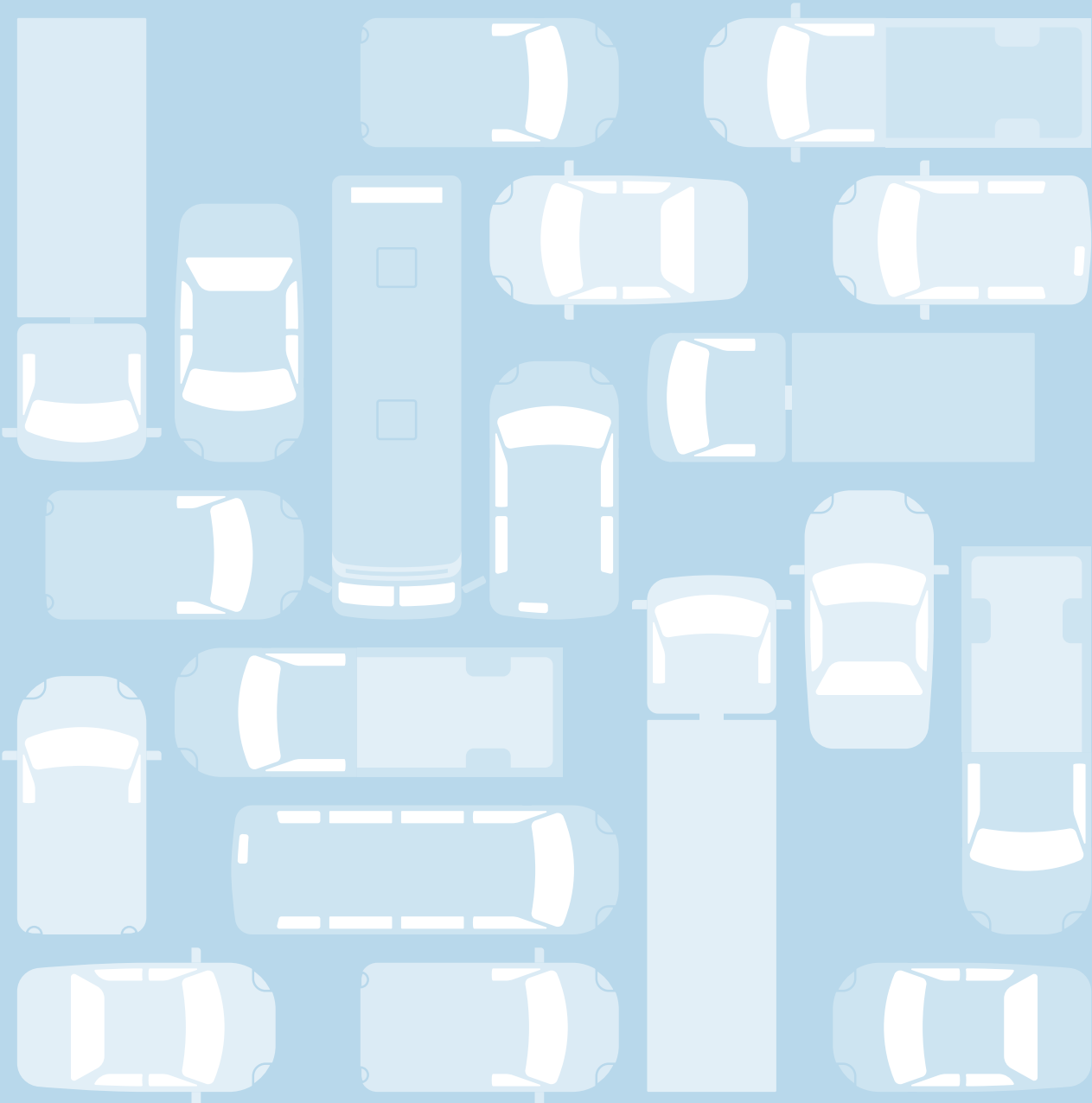


CONGESTION MANAGEMENT PROGRAM DECEMBER 2019

Executive Summary



Introduction

Every two years, the San Francisco County Transportation Authority (SFCTA) prepares the San Francisco Congestion Management Program (CMP). This program is conducted in accordance with state law to monitor congestion and adopt plans for mitigating traffic congestion that falls below certain thresholds. By statute, the CMP legislation originally focused its requirements on measuring traffic congestion, specifically through Level-of-Service (LOS), which grades roadway facilities by vehicle delay. The SFCTA has since evolved its CMP to include more multimodal and system performance monitoring, in recognition that automobile-focused metrics such as LOS result in a limited view of transportation issues, which can result in inefficient, modally biased, and often, unintentionally, counter-productive solutions.¹

