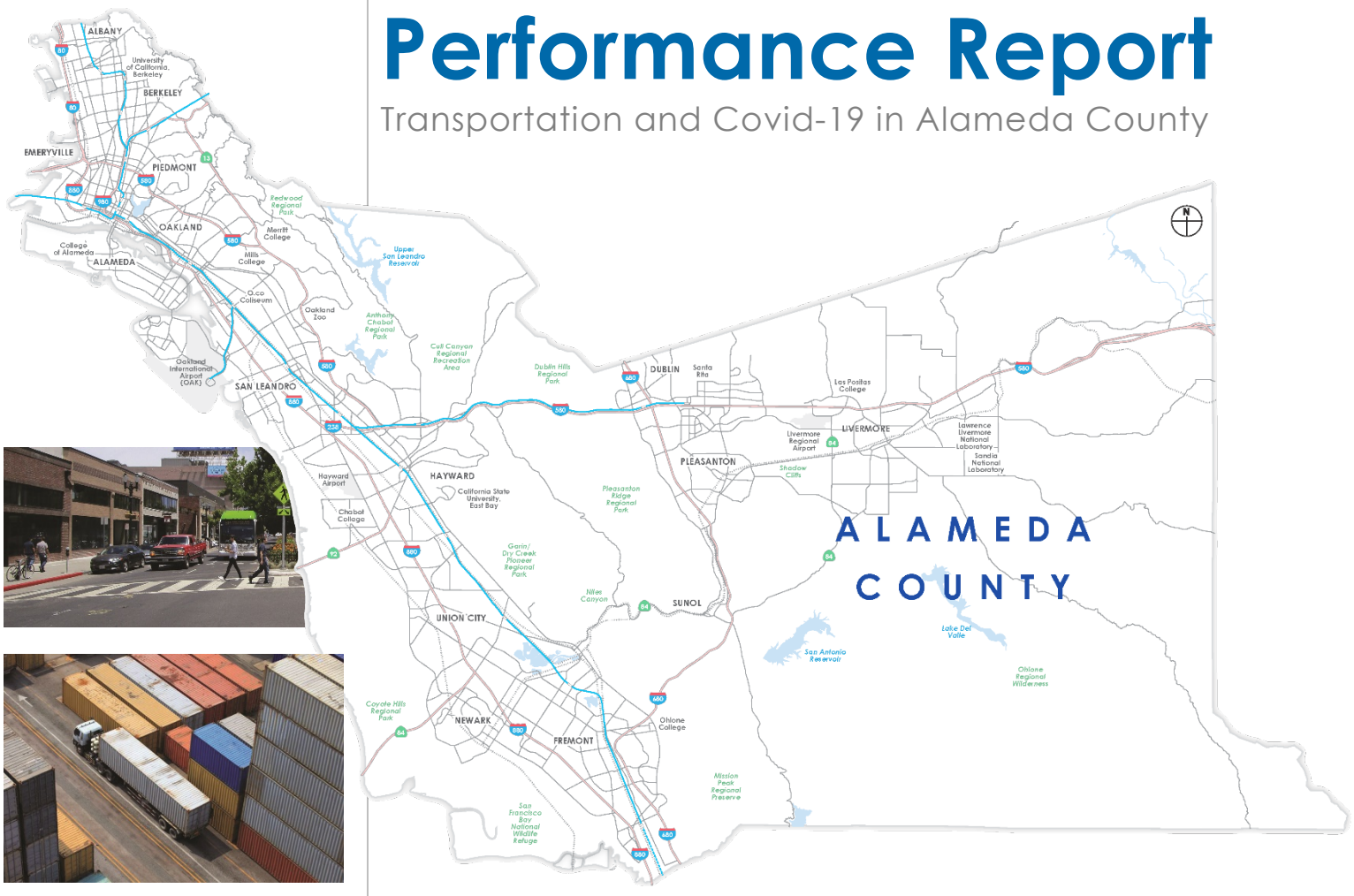
ALAMEDA
County Transportation
Commission

2020
Performance Report

Transportation and Covid-19 in Alameda County



Prepared by:
Alameda County Transportation Commission

February 2021

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About the 2020 Performance Report

Each year the Alameda County Transportation Commission (Alameda CTC) prepares a performance report to highlight the current state of the transportation system, key trends and changes in transportation, and what conditions are driving them. This report synthesizes the most recent data available for a variety of indicators to illustrate current realities and chart trends over time. The purpose of this effort is to elucidate emerging trends, with data, to inform policy and decision-making throughout the agency.

