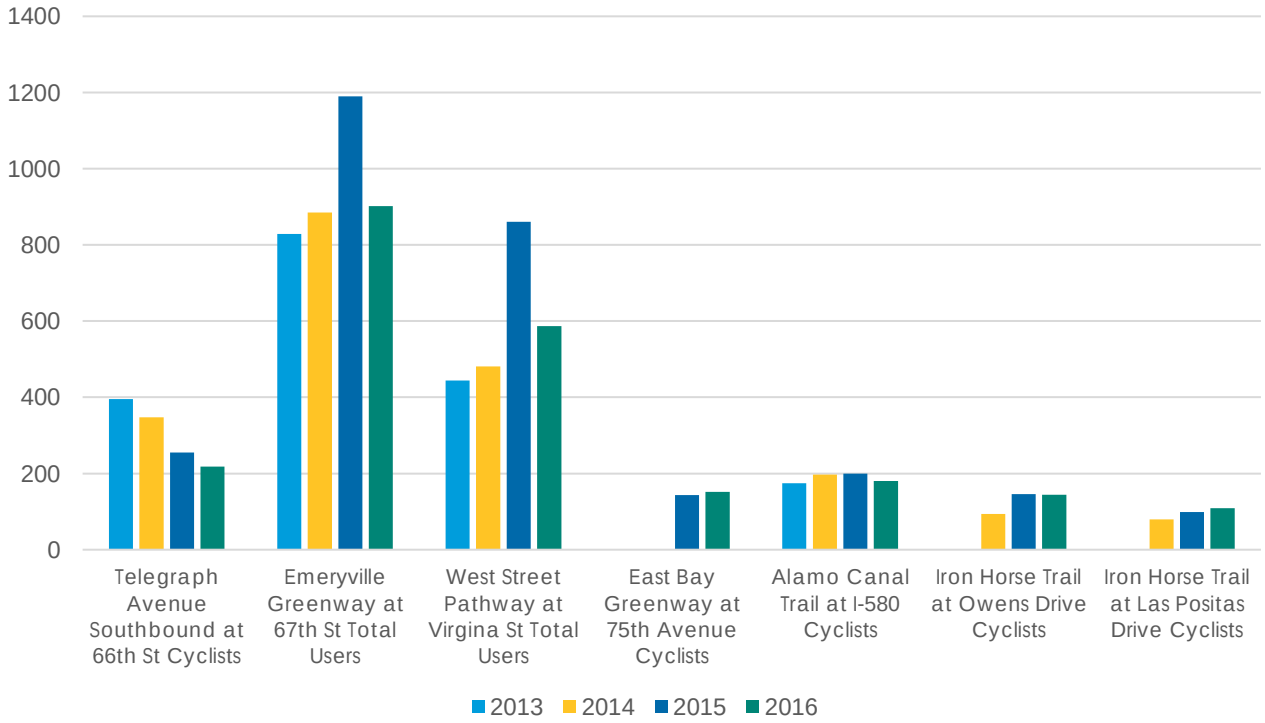
Source: Countywide Bicycle and Pedestrian Count Program.

Figure 6.4 2016 East County P.M. Peak-period Bicycle Counts (4-6 p.m.)



Source: Countywide Bicycle and Pedestrian Count Program.

Figure 6.5: Average Daily Bicycle Volume (September-October)



Sources: Countywide Bicycle and Pedestrian Count Program, East Bay Regional Park District Automated Counters.

Figure 6.5 shows changes in annual bicycling levels at several automated counters in different parts of Alameda County.

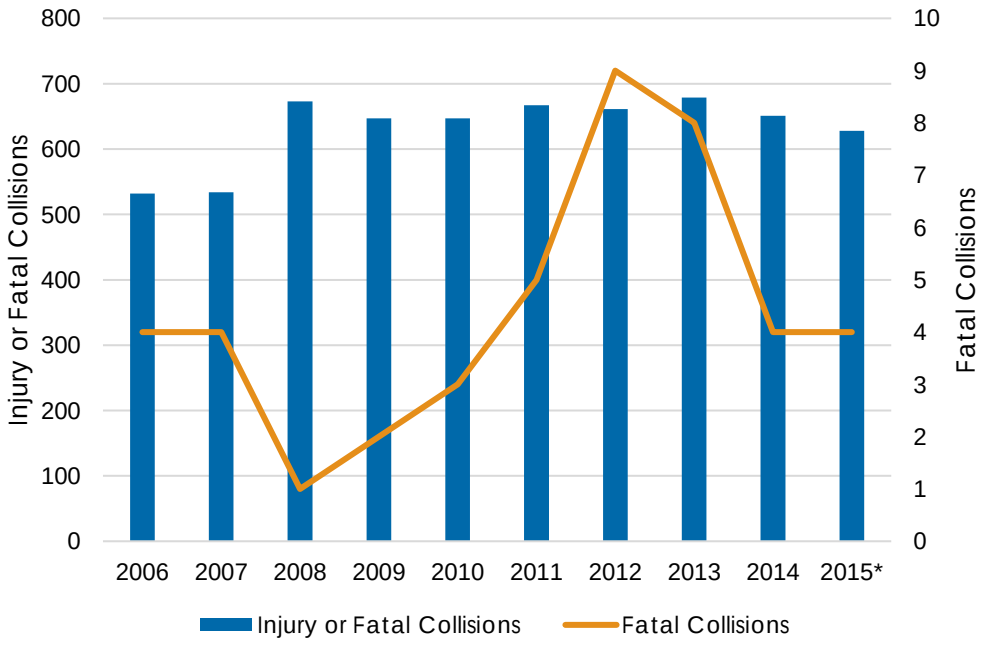
- Volumes of bicyclists counted through the manual count program are generally highest in North County, but locations with significant cycling levels are found countywide, particularly near BART stations and downtown areas.
- Several locations with automated counters saw declines from 2015 to 2016 (e.g., Emeryville Greenway and West Street Pathway), which may reflect a colder, rainier fall in 2016 versus in 2015.
- The counter on Telegraph Avenue has seen a decline in several consecutive years, which may reflect shifts in route choice, as bike facilities on parallel streets have been implemented (e.g., bike lanes on Shattuck Avenue).

Safety

Figure 6.6 shows the trend in collisions involving bicyclists in Alameda County between 2006 and 2015 (the most recent year for which data are available).

- Alameda County saw a slight decrease in injury or fatal collisions involving bicyclists between 2014 and 2015.
- Over the last decade, Alameda County has seen an increase in the number of injury or fatal collisions involving bicyclists. In particular, collisions involving bicyclists are generally higher from 2008-2015 than they were from 2006-2007.
- The change in number of collisions involving bicyclists may reflect rising bicycling levels, which increase bicyclists' exposure to collisions.

Figure 6.6 Trend in Collisions Involving Bicyclists in Alameda County



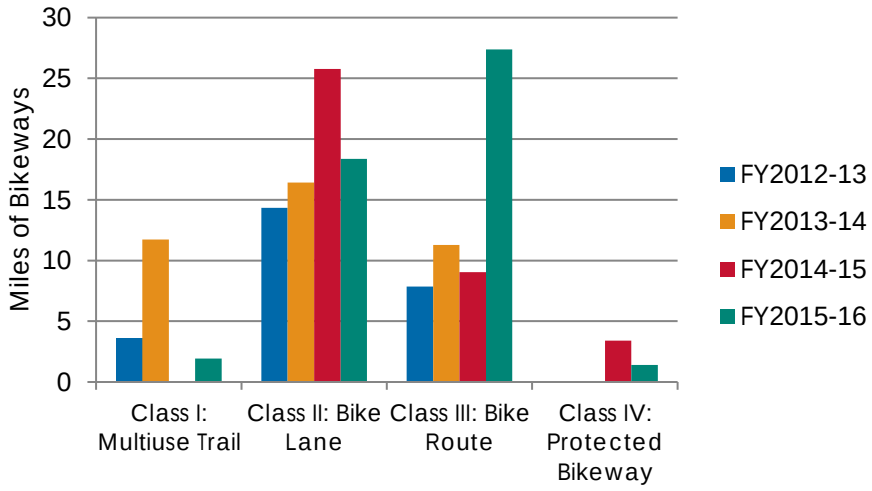
Source: Statewide Integrated Traffic Reporting System Database as summarized by the Traffic Injury Mapping System.

*2015 data is preliminary.

Network Completion

Figures 6.7-6.9 provide details on the mileage of bikeways implemented by local jurisdictions in between FY2012 and FY2016.

Figure 6.7 Trend in Bikeway Mileage Implemented

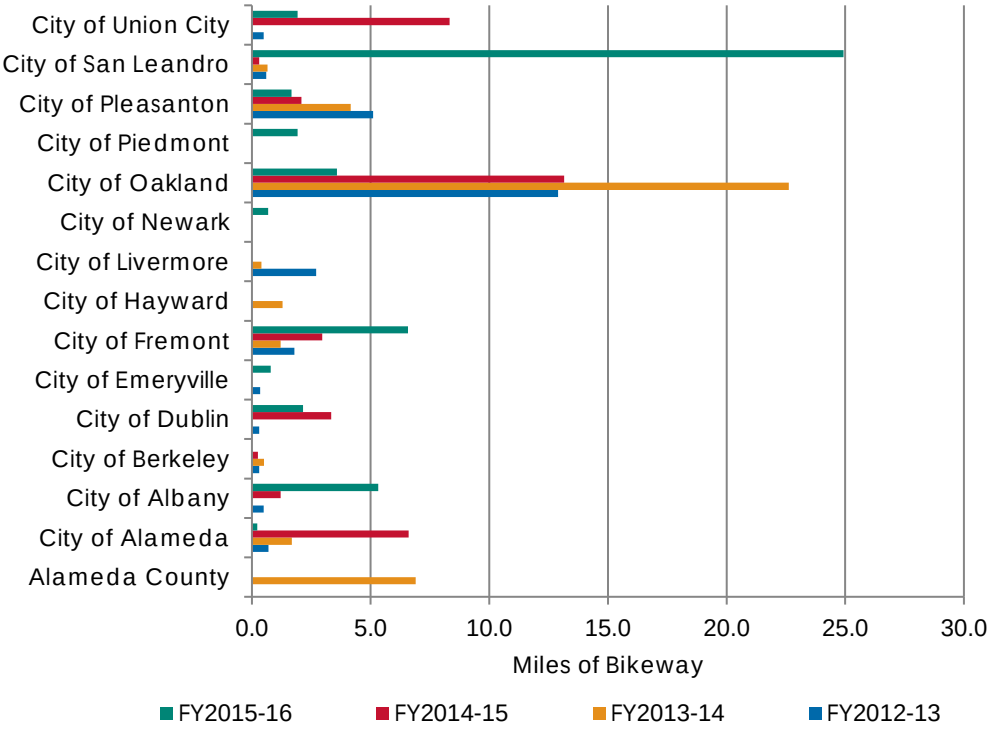


Source: Reported by local jurisdictions.

- The total mileage over the past four years exceeds 150 miles of new bikeways.
- The cities of San Leandro, Fremont, and Albany implemented the most new miles of bikeways in FY2016 (see Figure 6.8). San Leandro and Albany both implemented significant new mileage of neighborhood bike routes, while Fremont implemented many new bikeways in conjunction with its resurfacing program.

The Christie Avenue Bay Trail Gap Closure in Emeryville opened in FY2016.

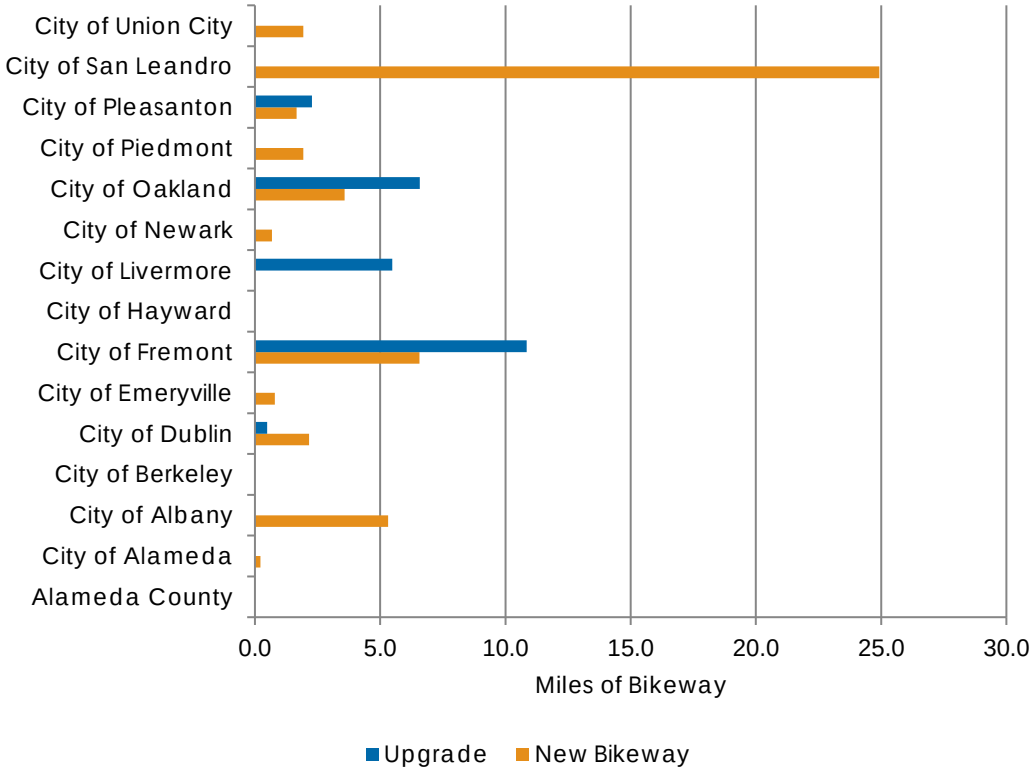
Figure 6.8 Trend in New Bikeway Installation by Jurisdiction



Source: Reported by local jurisdictions.

- Jurisdictions implemented a range of bikeway types in FY2016, including several that offer greater separation between bicyclists and vehicle traffic such as Class II buffered bikeways and Class IV protected bikeways. Additional details on recently completed bike projects across the county may be found in Appendix E.

Figure 6.9 Bikeway Mileage Installed and Upgraded by Jurisdiction, FY2016



Source: Reported by local jurisdictions.

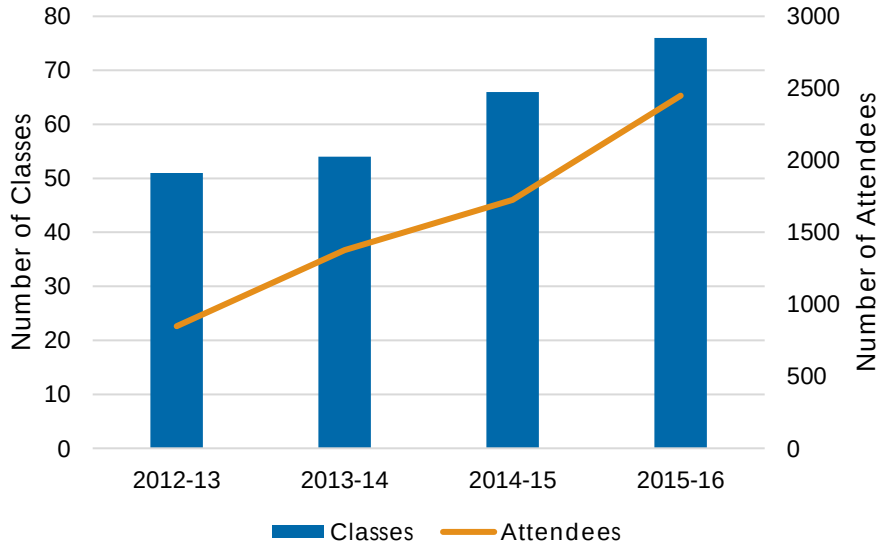
- In addition to installing new bikeways, jurisdictions in Alameda County also upgraded substantial bikeway mileage.
- Upgrades included resurfacing or repaving the street to provide a safe and comfortable riding surface, installing new wayfinding signage, and restriping the bikeways to include sharrows, green paint in conflict zones, wider bicycle lanes, marked buffer space, or other treatments.

Programs and Education

Infrastructure is only one aspect of providing a safe, comfortable bicycling system for Alameda County residents, workers, and visitors. Figures 6.10 and 6.11 show the trend in participation in the two main bicycle education and encouragement activities that Alameda CTC funds and coordinates: the Alameda County Bicycle Safety Education Program and Bike to Work Day.

- Alameda CTC funds the Alameda County Bicycle Safety Education Program as a component of the Alameda County Safe Routes to Schools Program. The program teaches bicyclists of all ability levels how to safely and legally interact with other road users.
- The number of classes and attendance levels in the program hit an all-time high in FY2016, with more than 70 Alameda CTC-funded classes offered in Alameda County and nearly 2,500 class attendees. Additional classes were provided by leveraging Alameda CTC funding to obtain attentional funding from local government, nonprofit organizations, and state and federal sources.