The CMP legislation aims to increase the productivity of existing transportation infrastructure and encourage more efficient use of scarce new dollars for transportation investments, in order to effectively manage congestion, improve air quality, and facilitate sustainable development. The purpose of the 2019 San Francisco Congestion Management Program is to:

- Define San Francisco's performance measures for congestion management;
- Report congestion monitoring data for San Francisco county to the public and the Metropolitan Transportation Commission (MTC);
- Describe San Francisco's congestion management strategies and efforts; and
- Outline the congestion management work program for fiscal years 2019/20 and 2020/21.

This year's congestion monitoring reveals that auto speeds have decreased since 2017 for all measured time periods and road types. This is a continuation of the trend of modest degradation of roadway performance observed between 2015 and 2017. In contrast, transit speeds on the CMP network increased between 2017 and 2019, reversing the trend of declines in transit speeds that was observed between 2011 and 2017. This means that transit is more competitive with auto than in past years, an outcome consistent with San Francisco's "transit-first" policies. However, transit reliability has worsened slightly during the current monitoring period. There were slight declines in pedestrian and bicycle volumes observed between 2017 and 2019. Unfortunately, bicycle and pedestrian injuries and fatalities appear to show an upward

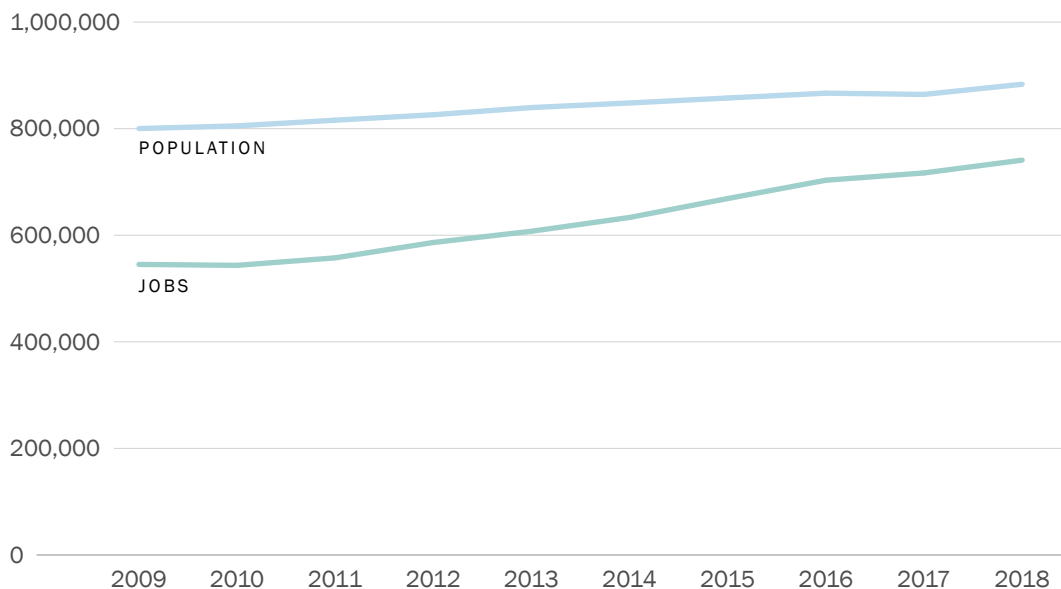
¹ In order to reduce vehicle delay and improve LOS, without considering strategies that encourage shifts to other modes, the increased roadway capacity is the implied solution, which, in turn, has been shown to lead to more driving (induced demand).

trend in recent years, counter to the City’s Vision Zero goal of eliminating traffic fatalities. Total transit volumes were little changed from prior monitoring. While vehicle miles traveled (VMT) had remained relatively unchanged from 2012 through 2015, VMT increased in 2016 and 2017.

State of Transportation

San Francisco is an employment and population hub in a region that has continued to experience tremendous growth, outpacing all projections. Since 2009, San Francisco has added over 80,000 residents and close to 200k jobs (see Figure O-1). Between 2016 and 2018 alone, San Francisco added 15,000 residents, bringing the total population to over 880,000, and the daytime population (which includes non-residents who work in the city) is well over one million. Employment growth during this same two-year period has also been significant. According to the Bureau of Labor Statistics, total employment in San Francisco during these two years increased by over 5%, from 703,000 to 741,000 jobs. This continues the trend of job growth exceeding population growth in the county by a factor of almost three to one. This means that people are coming to San Francisco for work but live elsewhere and commute into the city. Strategies to managing congestion are key to maintaining our accessibility as the city grows. These include: improving public transportation, bicycling and walking routes and facilities; coordinating new development to support walkable and transit-oriented neighborhoods; and managing vehicle use, parking, and traffic signals to ensure safety and efficiency.