Typically, the report reflects gradual shifts occurring over several years. However, 2020 was a year like no other. The COVID-19 pandemic has altered transportation in Alameda County, including the way we measure it. Fundamental indicators, which formerly had highly predictable effects on transportation demand, like gas prices, population growth, and the unemployment rate, do not necessarily have the same explanatory power they did previously. Travel behavior and economic conditions are also changing quickly, making long-term trends harder to decipher.

COVID-19
in Alameda County

2020 Total Cases: **53,302**
2020 Total Deaths: **656**

In 2020 about 1.4 percent of cases were fatal, compared to 1.8 percent nationwide.

Source: ACPHD COVID-19 Case Dashboard. Cases and Deaths recorded by Alameda County PHD and Berkeley PHD through December 31, 2020.

The 2020 Multimodal Performance Report draws on a combination of data sources to better understand conditions and trends in transportation in 2020. This report is not methodologically consistent with prior years, but instead seeks to utilize available information to provide a more real-time understanding of conditions in the transportation system.

This report examines 2020 data for the following modes: transit, autos, goods movement, and active transportation.

Key Findings

- Transit Ridership fell more than 90 percent[1] in Alameda County as a result of the pandemic. Ridership on routes serving lower income areas, more likely to serve transit-dependent riders and essential workers, has declined less and recovered faster than overall transit ridership. Overall, bus ridership declined less than ridership on heavy rail and ferry services.
- Average freeway speeds increased more than 20 percent during the afternoon peak and congestion dropped significantly. However, this did not correlate to a comparable decrease in vehicle travel[2]: vehicle trips across the Bay Bridge and total vehicles miles traveled were only down about 10 percent.[3]
- Average speeds on major arterials increased by more than 14 percent during the afternoon peak commute.[4] Speeds on suburban and rural arterials increased more than urban arterials.
- Pedestrian volumes were down almost 60 percent in downtown areas.[5]
- Interest in cycling increased and bicycle sales were up 75 percent year-over-year in the spring of 2020.[6]
- Imports and exports through the Port of Oakland fell just two percent, while passenger volumes at the Oakland Airport fell 95 percent.[7]
- Telecommuting skyrocketed as many jobs moved remote to support social distancing. An estimated 45 percent of Bay Area jobs[8] were capable of being performed remotely before the pandemic, however just nine percent of workers in Alameda County primarily worked from home.[9] Both the percent of jobs eligible for telecommuting and the number of workers actually telecommuting increased during the pandemic.

[1] BART, AC Transit, WETA, LAVTA Ridership Reports
[2] PeMS VMT, All-Day, Alameda County, September – November 2019 and 2020
[3] BATA Bridge Toll Data, September – November 2019 and 2020
[4] 2020 CMP Multimodal Monitoring
[5] 2020 CMP Multimodal Monitoring, Bike/Ped Counts conducted August – October 2018 and 2020
[6] NPD Group, US Retail Tracking, Dollar Sales, January-April 2019 vs. 2020
[7] Port of Oakland
[8] Remote Work in the Bay Area, An Initial Evaluation of the Data and Implications for Public Policy, December 2020, Bay Area Council Economic Institute.
[9] US Census Bureau, American Community Survey, 2019 1-Year Estimate, Alameda County

Before COVID: Transportation in 2019

Population: 1.66 million

Driven by a booming economy, Alameda County's population grew rapidly coming out of the recession (2010). However, over the last three years (2017 to January 2020), that growth had nearly stalled. Alameda County added just under 3,100 new residents between January 2019 and 2020, an annual growth rate of just 0.2 percent.[10] It was the first year in almost a decade with negative migration; natural population growth accounted for the overall increase.

Unemployment Rate: 2.5 percent
Jobs: 780,000

In 2019, Alameda County continued to create jobs, even as population growth slowed. The unemployment rate sat an unprecedented low of 2.5 percent in December 2019, surpassing the heights of the dot com boom of the late 1990s.

Roadway Congestion

Alameda County residents had a 36-minute average travel time to work[11], the third longest average commute time in the Bay Area in 2019. There were over 66 miles of congested freeways throughout the County every afternoon.