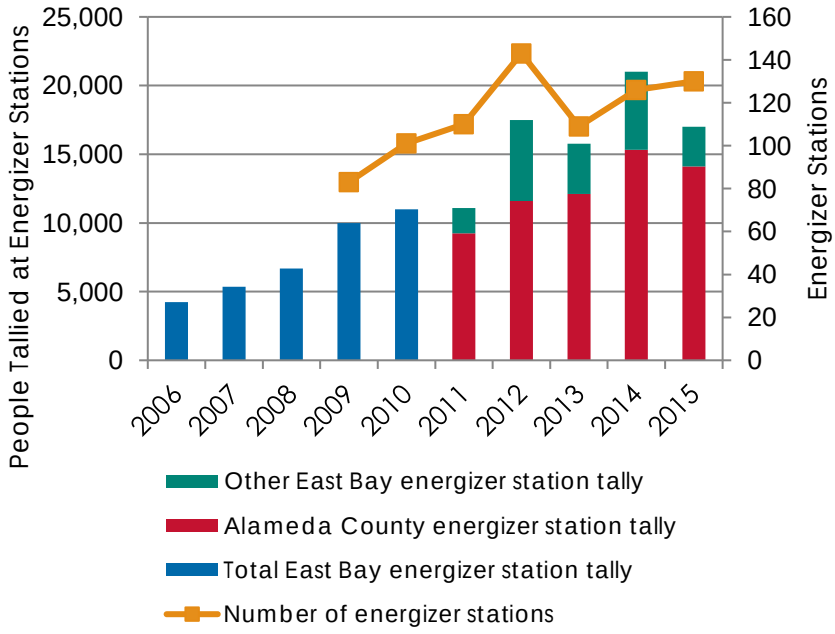
Figure 6.10 Bicycle Safety Education Class and Attendance Trend



Source: 2015-16 Alameda County Safe Routes to Schools Annual Report.

- Alameda CTC assists in planning Bike to Work Day, an annual bicycling promotion event held in May. More than 130 companies, cities, and organizations hosted energizer stations in Alameda County during the 2015 Bike to Work Day, and nearly 15,000 cyclists were tallied at those energizer stations.
- Alameda CTC also funds and coordinates the iBike education program, which features bicycling encouragement visual promotions on bus shelters, buses, and via online media. This program runs in conjunction with Bike to Work Day.

Figure 6.11 Bike to Work Day Energizer Station and Attendance Trend



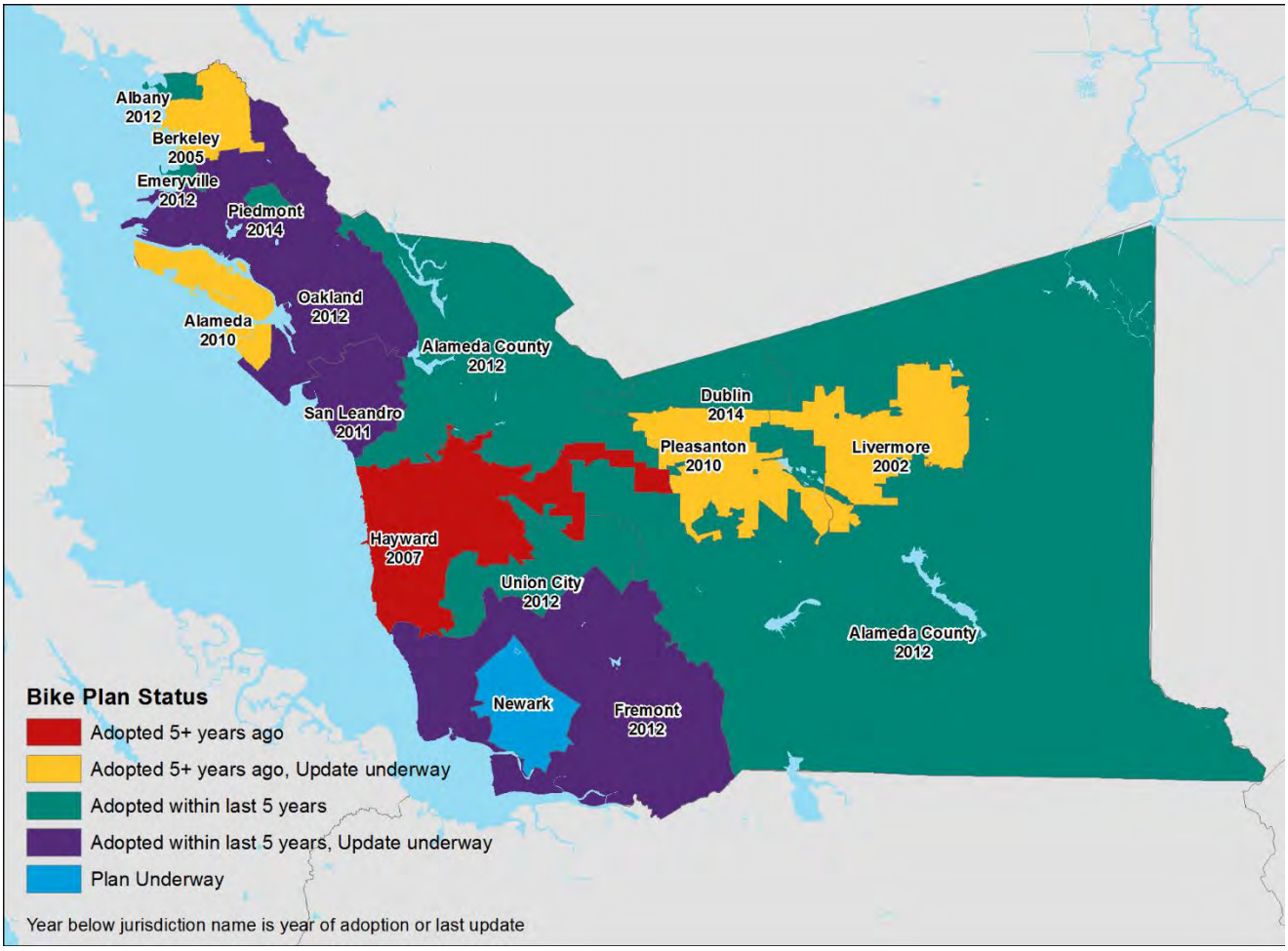
Source: Bike to Work Day Annual Reports.

Local Master Plan Adoption

Alameda CTC assists jurisdictions in preparing local bicycle master plans by providing funding and technical assistance. Local master plans are critical to identify targeted areas for improvements, capital projects, and supportive programs and to prioritize these improvements. The status of local planning efforts is illustrated in Figure 6.12.

- As of the end of FY2016, nine jurisdictions had adopted bicycle master plans within the last five years.
- As of the end of FY2016, six jurisdictions had no bicycle master plan or a plan more than five years out of date, yet most of these jurisdictions have a plan update underway.

Figure 6.12 Status of Alameda County Local Bicycle Master Plans



Source: Reported by local jurisdictions.

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Alameda County residents make the most of their walk on a sunny day

7. Walking

Overview

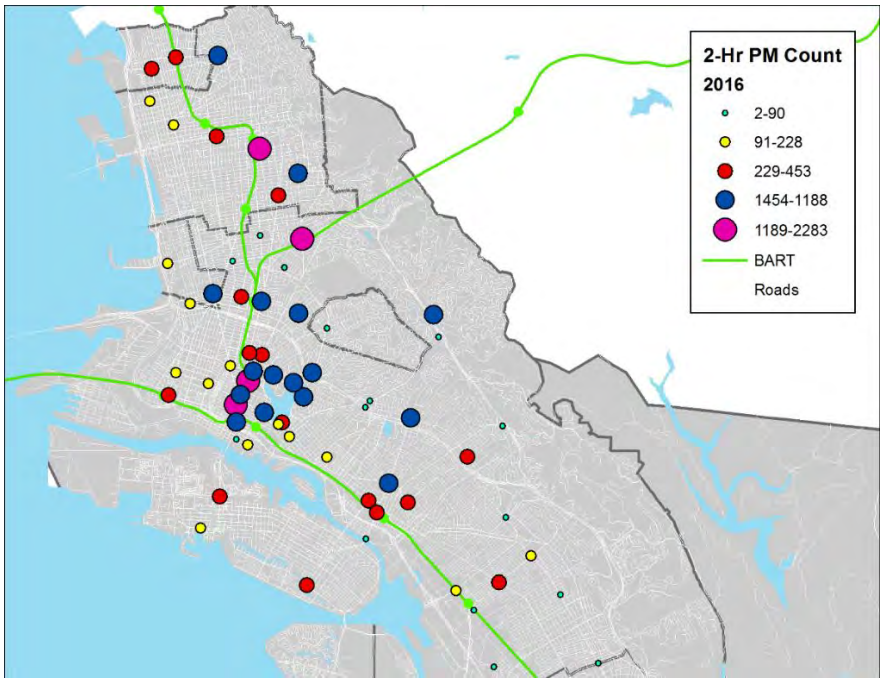
Every trip begins and ends with walking. As a commute mode, the share of walking has held steady, used by between 3 percent and 4 percent of Alameda County workers over the past decade. This statistic understates the role walking plays in our daily movement, as the vast majority of walking is undertaken for non-commuting purposes such as shopping, recreation, or as a link to part of a larger journey.

Counts

Alameda CTC conducts counts of pedestrians to measure walking levels for all purposes (commuting, school, shopping, social/recreation, etc.). Alameda CTC's count program includes both manual and automated counting. Manual counts are conducted infrequently (e.g., annual or biennial one-day counts) at a large set of locations and provide insight into variation in walking levels between different parts of the county and land use contexts. Automated counters are installed at a few locations on a permanent basis and continuously collect data, providing insight into the level of walking over time, as well as differences by time of day, day of week, and season. Alameda CTC also incorporates data from local count programs into its program. Appendix D describes the count program methodology in greater detail.

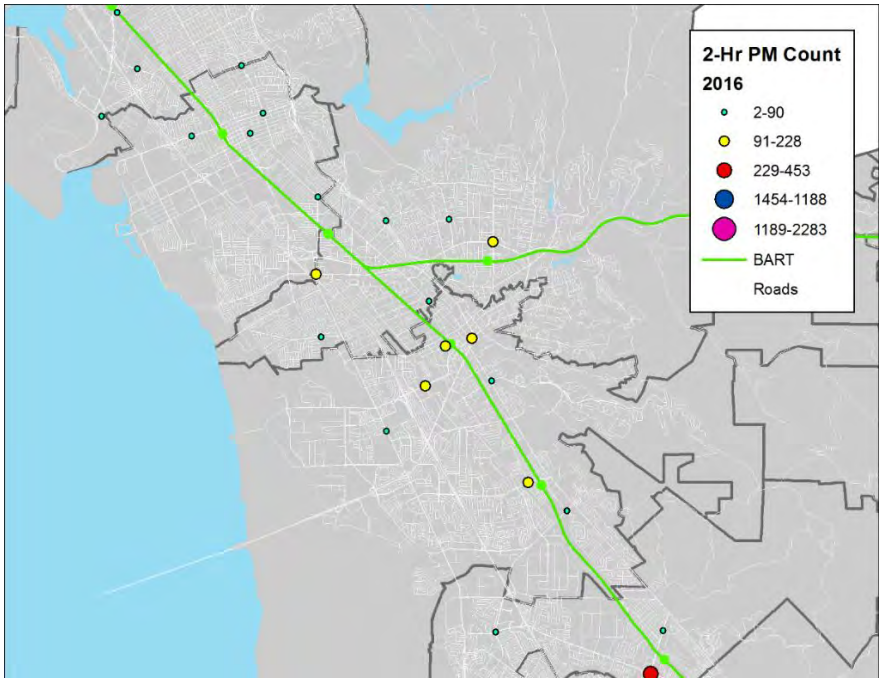
Figures 7.1-7.4 show the number of pedestrians counted at manual count locations in 2016 (p.m. peak-period counts). Figure 7.5 shows changes in annual walking levels at several automated counters in different parts of Alameda County.

Figure 7.1 2016 North County P.M. Peak-period Pedestrian Counts (4-6 p.m.)



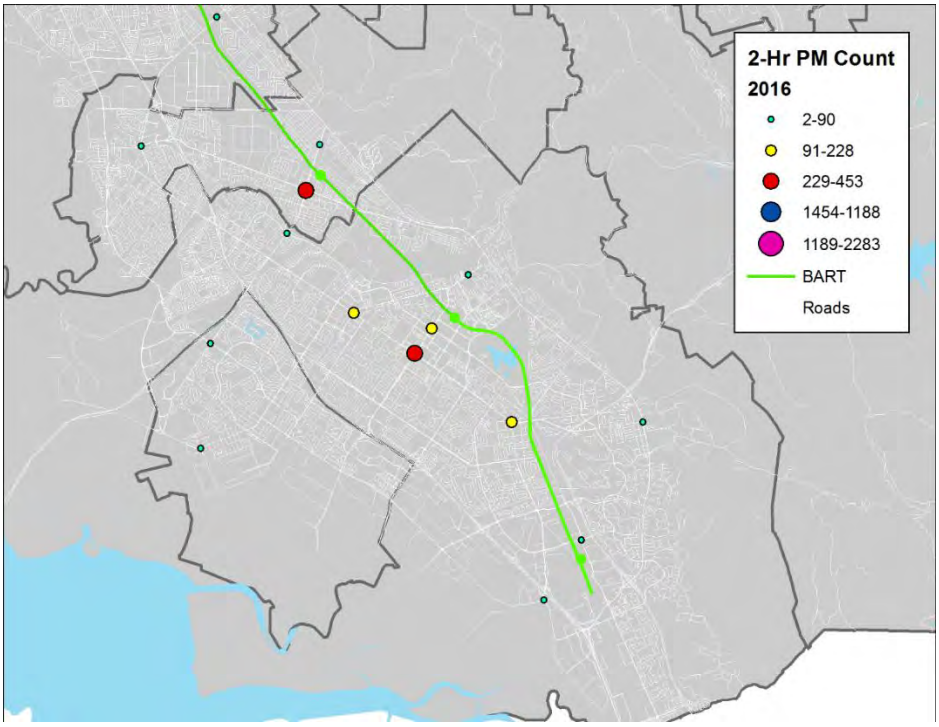
Source: Countywide Bicycle and Pedestrian Count Program.

Figure 7.2 2016 Central County P.M. Peak-period Pedestrian Counts (4-6 p.m.)



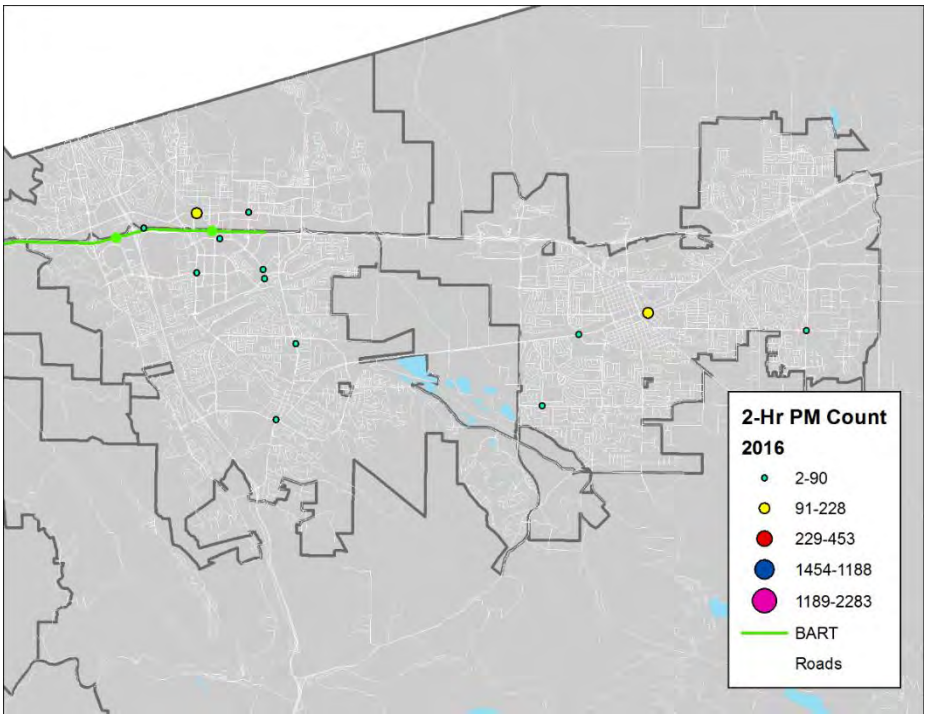
Source: Countywide Bicycle and Pedestrian Count Program.

Figure 7.3 2016 South County P.M. Peak-period Pedestrian Counts (4-6 p.m.)