Figure O-1: San Francisco Population and Job Growth since 2009



Source: MTC Vital Signs / American Community Survey / Bureau of Labor Statistics

ROADWAY LEVEL OF SERVICE

The CMP legislation defines roadway performance primarily by using the LOS traffic engineering concept to evaluate the operating conditions on a roadway. LOS describes operating conditions on a scale of A to F, with "A" describing free flow, and "F" describing bumper-to-bumper conditions. For the current monitoring period, average travel speeds on the CMP network have decreased since 2017 for all measured time periods and road types, as shown in Figure O-2. Note that the 2017 speeds have been updated based on a change to the underlying dataset by the data provider. This has resulted in a slight disconnect between the 2017 speeds reported during last cycle and the updated 2017 speeds reported in this cycle. Average arterial travel speeds have decreased 5% from 14.0 mph to 13.3 mph in the AM peak and decreased 5% from 12.8 mph to 12.2 mph in the PM peak. The average travel speed on freeways decreased 1% from 31.8 mph to 31.5 mph in the AM peak and decreased 3% from 24.4 mph to 23.6 mph in the PM peak. While the overall declines in speeds between 2017 and 2019 indicate a continuing degradation of roadway performance, these declines were less significant than the declines between 2015 and 2017. Overall roadway performance has been declining since 2009.