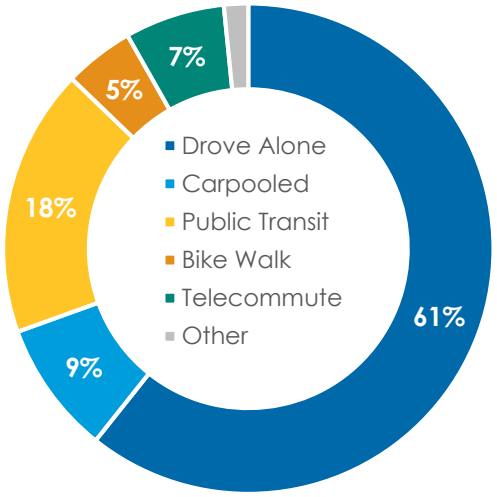
Mode Share

Transit commute mode share continued to climb from 11 percent in 2010 to just under 18 percent by 2019. This offset small declines in carpool, walking, and biking trips. Drive alone trips remained flat year-over-year at about 61 percent.[12]

Transit Ridership

There were over 300,000 transit boardings every weekday in Alameda County in 2019, and 96 million annual transit trips. BART had one of the highest farebox recovery ratios in the country at 61 percent.[13]

Alameda County Commute Mode Share, 2019



Source: US Census Bureau, American Community Survey 2019 1-year Estimate, Alameda County

[10] California Department of Finance, Demographic Research Unit, Report E-1, Population Estimates for Cities, Counties, and the State January 1 2019 and 2020
[11] US Census Bureau, American Community Survey 2019 1-year Estimate, Alameda County
[12] US Census Bureau, American Community Survey 2019 1-year Estimate, Alameda County
[13] National Transit Database (FY19/20) or Provisional Data Provided by Operators

Goods Movement

The Port of Oakland was the 8th busiest seaport in the United States by annual container throughput. The Port of Oakland's volumes remained near record highs: 2.5 million containers shipped and received through the Port of Oakland and 1.5 million tons of air freight moved through the Oakland International Airport in 2019.[14]

Safety and Collisions

Safety was a challenge, as 2019 saw 7,987 total collisions and 89 fatal collisions in Alameda County.[15] Unsafe speed was the most common cause of collisions (34 percent).

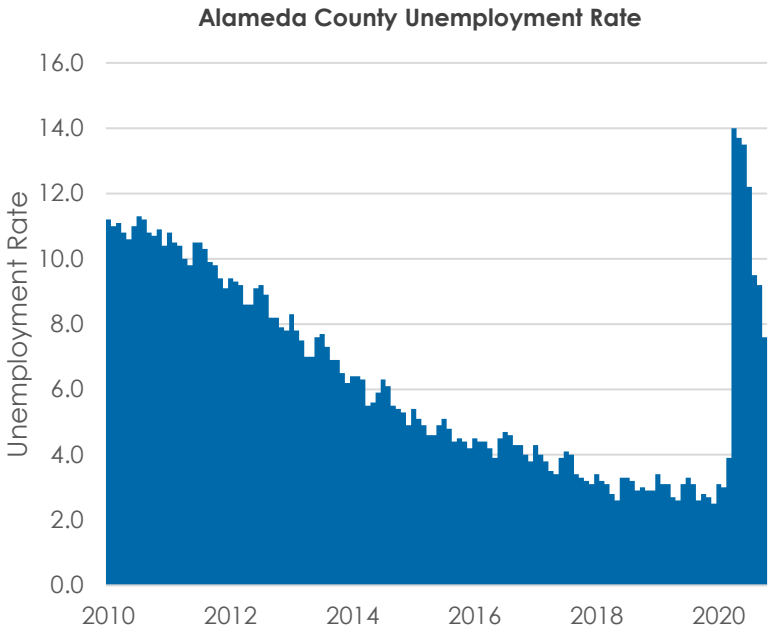
More on Transportation Before the Pandemic

More data collected by Alameda CTC on pre-pandemic conditions, including fact sheets on Active Transportation, Freeways, Arterials and Major Roads, Transit, Goods Movement, and the Transportation System can be found on the Alameda CTC website here: https://www.alamedactc.org/planning/congestion-management-program/

[14] Port of Oakland Seaport, Facts & Figures, Monthly Twenty-foot Equivalent Units (TEUs)
[15] Traffic Injury Mapping System, Alameda County, 2019 Provisional Data (subject to change).