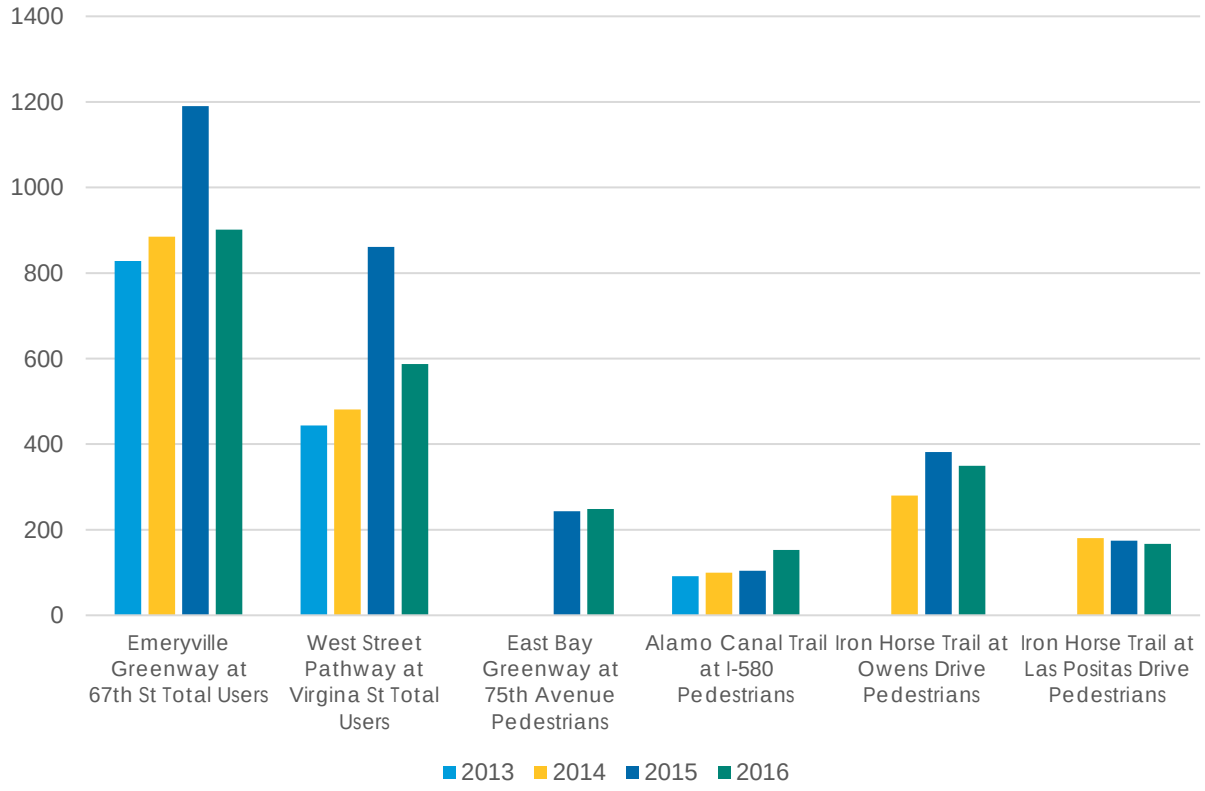
Source: Countywide Bicycle and Pedestrian Count Program.

Figure 7.4 2016 East County P.M. Peak-period Pedestrian Counts (4-6 p.m.)



Source: Countywide Bicycle and Pedestrian Count Program.

Figure 7.5: Average Daily Pedestrian Volume (September-October)



Sources: Countywide Bicycle and Pedestrian Count Program, East Bay Regional Park District Automated Counters.

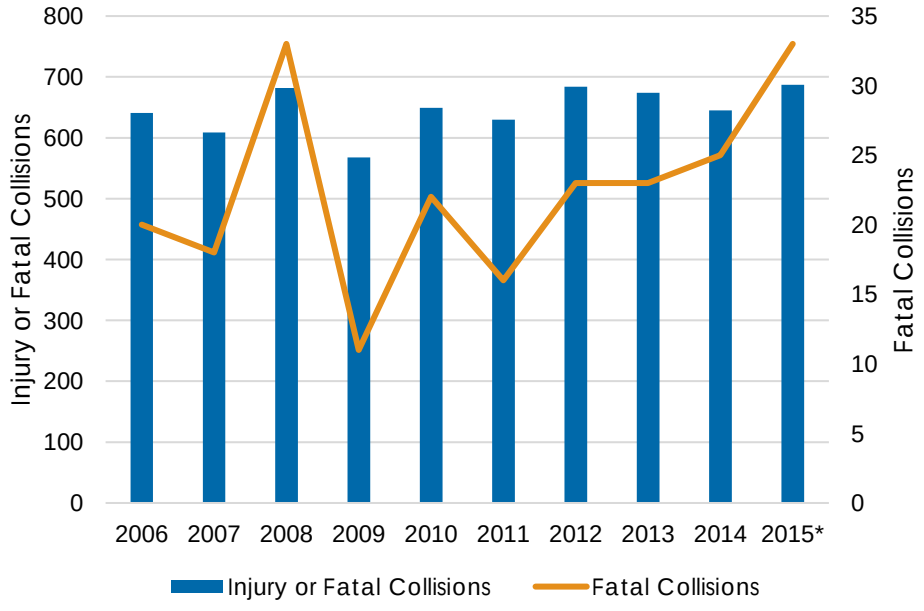
- Volumes of pedestrians counted through the manual count program are generally highest in North County, but locations with significant pedestrian activity levels are found countywide, particularly near BART stations and major commercial districts.
- Several locations with automated counters saw declines from 2015 to 2016 (e.g., Emeryville Greenway and West Street Pathway), which may reflect a colder, rainier fall in 2016 versus in 2015.

Safety

Figure 7.6 shows the trend in collisions involving pedestrians in Alameda County between 2006 and 2015 (the most recent year for which data are available).

- Collisions resulting in pedestrian fatality have risen dramatically over the last 10 years, growing by 65 percent since 2006 and by 200 percent since a low point in 2009.
- Alameda County saw a slight increase in injury or fatal collisions involving pedestrians between 2014 and 2015.
- Over the last decade, the number of injury/fatal collisions involving pedestrians has generally remained between 600 and 700 per year.
- Pedestrian safety remains an issue that requires education, enforcement, and infrastructure-based strategies, particularly as aging populations and policy goals related to infill development and increased transit and active transportation mode usage result in greater walking levels.

Figure 7.6 Trend in Collisions Involving Pedestrians in Alameda County



Source: Statewide Integrated Traffic Reporting System Database as summarized by the Traffic Injury Mapping System.

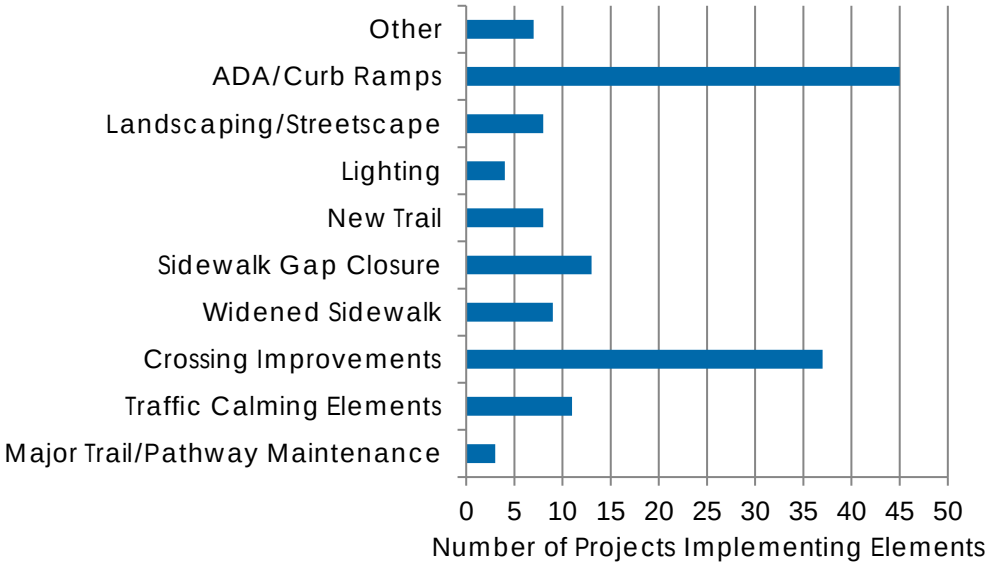
* 2015 data is preliminary.

Project Completion

Figure 7.7 shows the number of pedestrian projects completed in Alameda County by type of project in FY2016, while Figure 7.8 shows the number of projects completed by jurisdiction.

- In FY2016, jurisdictions completed a total of 71 pedestrian projects. These span a variety of types of improvements ranging from closing gaps in the county's sidewalk network, to major streetscape improvement projects and safer, more accessible crossings.
- The most common types of pedestrian projects completed were ADA curb/ramp improvement programs, crossing improvements, and sidewalk gap-closure projects.
- All jurisdictions reported completing at least one pedestrian project in FY2016. Appendix F provides details on all pedestrian projects completed in FY2016.

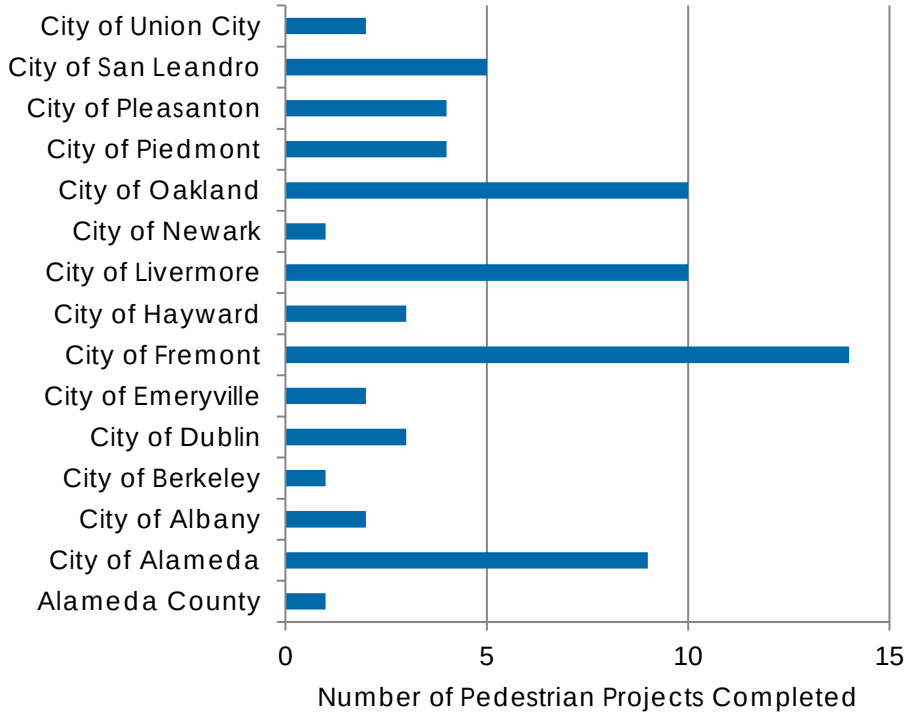
Figure 7.7 Pedestrian Projects Completed in FY2016 by Type



Source: Reported by local jurisdictions.

Note: Projects may appear in multiple categories; 71 total projects were completed in FY2015-16.

Figure 7.8 Pedestrian Projects Completed in FY2016 by Jurisdiction



Source: Reported by local jurisdictions.

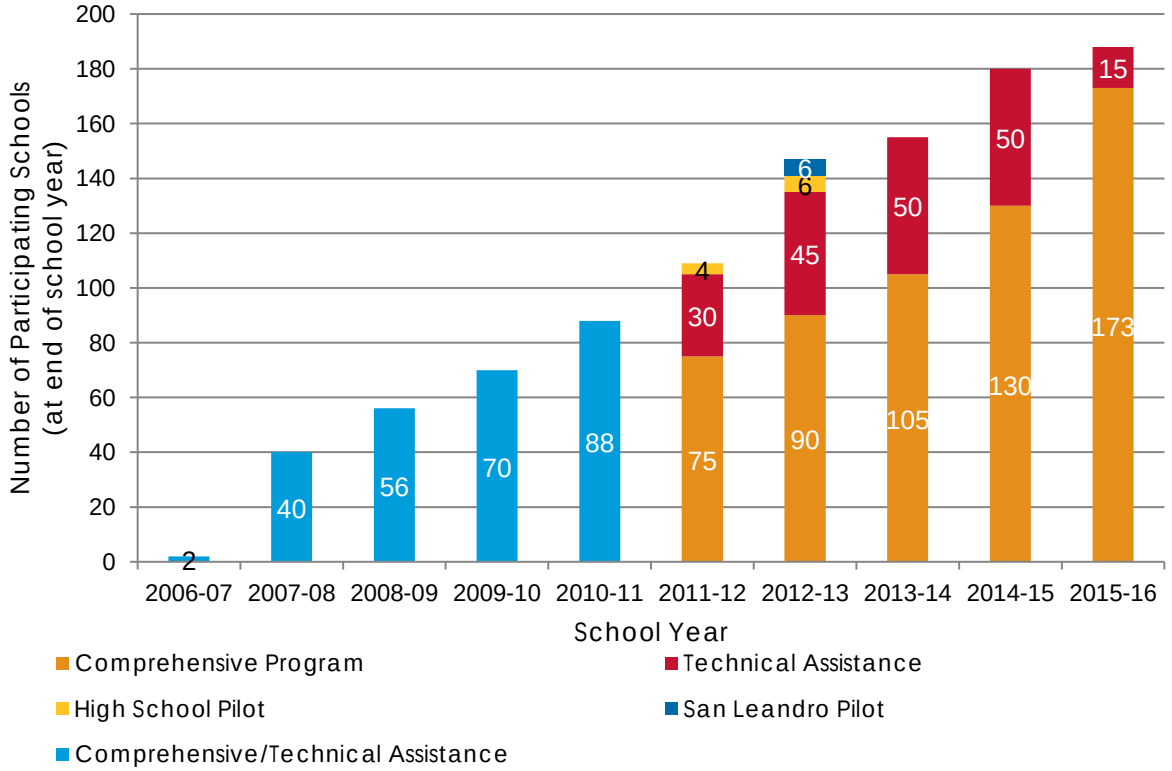
The West Juana Street Pedestrian Improvement project was completed in FY2016.

Programs and Education

Infrastructure is only one aspect of providing a safe, comfortable, and convenient walking environment for Alameda County residents, workers, and visitors.

- The Alameda County Safe Routes to Schools (SR2S) Program is a comprehensive set of school-based education, encouragement, enforcement, and infrastructure strategies aimed at increasing walking, biking, and other sustainable transportation mode use among school-age children.
- Figure 7.9 indicates that the Alameda County SR2S program has grown significantly since its inception as a grant-based pilot in 2006-2007. The program has expanded to more than 180 schools and has greatly broadened the scope of activities.

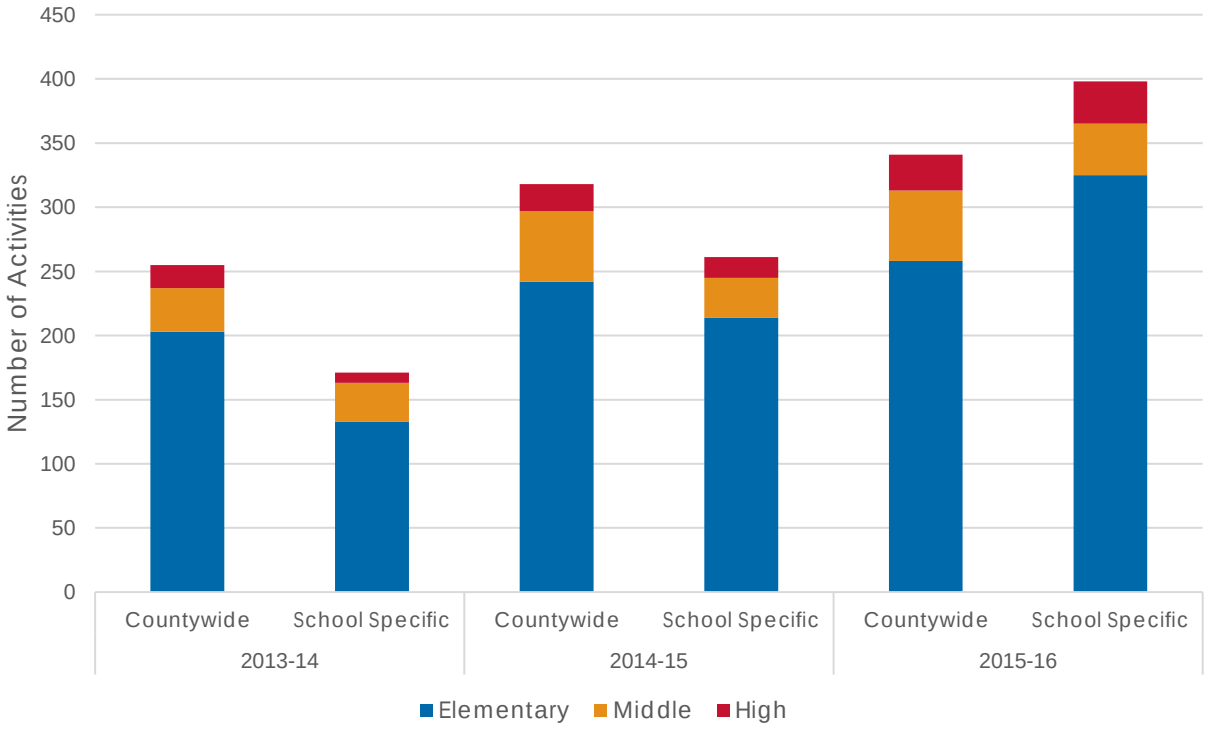
Figure 7.9 Alameda County Safe Routes to Schools Participating Schools



Source: Alameda County Safe Routes to Schools 2015-16 Annual Report.

- The SR2S program has also expanded the number of activities programmed in schools. The program includes major countywide events (Golden Sneaker Contest, Walk and Roll to School Day, and Bike to School Day) that happen in all schools in the program, as well as a range of school-specific events that schools can program in addition to the core countywide events. The number of both types of events has grown in recent years.
- In addition to the SR2S program, many other programs that directly or indirectly promote walking are implemented by local jurisdictions and Alameda CTC, including open street events, promotional maps, walking clubs, and more.

