ALAMEDA County Transportation Commission

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Memorandum 5.3

DATE:	October 1, 2018
TO:	Planning, Policy and Legislation Committee
FROM:	Tess Lengyal, Deputy Executive Director of Planning and Policy Saravana Suthanthira, Principal Transportation Planner Chris Marks, Associate Transportation Planner
SUBJECT:	Congestion Management Program 2017 Multimodal Performance Report

Recommendation

This item is to provide the Commission with an update on the Congestion Manamgent Program 2017 Multimodal Performance Report.

Summary

Annually, Alameda County Transportation Commission (Alameda CTC) prepares a summary of the state of the transportation system within Alameda County, tracking a series of key performance metrics for the countywide multimodal transportation system. The attached six fact sheets (Attachments A-F) distill key countywide trends and inventory county transportation assets. Alameda CTC tracks performance measures including overall commuting patterns, demand factors, and roadway, transit, biking and walking performance, and goods movement. The measures are designed to be aligned with the goals of the Alameda Countywide Transportation Plan (CTP) and the Congestion Management Program (CMP) statute. The Performance Report (comprised of the six attached fact sheets), together with the Alameda CTC's other transportation system monitoring efforts, are critical for assessing the success of past transportation investments and illuminating transportation system needs.

Background

The Performance Report is one of several performance monitoring documents produced by the Alameda CTC. The emphasis of the performance report is county-level analysis using existing, observed data that can be obtained on an annual basis. The Performance Report complements other monitoring efforts such as biennial level of service monitoring which assess performance of specific modes at a more detailed

level. The Performance Report satisfies one of the five legislatively mandated elements of the CMP that the Alameda CTC must prepare as a Congestion Management Agency.

Key Findings

Bay Area Growth Continued: A positive growth trend, seen since the recession in jobs and population continued, locally and region-wide. While Alameda County has maintained a good balance of jobs and population—the adjacent Contra Costa and San Joaquin Counties have continued to add population, while San Francisco and Santa Clara counties have continued to add jobs—with Alameda County's transportation system bearing the added commute trips due to this regional jobs-housing imbalance.

Commuters continued to shift away from driving alone: Alameda County's commute patterns continued to be increasingly multimodal. Telecommuting is rising rapidly in Alameda County and in the region; 7% of the population now works from home.

Freeway and highway speeds stayed stable: After a continued annual decline since the end of the recession, freeway and highway speeds leveled off.

Arterial speeds declined: Average speeds on arterial roads continued a multi-year decline, likely the result of diversions from congested freeways onto local roads.

Safety continued to decline: Total collisions increased by 10% between 2015 and 2016. However, fatal and severe collisions decreased by 5%. Pedestrians and cyclists continue to make up a disproportionate percent of injury and fatal collisions.

Pavement condition improved: 45% of roads in Alameda County now rate as good or excellent and average PCI equal to all time high after two years of Measure BB funding. Nearly 1,000 miles remain at risk, poor, or failing.

Total annual ridership is falling along with per-capita ridership:
Annual boardings dropped for the second consecutive year, by 4%, to 94 million in 2017. Per-capita transit ridership has continued to fall. 2017 was the first year since 2010 that BART lost total ridership. Ferry and commuter rail ridership increased.

Commuter transit markets have remained strong: Peak-hour commute transit markets have stayed resilient to the overall decline in transit ridership. Most losses appeared to have occurred in off-peak and weekend periods.

The 2017 Performance Report includes data for the most recently available reporting period, which is typically calendar year 2017 or fiscal year 2016-17. Because publication of some data sources lags preparation of the report, some data used are prior to the 2017 reporting period.

Fiscal Impact: There is no fiscal impact associated with the requested action.

Attachments

A. 2017 Transportation System Fact Sheet
B. 2017 Transit System Fact Sheet
C. 2017 Freeways System Fact Sheet
D. 2017 Highways, Arterials, and Major Roads Fact Sheet
E. 2017 Goods Movement Fact Sheet
F. 2017 Active Transportation Fact Sheet

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Alameda County Transportation System

FACT SHEET

October 2018

ALAMEDA County Transportation Commission

Alameda County's Multimodal Transportation Network

SNAPSHOT:

Population:

1.65 million people

21% of total Bay Area population

Jobs:

780,000 jobs

20% of all Bay Area jobs

Daily Transit Use:

320,000 average weekday riders

18% of Bay Area weekday ridership

Daily Vehicle Delay:

52,000 hours in traffic

30% of severe delays in the Bay Area

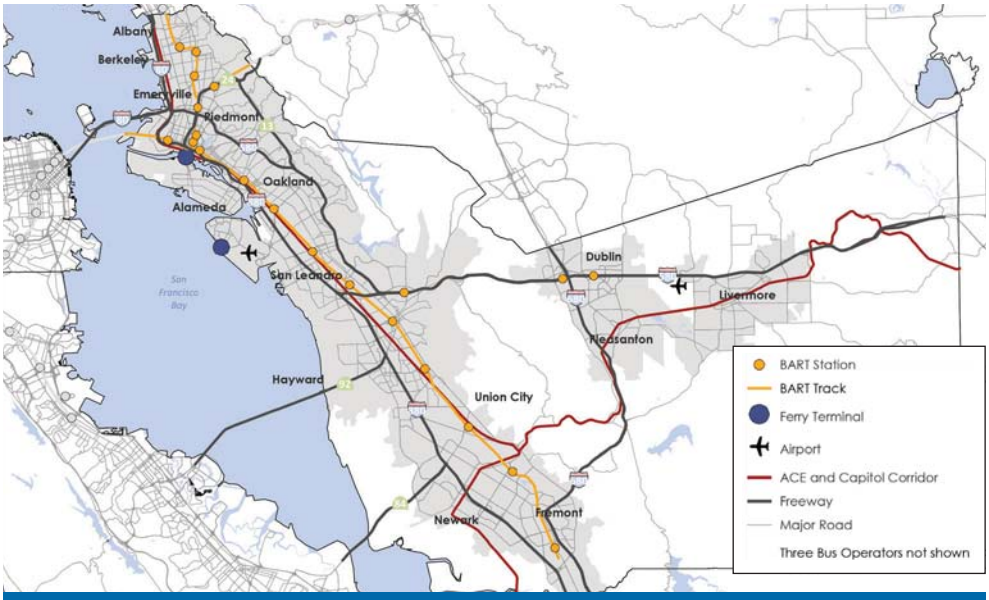
Alameda CTC annually evaluates the performance of the County's transportation system. Alameda CTC monitors trends in a series of performance measures that track overall travel patterns, roadways, transit, paratransit, biking, walking and livable communities.

Alameda County's rich and multimodal transportation network of roadways, rail, transit, paratransit, and biking and walking facilities allows people and goods to travel within the county and beyond. Today, population growth and a booming economy have increased travel demand and congestion significantly, and Alameda CTC continues to develop and deliver projects to expand travel choices and improve access and efficiency.

GROWING COMMUTER TRAVEL DEMAND

Alameda County's multimodal transportation system accommodates a significant share of the San Francisco Bay Area's commuter travel. Roughly one-third of regional commutes involve Alameda County in some way, either traveling within, to, from, or through Alameda County. Alameda County residents commute to work using various transportation modes, and non-driving modes are growing. Between 2010 and 2015, for every new solo driver, almost seven people began using transit, walking, biking, or telecommuting.

The map below shows the freeways, major roadways and transit routes in Alameda County's transportation network.



ALAMEDA COUNTY TRANSPORTATION NETWORK

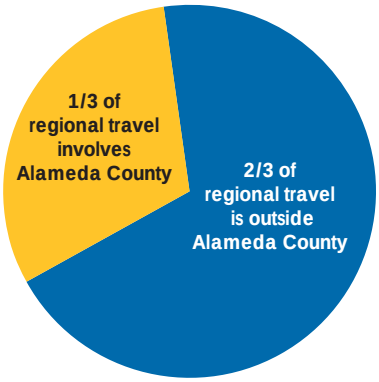
Alameda County Roadways Are the Most Congested in the Bay Area

Alameda County's roadway network includes freeways, highways, arterials, collectors, local roads, bridges, tunnels, as well as a growing network of carpool and express lanes. It includes some of the most heavily-used and congested roads in the region.

Congested Roadways:

most congested corridors	Half of top 10 in Bay Area
31 minute average commute	5th longest in the Bay Area

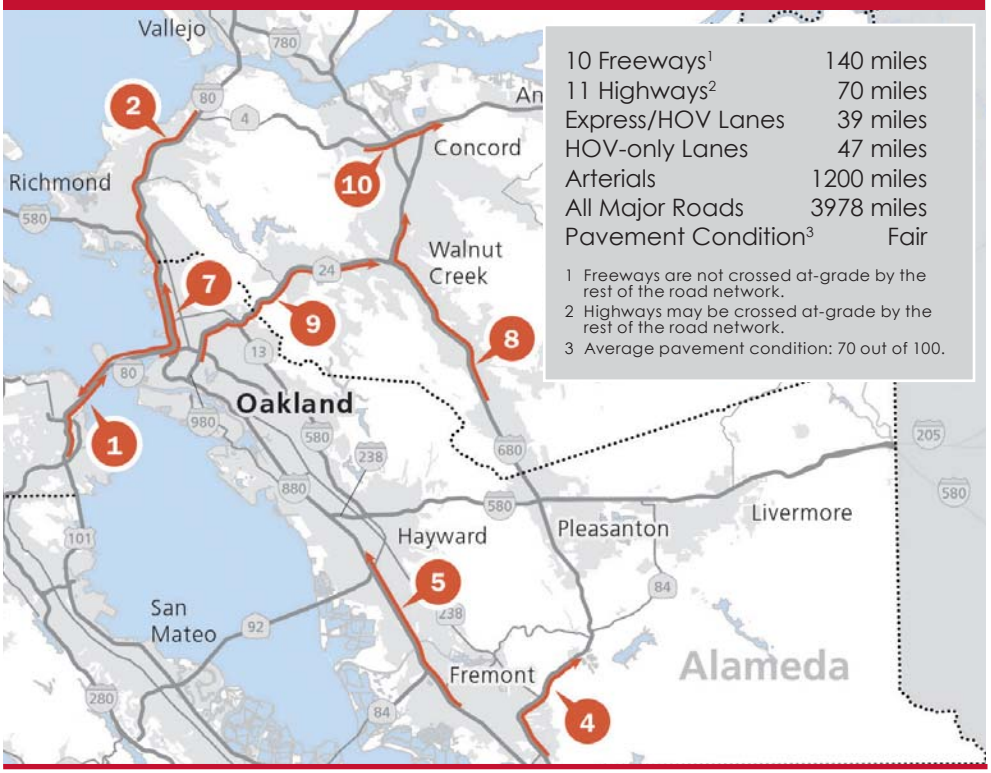
- **Six of 10 interstates** in the Bay Area pass through Alameda County.
- **42 million miles traveled daily** on Alameda County roads, almost one-quarter of all travel for the entire Bay Area.
- **Almost one-quarter of freeway miles are congested** with speeds below 30 mph at the p.m. peak.