Figure O-2: CMP Network Average Travel Speed Change

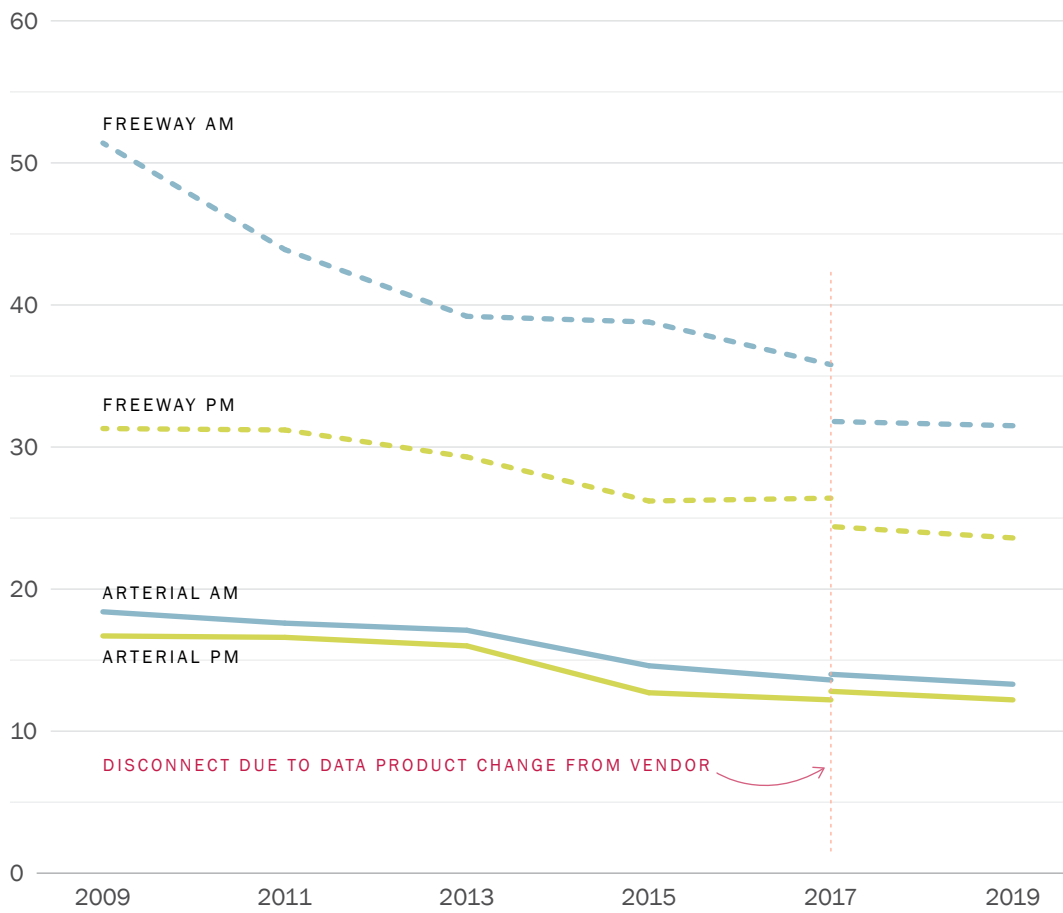
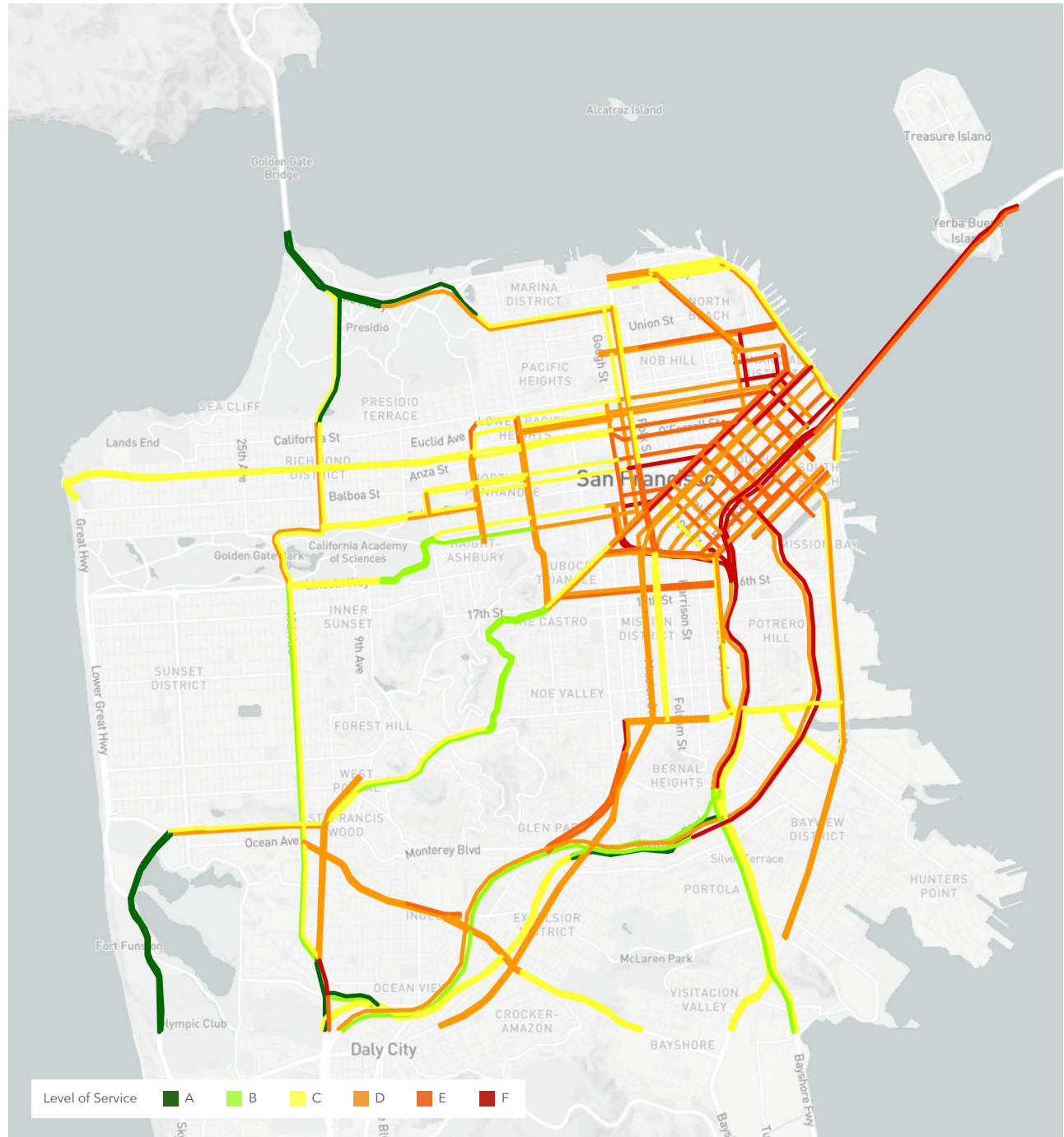


Figure O-3 shows where the congestion is greatest in the county, primarily concentrated in the downtown and South of Market neighborhoods, and on the freeways and the arterials serving these freeways. An interactive version of this map that allows users to view historical trends can be found at congestion.sfcta.org.