Figure 7.10 Alameda County SR2S Activity Types at Participating Schools



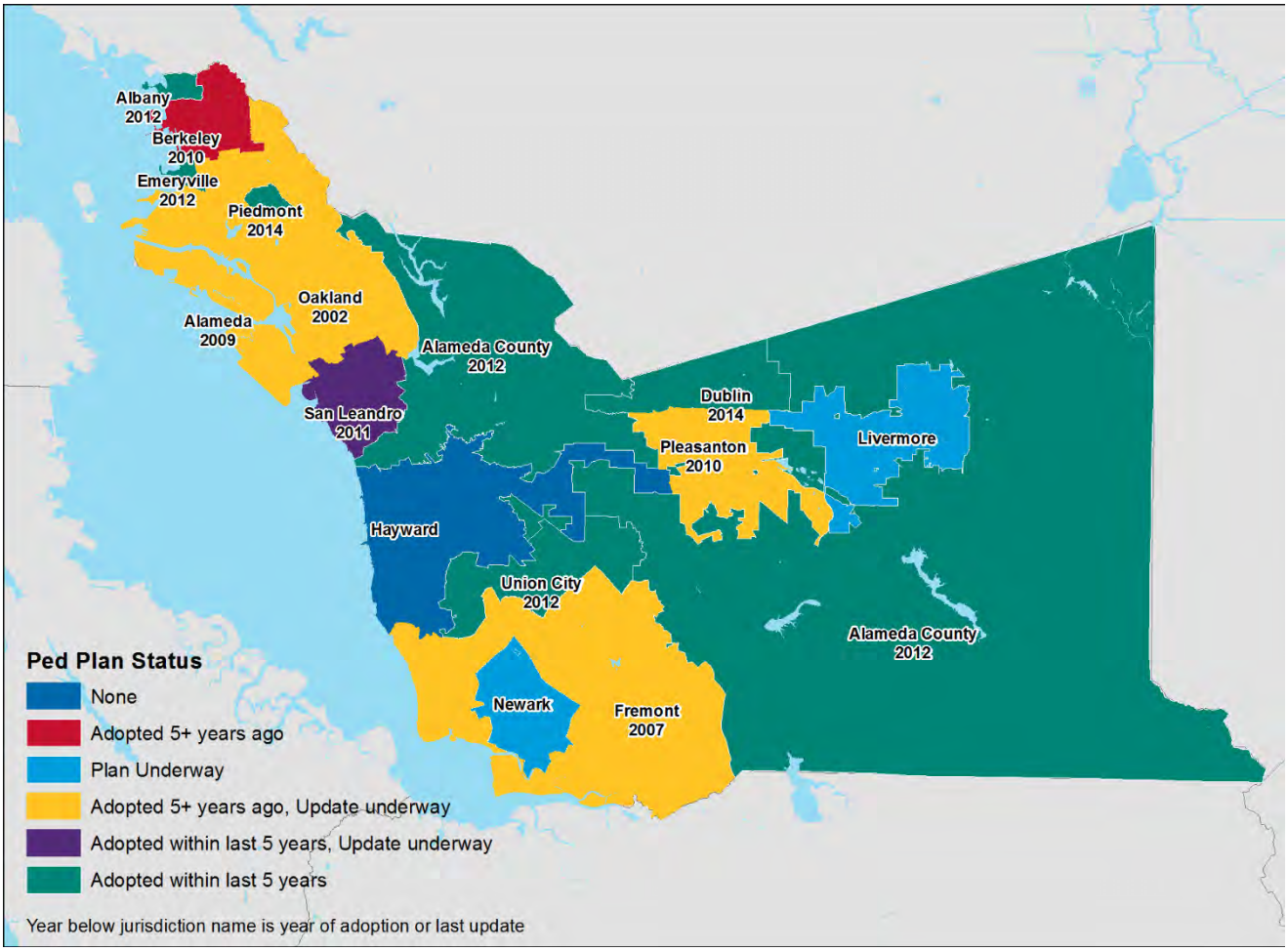
Source: Alameda County Safe Routes to Schools Annual Reports.

Local Master Plan Adoption

Alameda CTC assists jurisdictions in preparing local pedestrian master plans by providing funding and technical assistance. Local master plans are critical to identifying targeted areas for improvements, capital projects, and supportive programs. Local master plans are also typically an important means for ensuring that projects and programs align with community priorities.

- As of the end of FY2016, six jurisdictions had adopted pedestrian master plans within the last five years.
- Most jurisdictions with plans that are more than five years out of date (or no plan at all) have updates in progress.

Figure 7.11 Status of Alameda County Local Pedestrian Master Plans



Source: Reported by local jurisdictions.

Union City Intermodal Station

8. Livable Communities

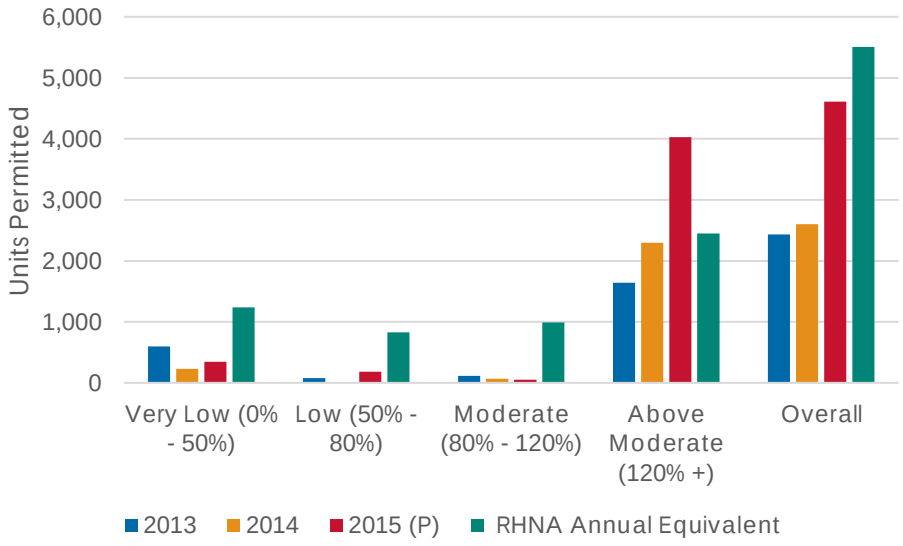
Housing Permitting

The number and location of housing units permitted has implications for regional affordability and for commuting patterns. Figure 8.1 shows housing units permitted in Alameda County by affordability level, compared to the equivalent number of units needed to meet the county's Regional Housing Needs Allocation (RHNA).

- The number of housing units permitted by Alameda County jurisdictions nearly doubled from 2014 to 2015.
- While housing permitting activity picked up significantly in 2015, overall units permitted (4,612) fell short of the annual RHNA target (5,505).
- The majority of housing permitting activity was units at the above moderate income affordability level (priced at individuals and households earning 120 percent or more of Area Median Income). This was the only income category in which housing permitting activity achieved its annual RHNA target.

- Housing permitting activity levels reflect market conditions and financial incentives (e.g., lack of subsidies for affordable housing) as well as local decisions.

Figure 8.1 Housing Units Permitted in Alameda County by Affordability Level



Source for Figures 8.1-8.2: Housing Element Annual Progress Reports as compiled by the Association of Bay Area Governments (ABAG).

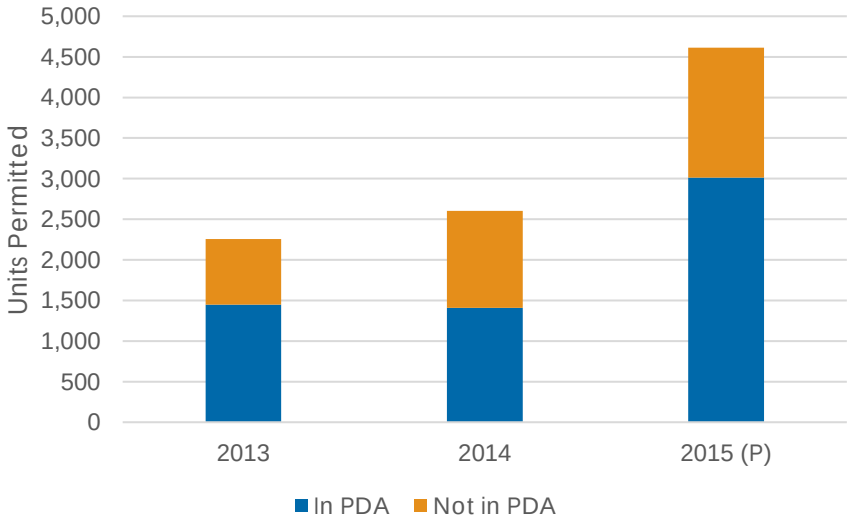
Notes: The Regional Housing Needs Assessment is an 8-year target for housing production and permitting in each local jurisdiction by ABAG, based on a regional total from the state Department of Housing and Community Development. The RHNA Annual Equivalent is the total for the RHNA period (2014-2022) divided by the number of years. Affordability level is expressed as a percent of Area Median Income.

(P) indicates preliminary data.

Figure 8.2 shows the number of housing units permitted from 2013 to 2015, categorized by whether the units were located in a priority development area (PDA). PDAs are locally nominated areas with high-quality transit service that are target areas for future housing and employment growth.

- Approximately 65 percent of units permitted by local jurisdictions were located in PDAs. This is a higher share than in 2014.
- As a point of comparison, Plan Bay Area 2040 assumes that 89 percent of new households in Alameda County between 2010 and 2040 will be located in PDAs.

Figure 8.2 Housing Units Permitted in Alameda County by PDA Location



Housing Production

Table 8.1 shows housing units produced in Alameda County by jurisdiction from 2011 to 2016. Housing production is related to permitting, but is even more subject to market conditions.

- Annual housing production nearly doubled from 2011-12 to 2015-16, reflecting a recovered economy.
- Alameda County produced between 2,200 and 2,500 housing units per year from 2013-2016. During this period, Alameda County added 20,000 to 24,000 residents per year and 18,000 to 24,000 jobs per year (refer to Figure 8.3).
- Since 2011, the City of Dublin produced over one-third of Alameda County's new housing. Dublin, Oakland, Fremont, and Livermore together produced over two-thirds of the county's new housing.

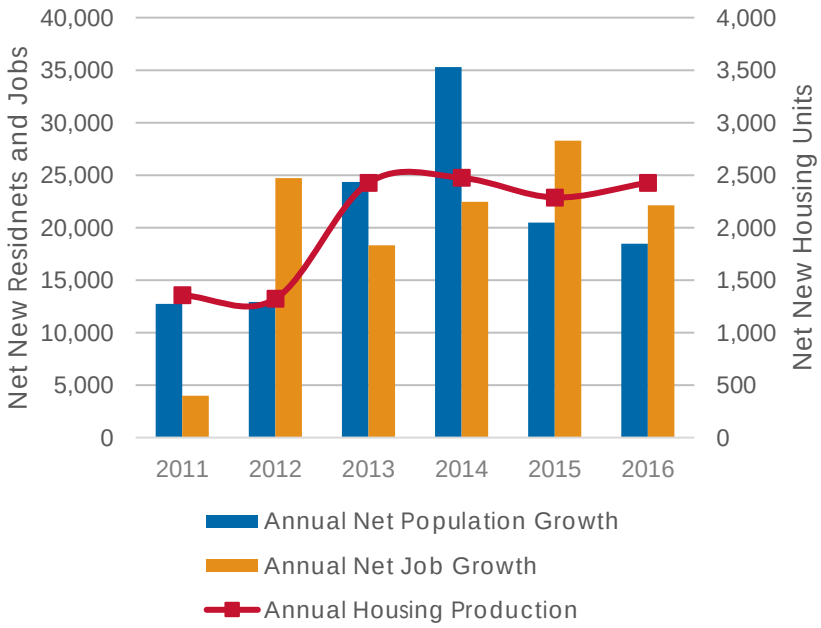
Table 8.1 Alameda County Housing Production

	2011	2012	2013	2014	2015	2016
Alameda	0	117	0	1	8	325
Alameda County	3	10	10	0	10	8
Albany	0	5	4	1	5	5
Berkeley	340	0	10	85	167	144
Dublin	282	367	1,085	1,124	911	544
Emeryville	0	6	0	67	0	406
Fremont	231	205	254	507	127	73
Hayward	110	265	229	140	144	108
Livermore	127	76	134	205	158	431
Newark	0	0	2	3	2	49
Oakland	212	115	581	204	316	54
Piedmont	4	4	3	2	3	3
Pleasanton	16	63	42	131	427	248
San Leandro	62	4	10	8	5	0
Union City	7	105	61	0	4	29
County Total	1,355	1,322	2,425	2,474	2,287	2,427

Source: Department of Finance E-5 Report.

Note: Housing Production is computed as the difference in housing units between successive years.

Figure 8.3 Comparative Annual Housing Production Versus Net Population and Job Growth



Sources: Department of Finance E-5 Report, Department of Finance E-2 Report, Bureau of Labor Statistics (BLS) Quarterly Census of Employment and Wages for Alameda County.

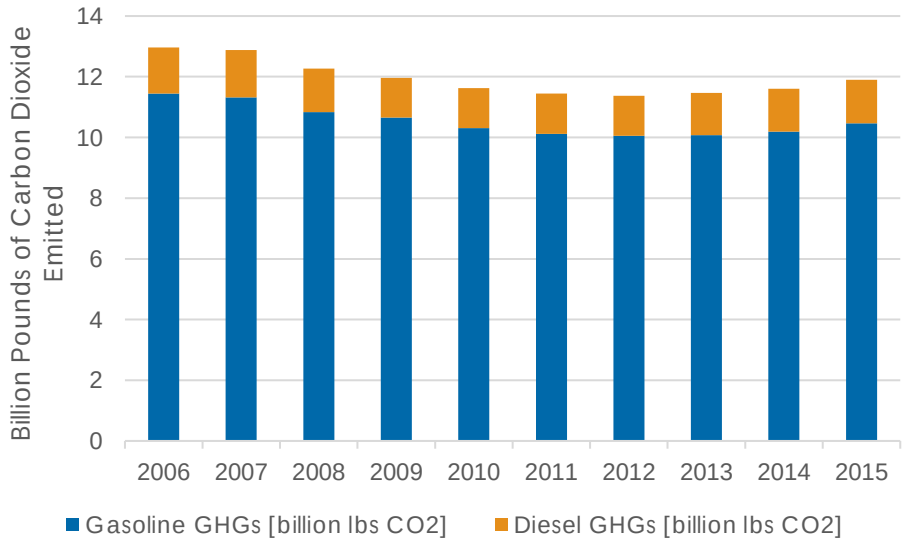
Note: Housing Production is computed as the difference in housing units between successive years.

Greenhouse Gas Emissions

Figure 8.4 shows the trend in total greenhouse gas emissions from transportation in Alameda County, estimated based on fuel consumption.

- Between 2006 and 2012, Alameda County saw a decline in transportation greenhouse gas emissions from transportation, as estimated based on fuel sales in Alameda County. However, part of this decline is attributable to the blending of ethanol in gasoline which was blended at increasing fractions until 2010.
- Greenhouse gas emissions from transportation have increased since 2012 but remain 8.5 percent below 2006 levels.

Figure 8.4 Greenhouse Gas Emissions From Transportation in Alameda County



Sources: Board of Equalization, California Energy Almanac, Energy Information Administration.

Note: Transportation emissions computed based on gasoline and diesel sales in Alameda County, consistent with approach used by MTC for Vital Signs performance monitoring website. Percent of statewide sales occurring in Alameda County computed based on a 2012 survey of fuel retailers. Ethanol blending fraction interpolated between 6 percent in 2006 and 10 percent in 2010 based on the California Energy Almanac.

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Measure	Data Source	Notes
Roadway Miles	Highway Performance Monitoring System (HPMS)	The Highway Performance Monitoring System (HPMS) is a federally mandated inventory system updated and maintained by Caltrans.
Commuter flows	American Community Survey (ACS) Public Use Micro Survey (PUMS) data	This measure is based on a sample expanded to county-level population. The survey is conducted throughout the year. The ACS asked respondents to report the work location at which they worked the greatest number of hours. If the respondents regularly work at several locations each day, the ACS asked for the address where they began work each day.
Mode share	ACS, 1-Year Estimates	This measure is based on a sample expanded to county-level population. The survey is conducted throughout the year. The journey-to-work mode is the mode used the majority of days during week for the longest portion of trip
Journey-to-work travel time	ACS, 1-Year Estimates	This measure is based on a sample expanded to county-level population. The survey is conducted throughout the year. Travel time to work refers to the total number of minutes that it usually takes the worker to get from home to work. The elapsed time includes time spent waiting for public transportation.
Driver license rate	California Department of Motor Vehicles (DMV) ACS, 1-Year Estimate	This measure is based on the number of driver licenses of Alameda County residents over the age of 16 provided by the California DMV. This number of driver licenses is divided by the population of Alameda County based on the ACS, 1-Year Estimate.
Freeway speeds	INRIX, Inc. Analytics Tools	INRIX, Inc. is a commercial traffic information service provider. INRIX aggregates data from a variety of sources including mobile devices, fleet vehicles, and inroad sensors and serves a wide range of public and private clients. INRIX data has been validated against GPS-floating car collected data in Alameda County for freeways.
Gateway traffic volumes	Bay Area Toll Authority (BATA), Caltrans Traffic Count Book, I-680 Express Lane Operations	Bridge traffic volumes are BATA vehicle counts at the westbound toll plazas. I-680 volumes at Mission Boulevard are from the I-680 Express Lane Operations and include both general purpose and the express lane. Bridge and I-680 volumes are directional and are doubled to get bi-directional volumes. All other volume data from Caltrans Traffic Count book. Only Tuesday through Thursday volumes from March to May and September to November are used.
Freeway congestion (vehicle hours of delay)	INRIX, Inc. Analytics Tools	INRIX, Inc. is a commercial traffic information service provider. INRIX aggregates data from a variety of sources including mobile devices, fleet vehicles, and inroad sensors and serves a wide range of public and private clients. INRIX data has been validated against GPS-floating car collected data in Alameda County for freeways.
Local streets and roads pavement condition index (PCI)	MTC's StreetSaver database	StreetSaver is an online pavement management system that enables local jurisdictions to track the PCI of their roadways.