BAY AREA TRIPS

Alameda County supports 33 percent of regional commute trips, despite having only 21 percent of the regional population. Nearly one-fifth of these trips are pass-through.

2016 TOP 10 CONGESTED BAY AREA CORRIDORS



10 Freeways[1]	140 miles
11 Highways[2]	70 miles
Express/HOV Lanes	39 miles
HOV-only Lanes	47 miles
Arterials	1200 miles
All Major Roads	3978 miles
Pavement Condition[3]	Fair

1 Freeways are not crossed at-grade by the rest of the road network.
2 Highways may be crossed at-grade by the rest of the road network.
3 Average pavement condition: 70 out of 100.

Data source: MTC Vital Signs, Bay Area Freeway Locations with Most Weekday Traffic Congestion, 2016, September 2017.

ALAMEDA COUNTY COMMUTING FACTS:

- **47 percent of trips on Alameda County roads** originate outside of the county
- **3rd longest commute** for single-occupancy vehicles in the Bay Area:
  - **29 minutes** on average for single-occupancy vehicles
- **47 mph** average p.m. speed on freeways
- **412,000 vehicles** travel across the three bay-crossing bridges daily

Collisions declined over the last decade, but have been increasing since the end of the recession.

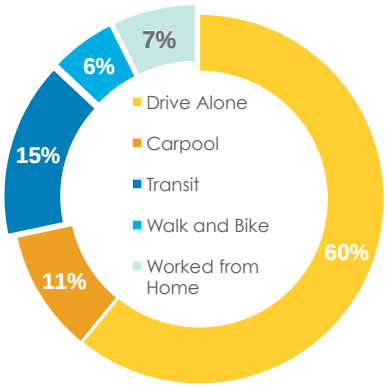
- **One fatal collision** every five days
- **22 injury collisions** each day
- **Pedestrians and cyclists more than twice as likely** to be involved in collisions than motorists

Transit Improves Mobility in Congested Corridors

Transit is a critical travel mode for improving mobility throughout the county, particularly on our most congested corridors. Alameda County has one of California's most transit-rich environments.

Transit Commuting:

94 million transit riders annually take BART, bus, rail, and ferry



TRIP SHARE

The number of telecommuters increased 23 percent in the last year.

ACTIVE TRANSPORTATION

Alameda County's temperate weather provides a highly-supportive environment for active transportation.

- **394 miles of bikeways** are in the countywide network.
- **6 percent** of Alameda County residents walk or bike to work.
- **65 percent** of pedestrian and almost **60 percent** of bike collisions occurred on just 4 percent of roads.

ALAMEDA COUNTY TRANSIT FACTS:

BART:

- **22 of 47** BART stations are in Alameda County
- **149,000 people** board BART every weekday
- **1 in 3 BART riders** board trains in Alameda County
- BART has one of the **highest farebox recovery ratios** in the county at 73 percent

Bus:

- **Three bus operators** service 170 bus routes and over 1,500 route-miles
- **159,000 people** board buses every weekday
- **1.8 million hours** of bus service were provided by operators last year
- **Transbay bus ridership grew 35 percent** in the last six years

Rail and Ferry:

- **Three commuter rail operators** serve 10 stations
- **2.1 million people** boarded commuter trains in 2017
- **Three ferry terminals** serve 8,000 commuters each weekday

Alameda County: Goods Movement Hub

Alameda County is the goods movement hub of Northern California. One-third of all jobs in Alameda County depend on goods movement, which is essential to the vibrancy of the regional economy and generates tax revenues to support crucial public investments.

ALAMEDA COUNTY GOODS MOVEMENT FACTS:

- **1.5 million tons of air freight** move through Oakland International Airport annually
- **123 freight rail miles** and 131 public at-grade mainline crossings
- **2.4 million containers** annually shipped and received by the Port of Oakland
- **7th busiest port** in the United States by container throughput
- **20,000 trucks per day** travel I-580, more than on any other road in the Bay Area
- **110 miles** of the National Highway Freight Network

Transportation System Challenges and Opportunities

Alameda County's multimodal transportation system faces increasing demand from a growing population of 1.65 million, congestion on freeways and arterial corridors, safety issues, and greenhouse gas emissions. Strategic infrastructure investments expand access and mobility, accommodate travel demand and provide more flexibility on different modes that can reduce emissions.

Alameda County has 39 miles of express lanes, with 71 miles planned in the near future. **Express lanes run 2-18 mph faster** than overall freeway traffic.

Data sources:

Active transportation: 2016 Active Transportation Plan; Statewide Integrated Traffic Records System (SWITRS), 2016; Countywide Active Transportation Plan.

Air and seaports: FAA Enplanements, Vital Signs, Metropolitan Transportation Commission (MTC); FAA All-Cargo Data for US Airports, Vital Signs, MTC; Port of Oakland Container Statistics, Vital Signs, MTC.

Bridges: Caltrans Annual Average Daily Traffic via Regional Measure 3 (RM 3) Briefing Memo; Travel Model, RM 3 Briefing Memo, Alameda CTC.

Congested roadways: Vital Signs, MTC; 2018 Level of Service Monitoring Report, Alameda CTC; INRIX VHD, Vital Signs, MTC 2016.

Economy: CA Department of Finance Table E-5: Pop/Housing Estimates (2011-2017), Vital Signs, MTC; DMV and 2016 ACS Table B01001, DMV and 2015 American Community Survey (ACS) Table B01001.

Mode split: 2016 ACS 1-Year estimate.

Rail: Rail Strategy Study, Alameda CTC; National Transit Database (NTD) Annual Boardings; National Highway Freight Network Map and Tables for CA, Federal Highway Administration.

Roadways: 2018 LOS Monitoring Report, Alameda CTC; Caltrans Highway Performance Monitoring System Library, Vital Signs, MTC; INRIX, 2015, Vital Signs, MTC.

Safety: 2016 SWITRS via Transportation Injury Mapping System.

Transit: NTD FY 2015-16 and provisional data from transit operators for FY2016-17; Transbay Ridership data provided by AC Transit; BART System Boardings by station.

CHALLENGES

Alameda County roads experience a disproportionate amount of regional congestion. Alameda County has five of the top 10 most congested roads and 31 percent of the Bay Area's congestion-related vehicle delay. Congestion on freeway corridors also significantly impacts the movement of goods.

Approximately one-third of regional commuter trips involve Alameda County in some way, although Alameda County only has 21 percent of the region's population.

Alameda County has the second fastest population growth rate in the Bay Area over the last decade leading to increased travel demand on the already congested system.

Although commute patterns have become more multimodal over the last decade, most trips (60 percent) are still made in single-occupancy vehicles.

The goods movement hub in the region, Alameda County has the highest volumes of truck and freight rail traffic due to the Port of Oakland, major rail lines, and designated highway freight corridors.

OPPORTUNITIES

Alameda County is served by a rich multimodal transportation system which can be leveraged to increase the efficiency and throughput of the existing infrastructure for all modes and to expand transportation opportunities in more modes.

Express lanes increase the efficiency of our transportation system, for commuters, transit and freight by taking advantage of existing capacity to reduce peak-hour congestion. Alameda County already has 39 miles of express lanes and more in the project pipeline.

Alameda County has strong connections to national and international trade markets through the Port of Oakland and the Northern California megaregion. Plans at the Port of Oakland include increasing the share of goods transported by rail, which, if realized, could reduce the number of truck trips on congested roads.

ALAMEDA County Transportation Commission

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Alameda County Transit System

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Alameda County: Central Hub of Bay Area Transit

15 percent of Alameda County residents commute to work by transit, the second highest percent in the State.

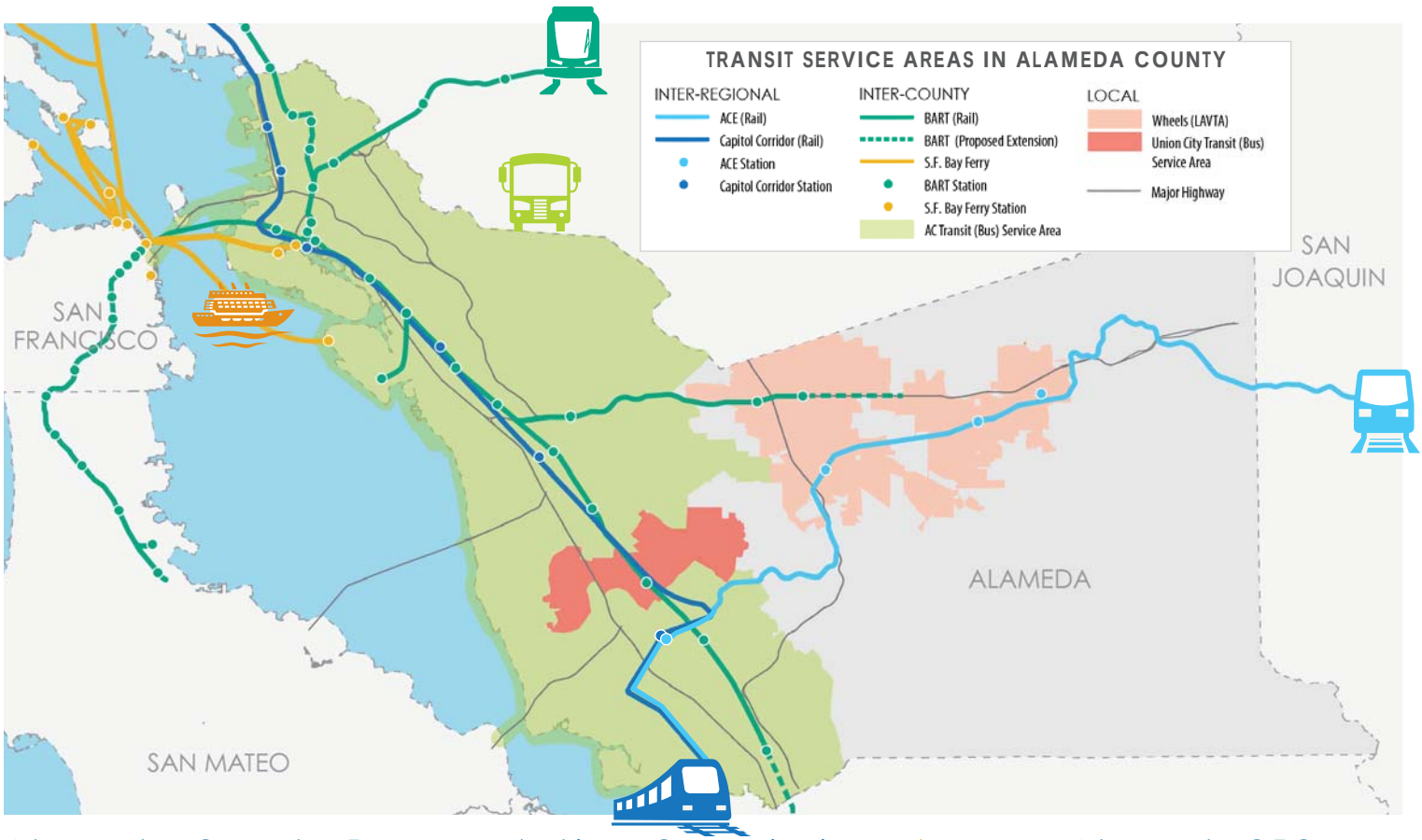
Alameda County is one of California's and the nation's most transit-rich, multimodal environments — with the second highest transit mode share in the state. Public transit plays a vital role in Alameda County's transportation network. Alameda County's seven major transit operators carried 94 million passenger trips in 2017.