Figure O-3: 2019 PM Peak Roadway Level-of-Service



TRANSIT SPEEDS

In addition to monitoring roadway speeds, the Transportation Authority also tracks surface transit speeds. Transit speeds on the CMP network increased since 2017. Compared to 2017, the average transit speed (collected for buses only) in 2019 on the CMP network in the AM peak increased 4% from 8.13 to 8.44 mph. In the PM peak period transit speeds also increased 4% from 7.34 to 7.60 mph. This improvement in performance for transit as compared with vehicles may be attributable to the city's expanded efforts to provide on-street transit priority during this period.

TRANSIT TRAVEL TIME RELIABILITY

Transit speed information is also used to calculate the variability of speed as a measure of transit travel time reliability. Figure O-5 shows that transit travel time reliability has worsened (variability has increased) since 2017 despite improvements in average transit speed.

AUTO-TRANSIT TRAVEL TIME RATIO

In order to assess the competitiveness of transit with driving, the ratio of auto to transit speeds is calculated by comparing auto to transit speeds on the portions of the CMP network for which Muni data is available. A ratio of 2 would indicate that, for a particular segment, on-board transit travel time is twice that of auto travel time. As shown in Figure O-6, transit speeds continued the trend of improving, relative to auto speeds between 2017 and 2019. Overall, between 2017 and 2019 the average auto-to-transit speed ratio improved from 1.67 to 1.58 in the AM peak and 1.66 to 1.60 in the PM peak.

Figure O-4: Overall Average Transit Speeds Trend for CMP Network

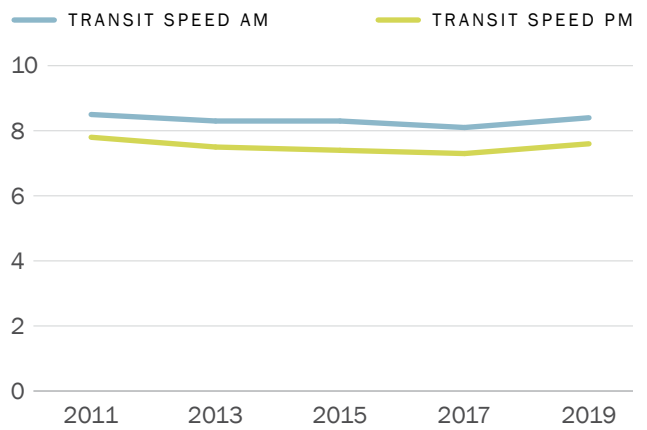


Figure O-5: Transit Travel Time Reliability

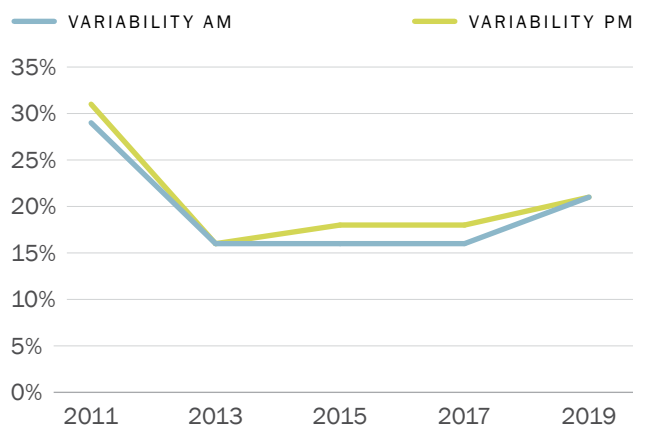
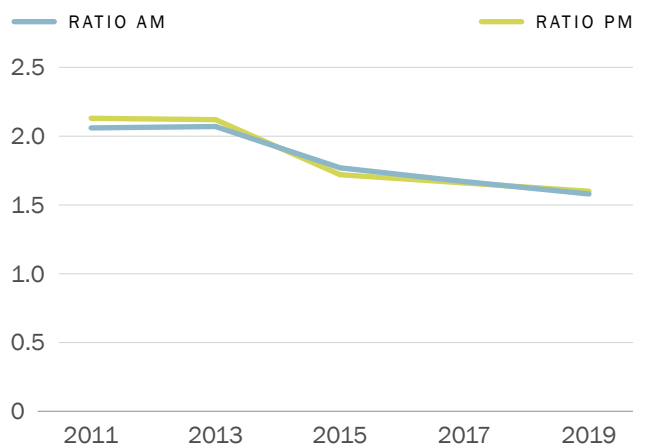


Figure O-6: Auto-Transit Speed Ratio



MULTIMODAL VOLUMES

The City and County of San Francisco has placed a high priority on shifting travelers' modes to increase the number of trips made by walking and bicycling. Figure 0-7 shows bicycle counts collected by SFMTA from 2006 through 2017. It must be noted that, while count locations have been increasing, the figure reflects counts from a subset of the same 19 counters for all years. The most recent data suggests that bicycle ridership has remained steady over the past five years.