2020: A Year Like No Other

In early 2020, news arrived of a novel Coronavirus, SARS-CoV-2, spreading rapidly through China, since at least November 2019. The Centers for Disease Control and Prevention have stated that it most likely arrived in California as early as December 2019. On January 24, 2020 a Santa Clara County resident was the first person to test positive for COVID-19 in the Bay Area. By March 16th, with hundreds of confirmed cases in the Bay Area, the Alameda County and Berkeley Public Health Departments issued shelter in place orders covering all of Alameda County and requiring residents to stay at home. Initially set to expire in early April, these orders persisted through the end of 2020. As a consequence of the virus and the subsequent lockdown, the world economy stalled, moving Alameda County's unemployment rate from just three percent in February to 14 percent by April[16], putting thousands out of work. Transportation and travel patterns also changed radically, almost overnight. This paper will address some of the challenges and changes to transportation that occurred in Alameda County in 2020.



Source: Bureau of Labor Statistics, Local Area Unemployment Statistics. Alameda County January 2010 – November (provisional). Not Seasonally Adjusted.

[16] Bureau of Labor Statistics, Local Area Unemployment Statistics. Alameda County January 2010 – November (provisional). Not Seasonally Adjusted.

Transit in 2020

Total Ridership Down: Historic Drops in the Spring and Modest Recovery in the Fall

Transit ridership dropped to unprecedented lows during the early stages of the pandemic, in April most operators had lost over 90 percent of ridership compared to the previous year. However, ridership recovered somewhat over the summer and fall.

- **AC Transit** ridership fell about 70 percent systemwide from 4.8 million trips in April 2019 to just 1.4 million trips in April 2020. By October, AC Transit regained about 10 percent of its riders, down about 60 percent year-to-date[17], the strongest numbers for any operator.
- **BART** ridership fell by 93 percent in Alameda County from 4 million trips in April 2019 to just 566,000 trips in April 2020.[18] By October, BART recovered about 14 percent of prior ridership, down 86 percent year-over-year. BART does not expect to recover more than 60 percent of pre-COVID ridership by the end of FY 2021-22.[19]
- **WETA (SF Bay Ferry)** trips fell 99 percent from 118,000 passengers on the Alameda/Oakland – San Francisco line in April 2019 to just over 1,000 in April 2020, with service on the Harbor Bay line, which carried 32,000 passengers in April 2019, fully suspended.[20]
- **LAVTA** reported ridership had dropped about 90 percent in the early stages of the pandemic on both fixed route service and dial-a-ride paratransit services.[21]
- **Capitol Corridor and Altamont Corridor Express (ACE)** ridership fell 95 percent in April.[22] Capitol Corridor recovered about 15,000 riders by October, but was still down 86 percent year-over-year.[23]

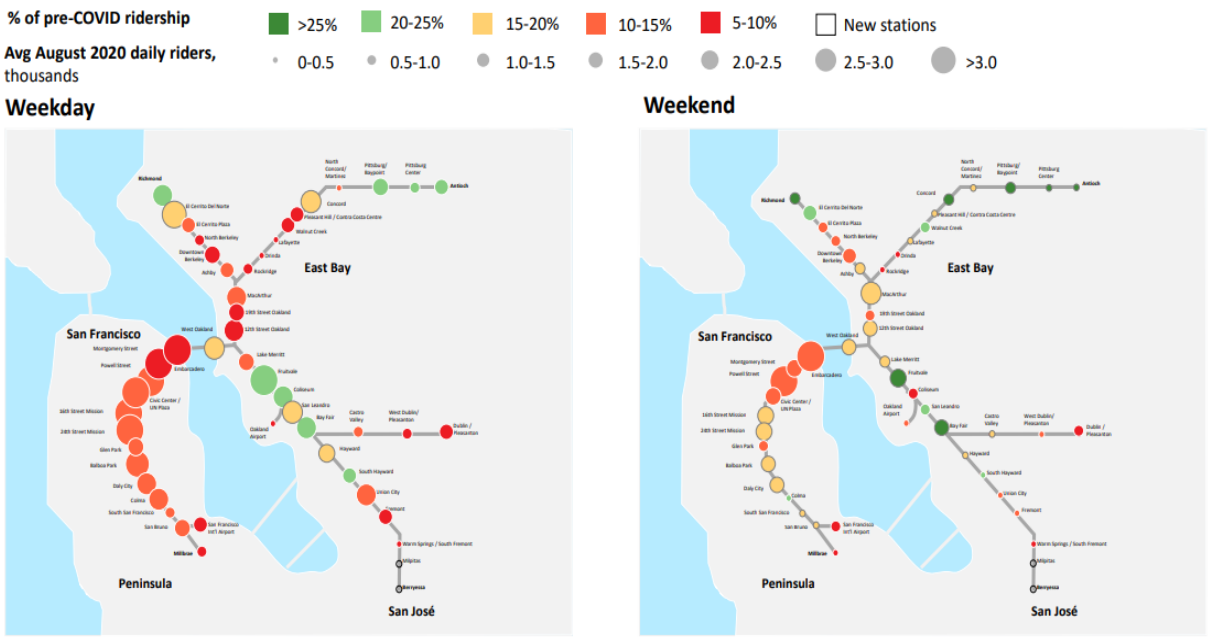
At the end of 2020, the region experienced the largest surge in COVID-19 cases and a Regional Stay at Home Order was issued. As 2021 begins, concerns regarding new, more contagious variants and social distancing recommendations may continue to negatively impact transit ridership.