EMISSIONS REDUCTION

Transportation is the single largest contributor of emissions. Shifting the balance from single-driver cars to transit and other modes can help reduce emissions (both greenhouse gases and air pollutants) and enhance the quality of life and the environment in Alameda County.

ACCESS AND MOBILITY FOR EVERYONE

Transit provides access to work, school, medical appointments, and other important destinations. Widespread access to high quality transit service expands individual travel choice and helps meet growing travel demand.



Public Transit Providers Serving Alameda County

Seven transit agencies operate heavy rail, commuter rail, bus, ferry, and automated guideway services in Alameda County. Operational highlights from the fiscal year 2016-2017 appear below. Annual numbers reflect statistics for Alameda County only, unless otherwise noted.

BART

- **149,000 average weekday riders**
- **43 million annual riders, 46% of annual countywide transit ridership**
- **2nd largest transit provider in the Bay Area**
- 995,000 hours of train car service
- 68% fare box recovery ratio*
- 22 of 48 stations are in Alameda County
- 103 of 245 route miles
- 662 rail cars*
- 38 years average fleet age*
- 89% on-time performance

SF BAY FERRY

- **8,300 weekday riders***
- **1.6 million annual riders**
- 12,800 hours of ferry service
- 60% fare box recovery ratio*
- 12 ferries,* serving three terminals

* Systemwide.

AC TRANSIT

- **152,000 average weekday riders**
- **47 million annual riders, 50% of countywide annual transit ridership**
- **3rd largest transit provider in the Bay Area**
- 1.7 million hours of bus service
- 17% fare box recovery ratio*
- 1,118 route miles on 151 routes
- 630 buses*
- 10.4 mph average bus speed
- 70% on-time performance*

UNION CITY TRANSIT

- **973 average weekday riders**
- **280,000 total annual riders**
- 37,500 hours of bus service
- 7% fare box recovery ratio
- 105 route miles on eight routes
- 95% on-time performance

CAPITOL CORRIDOR

- **1.6 million total annual riders***
- 5.1 million hours of train car service*
- 58% system operating ratio*
- 86 of 342 route miles
- 91% on-time performance*

ACE

- **461,000 total annual riders**
- **1,755 average weekday riders**
- 20,500 hours of train car service
- 41% fare box recovery ratio*
- 90 of 172 route miles
- 87% on-time performance*

WHEELS (LAVTA)

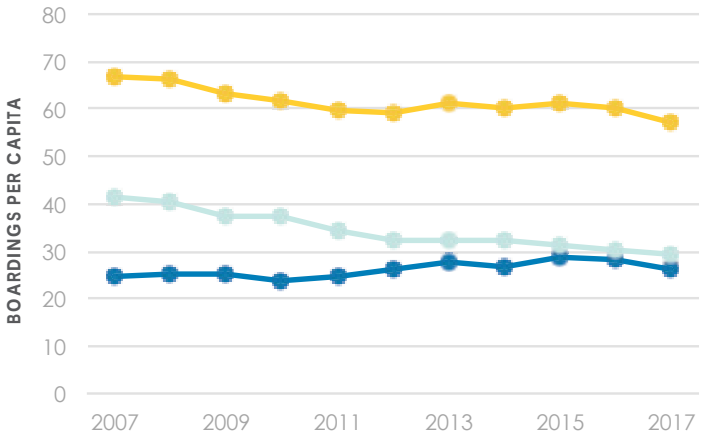
- **5,500 average weekday riders**
- **1.5 million total annual riders**
- 122,000 hours of bus service
- 14% fare box recovery ratio
- 300 route miles on 14 routes
- 81% on-time performance

Source: National Transit Database (FY2007-16), provisional data from transit operators (FY2017).

Transit System Performance 2017

Over the last decade, total annual ridership in Alameda County had remained strong, primarily due to population growth. However, total ridership dipped slightly in 2016 for the first time since the end of the recession, before falling four percent in 2017.

Despite declines in annual boardings, transit ridership has remained strong in key markets – such as the transbay corridor.

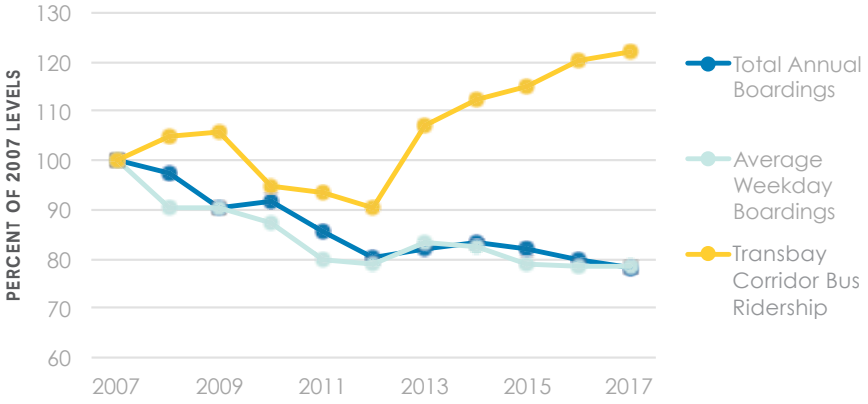


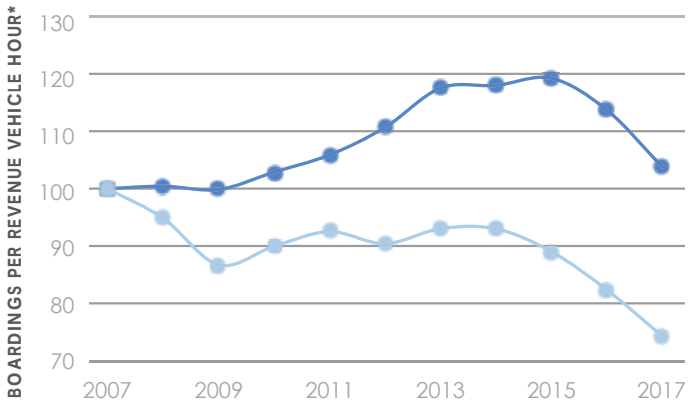
Total annual ridership is falling along with per-capita ridership

Alameda County has the second highest share of residents who commute by transit in the state — second only to San Francisco — yet total annual boardings per capita have declined 15 percent over the last decade.

Commuter transit markets have remained strong

While total annual ridership has fallen, commuter travel demand remains strong. AC Transit's systemwide weekday boardings have been stable the last few years, while ridership on Transbay routes continues to grow. Ridership losses are largely on weekends and off-peak.





Service utilization decreased as costs increase

Both BART and AC Transit increased service in 2017 while ridership declined, significantly increasing the cost per boarding for both. BART's operating expense per rider had generally improved since 2007, but increased 15 percent in 2017.

*Percent of 2007.

Transit System Challenges and Opportunities

Alameda County's transit operators are at a critical juncture. Inter-county services, especially in heavily congested and capacity-constrained parts of the system like the Transbay Corridor, have stayed competitive and attracted new riders. However, these systems are suffering from overcrowding. At the same time, local transit operators struggle to provide competitive service on increasingly congested roadways and are also faced with competition from a new range of on-demand mobility services.

Alameda County has the **third shortest** average commute time on transit in the Bay Area — 53 minutes.

AC Transit's Transbay ridership **grew 35 percent** in the last six years.

Data sources:

Operator facts and trends: 2016 Alameda CTC Performance Report, National Transit Database (FY2006-2015) and provisional data provided by transit operators.

Transbay growth: AC Transit Average Weekday Transbay Bridge Ridership (FY 2011/2012-FY2016-2017).

Transit commute time: 2015 American Community Survey 1-year estimates, average commute time by county of residence.

Transit mode share: 2016 American Community Survey, 2016 PUMS data.

CHALLENGES

Speed, frequency, and reliability: Many buses operate on congested roadways and struggle to stay on time and operate at competitive speeds.

Poor transit system integration: There are multiple transit systems in Alameda County, each with its own fare structure, ticketing system, and information, which can lead to confusion for passengers.

High need for reinvestment in aging systems: Even with the integration of the first new cars in 2017, BART has the oldest fleet of all major metropolitan transit providers in the United States. The average age of the fleet is 15 years older than the typical useful life of the trains. AC Transit stops and shelters are also old and declining in quality.

Increasing competition from new mobility services: The emergence of companies like Uber and Lyft appear to have coincided with declining transit ridership nationwide. These companies present both challenges as well as opportunities, particularly regarding first- and last-mile connections to transit.

OPPORTUNITIES

Strong transit market in Alameda County: Alameda County has many strong transit markets due to local land use patterns, demographics, and projected growth. Transit has a real potential to be a competitive choice over driving, with better performance relative to personal cars.

Growing Transbay market: Transit trips by bus, ferry, and BART between Alameda County and San Francisco have grown over the last decade. Transit demand is only expected to increase, so this represents an opportunity for strategic investment in Transbay operations to support growing ridership.

New funding and opportunity for investment: Investments that improve transit reliability, speed, and quality, especially on major travel corridors, will improve transit performance and competitiveness, making it a more attractive choice. This can help maintain current riders and attract new riders. New potential funding streams like Senate Bill 1 and Regional Measure 3 make more of these investments possible.

System integration: Clipper 2.0 presents an opportunity to create a seamless network, perhaps for the entire Bay Area. This integration is necessary to take full advantage of Alameda County's rich transit network and diverse operators.