Appendix A. Detailed Information on Data Sources

Measure	Data Source	Notes
Freeway and highway state of repair	Caltrans	State of repair is based on Caltrans' assessment of each pavement lane mile on the state highway system on its ride quality and structural distress. There are three levels of distress: poor ride only, minor pavement distress (pavement in poor condition with significant cracks), and major pavement distress (pavement in poor condition with extensive cracks).
Roadway collisions, injury and fatal collisions, and collision causes	Statewide Integrated Traffic Record System (SWITRS)	Caltrans and the California Highway Patrol partner to track collisions through SWITRS. Through this program, standardized accident reports are filed any time an officer responds to a traffic incident.
Transit ridership (boardings)	FTA's National Transit Database (FY2005-FY2015) and special request from transit operators (FY2016)	
Transit service utilization (boardings per revenue vehicle hour)	FTA's National Transit Database (FY2005-FY2015) and special request from transit operators (FY2016)	
Transit cost efficiency (operating cost per rider)	FTA's National Transit Database (FY2005-FY2015) and special request from transit operators (FY2016)	Operating costs are escalated to 2016 dollars using the Consumer Price Index for the San Francisco Bay Area.
Transit commercial speed (revenue vehicle miles per revenue vehicle hours)	FTA's National Transit Database (FY2005-FY2015) and special request from transit operators (FY2016)	
Transit on-time performance	Request from transit operators	"On-time" threshold is as defined by operator (e.g., AC Transit uses a standard of no more than 1 minute early or 5 minutes late).
Transit farebox recovery ratio	FTA's National Transit Database (FY2005-FY2015) and special request from transit operators (FY2016)	Operating costs and fare revenue are escalated to 2016 dollars using the Consumer Price Index for the San Francisco Bay Area.
Transit fleet age	Request from transit operators	
Transit service interruptions	FTA's National Transit Database (FY2005-FY2015) and special request from transit operators (FY2016)	
Paratransit Annual Trips	East Bay Paratransit, Union City Transit, LAVTA (collectively ADA transit operators)	Trips are one-way and include attendants and companions.
Average Paratransit Trip Distance	ADA transit operators	
Average Paratransit Trip Duration	ADA transit operators	
Average Paratransit On-Time Performance	ADA transit operators	

Measure	Data Source	Notes
Paratransit Operator Cost per Rider	ADA transit operators	Cost is per one-way trip.
Total Paratransit Operating Costs	ADA transit operators	
City-Based Paratransit Trips	Direct Local Distribution (DLD) Compliance Reports; Gap Grant Progress Reports	Includes taxi and volunteer driver trips that were Gap Grant funded if the program was sponsored/overseen by a DLD-funded city-based paratransit program.
Bicycle/pedestrian counts	Alameda CTC count program	The p.m. peak-hour counts (4-6 p.m.) are presented in this report. The count program includes 75 locations.
Bicycle/pedestrian collisions	Statewide Integrated Traffic Record System (SWITRS)	Caltrans and the California Highway Patrol partner to track collisions through SWITRS. Through this program, standardized accident reports are filed any time an officer responds to a traffic incident.
Bicycle/pedestrian updated local master plans	Reported by local jurisdictions	
Bicycle network completion/Pedestrian capital projects completed	Reported by local jurisdictions	
Bicycle/pedestrian program participation	Safe Routes to Schools and Bike to Work Day Annual Reports	
Development approvals	Housing Element Progress Reports submitted to California Department of Housing and Community Development, as compiled by Association of Bay Area Governments	Local jurisdictions submit an annual Housing Element Progress Report. ABAG has created a database of development approvals by geo-coding all individual development projects issued entitlements, based on the Progress Reports.
Housing production	California Department of Finance	
Greenhouse gas emissions	Board of Equalization Taxable Gasoline and Diesel Sales, California Energy Almanac survey of gasoline retailers, Energy Information Administration emission factors	Board of Equalization data on statewide gasoline and diesel sales are combined with a 2012 survey of gasoline retailers to estimate gasoline and diesel sales (gallons) in Alameda County. A percentage of ethanol is assumed as part of gasoline sales based on California Energy Almanac. Greenhouse gas emissions are estimated using emission factors (pounds of carbon dioxide per gallon) from the EIA.

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BART	FY06-07	FY07-08	FY08-09	FY09-10	FY10-11	FY11-12	FY12-13	FY13-14	FY14-15	FY15-16 (P)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Service Provided										
Directional route miles	209	209	209	209	209	209	209	209	215	215
Alameda County	97	97	97	97	97	97	97	97	103	103
Revenue passenger car miles (million)	64.3	67.0	67.8	63.2	63.3	63.4	65.7	64.8	67.3	71.6
Alameda County (million)	29.6	30.8	31.2	29.1	29.1	29.2	30.2	29.8	30.9	32.9
Revenue passenger car hours (million)	1.8	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.9	2.0
Alameda County (million)	0.8	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.9	0.9
Service Consumed										
Total annual boardings (million)	109.0	115.2	114.7	108.3	111.1	118.7	126.5	125.8	135.2	136.6
Alameda County (million)	36.3	37.8	37.8	36.0	37.4	40.5	43.3	43.0	46.2	46.6
Average Weekday boardings	361,811	384,231	379,007	357,461	367,505	391,777	420,396	417,286	452,126	457,594
Alameda County	120,989	126,098	126,031	119,308	124,501	134,111	143,726	146,090	154,522	156,192
Passenger Miles Traveled (million)	1368.0	1448.5	1442.1	1390.9	1442.9	1545.7	1649.3	1655.4	1793.2	1844.8
Financials										
Operating expenses ($2016 x million)	$568.97	$575.95	$577.97	$545.31	$516.89	$546.44	$573.96	$567.17	$600.63	$618.53
Fare revenue earned ($2016 x million)	$349.01	$371.38	$378.99	$390.21	$393.31	$409.62	$443.91	$441.94	$479.40	$482.05
Service Utilization (systemwide)										
Boardings per revenue passenger car mile	1.69	1.72	1.69	1.71	1.75	1.87	1.93	1.94	2.01	1.91
Boardings per revenue passenger car hour	59.12	59.38	59.05	60.84	62.61	65.44	69.49	69.76	70.49	67.23
Load factor	21.27	21.62	21.26	22.00	22.78	24.37	25.12	25.56	26.66	25.76
Financial Performance (systemwide)										
Operating expense per passenger mile ($2016)	$0.42	$0.40	$0.40	$0.39	$0.36	$0.35	$0.35	$0.34	$0.33	$0.34
Operaing expense per rider ($2016)	$5.22	$5.00	$5.04	$5.04	$4.65	$4.60	$4.54	$4.51	$4.44	$4.53
Operating expense per revenue passenger car mile ($2016)	$8.84	$8.60	$8.52	$8.62	$8.16	$8.61	$8.74	$8.76	$8.93	$8.64
Operating expense per revenue passenger car hour ($2016)	$308.53	$296.82	$297.67	$306.32	$291.28	$301.30	$315.15	$314.54	$313.08	$304.35
Farebox recovery ratio	61%	64%	66%	72%	76%	75%	77%	78%	80%	78%

(P) indicates provisional data

ACE	FY06-07	FY07-08	FY08-09	FY09-10	FY10-11	FY11-12	FY12-13	FY13-14	FY14-15	FY15-16 (P)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Service Provided										
Directional route miles	172	172	172	172	172	172	172	172	172	172
Alameda County	90	90	90	90	90	90	90	90	90	90
Revenue passenger car miles (thousand)	780.2	780.2	780.2	719.0	786.0	805.2	914.7	950.4	1001.9	1121.4
Alameda County (thousand)	408.2	408.2	408.2	376.2	411.3	421.4	478.6	497.3	524.2	586.8
Revenue passenger car hours (thousand)	19.7	19.7	22.7	18.6	19.7	20.2	23.3	24.3	25.1	28.0
Alameda County (thousand)	10.3	10.3	11.9	9.8	10.3	10.6	12.2	12.7	13.1	14.7
Service Consumed										
Total annual boardings (thousand)	706.9	805.2	797.3	655.5	718.4	786.9	940.8	1075.6	1209.8	1290.0
Alameda County (thousand)	233.5	266.0	265.0	235.0	254.0	332.5	313.6	381.7	418.6	675.0
Average Weekday boardings	2,805	3,191	3,164	2,601	2,851	3,123	3,748	4,252	4,782	4,943
Alameda County	852	1,053	1,048	922	1,011	1,319	1,319	1,508	1,655	1,710
Passenger Miles Traveled (million)	33.6	37.8	35.8	29.4	32.9	36.0	42.1	48.4	52.2	55.5
Financials										
Operating expenses ($2016 x million)	$13.49	$13.83	$14.82	$13.63	$13.47	$13.64	$16.32	$16.50	$20.75	$17.38
Fare revenue earned ($2016 x million)	$4.94	$5.23	$5.44	$4.64	$4.93	$4.69	$6.29	$7.32	$8.28	$8.56
Service Utilization (systemwide)										
Boardings per revenue passenger car mile	0.91	1.03	1.02	0.91	0.91	0.98	1.03	1.13	1.21	1.15
Boardings per revenue passenger car hour	35.97	40.97	35.16	35.15	36.55	38.97	40.41	44.26	48.27	46.12
Load factor	43.08	48.39	45.83	40.84	41.90	44.66	46.07	50.95	52.14	49.47
Financial Performance (systemwide)										
Operating expense per passenger mile ($2016)	$0.40	$0.37	$0.41	$0.46	$0.41	$0.38	$0.39	$0.34	$0.40	$0.31
Operaing expense per rider ($2016)	$19.08	$17.17	$18.58	$20.79	$18.74	$17.34	$17.35	$15.34	$17.16	$13.47
Operating expense per revenue passenger car mile ($2016)	$15.47	$15.51	$16.00	$16.37	$17.03	$18.02	$17.72	$17.56	$17.40	$20.00
Operating expense per revenue passenger car hour ($2016)	$686.37	$703.70	$653.34	$730.81	$685.03	$675.63	$701.09	$679.03	$828.12	$621.27
Farebox recovery ratio	37%	38%	37%	34%	37%	34%	39%	44%	40%	49%

(P) indicates provisional data

AC Transit	FY06-07	FY07-08	FY08-09	FY09-10	FY10-11	FY11-12	FY12-13	FY13-14	FY14-15	FY15-16 (P)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Service Provided										
Directional route miles	1,365	1,365	1,364	1,278	1,254	1,254	1,254	1,201	1,238	1,183
Alameda County	1,201	1,201	1,200	1,124	1,104	1,104	1,104	1,069	1,101	1,052
Revenue vehicle miles (million)	21.6	22.0	22.1	21.6	19.2	18.2	18.0	18.2	18.8	19.3
Alameda County (million)	19.0	19.4	19.4	19.0	16.9	16.1	15.9	16.2	16.8	17.2
Revenue vehicle hours (million)	1.8	1.9	1.9	1.9	1.7	1.6	1.6	1.6	1.7	1.8
Alameda County (million)	1.6	1.6	1.7	1.6	1.5	1.4	1.4	1.5	1.5	1.6
Service Consumed										
Total annual boardings (million)	67.0	65.2	60.5	61.4	57.3	53.6	54.9	55.7	55.0	53.6
Alameda County (million)	58.9	57.4	53.2	54.0	50.5	47.2	48.3	49.6	48.9	47.7
Average Weekday boardings	226,855	218,245	197,208	197,445	190,948	174,022	171,957	181,562	179,582	172,655
Alameda County	199,632	192,056	173,543	173,752	168,034	153,039	151,322	161,590	159,828	153,549
Passenger Miles Traveled (million)	204.2	197.6	192.5	173.6	187.1	187.3	203.3	210.1	211.0	215.2
Financials										
Operating expenses ($2016 x million)	$333.5	$341.2	$352.8	$352.9	$327.0	$328.9	$319.8	$319.2	$327.8	$386.6
Fare revenue earned ($2016 x million)	$61.5	$60.5	$61.8	$62.7	$58.2	$63.8	$63.7	$68.5	$69.6	$70.8
Service Utilization (systemwide)										
Boardings per revenue vehicle mile	3.11	2.96	2.74	2.85	2.99	2.94	3.04	3.07	2.92	2.77
Boardings per revenue vehicle hour	36.75	34.86	31.88	33.08	34.01	33.23	34.20	34.19	32.73	30.29
Load factor	9.47	8.98	8.73	8.05	9.74	10.26	11.26	11.56	11.20	11.13
Financial Performance (systemwide)										
Operating expense per passenger mile ($2016)	$1.63	$1.73	$1.83	$2.03	$1.75	$1.76	$1.57	$1.52	$1.55	$1.80
Operating expense per rider ($2016)	$4.98	$5.23	$5.83	$5.75	$5.70	$6.13	$5.82	$5.73	$5.96	$7.22
Operating expense per revenue vehicle mile ($2016)	$15.47	$15.51	$16.00	$16.37	$17.03	$18.02	$17.72	$17.56	$17.40	$20.00
Operating expense per revenue vehicle hour ($2016)	$183.00	$182.46	$186.00	$190.15	$193.97	$203.76	$199.11	$195.79	$195.11	$218.62
Farebox recovery ratio	18%	18%	18%	18%	18%	19%	20%	21%	21%	18%

(P) indicates provisional data

LAVTA	FY06-07	FY07-08	FY08-09	FY09-10	FY10-11	FY11-12	FY12-13	FY13-14	FY14-15	FY15-16 (P)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Service Provided										
Directional route miles	356	306	323	289	280	300	336	366	349	249
Revenue vehicle miles (million)	1.8	2.0	2.0	1.5	1.6	1.9	1.8	1.8	1.8	1.8
Revenue vehicle hours (million)	0.122	0.137	0.139	0.102	0.111	0.125	0.125	0.126	0.125	0.126
Service Consumed										
Total annual boardings (million)	2.14	2.23	2.20	1.74	1.71	1.75	1.73	1.65	1.65	1.65
Average Weekday boardings	7,316	7,893	7,809	6,073	6,628	6,101	6,053	5,727	5,727	5,751
Passenger Miles Traveled (million)	10.0	10.6	10.4	8.3	8.3	8.5	8.4	8.2	8.2	8.2
Financials										
Operating expenses ($2016 x million)	$ 13.41	$ 14.83	$ 15.24	$ 13.12	$ 13.27	$ 14.09	$ 13.48	$ 13.89	$ 13.19	$ 13.56
Fare revenue earned ($2016 x million)	$ 2.50	$ 2.70	$ 2.77	$ 2.50	$ 2.35	$ 2.28	$ 2.52	$ 2.14	$ 2.12	$ 2.01
Service Utilization (systemwide)										
Boardings per revenue vehicle mile	1.22	1.13	1.09	1.16	1.05	0.94	0.95	0.91	0.90	0.93
Boardings per revenue vehicle hour	17.55	16.25	15.76	17.05	15.37	14.00	13.86	13.13	13.17	13.13
Load factor	5.69	5.35	5.16	5.50	5.10	4.59	4.60	4.51	4.47	4.59
Financial Performance (systemwide)										
Operating expense per passenger mile ($2016)	$1.34	$1.40	$1.46	$1.59	$1.59	$1.65	$1.60	$1.69	$1.61	$1.66
Operaing expense per rider ($2016)	$6.28	$6.64	$6.94	$7.54	$7.75	$8.04	$7.81	$8.40	$7.99	$8.22
Operating expense per revenue vehicle mile ($2016)	$7.64	$7.48	$7.55	$8.75	$8.11	$7.57	$7.38	$7.64	$7.20	$7.61
Operating expense per revenue vehicle hour ($2016)	$110.22	$107.92	$109.38	$128.59	$119.07	$112.59	$108.18	$110.36	$105.26	$107.92
Farebox recovery ratio	19%	18%	18%	19%	18%	16%	19%	15%	16%	15%