PEDESTRIAN AND BICYCLE SAFETY

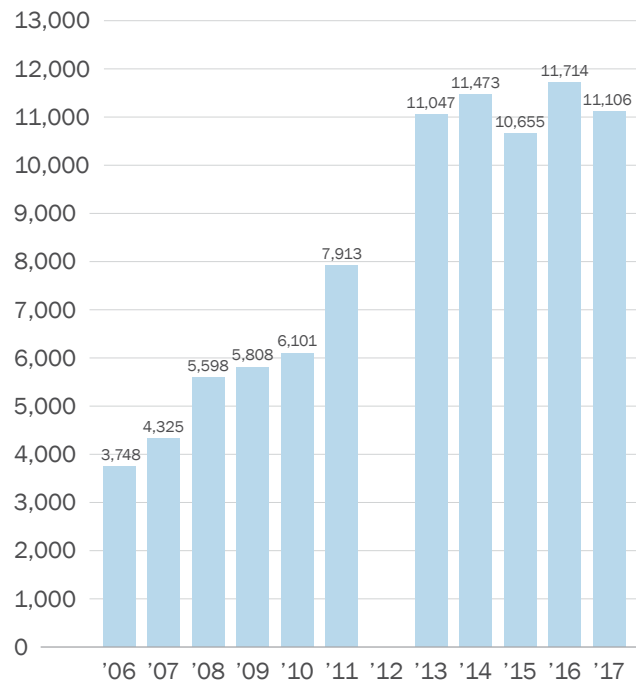
Safety for pedestrians and cyclists are key measures of non-motorized transportation performance, and a critical policy priority for the city of San Francisco. The City and County of San Francisco adopted Vision Zero as a policy in 2014, committing to build better and safer streets, educate the public on traffic safety, enforce traffic laws, and adopt policy changes that save lives. Figure 0-8 illustrates the number of pedestrian and bicycle fatalities in San Francisco since 2013. It shows that while non-motorized fatalities were lower in two most recent years (2017 and 2018) than the preceding four years (2013 - 2016), they still remain high.

OTHER MEASURES

Vehicle Miles Traveled (VMT)

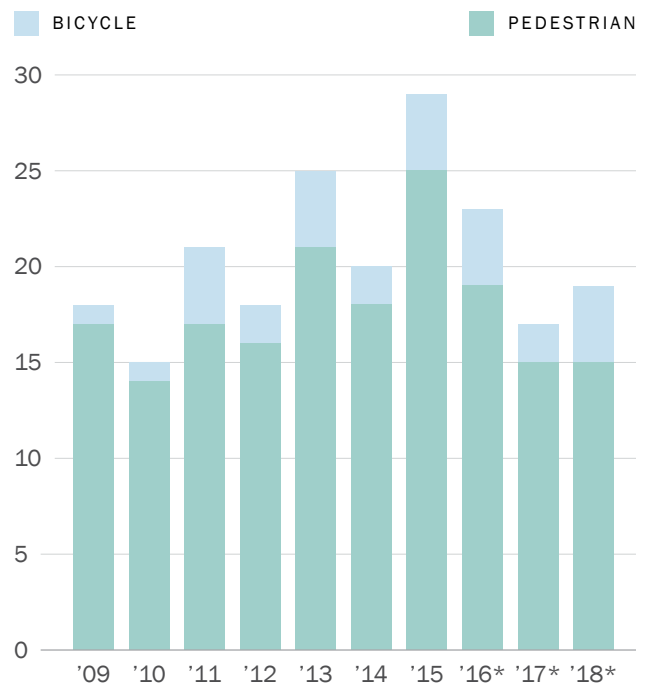
In 2016, the San Francisco Planning Commission adopted new guidelines for evaluating the transportation impacts of new projects. Critically, additional automobile delay as measured by level-of-service (LOS) is no longer considered an environmental impact, and environmental impact determinations now use vehicle miles travelled. Figure 0-9 illustrates the trend in estimated VMT on San Francisco roadways. It shows that while VMT remained relatively

Figure 0-7: Bicycle Volumes



Note: SFMTA did not collect bicycle volumes in 2012

Figure 0-8: Pedestrian and Bicycle Fatalities



* provisional data

unchanged from 2012 through 2015, it increased in 2016 and 2017, and is about 3.5% lower than the peak VMT observed in 2002

Transit Volumes

San Francisco’s strong backbone of local and regional transit has been key to our ability to manage congestion. Muni, BART, Caltrain, and commuter bus lines help move people into and around the city efficiently. Privately sponsored and operated services are also adding needed capacity. But as demand grows, our major transit systems are becoming crowded. Between 2010 and 2019, ridership on the three largest transit providers in San Francisco has grown, however all of them saw slight decreases in ridership in 2019, as shown in Figure O-10.