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Alameda County Freeway System

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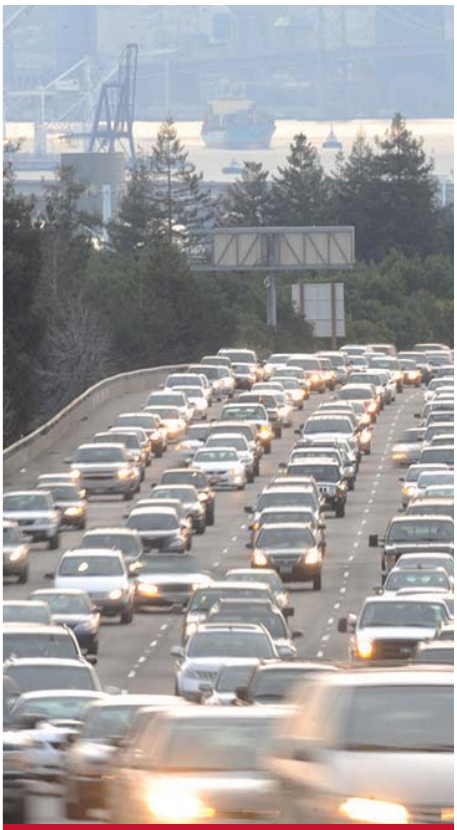
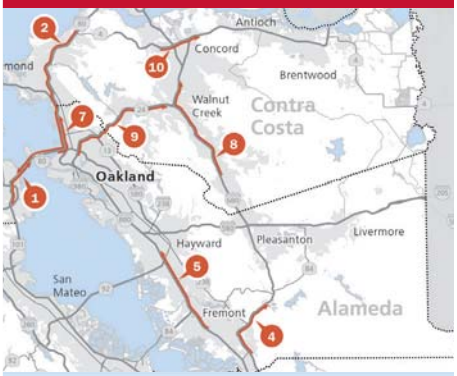
Alameda County's Freeway System Connects the Region



TOP 10 CONGESTED FREEWAYS



Alameda County has 140 miles of freeways, including **half of the top 10 most congested corridors** in the Bay Area.

As the geographic center of the San Francisco Bay Area, Alameda County connects the region with an extensive freeway network of almost 140 miles on six Interstates and four state routes. These freeways provide critical mobility for millions of commuters each day, and they are some of the most heavily-used and congested roads in the entire Bay Area.

Alameda County's freeways also facilitate the movement of more goods than any other county in the Bay Area. The freeway network includes 96 miles of managed lanes (carpool and express lanes), which extend the overall capacity of the network.

Carrying Goods

Alameda County freeways **move more freight than any other county** in the Bay Area.

IMPORTANCE OF FREEWAYS

Alameda County's freeways are key regional and interregional connectors.

- **More than two-thirds of traffic** on the eight bay-crossing bridges travels to, from, or through Alameda County.
- **The freeway network carries goods** between the Port of Oakland, the region, and domestic markets beyond.
- **The county's freeways carry the most pass-through trips** in the region i.e., trips with origins and destinations outside Alameda County – 47 percent.

MANAGED LANES

Alameda County has express lanes on I-580, I-680, with more under construction on I-880 as well. These lanes are free for carpools, buses and motorcycles, and available to those driving alone for a fee based on distance and demand at peak hours. Express lanes in Alameda County have been shown to improve overall performance where after studies have been conducted.

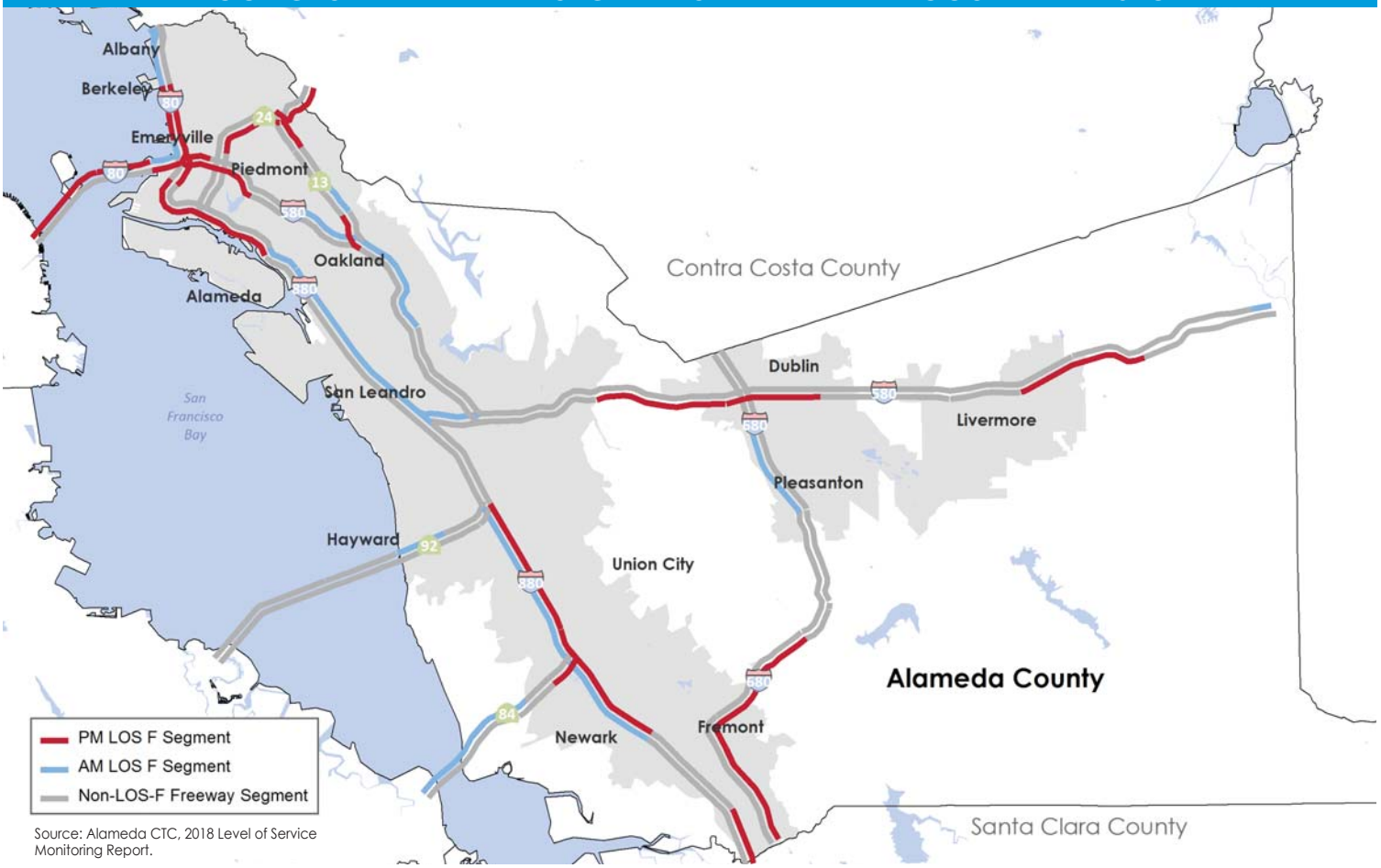
Alameda County has another **47 miles of carpool lanes**. These lanes are free to high-occupancy vehicles (two or three persons per vehicle) and off-limits to single-occupancy vehicles during peak hours.

Alameda County Freeway Inventory (2018)

Freeway	Direction	Freeway Length*	Express Lanes	Peak Daily No. of Vehicles	Severe Vehicle Delay (hours per day)	AM Congested Miles** (morning peak)	PM Congested Miles** (afternoon peak)
I-80	N/S	8.0	–	**275,000 vehicles** at SR-13	11,519	6.0	11.2
I-238	E/W	2.5	–	**155,000 vehicles** at I-580	94	2.5	–
I-580	E/W	46.7	yes	**254,000 vehicles** at SR-13, Oakland	9,176	8.1	17.5
I-680	N/S	21.3	yes	**172,000 vehicles** at I-580, Pleasanton	7,730	4.0	9.6
I-880	N/S	35.3	–	**277,000 vehicles** at A Street, Hayward	19,456	19.2	19.2
I-980	E/W	2.5	–	**134,000 vehicles** at I-580, Oakland	60	–	–
SR-13	N/S	5.9	–	**83,000 vehicles** at Broadway Terrace	640	1.1	3.0
SR-24	E/W	3.5	–	**173,000 vehicles** at Caldecott Tunnel	2,269	–	4.5
SR-84	E/W	6.2	–	**76,000 vehicles** at I-880	180	5.1	1.2
SR-92	E/W	8.4	–	**125,000 vehicles** at I-880, Hayward	1,400	1.9	–

*Centerline miles; **Directional miles of LOS-F with average speeds below 35 mph.

CONGESTED FREEWAY SEGMENTS IN ALAMEDA COUNTY IN 2018



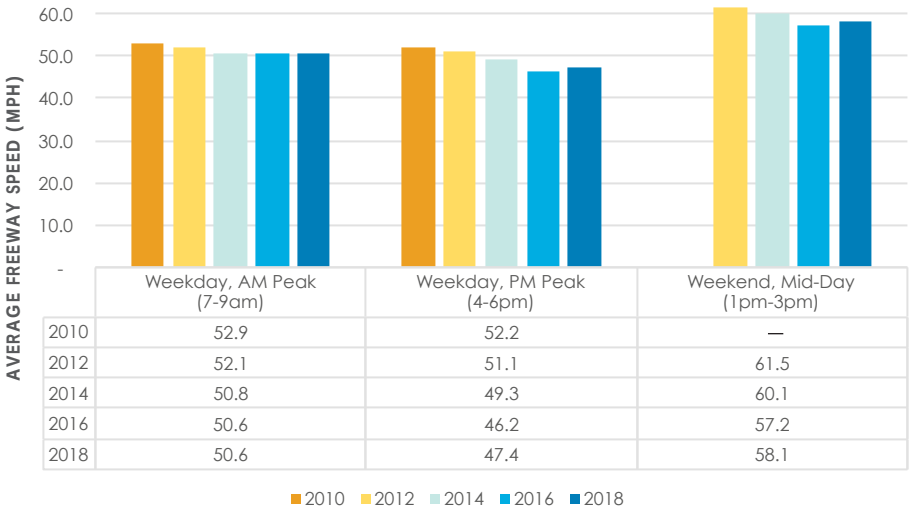
Source: Alameda CTC, 2018 Level of Service Monitoring Report.

Freeway System Performance

After peaking in 2016, congestion declined slightly in 2018. Average freeway speeds stayed stable — improving 1.2 mph — and the number of congested freeway-miles decreased. Despite the recent incremental improvement, freeways remain far more congested today than they were a decade ago.

Freeway speeds increased slightly in 2018, after a multi-year decline, but remain below recession-era highs.