(P) indicates provisional data

Union City Transit

	FY06-07	FY07-08	FY08-09	FY09-10	FY10-11	FY11-12	FY12-13	FY13-14	FY14-15	FY15-16 (P)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Service Provided										
Directional route miles	54	48	60	60	60	60	60	105	105	105
Revenue vehicle miles (thousand)	482.9	462.4	456.7	470.9	464.7	467.8	470.8	472.2	484.3	478.3
Revenue vehicle hours (thousand)	38.9	39.6	39.6	39.5	39.1	39.3	39.6	35.4	33.9	34.5
Service Consumed										
Total annual boardings (million)	0.422	0.438	0.464	0.448	0.474	0.501	0.496	0.402	0.333	0.310
Average Weekday boardings	1,464	1,518	1,637	1,567	1,793	1,780	1,783	1,443	1,179	1,097
Passenger Miles Traveled (million)	1.3	1.4	1.4	1.5	N/A	N/A	1.6	N/A	0.0	0.0
Financials										
Operating expenses ($2016 x million)	$3.29	$3.17	$3.12	$3.32	$3.31	$3.43	$3.60	$3.76	$3.73	$3.53
Fare revenue earned ($2016 x million)	$0.46	$0.42	$0.43	$0.40	$0.49	$0.50	$0.48	$0.42	$0.35	$0.31
Service Utilization (systemwide)										
Boardings per revenue vehicle mile	0.87	0.95	1.01	0.95	1.02	1.07	1.05	0.85	0.69	0.65
Boardings per revenue vehicle hour	10.85	11.05	11.70	11.34	12.13	12.74	12.52	11.38	9.83	8.99
Load factor	2.64	3.03	3.10	3.08	N/A	N/A	N/A	N/A	N/A	N/A
Financial Performance (systemwide)										
Operating expense per passenger mile ($2016)	$2.49	$2.18	$2.13	$2.21	N/A	N/A	N/A	N/A	N/A	N/A
Operaing expense per rider ($2016)	$7.81	$7.24	$6.74	$7.41	$6.99	$6.85	$7.26	$9.36	$11.21	$11.38
Operating expense per revenue vehicle mile ($2016)	$6.82	$6.86	$6.84	$7.06	$7.13	$7.33	$7.65	$7.97	$7.71	$7.38
Operating expense per revenue vehicle hour ($2016)	$84.76	$80.03	$78.80	$84.07	$84.76	$87.22	$90.84	$106.47	$110.16	$102.35
Farebox recovery ratio	14%	13%	14%	12%	15%	15%	13%	11%	9%	9%

(P) indicates provisional data

WETA	FY06-07	FY07-08	FY08-09	FY09-10	FY10-11	FY11-12	FY12-13	FY13-14	FY14-15	FY15-16 (P)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Service Provided										
Revenue vehicle miles (thousand)	77.9	77.7	78.0	78.7	73.2	82.2	295.0	310.6	308.1	318.7
Alameda County (thousand)	77.9	77.7	78.0	78.7	73.2	82.2	129.6	122.5	131.5	140.5
Revenue vehicle hours (thousand)	6.8	6.5	6.3	6.3	6.1	6.6	14.6	15.3	15.3	15.7
Alameda County (thousand)	6.8	6.5	6.3	6.3	6.1	6.6	7.7	8.4	8.8	9.1
Service Consumed										
Total annual boardings (thousand)	577.4	603.7	542.8	568.5	609.3	727.7	1,509.9	1,979.1	2,143.8	2,479.9
Alameda County (thousand)	577.0	603.0	542.7	568.4	609.2	727.7	851.2	1,152.4	1,285.2	1,587.1
Average Weekday boardings	1,777	1,873	1,694	1,760	1,945	2,274	4,677	6,086	6,737	7,790
Passenger Miles Traveled (thousand)	3883.3	4069.7	3703.5	3878.2	4132.4	5048.9	25626.3	30143.1	32017.6	3682.9
Financials										
Operating expenses ($2016 x million)	$6.34	$6.64	$6.21	$5.93	$7.68	$7.61	$25.66	$27.51	$27.50	$26.77
Fare revenue earned ($2016 x million)	$3.26	$3.28	$3.29	$3.41	$4.05	$3.75	$11.48	$13.94	$14.43	$16.68
Service Utilization (Alameda County)										
Boardings per revenue vehicle mile	7.4	7.8	7.0	7.2	8.3	8.9	6.6	9.4	9.8	11.3
Boardings per revenue vehicle hour	85.3	92.2	85.5	89.9	100.5	110.2	110.1	136.8	145.3	174.7
Financial Performance (Systemwide)										
Operating expense per passenger mile ($2016)	$1.63	$1.63	$1.68	$1.53	$1.86	$1.51	$1.00	$0.91	$0.86	$0.73
Operaing expense per rider ($2016)	$10.99	$11.01	$11.44	$10.43	$12.61	$10.46	$17.00	$13.90	$12.83	$10.79
Operating expense per revenue vehicle mile ($2016)	$81.41	$85.57	$79.53	$75.34	$104.96	$92.64	$87.00	$88.55	$89.25	$84.00
Operating expense per revenue vehicle hour ($2016)	$937.76	$1,016.47	$978.18	$938.23	$1,267.40	$1,153.08	$1,760.63	$1,796.44	$1,795.31	$1,708.08
Farebox recovery ratio	51%	49%	53%	57%	53%	49%	45%	51%	52%	62%

(P) indicates provisional data

Capitol Corridor JPA

	FY06-07	FY07-08	FY08-09	FY09-10	FY10-11	FY11-12	FY12-13	FY13-14	FY14-15	FY15-16 (P)
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Daily Trains from Oakland to Sacramento	32	32	32	32	32	32/30**	30	30	30	30
Daily Trains from San Jose to Sacramento	14	14	14	14	14	14	14	14	14	14
Total Annual Revenue Passenger Car Miles (millions)	N/A	N/A	N/A	N/A	N/A	5.09	5.09	5.09	5.49	5.38
Total Annual Ridership (millions)	1.45	1.69	1.60	1.58	1.71	1.75	1.70	1.42	1.47	1.56
Total Annual Operating Expenses ($2016 x million)	$49.06	$54.95	$57.08	$61.91	$64.39	$63.68	$63.11	$58.77	$59.66	$57.14
Total Revenue Earned ($2016 x million)	$24.02	$28.50	$28.08	$28.70	$31.22	$32.96	$31.91	$31.02	$31.17	$32.19
Operating Expense per Rider ($2016)	$33.83	$32.44	$35.68	$39.18	$37.68	$36.47	$37.10	$41.41	$40.45	$36.61
System Operating Ratio	48%	55%	47%	47%	48%	50%	51%	50%	52%	55%

* = added 8 additional daily trains on August 28, 2006

** = decreased from 32 daily trains to 30 daily trains on August 13, 2012

(P) indicates provisional data

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East Bay Paratransit

	FY06/07	FY07/08	FY08/09	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15	FY15/16
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Service										
Total Ridership (all riders)	644,478	662,322	686,390	710,951	752,693	753,896	716,681	706,485	727651	731299
Average Trip duration (minutes)	35.0	34.5	36.5	39.4	38.4	39.0	40.1	40.0	39.5	40.5
Average trip distance (miles)	10.3	10.4	10.3	10.3	9.9	10.0	10.5	10.7	10.4	10.4
On time Performance (%)	89.5%	92.6%	92.4%	94.0%	93.6%	93.3%	92.5%	91.4%	90.9%	90.1%
Overall customer satisfaction (%)	78%	78%	81%	81%	79%	80%	77%	82%	77%	77%
Total registrants/enrolled	19,331	19,048	20,124	22,269	21,435	18,586	17,245	17,253	17,419	17,396
Financials										
Total Operating Expense/Cost	$26,492,409	$28,967,725	$30,655,113	$31,629,276	$33,575,359	$33,787,910	$34,298,203	$34,311,931	$36,032,064	$36,943,044
Cost per rider (all riders)	$41.11	$43.74	$44.66	$44.49	$44.61	$44.82	$47.86	$48.57	$49.52	$50.52

LAVTA

	FY06/07	FY07/08	FY08/09	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15	FY15/16
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Service										
Total Ridership (all riders)	68,970	66,704	67,070	61,619	56,795	44,596	44,741	43,739	46,461	54,975
Average Trip duration (minutes)	36	39	33	32	30	42	44	30	35	32
Average trip distance (miles)	7.3	6.8	7	7.6	7.1	5.3	5.5	4.57	8	7.66
On time Performance (%)	96%	90%	95%	97%	97%	94%	94%	95%	97%	97%
Overall customer satisfaction (out of a 5 point scale)					4.2	4.1	4.5	3.6	4.4	5
Total registrants/enrolled	1250	1678	1810	1500	1500	1400	1400	1420	1580	1,415
Financials										
Total Operating Expense/Cost	$1,650,932	$2,131,360	$1,882,773	$1,766,628	$1,719,889	$1,173,171	$1,133,961	$1,365,572	$1,635,154	$ 1,976,967
Cost per rider (all riders)	$ 23.94	$ 31.95	$ 28.07	$ 28.67	$ 30.28	$ 26.31	$ 25.35	$ 31.22	$ 31.87	$ 32.51

Union City Transit

	FY06/07	FY07/08	FY08/09	FY09/10	FY10/11	FY11/12	FY12/13	FY13/14	FY14/15	FY15/16
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Service										
Total Ridership (all riders)	16,367	16,818	18,776	16,594	18,686	20,837	19,959	19,913	21,386	20,285
Average Trip duration (minutes)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	20	n/a
Average trip distance (miles)	5.1	4.7	4.8	4.9	4.0	4.0	4.4	4.3	4.5	4.21
On time Performance (%)	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
Total registrants/enrolled	n/a	n/a	n/a	n/a	n/a	n/a	1035	1022	1030	1067
Financials										
Total Operating Expense/Cost	$ 594,122	$ 569,254	$ 595,587	$ 668,638	$ 763,062	$ 811,264	$ 848,983	$ 886,478	$ 926,112	$ 948,98
Cost per rider (all riders)	$ 36.30	$ 33.85	$ 31.72	$ 40.29	$ 40.84	$ 38.93	$ 42.54	$ 44.52	$ 43.30	$ 46.78

City-based Paratransit Trips in FY15-16

	Alameda	Albany	Berkeley	Emeryville	Fremont	Hayward	Newark	Oakland	Pleasanton	San Leandro	
Taxi	1,146	298	10,484	196	7,619	10,111		15,517		2,127	47,498
Door-to-Door				2,679	16,301	21	3,997	9,210	8,798		41,006
Accessible Shuttles	4,933								1,291	13,877	20,101
Accessible/ Specialized Van			661			2,253					2,914
Group Trips	1,036	5,180		4,950	4,270	2,821		3,431			21,688
Volunteer Driver					8,393	729					9,122
TOTAL	7,115	5,478	11,145	7,825	36,583	15,935	3,997	28,158	10,089	16,004	142,329

Alameda CTC conducts manual bicycle and pedestrian counts on an annual basis using the National Pedestrian and Bicycle Documentation Project methodology. Highlights of this methodology include:

- Counts are conducted for 2-hour periods (p.m. peak of 4-6 p.m. and either school period of 2-4 p.m. or midday period of 12- 2 p.m.)
- Counts are conducted between September and October.
- Counts are not conducted on days with rain.
- Bicycle counts are turning movement counts.
- Pedestrian counts note the number of intersection approaches that are pedestrians cross.
- Counts are manually counted by technicians based on video footage collected at the intersection.

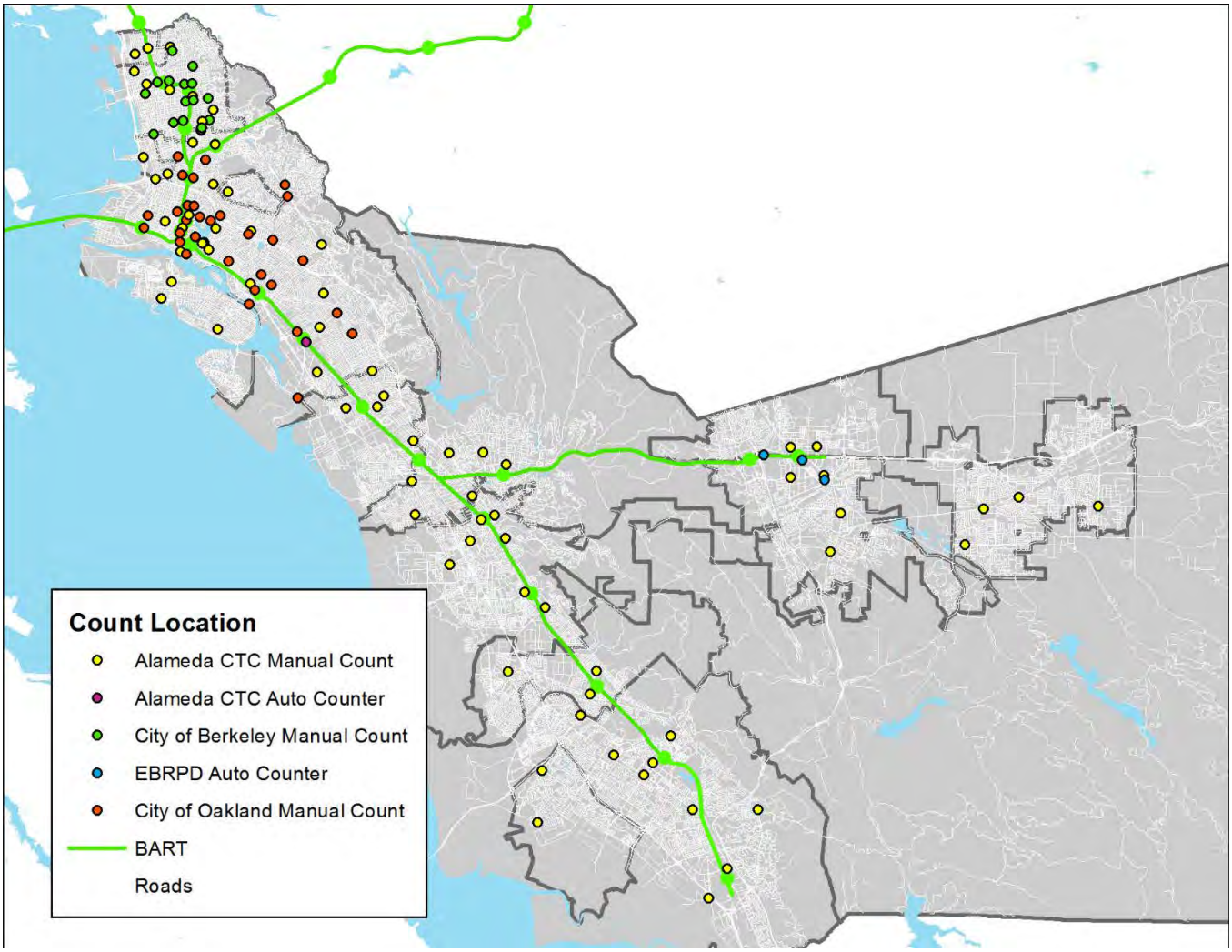
Alameda CTC's count program was expanded to 150 locations in 2016 which will be counted biennially; 75 locations were counted in 2016, and the remaining 75 will be counted in 2017 (and included in subsequent Performance Reports).

Alameda CTC also incorporates manual count data collected by two local agencies—the City of Oakland and City of Berkeley—into the Countywide Bicycle and Pedestrian Count Program.

In addition, Alameda CTC and partner agencies have installed automated bicycle and pedestrian counters on various facilities around the county. These collect continuous 24-hour, 365-day counts of bicyclists and pedestrians. The counters operate using technology that detects when a bicyclist or pedestrian crosses a "screenline" or an imaginary line across the facility.

Figure D1 below illustrates the locations at which bicycle and pedestrian counts are conducted.