Transport Network Companies (TNCs) and Congestion

In 2018, the SFCTA released a follow up report to TNCs Today, TNCs & Congestion, that identified the extent to which TNCs contributed to increased roadway congestion in San Francisco between 2010 and 2016, relative to other potential contributing factors including employment growth, population growth, and changes to the transportation system. The findings indicated that, when compared to employment and population growth and network capacity shifts (such as for a bus or bicycle lane), TNCs accounted for approximately 50% of the change in congestion in San Francisco between 2010 and 2016, as indicated by three congestion measures: vehicle hours of delay, vehicle miles travelled, and average speeds (Figure O-11). Employment and population growth—encompassing citywide non-TNC driving activity by residents, local and regional workers, and visitors—are primarily responsible for the remainder of the change in congestion.

Figure O-9: Vehicle Miles Traveled

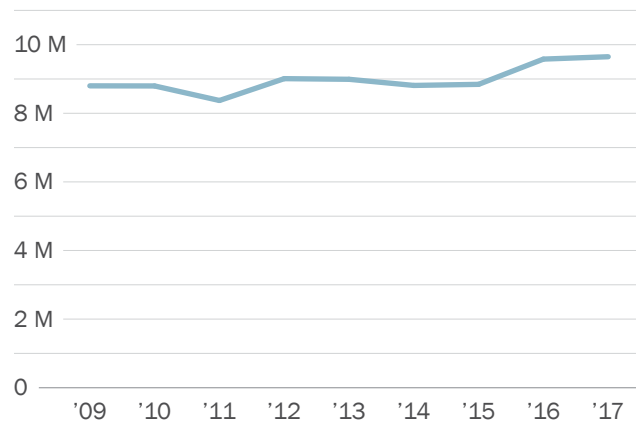


Figure O-10: Average Daily Passengers by Transit Operator

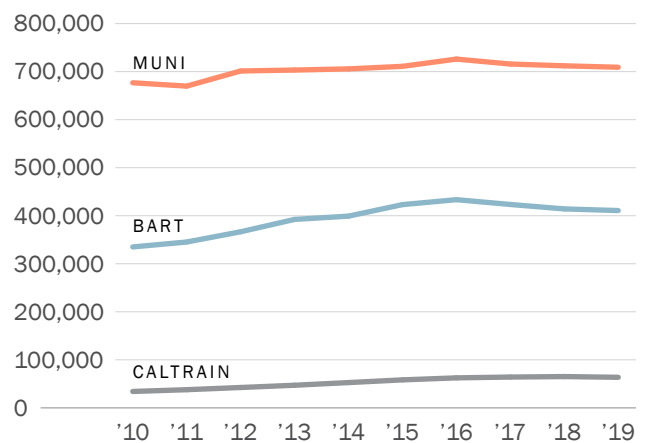
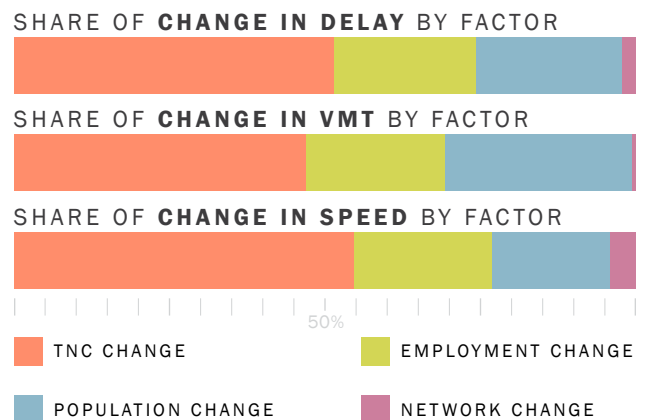


Figure O-11: TNCs & Congestion



What are we doing to manage congestion?