[17] AC Transit Total Monthly Ridership April 2019 – October 2020
[18] BART Ridership Reports (April and October 2019 and 2020), Total Exits, Alameda County Stations Only
[19] BART FY21 Budget Outlook Presentation, October 22, 2020
[20] WETA Board Report, November 2020
[21] LAVTA Board Report
[22] Capitol Corridor JPA Performance Report (April), ACE Work Program FY20-21
[23] Capitol Corridor JPA Performance Report (October)

Ridership Returning Faster in Low Income Communities

BART ridership provides some insight into the disparate impacts of the COVID-19 pandemic on low-income communities and communities of color by highlighting where essential workers and low-income communities are still dependent on public transit and less able to work from home. For example, stations in more affluent areas, like Rockridge, lost larger shares of riders initially – up to 97 percent of boardings disappeared in April – and have also been slower to recover riders, getting just five percent of 2019 ridership back between April and October. In contrast, Fruitvale Station lost fewer riders initially, 86 percent, and has recovered riders faster, with 11 percent of 2019 riders back. Fruitvale Station went from the 14th to the 5th busiest BART station in the system.

BART Average Exits and Entries, August 2020 compared to pre-pandemic



Source: BART Agency Website, Press Release

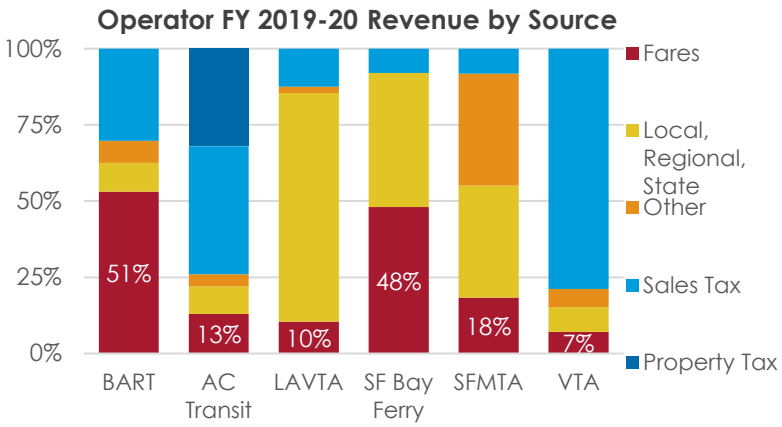
East Bay Bus Rapid Transit (BRT): Tempo

AC Transit completed construction of the long-awaited East Bay BRT project during the pandemic and launched the Tempo Bus Rapid Transit service in August 2020.

- In the early stages of the pandemic ridership fell about 50 percent on Line 1, (the route predating Tempo and one of AC Transit's highest ridership routes)
- By October, with Tempo service implemented, average weekday ridership grew about 23 percent to about 8,000 riders from the spring. Ridership was still down about 24 percent year-to-date, but has made a stronger recovery compared to some other services.

Operator Revenues Down

All transit operators have been impacted by ridership declines and the related drop in revenues due to lost fares. Operators with a large share of their operating budget sourced from fares face more significant budgetary challenges and uncertain prospects for stabilizing their budgets.



Source: AC Transit Board Presentation, LAVTA Board Agenda

BART has been particularly hard hit since the agency relies on fares to cover more than half its total operating budget. Consequently, BART has a $33 million funding gap for the current fiscal year (FY). Two rounds of federal stimulus through the Coronavirus Aid, Relief, and Economic Security Act (CARES) and the Coronavirus Response and Relief Appropriations Act of 2021 (CRRSAA) have made a total of almost $2.8 billion available to Bay Area transit operators to help temporarily close funding gaps and maintain service.