Figure D1: Countywide Bicycle/Pedestrian Count Program Count Locations



Bikeway Projects Completed in FY15-16

Jurisdiction	Project Name	Roadway/ Facility	Limits: From, To	Bikeway Class	Detailed Bikeway Type	Length (linear feet, both directions)	New Installation or Upgrade?	Coordinated with Repaving (Y/N)?
Alameda County			No information received					
City of Alameda	Sherman Street Bike Route	Sherman Street	Central Ave to San Antonio Street	Class III: Bike Route	Bike Route (Route with shared lane markings)	1176	New Bikeway	Yes
City of Albany	2015/2015 Pavement Rehabilitation Project	Jackson Street	Castro, Solano	Class III: Bike Route	Bike Route (Bicycle boulevard)	1200	New Bikeway	Yes
City of Albany	2015/2015 Pavement Rehabilitation Project	Jackson Street	Solano,Buchanan	Class II: Bike Lane	Bike Lane (One-way/climbing)	1280	New Bikeway	Yes
City of Albany	2015/2015 Pavement Rehabilitation Project	Spokane Avenue	Washington, El Cerrito City Limit	Class III: Bike Route	Bike Route (Bicycle boulevard)	3200	New Bikeway	Yes
City of Albany	2015/2015 Pavement Rehabilitation Project	Portland Ave.	Masonic, Carmel	Class III: Bike Route	Bike Route (Route with shared lane markings)	2720	New Bikeway	Yes
City of Albany	2015/2015 Pavement Rehabilitation Project	Portland Ave.	Carmel, Berkeley City Limit	Class II: Bike Lane	Bike Lane (Standard*)	800	New Bikeway	Yes
City of Albany	2015/2015 Pavement Rehabilitation Project	Peralta Ave.	Solano, Sonoma	Class III: Bike Route	Bike Route (Route with shared lane markings)	3600	New Bikeway	Yes
City of Albany	2015/2015 Pavement Rehabilitation Project	Peralta Ave.	Sonoma, Posen	Class II: Bike Lane	Bike Lane (One-way/climbing)	1720	New Bikeway	Yes
City of Albany	2015/2015 Pavement Rehabilitation Project	Posen Ave	Peralta, Berkeley City Limit	Class II: Bike Lane	Bike Lane (Standard*)	3600	New Bikeway	Yes
City of Albany	2015/2015 Pavement Rehabilitation Project	Sonoma Ave.	Curtis, Tulare	Class III: Bike Route	Bike Route (Route with shared lane markings)	3040	New Bikeway	Yes
City of Albany	2015/2015 Pavement Rehabilitation Project	Santa Fe Ave.	Marin, El Cerrito City Limit	Class III: Bike Route	Bike Route (Route with shared lane markings)	6918	New Bikeway	Yes
City of Berkeley			No information received					
City of Dublin	Amador Plaza Road Bicycle and Pedestrian Improvements	Amador Plaza Road	Dublin Blvd to Amador Valley Blvd	Class II: Bike Lane	Bike Lane (Standard*)	3400	New Bikeway	Yes
City of Dublin	Tassajara Road Overlay	Tassajara Road	I-580 West Off-Ramp to Dublin Blvd	Class II: Bike Lane	Bike Lane (Upgraded*)	1000	Upgrade	Yes
City of Dublin	Tassajara Road Culvert Replacement	Tassajara Road	200' north of Palisades Drive to Quarry Lane School	Class II: Bike Lane	Bike Lane (Upgraded*)	8000	New Bikeway	No
City of Dublin	San Ramon Rd. Stormwater Basin Improvements	San Ramon Rd	Silvergate Dr. to Shannon Ave	Class I: Multi-Use Trail	Multi-Use Trail (Paved)	1600	Upgrade	No
City of Emeryville	Christie Avenue Bike Path	Christie Avenue	Powell Street, Shellmound	Class IV: Protected Bikeway	Protected Bikeway/Cycletrack (Two-way)	1040	New Bikeway	No
City of Emeryville	Safe Routes to School	San Pablo Avenue	43rd to 53rd Streets	Class III: Bike Route	Bike Route (Route with shared lane markings)	3168	New Bikeway	No
City of Fremont	PWC8195J 2015 Cape & Slurry Seal Project	Ardenwood Blvd	Paseo Padre Pkwy to State Route 84/Newark City limits	Class II: Bike Lane	Bike Lane (Upgraded*)	10000	Upgrade	Yes
City of Fremont	PWC8195J 2015 Cape & Slurry Seal Project	Paseo Padre Pkwy	Warwick Road to Langhorn Drive	Class II: Bike Lane	Bike Lane (Upgraded*)	5000	Upgrade	Yes

Jurisdiction	Project Name	Roadway/ Facility	Limits: From, To	Bikeway Class	Detailed Bikeway Type	Length (linear feet, both directions)	New Installation or Upgrade?	Coordinated with Repaving (Y/N)?
City of Fremont	PWC8195J 2015 Cape & Slurry Seal Project	Fremont Blvd	Nicolet Avenue to Alder Avenue	Class II: Bike Lane	Bike Lane (Upgraded*)	1920	Upgrade	Yes
City of Fremont	PWC8195J 2015 Cape & Slurry Seal Project	Blacow Road	Central Ave to Hansen Ave	Class II: Bike Lane	Bike Lane (Upgraded*)	1140	New Bikeway	Yes
City of Fremont	PWC8195J 2015 Cape & Slurry Seal Project	Blacow Road	Central Ave to Keystone Drive	Class II: Bike Lane	Bike Lane (Upgraded*)	500	New Bikeway	Yes
City of Fremont	PWC8195J 2015 Cape & Slurry Seal Project	Fremont Blvd	Peralta Blvd to Mowry Ave	Class II: Bike Lane	Bike Lane (Standard*)	6480	New Bikeway	Yes
City of Fremont	PWC8195J 2015 Cape & Slurry Seal Project	Mowry Avenue	Parkside Dr to Bonner Dr	Class II: Bike Lane	Bike Lane (Upgraded*)	1584	Upgrade	Yes
City of Fremont	PWC8195J 2015 Cape & Slurry Seal Project	Walnut Ave	Civic Center Dr to Mission Blvd	Class II: Bike Lane	Bike Lane (Upgraded*)	11720	Upgrade	Yes
City of Fremont	PWC8195J 2015 Cape & Slurry Seal Project	Civic Center Drive	Walnut Ave to Stevenson Blvd	Class II: Bike Lane	Bike Lane (Upgraded*)	2640	New Bikeway	Yes
City of Fremont	PWC8195J 2015 Cape & Slurry Seal Project	Stevenson Blvd	Civic Center Dr to Gallaudet Drive	Class II: Bike Lane	Bike Lane (Upgraded*)	3379	Upgrade	Yes
City of Fremont	PWC8195J 2015 Cape & Slurry Seal Project	Stevenson Blvd	Boyce Road to Cedar Blvd	Class II: Bike Lane	Bike Lane (Upgraded*)	1742	New Bikeway	Yes
City of Fremont	PWC8195J 2015 Cape & Slurry Seal Project	Blacow Road	Hilo Street to Omar Street	Class II: Bike Lane	Bike Lane (Upgraded*)	1531	New Bikeway	Yes
City of Fremont	PWC8195J 2015 Cape & Slurry Seal Project	South Grimmer Blvd	Old Warm Springs Blvd to Osgood Road	Class II: Bike Lane	Bike Lane (Upgraded*)	6758	Upgrade	Yes
City of Fremont	PWC8195J 2015 Cape & Slurry Seal Project	Paseo Padre Pkwy	Washington Blvd to Pine St	Class II: Bike Lane	Bike Lane (Upgraded*)	1267	Upgrade	Yes
City of Fremont	PWC8195J 2015 Cape & Slurry Seal Project	Warm Springs Ct	Warm Springs Blvd to End	Class II: Bike Lane	Bike Lane (Upgraded*)	2640	New Bikeway	Yes
City of Fremont	PWC8195J 2015 Cape & Slurry Seal Project	2nd Street	Hillview Dr to End	Class II: Bike Lane	Bike Lane (Standard*)	6180	New Bikeway	Yes
City of Fremont	PWC 8842 Grimmer Blvd High Friction Surface Treatment	Grimmer Blvd	Davis Street to Victoria Ave	Class II: Bike Lane	Bike Lane (Upgraded*)	2129	Upgrade	Yes
City of Fremont	PWC8498 Warm Springs Boulevard Improvements Project	Warm Springs Boulevard	Reliance Way to Mission Blvd	Class II: Bike Lane	Bike Lane (Upgraded*)	4608	Upgrade	Yes
City of Fremont	PWC8498 Warm Springs Boulevard Improvements Project Change Order	Warm Springs Blvd	Mission Blvd to Mission Ct.	Class II: Bike Lane	Bike Lane (Upgraded*)	1771	Upgrade	Yes
City of Fremont	PWC8195L 2016 Cape & Slurry Seal Project	Civic Center Drive	Bart way to Walnut Avenue	Class II: Bike Lane	Bike Lane (Standard*)	1165	New Bikeway	Yes
City of Fremont	PWC8195L 2016 Cape & Slurry Seal Project	Walnut Avenue near Civic Center intersection	N/A	Class II: Bike Lane	Bike Lane (Standard*)	0	New Bikeway	Yes
City of Fremont	PWC8195L 2016 Cape & Slurry Seal Project	Civic Center Drive	Walnut Avenue to Stevenson Blvd	Class II: Bike Lane	Bike Lane (Upgraded*)	2900	New Bikeway	Yes
City of Fremont	PWC8195L 2016 Cape & Slurry Seal Project	Stevenson Blvd near Civic Center intersection	N/A	Class II: Bike Lane	Bike Lane (Standard*)	0	New Bikeway	Yes
City of Fremont	PWC8195L 2016 Cape & Slurry Seal Project	Washington Blvd	Weigand Ct to Paseo Padre	Class II: Bike Lane	Bike Lane (Upgraded*)	1808	New Bikeway	Yes
City of Fremont	PWC8195L 2016 Cape & Slurry Seal Project	Washington Blvd	Paseo Padre to Palm Avenue	Class II: Bike Lane	Bike Lane (Standard*)	256	New Bikeway	Yes

Jurisdiction	Project Name	Roadway/ Facility	Limits: From, To	Bikeway Class	Detailed Bikeway Type	Length (linear feet, both directions)	New Installation or Upgrade?	Coordinated with Repaving (Y/N)?
City of Fremont	PWC8195L 2016 Cape & Slurry Seal Project	S.Grimmer	Parkmeadow Dr. to Paseo Padre Pkwy	Class II: Bike Lane	Bike Lane (Standard*)	2391	New Bikeway	Yes
City of Fremont	PWC8195L 2016 Cape & Slurry Seal Project	Paseo Padre Pkwy	S.Grimmer Blvd to Mission Blvd	Class II: Bike Lane	Bike Lane (Standard*)	7114	Upgrade	Yes
City of Fremont	PWC8661 Fremont Blvd Widening Project	Fremont Blvd	Cushing Pkwy to West Warren Ave	Class II: Bike Lane	Bike Lane (Upgraded*)	1718	New Bikeway	Yes
City of Fremont	Capitol Phase I	Capitol Avenue	Fremont Blvd to State Street	Class II: Bike Lane	Bike Lane (Standard*)	1600	New Bikeway	No
City of Livermore	2015-04 2015 Slurry Seal Project	Various	Various	Class II: Bike Lane	Bike Lane (Standard*)	19944	Upgrade	Yes
City of Livermore	2015-01 2015 Resurfacing Project	Various	Various	Class II: Bike Lane	Bike Lane (Standard*)	8983	Upgrade	Yes
City of Newark	Bayshores residential development	Willow Street	Enterprise Drive to Cabot Court	Class II: Bike Lane	Bike Lane (Standard*)	3600	New	Yes
City of Oakland	ACTC East Bay Greeway Project	East Bay Greenway	75th Ave, 85th Ave	Class I: Multi-Use Trail	Multi-Use Trail (Paved)	5214	New Bikeway	No
City of Oakland	C369560: Caldecott Tunnel Improvements	Broadway/Kay Overcrossing	Golden Gate Wy, Caldecott Ln	Class II: Bike Lane	Bike Lane (Standard*)	11864	Upgrade	No
City of Oakland	C369640: Citywide Streets Resurfacing	Miles Ave	College Ave, Forest St	Class II: Bike Lane	Bike Lane (Upgraded*)	1084	Upgrade	No
City of Oakland	C369640: Citywide Streets Resurfacing	Grand Ave	Jean St, Elwood Ave	Class II: Bike Lane	Bike Lane (Upgraded*)	4102	Upgrade	Yes
City of Oakland	C369640: Citywide Streets Resurfacing	Telegraph Ave	17th St, 20th St	Class II: Bike Lane	Bike Lane (Upgraded*)	2030	New Bikeway	No
City of Oakland	C369640: Citywide Streets Resurfacing	Golden Gate Ave & Wy	Chabot Rd, Broadway	Class III: Bike Route	Bike Route (Route with shared lane markings)	2002	Upgrade	No
City of Oakland	C369640: Citywide Streets Resurfacing	Telegraph Ave	20th St, 29th St	Class IV: Protected Bikeway	Protected Bikeway/Cycletrack (Two-way)	6424	New Bikeway	Yes
City of Oakland	C369650: Citywide Streets Resurfacing	College Ave	Miles Ave, Keith Ave	Class II: Bike Lane	Bike Lane (Upgraded*)	794	New Bikeway	Yes
City of Oakland	C369650: Citywide Streets Resurfacing	MacArthur Blvd	Chetwood St, Grand Ave	Class III: Bike Route	Bike Route (Route with shared lane markings)	2527	New Bikeway	Yes
City of Oakland	C464560: Latham Square	16th St	Telegraph Ave, San Pablo Ave	Class II: Bike Lane	Bike Lane (Standard*)	430	New Bikeway	Yes
City of Oakland	C464560: Latham Square	Telegraph Ave	16th St, 17th St	Class II: Bike Lane	Bike Lane (Standard*)	534	New Bikeway	Yes
City of Oakland	C464570: San Pablo Ave Streetscape Project	San Pablo Ave	17th St, 19th St	Class II: Bike Lane	Bike Lane (Upgraded*)	1242	Upgrade	Yes
City of Oakland	C464570: San Pablo Ave Streetscape Project	San Pablo Ave	21st St, Martin Luther King Jr Wy	Class II: Bike Lane	Bike Lane (Upgraded*)	240	Upgrade	No
City of Oakland	MacArthur Transit Village	W MacArthur Blvd	BART Frontage Rd, Telegraph Ave	Class II: Bike Lane	Bike Lane (Upgraded*)	954	New Bikeway	No
City of Oakland	Martin Luther King Jr Way/20th St (2nd St to Harrison St) Bikeway Wayfinding Project	20th St	San Pablo Ave, Harrison St	Class III: Bike Route	Bike Route (Signage only route)	3952	Upgrade	No
City of Oakland	Martin Luther King Jr Way/20th St (2nd St to Harrison St) Bikeway Wayfinding Project	Martin Luther King Jr Wy	2nd St, San Pablo Ave	Class III: Bike Route	Bike Route (Signage only route)	10280	Upgrade	No

Appendix E. Bicycle Network Completion Information

Jurisdiction	Project Name	Roadway/ Facility	Limits: From, To	Bikeway Class	Detailed Bikeway Type	Length (linear feet, both directions)	New Installation or Upgrade?	Coordinated with Repaving (Y/N)?
City of Oakland	C369640: Citywide Streets Resurfacing	Telegraph Ave	20th St, 29th St	Class IV: Protected Bikeway	Protected Bikeway/Cycletrack (Two-way)	6424	New Bikeway	Yes
City of Oakland	C369650: Citywide Streets Resurfacing	College Ave	Miles Ave, Keith Ave	Class II: Bike Lane	Bike Lane (Upgraded*)	794	New Bikeway	Yes
City of Oakland	C369650: Citywide Streets Resurfacing	MacArthur Blvd	Chetwood St, Grand Ave	Class III: Bike Route	Bike Route (Route with shared lane markings)	2527	New Bikeway	Yes
City of Oakland	C464560: Latham Square	16th St	Telegraph Ave, San Pablo Ave	Class II: Bike Lane	Bike Lane (Standard*)	430	New Bikeway	Yes
City of Oakland	C464560: Latham Square	Telegraph Ave	16th St, 17th St	Class II: Bike Lane	Bike Lane (Standard*)	534	New Bikeway	Yes
City of Oakland	C464570: San Pablo Ave Streetscape Project	San Pablo Ave	17th St, 19th St	Class II: Bike Lane	Bike Lane (Upgraded*)	1242	Upgrade	Yes
City of Oakland	C464570: San Pablo Ave Streetscape Project	San Pablo Ave	21st St, Martin Luther King Jr Wy	Class II: Bike Lane	Bike Lane (Upgraded*)	240	Upgrade	No
City of Oakland	MacArthur Transit Village	W MacArthur Blvd	BART Frontage Rd, Telegraph Ave	Class II: Bike Lane	Bike Lane (Upgraded*)	954	New Bikeway	No
City of Oakland	Martin Luther King Jr Way/20th St (2nd St to Harrison St) Bikeway Wayfinding Project	20th St	San Pablo Ave, Harrison St	Class III: Bike Route	Bike Route (Signage only route)	3952	Upgrade	No
City of Oakland	Martin Luther King Jr Way/20th St (2nd St to Harrison St) Bikeway Wayfinding Project	Martin Luther King Jr Wy	2nd St, San Pablo Ave	Class III: Bike Route	Bike Route (Signage only route)	10280	Upgrade	No
City of Piedmont	Grand Ave. Bicycle Lane Project	Grand Avenue	Wildwood Ave., Oakland Ave.	Class II: Bike Lane	Bike Lane (Standard*)	3633	New Bikeway	No
City of Piedmont	Moraga Avenue & Highland Avenue Pavement Project	Moraga Avenue	Pala Ave. to City limits	Class III: Bike Route	Bike Route (Route with shared lane markings)	5080	New Bikeway	Yes
City of Piedmont	2015 Paving Project	Moraga Avenue	Ramona Ave. to Bonita Ave	Class II: Bike Lane	Bike Lane (One-way/climbing)	1450	New Bikeway	Yes
City of Pleasanton	Arroyo Mocho Trail Paving	Arroyo Mocho Trail	Sutter Gate to Guzman Pkwy	Class I: Multi-Use Trail	Multi-Use Trail (Paved)	7500	Upgrade	No
City of Pleasanton	Bernal Park Development	Bernal	0	Class I: Multi-Use Trail	Multi-Use Trail (Paved)	5000	New Bikeway	No
City of Pleasanton	Bernal Interchange Improvements	Bernal	Foothill to I-680 NB off ramp	Class II: Bike Lane	Bike Lane (Standard*)	2000	New Bikeway	No
City of Pleasanton	Bernal Ave Overlay	Bernal	Valley to Foothill	Class II: Bike Lane	Bike Lane (Upgraded*)	4500	Upgrade	Yes
City of Pleasanton	Valley Bike lane	Valley Ave	south of Bernal	Class II: Bike Lane	Bike Lane (Standard*)	250	New Bikeway	No
City of Pleasanton	Nevada Street	Nevada St	Bernal to Wyoming	Class II: Bike Lane	Bike Lane (Standard*)	1546	New Bikeway	No
City of San Leandro	Annual Street Sealing 14-15	Wicks Blvd	Merced St, Burroughs Ave	Class II: Bike Lane	Bike Lane (Standard*)	370	New Bikeway	Yes
City of San Leandro	Annual Street Sealing 14-15	Wicks Blvd	Merced St, Burroughs Ave	Class III: Bike Route	Bike Route (Route with shared lane markings)	180	New Bikeway	Yes
City of San Leandro	Annual Street Sealing 14-15	Merced St	Williams St, Marina Blvd	Class II: Bike Lane	Bike Lane (Standard*)	2200	New Bikeway	Yes
City of San Leandro	Annual Street Sealing 14-15	Williams Blvd	Merced St, Sundberg Ave	Class II: Bike Lane	Bike Lane (Upgraded*)	1060	New Bikeway	Yes
City of San Leandro	Annual Street Sealing 14-15	Fairway Dr	Miller St, Teagarden Ave	Class II: Bike Lane	Bike Lane (Standard*)	2850	New Bikeway	Yes
City of San Leandro	Bike Network East Project	East 14th	N City limits, W Broadmoor	Class III: Bike Route	Bike Route (Route with shared lane markings)	1218	New Bikeway	No