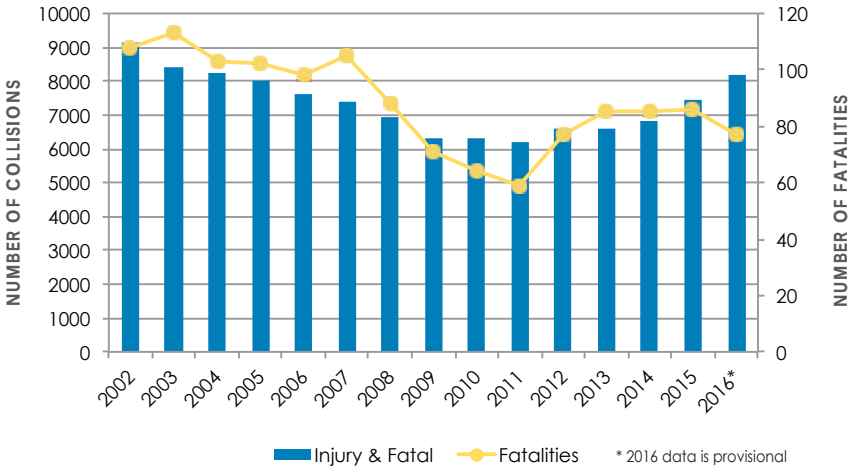
While average speeds improved, about one-quarter of the freeway network is still congested during the afternoon peak-period. This consistent congestion can be attributed to a growing population, a booming economy and related job growth.



	Weekday, AM Peak (7-9am)	Weekday, PM Peak (4-6pm)	Weekend, Mid-Day (1pm-3pm)
2010	52.9	52.2	—
2012	52.1	51.1	61.5
2014	50.8	49.3	60.1
2016	50.6	46.2	57.2
2018	50.6	47.4	58.1

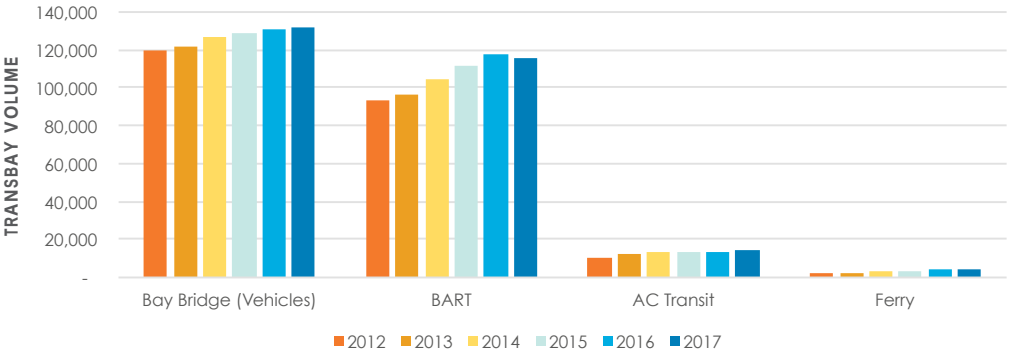
Total collisions have increased 31 percent from post-recession lows.

Fatal collisions declined in 2018 to the lowest number since 2011, while total collisions continue to increase. Alameda County accounts for 24 percent of total collisions in the Bay Area.



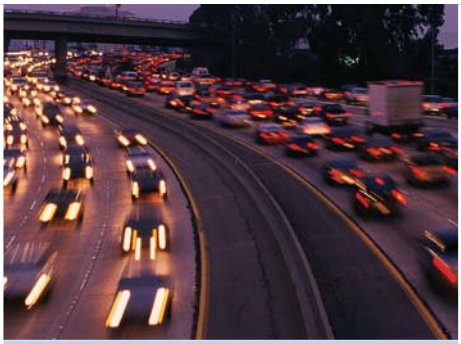
Bay Bridge Transbay Corridor at capacity.

Overcrowding on BART and congestion on the Bay Bridge have slowed growth in the number of trips across one of the most economically significant water crossings in the country. Transbay ferry and bus trips continue to grow, but carry many fewer trips than other modes.



Freeway System Challenges and Opportunities

As the geographic center of the Bay Area, Alameda County's extensive freeway network has experienced consistent congestion due to population and job growth, housing demand and an increasing number of commuters. Strategic improvements are underway or planned, which present the opportunity to increase overall network throughput and promote the use of alternative transportation modes.



As the region's freeway network hub, Alameda County experiences a **disproportionately high share of the region's congestion**.

Many Alameda CTC improvement projects are on major freight corridors and **benefit goods movement.**

CHALLENGES

As the region's freeway network hub, Alameda County experiences a disproportionately high share of the region's congestion.

Alameda County freeways carry a high number of commuters traveling either to, from or through Alameda County. Although only 21 percent of the Bay Area's population lives in Alameda County, it hosts one in three commutes regionwide.

The absolute number of drive-alone trips and vehicle miles traveled are increasing.

Congestion across more of the network remains severe, despite recent incremental improvements.

OPPORTUNITIES

Using local sales tax dollars and other regional, state and federal funds, Alameda CTC funds operational improvements and limited strategic improvement projects on the county's freeways, many of which are already underway, and more are planned. Many of these projects are on major freight corridors and benefit goods movement.

Working with partners at all levels, Alameda CTC is maximizing existing capacity. As most freeways are built out, and the options for improvements are limited, Alameda CTC is working with partners at all levels of government to explore opportunities to maximize use of existing capacity through improved operations and to promote use of alternative modes on Alameda County's major local roads.

Although the absolute number of commuters who drive alone has increased since 2000, the drive-alone mode share has fallen almost 10 percent since that time.

Increasing the number of managed lanes facilitates carpool expansion, offers excess capacity at the appropriate marginal cost, and provides the opportunity to reinvest revenues into the corridors.

Data sources:
2016 Level of Service Monitoring Report, 2016 Performance Report, Alameda CTC.
Traffic Census Program, Traffic Volumes: Annual Average Daily Traffic, California Department of Transportation, 2016.

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Alameda County Highways, Arterials, and Major Roads

FACT SHEET

October 2018

ALAMEDA County Transportation Commission

Alameda County Roadways: Critical Connectivity for Every Mode

Highways, arterials, and major roads are important connectors for both goods and people making local and regional trips. Many of these roads serve multiple users, including bicycles, pedestrians, cars, public transit, trucks and emergency vehicles. They connect communities to employment, activity centers, and other important destinations.

IMPORTANCE OF HIGHWAYS, ARTERIALS, AND MAJOR ROADS

Support all transportation modes: Alameda County's roadway network provides critical connectivity for cyclists, pedestrians, transit riders, trucks and cars.

Provide direct access to housing, employment, and activity centers: Arterials and major roads are the critical link between the regional and local transportation networks. They provide connections to home, work and almost every other destination.

Support growth of jobs and housing: Highways, arterials and major roads support existing land uses, and can provide opportunities to support planned land uses.

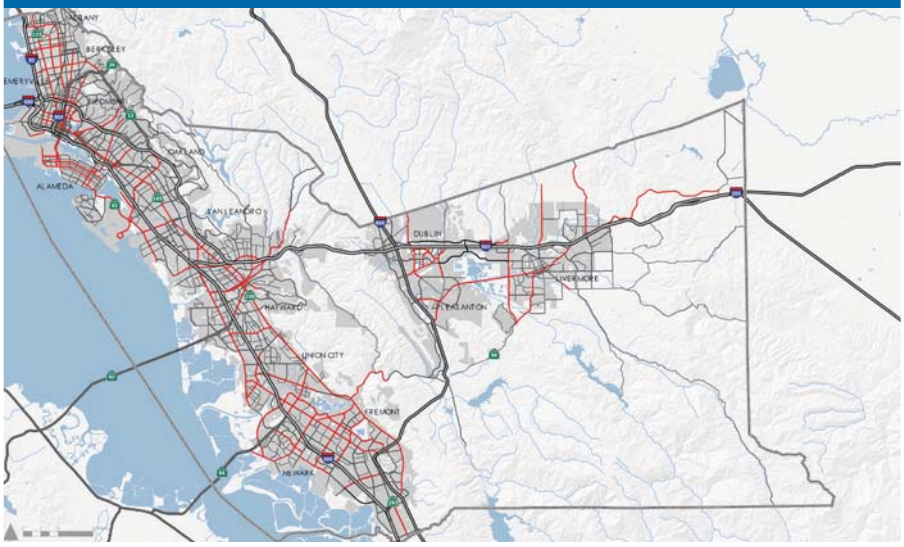
Continuous and connected network for all modes: Local governments, limited by the existing right-of-way, cannot increase vehicle capacity to keep pace with demand. Instead, cities are increasing overall person-throughput by designing streets to be safe and convenient for all modes, each of which should have a complete, continuous and connected network available.

At-a-Glance:

3,978 total miles of roadways in Alameda County include:

- **70 miles on 11 highways**
- **1,200 miles of arterials and 2,700 miles of major local roads**

ALAMEDA COUNTY TRANSPORTATION NETWORK



Alameda County Highway Inventory

Highways	State Route	Cities	Direction	Highway Miles	Peak Daily Volume	Average AM Peak Period Auto Speed*	Average PM Peak Period Auto Speed*
Ashby Ave	**SR-13**	Berkeley	E/W	3.8	**30,500** at Domingo Ave	21.8	16.7
Doolittle Dr, Otis Dr, Broadway, Encinal Ave, Central Ave, Webster St	**SR-61**	Alameda	N/S	5.7	**41,500** at Alameda-San Leandro Bridge	22.3	22.6
42nd Ave	**SR-77**	Oakland	E/W	0.4	**21,800** at I-880	19.2	22.3
Niles Canyon, Thornton Ave, Fremont Ave, Peralta Ave, Mowry Ave	**SR-84**	Fremont/Pleasanton Livermore/ Unincorporated County	E/W	21.9	**71,000** at Thornton Ave/ Paseo Padre Pkwy	34.2	33.9
Foothill Ave, Jackson St	**SR-92**	Hayward	E/W	3.4	**48,000** at Santa Clara St	23.4	18.5
Davis St	**SR-112**	San Leandro	E/W	1.8	**55,000** at I-880	16.3	13.8
San Pablo Ave	**SR-123**	Albany/Berkeley Emeryville/Oakland	N/S	5.2	**27,500** at Alameda/ Contra Costa Line	18.4	15.3
International Blvd/ East 14th	**SR-185**	Oakland/San Leandro/ Hayward	N/S	9.7	**25,500** at 44th Ave	18.7	16.4
Mission Blvd	**SR-238**	Hayward/Union City/ Fremont	N/S	29.3	**32,500** at SR-84	27.1	24.9
Webster/Posey Tubes	**SR-260**	Alameda/Oakland	N/S	1.4	**30,000** on entire route	25.3	26.2
Mission Blvd	**SR-262**	Fremont	E/W	1.6	**78,000** at I-680	31.9	26.5

* Directional miles of LOS-F as defined in Alameda CTC 2018 LOS Monitoring Report page 18.