Transit Service Changes

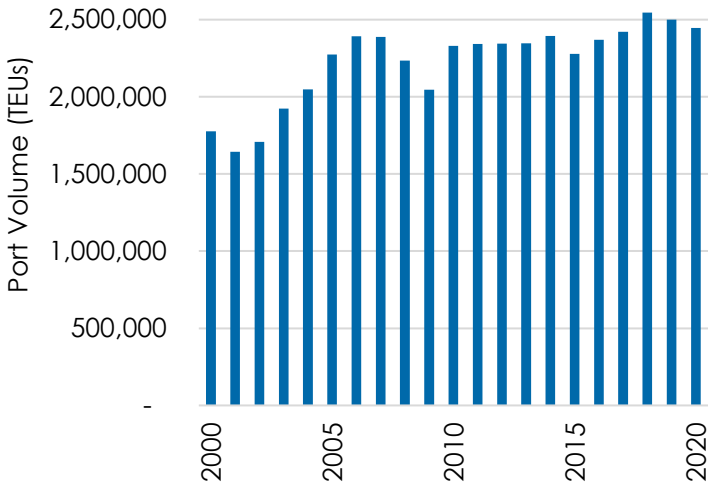
Operators have made major service changes as a result of COVID-19. Some examples of these changes are:

- Most operators joined the Bay Area Healthy Transit Plan, require face coverings, and disinfect vehicles regularly.
- BART accelerated efforts to reduce contact, converting fully to Clipper payment and allowing contactless parking payment. BART also made free masks available at all stations and has upgraded air filters to improve air circulation.
- AC Transit has capped occupancy on buses and now runs shadow service on some routes to collect additional riders. It did not collect fares between March and October and allowed rear-door boarding during that time.
- WETA terminated weekend service and all service on the Harbor Bay line, and significantly reduced service on the Alameda/Oakland line.
- ACE reduced service from six roundtrip trains to two, which maintain regular schedules.
- Capitol Corridor launched a tool to check occupancy on trains and buses to allow social distancing.

Goods Movement in 2020

In 2020, the Port of Oakland handled roughly 2.45 million containers, compared to 2.50 million containers in 2019. That represents just a two percent decline, comparable to the decline between 2018 and 2019.[24] Total container volumes at the Port of Oakland fell significantly in the spring, 15 percent year-over-year in May, however volumes increased up to nine percent year-over-year by the fall.

Port of Oakland, Annual Container Volume (TEUs)



Source: Port of Oakland (2000 – 2020)

Oakland International Airport, however (which is also part of the Port) has seen dramatic decreases in passenger trips. In April 2020, the airport saw around 46,000 passengers compared to 1.1 million passengers in May 2019, a decline of about 95 percent.[25] By October, monthly passenger volumes increased significantly to about 364,000, but were still down 67 percent compared to 2019. In contrast, the airport did move 116.6 million pounds of air cargo in October, a roughly four percent increase from 2019.[26]

[24] Port of Oakland Seaport, Facts & Figures, Monthly Twenty-foot Equivalent Units (TEUs)
[25] Port of Oakland, Press Release, Airport Recovery Underway as Passengers More than Double from April to May, June 16, 2020
[26] Port of Oakland, Press Release, Oakland Airport Reports October 2020 Traffic, November 19, 2020

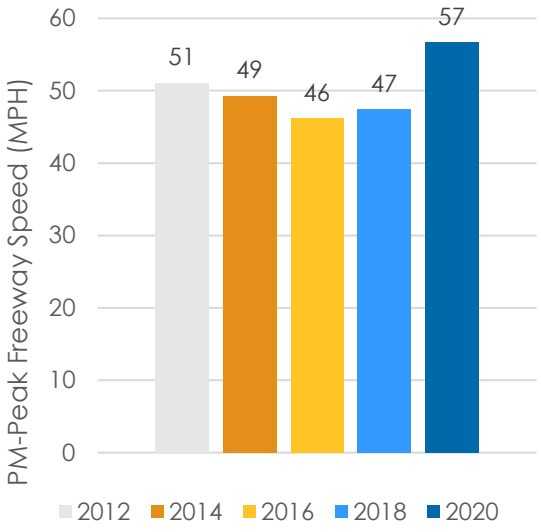
Roads and Congestion in 2020

Alameda CTC typically conducts performance monitoring on major roads (freeways, highways, arterials, and major rural roads) every two years in the spring (March-May). Due to the shelter-in-place order, Alameda CTC moved the 2020 monitoring cycle to the fall (September – November). In 2020, congestion was down significantly, especially in the morning peak-period, while total vehicle miles traveled declined only modestly. This suggests more flexible schedules, more diffuse activity across the network, and less peaked demand, except on a handful of corridors (like the I-80/Bay Bridge corridor).