MANAGING DEMAND FOR TRAVEL

San Francisco has a robust set of travel demand management (TDM) programs, policies, and requirements designed to enable and encourage people to make trips by transit, walking, and biking and to smooth vehicle circulation. These include a focus on new development as well as on managing congestion in existing neighborhoods and built up areas:

- Coordinating transportation aspects of area plans, development agreements, and other requirements on new development, including:
 - Central SoMa Land Use Plan
 - Central Waterfront development projects
 - Treasure Island, Hunter's Point /Shipyard, Schlage Lock, Parkmerced
 - Transportation Sustainability Program
- Policies and programs to manage trips in existing neighborhoods and built-up areas, including:
 - Commuter Benefits Ordinance and Emergency Ride Home Program
 - SFMTA Commuter Shuttle Policy
 - SFMTA Carsharing Policy
 - Parking Management
 - SF Moves Neighborhood TDM Outreach Pilot Project
 - Travel Demand Management Ordinance
 - Downtown Congestion Pricing Study
 - Traffic Congestion Mitigation Tax

Furthermore, San Francisco is encouraging efficient land use planning by supporting development at higher densities in areas that are mixed-use (closer to jobs and retail) and are well served by transit. Plan Bay Area, the region's Sustainable Communities Strategy, identifies Priority Development Areas (PDAs) where densities and transit levels can more readily support transit-oriented development. The City is in the process of requesting that the Metropolitan Transportation Commission (MTC) designate additional PDAs as part of the ongoing update to Plan Bay Area. The Transportation Authority prepared a Transportation Investment and Growth Strategy, which describes how San Francisco will support PDAs through transportation investment. The city's use of Metropolitan Transportation Commission PDA planning

funds is supporting the following planning efforts and studies in line with the Transportation Investment and Growth Strategy:

PDA Planning Projects

- Rail Storage Alternatives Analysis and I-280 Boulevard Feasibility Study
- Embarcadero Multimodal Design
- Bayshore Multimodal Facility Location Study
- M-Oceanview Realignment
- Ocean Avenue Streetscape Plan
- Market/Noe Streetscape Design
- Balboa Reservoir TDM

PLANNING PROJECTS

Connect SF, a long-range effort to define the desired and achievable transportation future for San Francisco, was launched in 2016 as a partnership between the Transportation Authority, the SFMTA, and San Francisco Planning. The effort will produce a roadmap to arrive at that future, and will include a major update to the San Francisco Transportation Plan (SFTP), which was adopted in 2013, with a minor update in 2017. The ConnectSF process is currently developing future transportation infrastructure investment concepts for transit (Transit Corridor Study) and streets and freeways (Streets and Freeways Study), including active transportation. The Transportation Authority is also coordinating with numerous local, regional state and Federal agencies and with the private sector to address congestion. Key initiatives include:

- Downtown Congestion Pricing Study
- Vision Zero Program
- New Transbay Rail Crossing
- US 101/Interstate 280 Carpool and Express Lanes project (managed lanes/carpool lane equity analysis, environmental review and design)
- Transportation Sustainability Program (including the Transportation Sustainability Fee and the Travel Demand Management Ordinance)
- Van Ness, Geary, and Geneva/Harney Bus Rapid Transit
- Better Market Street
- Treasure Island Mobility Management Program
- Neighborhood Transportation Improvement Program (planning and capital improvement grants)
- Emerging Mobility and School Transportation sector studies

FUNDING AND DELIVERING PROJECTS

The Transportation Authority is addressing near- and long-term transportation needs for San Francisco by funding projects and programs – mainly capital infrastructure, through grant programs such as the Proposition K transportation sales tax, Proposition AA vehicle registration fee and Transportation Fund for Clean Air programs, as well as coordinating with other local and regional agencies to apply for State and Federal funding to match local investments. Below are a few signature projects supported with funds from the Transportation Authority.

- Muni New and Renovated Vehicles
- Central Subway
- Caltrain Extension to the new Transbay Transit Center
- Peninsula Corridor Electrification Project

In its role as Congestion Management Agency, the Transportation Authority has programmed One Bay Area Grant (OBAG), Regional Transportation Improvement Program, and SF Lifeline Transportation Program funds to projects including:

- Better Market Street
- Embarcadero Station: New Northside Platform Elevator and Faregates
- Geary Bus Rapid Transit Phase 1
- Safe Routes to School capital and non-infrastructure
- Communications-Based Train Control
- BART Station Elevator Attendants

The Transportation Authority is also overseeing and leading the delivery of key projects, many of which support infill transit-oriented development, including serving as co-sponsor or lead agency for the construction of:

- Projects such as the Yerba Buena Island I-80 Interchange Improvement Project.