ARTERIALS AND MAJOR ROADS

Alameda CTC has a designated Congestion Management Program network which, evaluates roadway performance every two years. This information is reported in charts and graphs as part of this fact sheet.

LOCAL ROADS

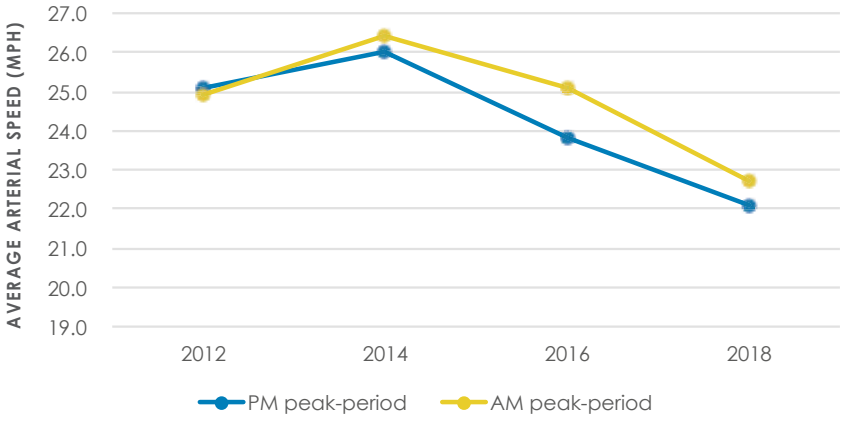
Local jurisdictions manage a network of about 3,500 miles of roads and report on their condition annually.

Arterial and Road Performance

In 2018, even as congestion on freeways and highways stabilized — congestion on arterial roads continued to build as a result of an improving regional economy and sustained job growth. Pavement conditions on these roads, however, are improving as a result of state and local investments.

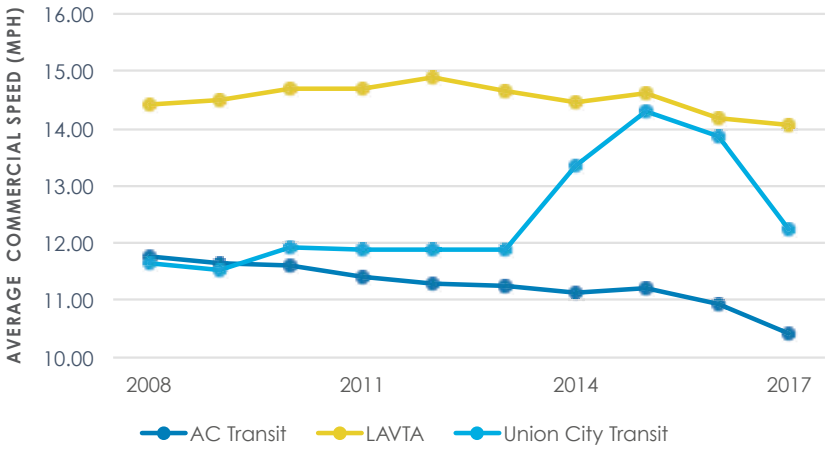
Auto travel speeds declining

Morning and afternoon peak travel speeds on arterials decreased about 15 percent each in the last four years. Travel speeds on arterial roads continued to fall in 2018 even as speeds on freeways and highways remained stable.



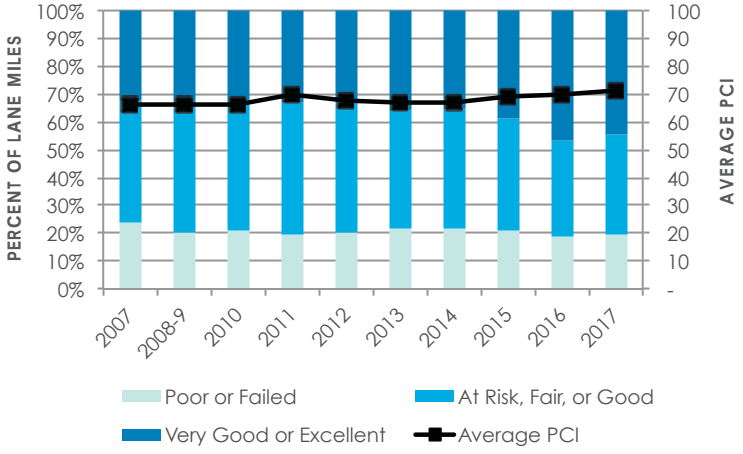
Bus Transit speeds falling

All bus operators speeds dropped for the second consecutive year. Building congestion on arterial roads has slowed bus service, as well as cars and trucks. Speed differences between operators reflects the built environment and the nature of service.



Local road conditions improving

Nearly half of all roads now rated Very Good or Excellent. After remaining stable over the last decade, an influx of funding from Measure BB likely improved conditions on many roads. Almost half of roads are now rated "excellent or very good", while about 1,000 miles are still rated "at risk, poor, or failing". In 2017, countywide average Pavement Condition Index (PCI) was equal the 2011 all-time high of 70.



Challenges and Opportunities for Major Roads

Highways, arterials, and major roads serve a unique role as a connector between the regional and local transportation systems and directly link to local land uses (commercial and residential corridors). They must facilitate throughput for all modes and support local land use.

Traffic Volume:

40 percent of daily trips in Alameda County

carried by 1,200 miles of arterials

Pavement Conditions:

Almost half of locally-managed roadways

rated **"excellent or very good"**

1000 miles of pavement

rated **"at risk, poor, or failing"**

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CHALLENGES

Demand for roadway use is rising: Regional economic and population growth have increased demand for goods and services, and a variety of users, including cars, transit, bikes and trucks are competing to access the same roads.

Trip Diversion: Widespread congestion on freeways diverts trips onto adjacent arterials and local roads. The proliferation of wayfinding apps has exacerbated this problem, opening more local roads to cut-through traffic.

OPPORTUNITIES

Complete streets: Every city in Alameda County has adopted complete streets policies, which ensure that all projects, including basic street repaving, will look for opportunities to improve biking, walking and transit.

Multimodal Arterial Plan: The Countywide Multimodal Arterial Plan provides a roadmap for a future with improved mobility for all modes on a continuous and connected network, which can increase the efficiency and throughput of the entire transportation system.

Reducing conflict through design: Thoughtful facility design, operation, and maintenance can increase efficiency by reducing auto and transit delay and improve safety for all modes by reducing the severity of collisions. This promotes public health and creates vibrant local communities.

Advanced technologies: Emerging technologies can improve the operational efficiency of roadways while also supporting alternative modes and vulnerable users.

Data sources: 2016 Alameda Countywide Multimodal Arterial Plan, Countywide Travel Demand Model, 2012-2018 LOS Monitoring Reports, National Transit Database FY2007-08 through FY2015-16, Commercial Bus Speeds, Transit Operator Provided Provisional Data FY2016-17, Commercial Bus Speeds, Alameda CTC; MTC Vital Signs 2016, Pavement Condition Index, Metropolitan Transportation Commission; California Department of Transportation, 2016 Annual Average Daily Traffic Data Book.

Alameda County Goods Movement

FACT SHEET

March 2018

ALAMEDA County Transportation Commission

Alameda County Goods Movement – Critical to a Strong Economy

GOODS MOVEMENT SNAPSHOT:

- **The Port of Oakland handles 99 percent** of container volume for Northern California and is the seventh busiest port in the nation by volume.
- **The Oakland Airport** handles more air freight than all other Bay Area airports combined.
- **Alameda County's rail, freeway, and highway systems** carry goods to their final destinations.
- **33 percent of jobs** in Alameda County are goods movement-dependent.
- **$953 billion in freight** currently flows through Northern California; $2.4 trillion is expected by 2040.

International trade is the fastest growing element of goods movement in Alameda County.

Exports are growing at a faster rate than imports.

Alameda County enjoys one of the most strategic trade locations in the world. The San Francisco Bay Area and all of Northern California rely on the county's connections to both international and domestic markets including the Port of Oakland, Oakland International Airport, and a robust network of rail, roads, and highways.

Goods movement drives Alameda County's economy: about one-third of all jobs are goods movement-dependent.

GOODS MOVEMENT SYSTEM

Global gateways are essential entry and exit points that move high volumes of goods between domestic and international markets.

Facilities:
- Port of Oakland
- Oakland International Airport

Interregional and intraregional corridors: Freeways, highways, and rail subdivisions are the conduits linking Alameda County and the rest of the Bay Area to domestic markets.

Facilities:
- Freeways and Highways
- Rail Network

Local streets and arterials connect goods to and from their final origins and destinations. Arterial truck routes often serve as alternatives to congested freeways for regional truck trips and serve local businesses. Farm-to-market trips in rural parts of the county are vital to local goods movement. As e-commerce grows, direct parcel delivery activity to commercial and residential areas is also growing.

Global Gateway: Moving Bay Area Goods

PORT OF OAKLAND

The Port of Oakland is a global gateway for goods movement that the rest of Northern California relies on to bring goods to and from international and domestic markets. The Port handles more than 99 percent of the containerized goods moving through Northern California and is the only major container port in the Bay Area. Unlike other western ports, it handles more exports than imports.

OAKLAND INTERNATIONAL AIRPORT

Oakland International Airport is a critical component of the goods movement system in Alameda County; it is the second busiest domestic air freight airport in the state, home to a major FedEx hub, and critical for high-value goods movement shipments and the growing e-commerce sector.

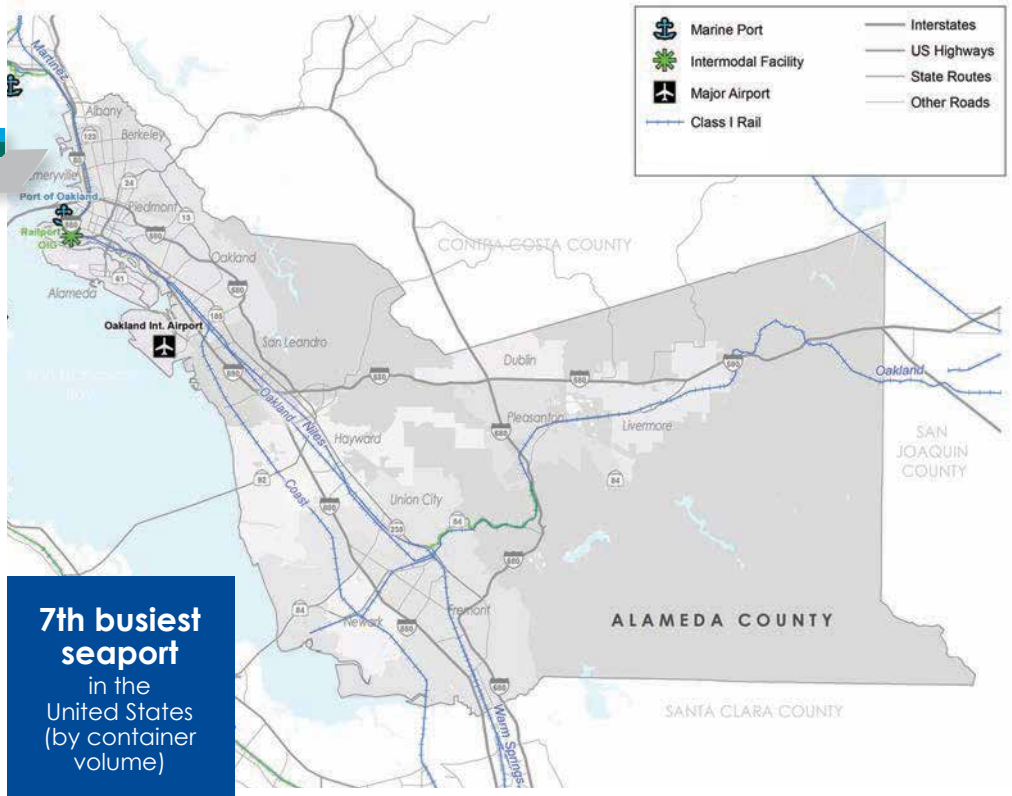
RAIL FREIGHT NETWORK

Alameda County has two Class I rail carriers: Union Pacific (UP) and BNSF Railway. Many passenger rail services also operate on the same rail corridors.