Total Auto Travel and Bridge Volumes Declined Modestly

The number of vehicle miles traveled (VMT) in Alameda County fell about 35 percent[27] immediately after the shelter-in-place order was issued in March 2020, but began to steadily increase through the summer. By October 2020, total VMT had returned to about 90 percent of 2019 levels. In the afternoon peak period, VMT almost fully recovered to pre-pandemic levels. VMT was down just four percent in October, year-to-date. Similarly, volumes on the Bay Bridge, an important commuter gateway, fell about 50 percent in the spring, and had returned to almost 90 percent of 2019 volumes as of fall 2020. Afternoon-peak period westbound bridge volumes returned to near pre-pandemic levels by the fall of 2020.[28] Congestion on the other hand decreased considerably, even in the p.m.-peak period. Only 15 percent of freeway miles were congested in the afternoon, compared to almost 50 percent in 2018.[29] Most congestion in the afternoon peak remained near interchanges and key gateways. Although the Bay Bridge itself is not congested, some of the heaviest congestion is still on I-80. Near the Macarthur Maze, both the westbound approach from Powell was congested and the eastbound flow from the Macarthur Maze to University was congested. I-880 southbound leaving

Average Freeway Speeds During Afternoon Peak Period



Source: 2020 CMP Monitoring Report, Average Road Speeds on Freeway CMP Segments, P.M. Peak-Period (4-6 P.M.).

[27] PeMS, Vehicle Miles Traveled, Alameda County, 2018-2020
[28] BATA Bay Bridge Toll Volumes (west-bound volumes)
[29] 2020 CMP Monitoring Report, LOS-F Freeway Segments (average directional speed at or below 35 mph)

the Macarthur Maze was also congested. Other congested segments included eastbound SR-24 near the Caldecott tunnel, eastbound I-580 at the 580/680 interchange, I-580 from SR-84 to the Altamont Pass, southbound I-880 past 238, the Sunol Grade on I-680. Only two small segments were congested in the morning: SR-84 approaching I-680, and westbound I-580 at the county line.

Average Road Speeds Up Significantly

Speeds on all roadways increased during all periods immediately after the regional shelter-in-place orders were issued.[30] By the fall, speeds dropped somewhat due to more network activity, however morning commute speeds on nearly all freeways were near free-flow conditions with an average speed of 63 miles per hour across the entire network, up 24 percent from 2018.[31] Afternoon-peak freeway speeds were lower, about 57 miles per hour, but still up 20 percent. Weekend freeway speeds were also up 11 percent.

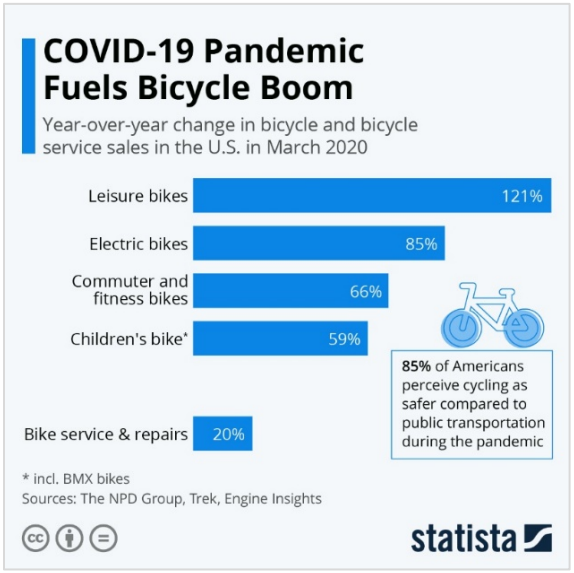
Major arterial speeds also increased. Average speeds during the afternoon-peak period increased from less than 24 miles per hour to more than 27 miles per hour, about a 14 percent increase. During the morning peak, speeds increased from 25 miles per hour to just under 30 miles per hour, about a 17 percent increase. Speeds on minor arterials also increased by about eight percent. Increased speeds on local roads have led to safety concerns in many communities.