Jurisdiction	Project Name	Roadway/ Facility	Limits: From, To	Bikeway Class	Detailed Bikeway Type	Length (linear feet, both directions)	New Installation or Upgrade?	Coordinated with Repaving (Y/N)?
City of San Leandro	Bike Network East Project	Peralta Ave	E. 14th St,end west of SLB	Class III: Bike Route	Bike Route (Signage only route)	3628	New Bikeway	No
City of San Leandro	Bike Network East Project	Oakes Blvd	E. 14th St,Superior Ave	Class III: Bike Route	Bike Route (Signage only route)	10090	New Bikeway	No
City of San Leandro	Bike Network East Project	Alvarado St	Lola St, Martinez St	Class III: Bike Route	Bike Route (Signage only route)	3772	New Bikeway	No
City of San Leandro	Bike Network East Project	Maple Ct	Dutton Ave, Oakes Blvd	Class III: Bike Route	Bike Route (Signage only route)	704	New Bikeway	No
City of San Leandro	Bike Network East Project	Dowling Blvd	Maple Ct, MacArthur Blvd	Class III: Bike Route	Bike Route (Signage only route)	10254	New Bikeway	No
City of San Leandro	Bike Network East Project	Superior Ave	Oakes Blvd to Dutton Ave	Class III: Bike Route	Bike Route (Signage only route)	490	New Bikeway	No
City of San Leandro	Bike Network East Project	Dutton Ave	Superior Ave, Superior	Class III: Bike Route	Bike Route (Signage only route)	320	New Bikeway	No
City of San Leandro	Bike Network East Project	Superior Ave	Dutton Ave, MacArthur	Class III: Bike Route	Bike Route (Signage only route)	2642	New Bikeway	No
City of San Leandro	Bike Network East Project	Estudillo Ave	MacArthur E, park entrance	Class III: Bike Route	Bike Route (Route with shared lane markings)	4158	New Bikeway	No
City of San Leandro	Bike Network East Project	Lake Chabot Rd	Estudillo east, City limits	Class III: Bike Route	Bike Route (Route with shared lane markings)	5950	New Bikeway	No
City of San Leandro	Bike Network East Project	W. Juana Ave	San Leandro Blvd, E. 14th St	Class III: Bike Route	Bike Route (Signage only route)	3568	New Bikeway	No
City of San Leandro	Bike Network East Project	Juana Ave	E. 14th St, Grand Ave	Class III: Bike Route	Bike Route (Signage only route)	8610	New Bikeway	No
City of San Leandro	Bike Network East Project	Grand Ave	Joaquin Ave, Sybil Ave	Class III: Bike Route	Bike Route (Route with shared lane markings)	3744	New Bikeway	No
City of San Leandro	Bike Network East Project	Sybil Ave	E. 14th St, Grand Ave	Class III: Bike Route	Bike Route (Route with shared lane markings)	7340	New Bikeway	No
City of San Leandro	Bike Network East Project	Castro St	Washington Ave, E. 14th	Class III: Bike Route	Bike Route (Route with shared lane markings)	1730	New Bikeway	No
City of San Leandro	Bike Network East Project	Washington Ave	W Juana, SLB	Class III: Bike Route	Bike Route (Route with shared lane markings)	7846	New Bikeway	No
City of San Leandro	Bike Network East Project	Evergreen Ave	Sybil Ave, School Street	Class III: Bike Route	Bike Route (Signage only route)	3002	New Bikeway	No
City of San Leandro	Bike Network East Project	School St	Evergreen Ave, Russ Ave	Class III: Bike Route	Bike Route (Signage only route)	4788	New Bikeway	No
City of San Leandro	Bike Network East Project	Russ Ave	Wake Ave, School St	Class III: Bike Route	Bike Route (Signage only route)	910	New Bikeway	No
City of San Leandro	Bike Network East Project	Wake Ave	Russ Ave, Halsey Ave	Class III: Bike Route	Bike Route (Signage only route)	4720	New Bikeway	No
City of San Leandro	Bike Network East Project	Halsey Ave	Wake Ave, Lark St	Class III: Bike Route	Bike Route (Signage only route)	1042	New Bikeway	No
City of San Leandro	Bike Network East Project	Lark St	Halsey Ave, 150th Ave	Class III: Bike Route	Bike Route (Signage only route)	1532	New Bikeway	No
City of San Leandro	Bike Network East Project	150th Ave	Hesperian east, City limits	Class III: Bike Route	Bike Route (Route with shared lane markings)	3906	New Bikeway	No
City of San Leandro	Bike Network East Project	Bancroft Ave	Blossom Way, 136th Ave	Class III: Bike Route	Bike Route (Route with shared lane markings)	2586	New Bikeway	No
City of San Leandro	Bike Network East Project	136th Ave	Bancroft Ave, School St	Class III: Bike Route	Bike Route (Signage only route)	4422	New Bikeway	No
City of San Leandro	Bike Network East Project	143rd Ave	Washington Ave, E. 14th	Class III: Bike Route	Bike Route (Signage only route)	5182	New Bikeway	No
City of San Leandro	Bike Network East Project	Williams St	San Leandro Blvd, Washington Ave	Class II: Bike Lane	Bike Lane (Standard*)	2036	New Bikeway	No
City of San Leandro	Bike Network East Project	Foothill Blvd	N. City Limits, Superior Ave	Class II: Bike Lane	Bike Lane (Standard*)	1542	New Bikeway	No
City of San Leandro	Bike Network East Project	San Leandro Blvd (North)	N. City Limits, Best Ave	Class II: Bike Lane	Bike Lane (Standard*)	3527	New Bikeway	No
City of San Leandro	Bike Network East Project	San Leandro Blvd (South)	Washington Ave, E. 14th St	Class II: Bike Lane	Bike Lane (Upgraded*)	3100	New Bikeway	No
City of San Leandro	Bike Network East Project	MacArthur Blvd	Durant Ave, Superior Ave	Class II: Bike Lane	Bike Lane (Standard*)	1527	New Bikeway	No
City of San Leandro	San Leandro Blvd Rehabilitation project	San Leandro Blvd	Marina Blvd and Polar Way	Class II: Bike Lane	Bike Lane (Upgraded*)	5100	New Bikeway	Yes
City of Union City	Whipple Road Overlay	Whipple Road	Amaral Street, Hayman Street Street	Class II: Bike Lane	Bike Lane (Standard*)	6623	New Bikeway	Yes
City of Union City	Whipple Road Overlay	Whipple Road	Hayman Street, Ithaca Street	Class III: Bike Route	Bike Route (Signage only route)	3552	New Bikeway	Yes

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Pedestrian Projects Completed in FY15-16

Jurisdiction	Project Name	Major Trail/ Pathway Maintenance	Traffic Calming Elements	Crossing Improvements	Widened Sidewalk	Sidewalk Gap Closure	New Trail	Pedestrian Lighting	Landscaping/Streetscape	ADA/Curb Ramps	Other (explain in notes)	Roadway or Intersection	Limits (From, To - If Roadway)
ALAMEDA COUNTY	No information received												
City of Alameda	Sidewalk Replacement FY 15-16									X	X	Citywide	
City of Alameda	Resurfacing Ph 34 (2015)									X		Citywide	
City of Alameda	Audible Ped Signals			X						X		Various	
City of Alameda	Signals/Striping/Systems: RRFB's			X						X		Various	
City of Alameda	Signals/Striping/Systems: LPI's			X								Various	
City of Alameda	Main Street Ferry Terminal Parking Lot connector			X		X				X		Main Street	At O'Club parking lot
City of Alameda	Park Street Streetscape Phase III			X						X		Park Street	Various intersections
City of Alameda	LED replacement and Traffic Calming			X						X			
City of Alameda	Intersection Daylighting			X								Various	
City of Albany	Marin/Curtis Safe Routes to School		X	X	X					X		Curtis/Marin and Curtis/Sonoma	On Curtis Street from Marin Avenue to Sonoma Avenue.
City of Albany	2015/16 Pavement Rehabilitation									X		Various locations citywide	0
City of Berkeley	No information received												
City of Dublin	Amador Plaza Road Bicycle and Pedestrian Improvements		X	X							X	Amador Plaza Road	Dublin Blvd to Amador Valley Blvd
City of Dublin	Tassajara Road Overlay Project									X		Tassajara Road	I-580 West Off-Ramp to North Dublin Ranch Dr.
City of Dublin	Wallis Ranch Off-Site Improvements			X		X			X	X		Tassajara Road	Quarry Lane School to Silvera Ranch Dr.
City of Emeryville	Sidewalk rehabilitation City-wide	X		X		X				X		City-Wide	
City of Emeryville	Safe Routes to School		X	X	X			X		X		San Pablo Avenue	43rd to 53rd Streets

Appendix F. Pedestrian Project Completion Information

Jurisdiction	Project Name	Major Trail/ Pathway Maintenance	Traffic Calming Elements	Crossing Improvements	Widened Sidewalk	Sidewalk Gap Closure	New Trail	Pedestrian Lighting	Landscaping/Streetscape	ADA/Curb Ramps	Other (explain in notes)	Roadway or Intersection	Limits (From, To - If Roadway)
City of Fremont	PWC8800 Central Park Fields 9 & 10 Synthetic Turf Conversion									X			
City of Fremont	PWC8498 Warm Springs Boulevard Improvements Project					X	X			X			
City of Fremont	PWC8234O 2014 Pavement Rehab Project			X						X			
City of Fremont	PWC8381 Union Pacific Railroad Pedestrian Crossing Improvements						X						
City of Fremont	PWC 8239, 8444, 8483 Citywide Concrete Repairs & Intersection Ramps					X				X			
City of Fremont	PWC8737 Frobisher Drive					X				X			
City of Fremont	PWC 8798 Emilia Lane Sidewalk Improvements						X			X			
City of Fremont	PWC 8830 & 8838 Sidewalk Realignment at Northgate Community Park & Cricket Batting Cages						X						
City of Fremont	PWC8195L 2016 Cape & Slurry Seal Project			X								Emilia Ln & Othello Dr, Emilia Ln & Lodovico Ct, Macbeth Ave & Emilia Ln, Macbeth Ave & Frederick Ln, Macbeth Ave & Macbeth Ct	
City of Fremont	PWC8661 Fremont Blvd Widening Project					X							
City of Fremont	PWC 8866 Capitol Phase I					X		X	X	X			

Jurisdiction	Project Name	Major Trail/ Pathway Maintenance	Traffic Calming Elements	Crossing Improvements	Widened Sidewalk	Sidewalk Gap Closure	New Trail	Pedestrian Lighting	Landscaping/Streetscape	ADA/Curb Ramps	Other (explain in notes)	Roadway or Intersection	Limits (From, To - If Roadway)
City of Fremont	PWC8738 Central Park North Picnic Area (Always Dream Picnic Area)						X		X				
City of Fremont	PWC8739 Central Park Picnic Area C Expansion						X		X				
City of Fremont	PWC8195J 2015 Cape & Slurry Seal Project			X									
City of Hayward	Citywide curb ramp program									X		Various locations citywide	
City of Hayward	West A Street Safety Improvement Project			X						X		South Garden, Happyland, and Hathaway	
City of Hayward	Fire Station 7			X						X		Huntwood/Panjon	
City of Livermore	2014-06 Annual Crosswalk Safety Improvement		X	X							X	East Avenue/Estates Street & S Livermore Avenue/Arroyo Mocho Trail	
City of Livermore	Brisa Station Phase I, Tract Number 7870			X		X		X	X		X	Brisa at Misty Circle	
City of Livermore	2001-12 Traffic Signal Modification		X	X								Concannon and Evans	
City of Livermore	2001-12 Traffic Signal Modification		X	X								First Street at Maple Street	
City of Livermore	2014-06 Annual Crosswalk Safety Improvement		X									East Jack London Blvd	At Curlew Road and at Troy Street, adjacent to Rancho Elementary School
City of Livermore	2014-01 Street overlay	X											Trail east of El Charro Road south of Jack London Blvd
City of Livermore	Brisa Station Phase I, Tract Number 7870												Construct segment of Iron Horse Trail immediately north of Brisa Neighborhood to Vasco Road
City of Livermore	2015-04 Slurry Seal Project									X		(1) at Arroyo Rd. @ Superior Dr. and (2) at Primerose Ln. @ Larkspur Dr. (total of 3 ramps installed)	
City of Livermore	2015-01 Resurfacing Project					X				X		Various	
City of Livermore	2014-03 Annual Sewer project									X		Various	

Appendix F. Pedestrian Project Completion Information

Jurisdiction	Project Name	Major Trail/ Pathway Maintenance	Traffic Calming Elements	Crossing Improvements	Widened Sidewalk	Sidewalk Gap Closure	New Trail	Pedestrian Lighting	Landscaping/Streetscape	ADA/Curb Ramps	Other (explain in notes)	Roadway or Intersection	Limits (From, To - If Roadway)
City of Newark	No information received												
City of Oakland	C428013: Citywide Curb Ramps and Sidewalk Repair									X	X	Citywide	
City of Oakland	C464570: San Pablo Ave Streetscape Project			X	X				X	X		San Pablo Ave	17th St to Castro St
City of Oakland	C369560: Bicycle Facilities and Pedestrian Walking Path on Broadway from Brookside Ave to Kay Overcrossing		X	X		X				X		Broadway	Brookside Ave to Kay Overcrossing
City of Oakland	C444010: San Pablo Ave/West St & San Pablo Ave/W Grand Ave			X	X					X		San Pablo Ave at West St and at W Grand Ave	
City of Oakland	C444110: New Traffic Signal at Bancroft Ave/94th Ave			X						X		Bancroft Ave / 94th Ave	
City of Oakland	C452410: 2010 HSIP Cycle 4 - Hegenberger Rd			X								Hegenberger Rd	Edes Ave to International Blvd
City of Oakland	C458910: CPUC 130 Railroad Crossing Improvements			X		X						Broadway/Embarcadero, Fruitvale Ave/San Leandro St	
City of Oakland	C471910: Safe Routes to School Cycle 10			X	X					X		Ney Ave/Ritchie St, Fruitvale Ave/E 16th St, 98th Ave/Cherry St	
City of Oakland	ACTC East Bay Greenway Segment 7A			X			X			X		San Leandro St	75th Ave to 85th Ave
City of Oakland	Road diets implemented through various projects			X						X		see street list under "Limits"	Grand Ave (Elwood Ave to Jean St), Telegraph Ave (17th St to 20th St), Telegraph Ave (20th St to 29th St), W MacArthur Blvd (BART Frontage Rd to Telegraph Ave)

Jurisdiction	Project Name	Major Trail/ Pathway Maintenance	Traffic Calming Elements	Crossing Improvements	Widened Sidewalk	Sidewalk Gap Closure	New Trail	Pedestrian Lighting	Landscaping/Streetscape	ADA/Curb Ramps	Other (explain in notes)	Roadway or Intersection	Limits (From, To - If Roadway)
City of Piedmont	Oakland Ave/El Ceritto Ave. Pedestrian Safety Project			X								Oakland Ave	at El Ceritto Ave
City of Piedmont	Highland Avenue and Park Way Drainage Improvements				X					X		Highland Avenue	Park to Moraga
City of Piedmont	Moraga Avenue & Highland Avenue Pavement Project			X						X		Highland Avenue	Sierra to Highland Way
City of Piedmont	Annual Sidewalk Replacement Project				X							Various locations throughout the City	
City of Pleasanton	Arroyo Mocho Trail Paving	X											Sutter Gate to Guzman Pkwy
City of Pleasanton	Bernal Park						X	X	X	X			
City of Pleasanton	Bernal Interchange Improvements			X	X	X			X	X		Bernal Ave	Foothill Rd to I-680 NB off ramp
City of Pleasanton	Amador High School signal		X	X						X		Santa Rita	
City of San Leandro	Citywide traffic calming program		X										
City of San Leandro	Annual Overlay / Rehabilitation 14-15									X			
City of San Leandro	Annual Street Sealing 2015-16 and Annual Rehab 2015-16 projects									X			
City of San Leandro	Accessibe Pedestrian Signals			X	X					X	X		
City of San Leandro	San Leandro Blvd Rehabilitation project			X						X	X		
City of Union City	Dyer St and San Carlos Way Intersection Improvements		X	X						X		Dyer St & San Carlos Wy	Dyer St & San Carlos Wy
City of Union City	2014-15 Wheelchair Ramp Project									X			

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