In addition to rail lines, Alameda County has two intermodal terminals: UP's Railport — Oakland and BNSF's Oakland International Gateway. These terminals handle cargo to and from the Port of Oakland and domestic cargo.

HIGHWAY FREIGHT NETWORK

Key interregional and intraregional truck corridors in Alameda County include I-80, I-238, I-580, I-680, and I-880. These corridors carry over 20,000 trucks of all classes per day on average, performing both long-haul and short-haul truck moves.



7th busiest seaport in the United States (by container volume)

2.4 million containers shipped through the Port of Oakland in 2017

153 percent growth in container volume handled by the Port (1998 – 2018)

1.5 million tons of air freight handled by Oakland Airport (2015)

14th busiest cargo airport in North America

5 National Primary Freight Network Highways

20,000 trucks per day on key corridors in Alameda County

123 rail miles in Alameda County

133 public at-grade mainline rail crossings

60 daily trains 1/3 freight and 2/3 passenger on busiest rail corridor

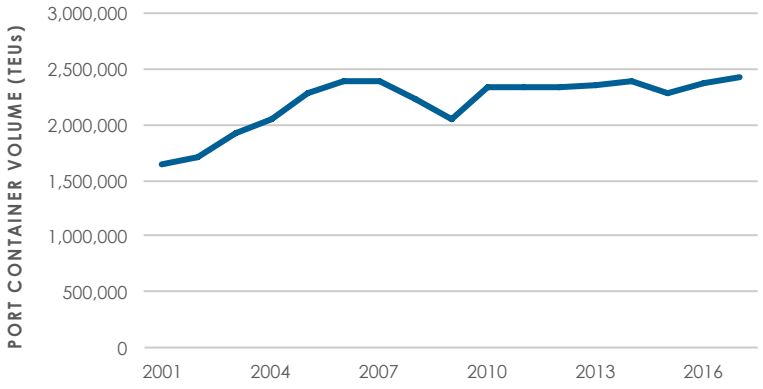
Top 20 freight carrying highway segments in Bay Area are in Alameda County

Goods Movement Performance

Alameda County provides most of the critical goods movement infrastructure (including the Port of Oakland, the Oakland International Airport, and various rail and highway infrastructure) that the rest of the region relies on to bring goods to and from international and domestic markets. Performance of this network is essential to keep goods moving and support the economy. Performance trends include the goods movement sector continuing to recover from the great recession with increasing container volumes at the Port of Oakland, increased air freight at the Oakland International Airport, and job growth in the goods movement industry.

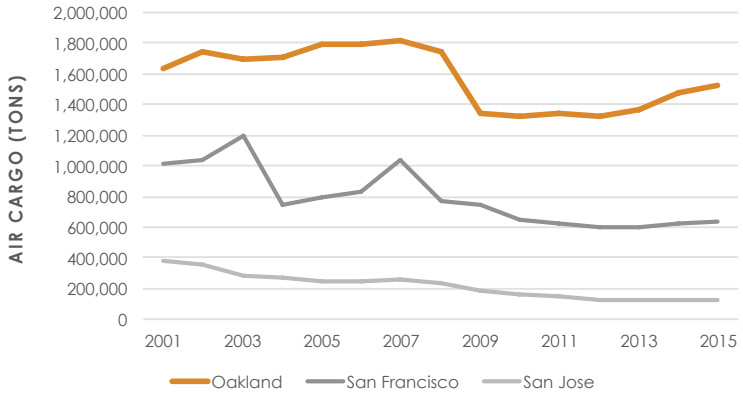
The Port of Oakland is busier than ever.

In 2017, the Port handled a record volume of 2.4 million containers — breaking the previous record set in 2006. Planned port expansion projects and improvements like the GoPort program and the new Oakland Global Logistics Center should increase Port capacity and efficiency.



Oakland Airport carries more air freight than any other Bay Area airport.

Oakland International Airport is the busiest cargo airport in the Bay Area and moves more goods than the other major airports combined.



Goods movement is a major force in Alameda County's economy.

One in three jobs in Alameda County is goods movement dependent. Goods movement–dependent industries are those for which moving goods to markets is a critical aspect of their business operations. There are many jobs in the transportation, warehousing, and logistics industries that do not require advanced education, supporting job diversity in the county. Growth in the goods movement industry can support more local jobs.

33 percent of jobs in Alameda County are goods movement dependent.

Transportation System Challenges and Opportunities

90 percent of Bay Area trade in agriculture, wine, and heavy machinery by weight goes through the Port of Oakland.

California freight rail volumes are projected to **more than double by 2040.**

$953 billion in freight currently flows through Northern California; **$2.4 trillion** is expected by 2040.

Data sources:

Airports data via Vital Signs, Federal Aviation Administration.

Alameda County Goods Movement Plan, Rail Strategy Study, Alameda CTC.

2016 North American Airport Traffic Summary (Cargo), Airports Council International.

Port volumes by year, Port of Oakland.

Plan Bay Area Economic Forecasts, Association of Bay Area Governments; Cambridge Systematics analysis; Center For Continuing Study of the California Economy factors.

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CHALLENGES

Congestion, reliability, and safety issues on shared-use interregional highway and rail corridors with limited ability to expand highway facilities. Moving people and goods safely and efficiently is critical for our local economy and communities. Both highway and railroad corridors provide for shared use between passengers and goods movement and suffer from increasing congestion.

Increasing demand on a finite rail network. California freight rail volumes are projected to more than double by 2040. Demand for both passenger and freight rail is increasing on a network with limited capacity.

Pressure on local truck routes from changing land use development patterns, growing modal conflicts, and increased presence of trucks in neighborhoods and commercial areas due to growing use of e-commerce. A substantial amount of goods movement occurs on local streets and roads throughout Alameda County.

Air quality and health impacts. Emissions from goods movement can create significant health risks, and exposure to noise and light can adversely affect the health and well-being of residents. Safe, secure, and community-supportive goods movement projects and programs are essential to the well-being of our local communities.

OPPORTUNITIES

Rail investment. This is critical to supporting growth at the Port of Oakland and creating a world-class logistics hub. Promoting intermodal transloading in Oakland shifts truck traffic to rail and creates local jobs.

Port development. Development of new logistics facilities at the Port of Oakland results in increased local jobs and lower truck demand on highways.

Smart deliveries and operations. Alameda County has an opportunity to support maximum use of Intelligent Transportation Systems (ITS), connected vehicles, and other technology solutions to more efficiently use existing roadway capacity.

Interconnected and multimodal. Preserving and strengthening an integrated and connected, multimodal goods movement system that is coordinated with passenger transportation systems and local land use decisions will further support freight mobility and access.

Supporting technology development. This include**s** advancing an emissions reduction program and developing or supporting pilot technology demonstrations.

Alameda County Active Transportation

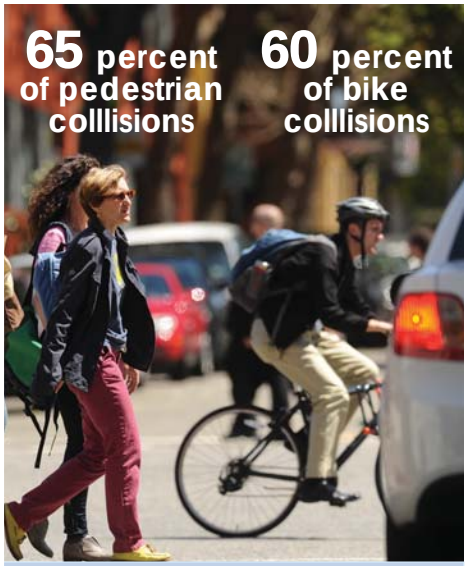
FACT SHEET

October 2018

ALAMEDA County Transportation Commission

Alameda County Active Transportation: for All Ages and Abilities

6 percent
of Alameda County residents bike or walk to work.



occur on just
4 percent
of roads in Alameda County

The number of people bicycling and walking in the United States continues to grow as communities realize the benefits these activities have for public health and quality of life. Cities and counties across the Bay Area continue to invest in bicycle and pedestrian infrastructure, which continues to improve conditions for walking and biking.

Alameda County is home to an extensive major trails network, which includes the Bay Trail, East Bay Greenway, Ohlone Greenway and the Iron Horse Trail. In addition, several other trails are under development throughout the County.

COUNTYWIDE ACTIVE TRANSPORTATION PLAN

The Alameda County transportation system should inspire people of all ages and abilities to walk and bicycle for everyday transportation, recreation, and health, and provide a safe, comfortable, and interconnected network, which links to transit and major activity centers, and support programs and policies that encourage bicycling and walking.