[30] INRIX Raw Speed Data for Alameda County, March 2020
[31] 2020 CMP Monitoring Report, Average Speed on Freeway Segments, AM Peak Period (7-9 AM)

Active Transportation in 2020

In conjunction with the 2020 auto monitoring cycle, Alameda CTC conducts two-hour (4-6 p.m.) bicycle and pedestrian counts at 150 intersections throughout the county. Locations near schools are also counted from 2-4 p.m. and downtown areas are counted mid-day from 12-2 p.m.

Interest in biking up, counts inconclusive



Available data points on the total amount of bike activity on the network are conflicting. Bicycle sales increased significantly since the beginning of the pandemic and attendance at bike education classes (online or distanced) increased three percent, despite the pandemic.[32] However, fall bike counts throughout Alameda County saw bike volumes fall about six percent compared to the prior count cycle in 2018.[33] There are a number of reasons this may not accurately reflect biking activity. First, the number may be temporarily depressed due to a historic wildfire season that occurred during the count window. Although no counts were conducted on poor air quality days (counts were not conducted if the Air Quality Index exceeded 80), persistent poor air quality from a historic wildfire season may have had a long-lasting seasonal effect (wildfires also impacted the 2018 count cycle). Second, the count periods focus on traditional peak use periods and count locations focus on key commuter corridors and active downtown areas – the increases in biking activity may be in more residential and recreational areas. For example, there was a negligible decline in bike activity near schools (fewer than 100 trips) in the afternoon (2-4 p.m.), despite widespread distanced learning. That would be consistent with activity shifting away from arterial commuter corridors and into more residential areas and shifting away from the traditional afternoon peak activity period.

Pedestrian counts declined, especially in downtown areas

Fall pedestrian counts showed substantial declines throughout the county, with overall counts falling more than 50 percent, compared to 2018. Downtown areas saw mid-day (12-2 p.m.) volumes fall over 60 percent compared to 2018 and afternoon (2-4 p.m.)

[32] Bike Education Classes, Alameda CTC, Bike East Bay, January 2019 – December 2020
[33] 2020 CMP Monitoring Bike/Ped Counts. Data collected August – October. All locations, all count periods.

counts near schools fell nearly 80 percent.[34] The same issue is likely at play here, as pedestrian counts are focused on commute corridors and downtowns where all activity has dropped dramatically, and the counts do not capture increases in neighborhoods and on newly created "slow streets."

Cities have had success with quick build and pop-up projects, for example:

- The City of Oakland created over 21 miles of slow streets between April and July 2020
- Alameda CTC distributed over $900,000 (matched by project sponsors) for 13 quick build active transportation projects in 13 jurisdictions.

[34] 2020 CMP Monitoring Bike/Ped Counts. Data collected August – October.

Opportunities and Challenges

Opportunities

- Small changes in travel demand during peak-periods can have outsized reductions in congestion and sustained, widespread, telecommuting may create less peaked demand.
- Decreased traffic on roadways has created opportunities to repurpose capacity, accelerate rehabilitation projects and pursue innovative treatments.
- Interest in biking and walking has increased significantly (although traditional count data collection methods do not capture this change as explained below).
- Support for cycling has increased. About 60 percent of Americans support increasing federal funding for biking and walking and about 78 percent agree that their community would be a better place to live if biking was safer and more comfortable, up from 67 percent in 2016.[35]
- The goods movement sector has been resilient.

Challenges

- The sustained nature of COVID-19 social distancing guidelines may permanently change individual behaviors and attitudes, even as restrictions are eased. A mix of infrastructure and policy changes may be needed to meet new demands as longer-term trends emerge.
- Operational budgets for transit agencies have been significantly impacted by a sustained drop in ridership and the need to maintain service for essential workers. Long-term ridership is uncertain, but operators currently anticipate that it will rebound much more slowly than other indicators, with impacts extending beyond FY 2020-21.
- Faster speeds on arterial roads increase the risk of severe collisions, especially for cyclists and pedestrians.
- Sustained, widespread, telecommuting may change demand considerably in downtown areas and there is a risk for renewed demand for sprawl as some workers are less tied to central office locations.
- Data collection during the pandemic is of questionable long-term value and emerging trends are less predictable. As activity has shifted out of

[35] League of American Bicyclists, Ipsos, Polling Report September 2020

peak periods and downtown areas, it underscores the limitations of traditional data collection tools and strategies that do not capture non-commute, non-peak, nor leisure/recreational trips which have historically comprised the large majority of trip making.

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