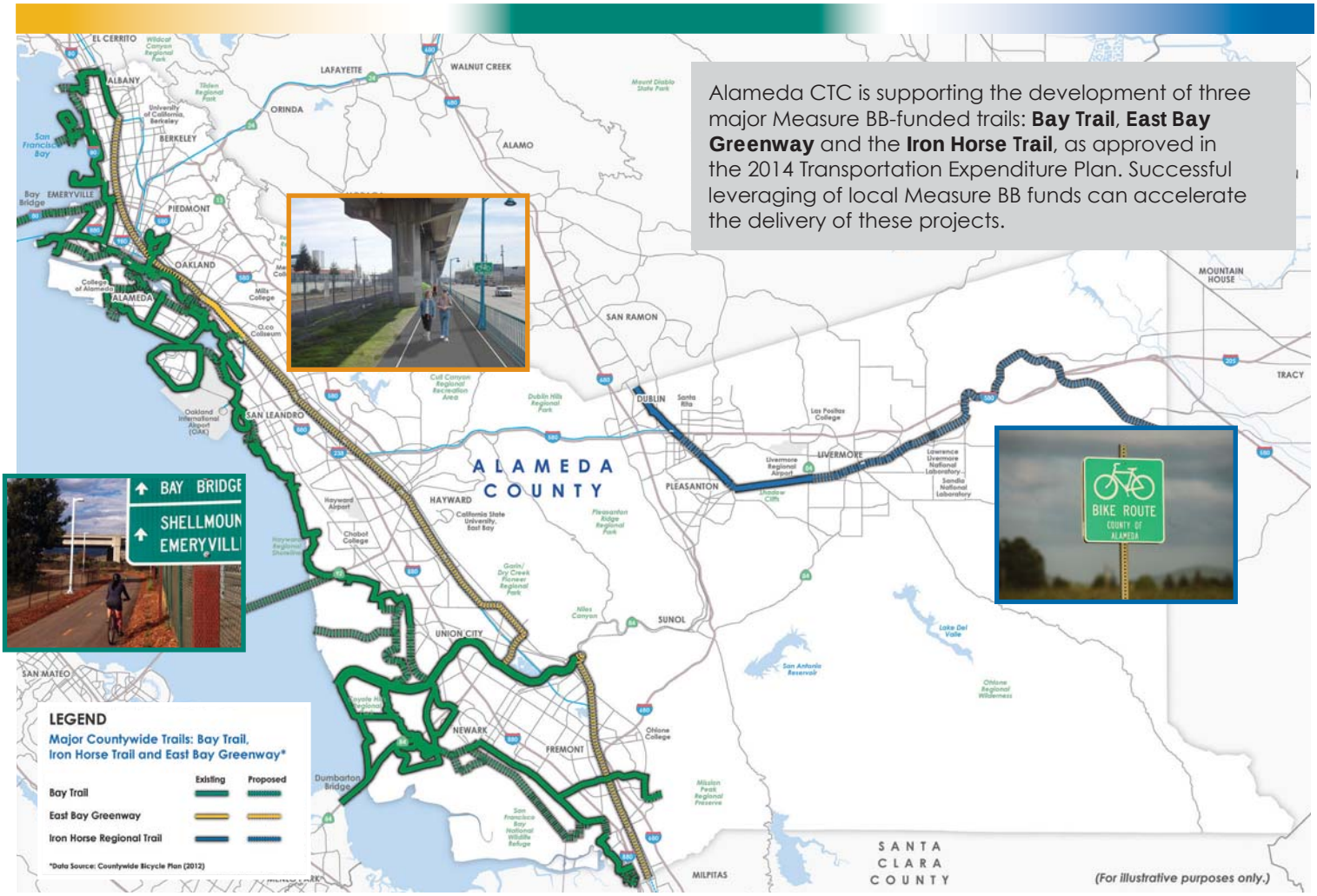
COMPLETE STREETS

Complete Streets are roadways planned, designed, operated, and maintained for safe and convenient access by all users — including bicyclists, pedestrians, and transit riders — and in ways that are appropriate to the function and context of the facility. Since 2013, Alameda CTC has required that each jurisdiction adopt a Complete Streets policy.

CONNECTION TO TRANSIT

Bicycle and pedestrian facilities provide safe and convenient access to transit services such as BART, buses, the ferry, and regional rail.

Regional Trails: For Recreation and Daily Commutes



East Bay Greenway:

0.7 mile built ✓ | **37 miles planned**

Stretching from Lake Merritt BART to South Hayward BART, The East Bay Greenway will be a 16-mile long active transportation spine connecting seven BART Stations in Alameda County. The first completed segment, in Oakland, extends from the Coliseum to 85th.

Bay Trail:

135 miles built ✓ | **57 miles planned**

The expansive trail system, when complete, will ring the San Francisco and San Pablo bays. 135 miles have already been built along the Alameda County shoreline. This trail functions as both a recreational facility, and a valuable corridor for commuting.

Iron Horse Trail:

4 miles built ✓ | **25 miles planned**

The existing multi-use path extends between the cities of Concord, in Contra Costa County, and Dublin and Pleasanton following the abandoned Southern Pacific Railroad right-of-way. When completed it will cover 52 miles (25.5 miles of which are in Alameda County) connecting 12 cities from Suisun Bay to Livermore.

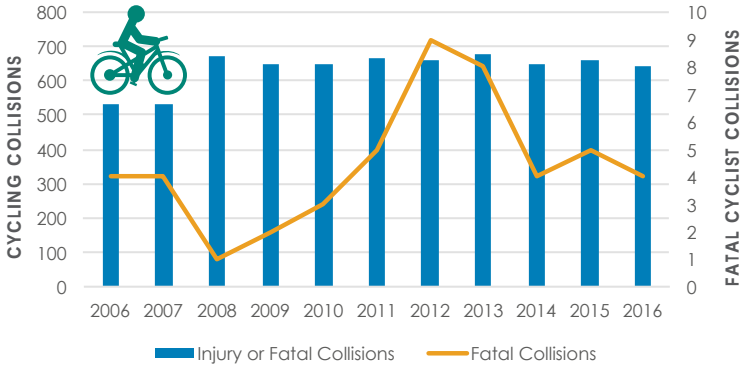
Active Transportation Safety Remains an Issue

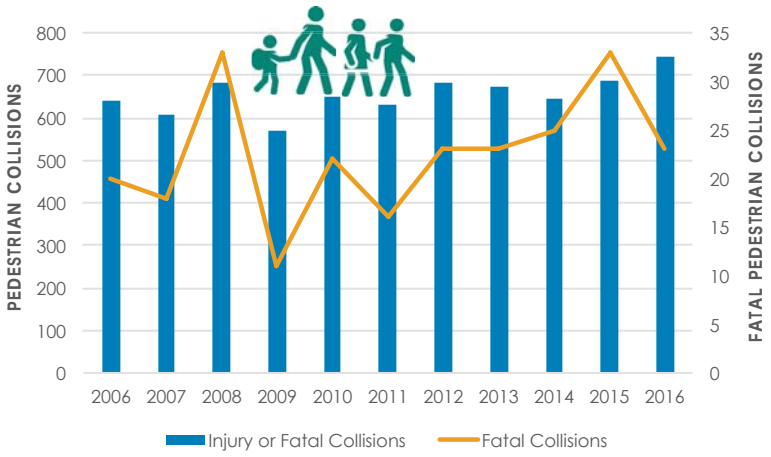
A safe experience while walking and biking is integral to improving quality of life across the County. Yet, collisions remain high for bicyclists and pedestrians, who are the most vulnerable users on roads. One of Alameda CTC's goals is to provide a safe, comfortable, and interconnected multimodal network throughout the county.

Cyclists and pedestrians are involved in about **20 percent of all collisions.**

Total cyclist collisions remain high. Collisions involving cyclists rose 26 percent between 2007 and 2008 and have generally plateaued since then. While collisions have remained high for cyclists, this may partially be a function of increased exposure due to increased bicycling in the county.

Pedestrian collisions at record levels. Pedestrian collisions have continued to rise over the last decade and have reached a record number. Fatal collisions are also rising. Pedestrian safety remains an issue that requires education, enforcement, and infrastructure-based strategies, particularly for aging populations.





SAFE ROUTES TO SCHOOLS (SR2S)

Infrastructure is only one aspect of providing a safe, comfortable transportation system. The **Alameda County Safe Routes to Schools Program promotes and teaches safe walking and biking** (as well as carpooling and transit use) as a viable way for students and families to travel to and from school.

Over 200 public elementary, middle, and high schools in Alameda county are currently enrolled in the SR2S program.

Active Transportation Challenges and Opportunities

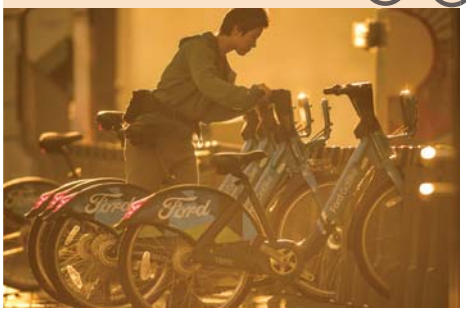
Alameda County's temperate weather provides a highly supportive environment for outdoor active transportation. Biking and walking are quick and efficient ways to travel short distances, affordable, pollution- and emission-free, and positive for public health.

Bikeshare in the East Bay

79 Bikeshare Stations

850+ bikes

Launched in 2017 in Oakland, Berkeley, and Emeryville. Albany and Alameda have dockless bikeshare; Fremont is in planning phase.



Walking Trips

Half of Alameda County BART stations have at least 30 percent of their boardings from walking trips.

CHALLENGES

Curb management becoming complex. Transportation network companies (like Uber and Lyft) have increased the demand for curb space which impacts some bicycle facilities and pedestrian crossings.

Collisions rise with exposure. Total collisions involving cyclists may reflect a rising use of bicycles for a number of types of trips, which in turn increases exposure.

Commutes are the longest trip we make. The average Bay Area commute is 13.5 miles or 34 minutes — not always conducive to daily biking and walking.

Partnerships are essential for regional trails. Developing, building and maintaining trails and greenways requires extensive partnerships with cities, counties, park districts, Caltrans, transportation agencies, community members, regulatory agencies, funding partners and in some cases, non-profits.

Benefits should be shared equitably. Active modes have the potential to reduce the share of household income spent on transportation, but only if disadvantaged communities share access to new facilities.

OPPORTUNITIES

Emergence of new technologies. New markets for scooters, dockless bikes, and e-bikes, all of which are in Alameda County, represent both a challenge and opportunity for public agencies to manage. The proliferation of new technology poses risks for safety as well — 21 percent of pedestrians in California reported they had been hit, or nearly hit, by a driver distracted by a cell phone.

Alameda County has the second most multimodal commutes of all Bay Area counties. 15 percent of residents use transit, 6 percent bike and walk to work. Only San Francisco County has a lower automobile mode share.

Every trip begins and ends with a walk. As a commute mode, walking has held steady—used by between 3 and 4 percent of Alameda County workers, by every trip begins with a walk, so a safe pedestrian environment is important for all.

The Countywide Active Transportation Plan (CATP). The CATP, set to be adopted in the Spring of 2019 is a framework for building a safer and more connected countywide network, comfortable for all ages and abilities.

Sources:
Statewide Integrated Traffic Records System (SWITRS) via the UC Berkeley Transportation Injury Mapping System (TIMS), 2017 Countywide Active Transportation Plan, Ford GoBike, Bay Area Rapid Transit District 2015 Station Access Survey, 2016 American Community Survey 1-year estimates

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