

Evaluation Summary

California Street Safety Project



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The California Street Safety Project aimed to improve safety and reduce transit-involved collisions by reconfiguring the roadway from four lanes to three, adding intersection daylighting and advanced limit lines, upgrading crosswalks with continental striping and making signal timing changes on California Street between Arguello and Park Presidio boulevards. The project team conducted an evaluation following implementation of the project in July 2020. Traffic data was collected during the following periods:

- Pre-project data was collected in mid-September 2019
- Post-project data was collected in
 - mid-August 2020
 - March 2021
 - early December 2021
 - January 2022

More information about the project is available SFMTA.com/CaliforniaSafety.

KEY FINDINGS

- Overall, 85th percentile, average and median **speeds on California Street have remained the same** post-implementation of the project.
- 24-hour vehicle volumes on California Street heading westbound have remained the same post project implementation; eastbound vehicle volumes dropped by 19%. There is **no indication of traffic diversion to side streets**.
- Vehicle volumes on California Street during the morning and afternoon peak periods dropped 31% and 23% respectively, as travel has become less commute-focused during the pandemic.
- **Injury traffic collisions dropped by 64 percent** in the year following implementation of the project (11 injury collisions per year on average pre-project, 4 injury collisions in 2021), compared to a 23 percent reduction citywide.
- **Transit-involved collisions have decreased by 89 percent** since project implementation.
- **Close calls of vehicles yielding to pedestrians were reduced to zero** post-project.
- In the morning peak period, inbound buses heading toward downtown showed a 6% increase in the median travel time through the project limits. In the afternoon peak period, outbound buses headed toward the Outer Richmond showed a 12% increase in median travel time.
- While this project is a quick-build project primarily focused on improving safety within the project corridor, the 1 California is a high priority route for future Muni Forward investments, which will allow continued focus on improving transit travel times, reliability and safety.

VEHICLE VOLUMES AND SPEED

Vehicles speeds on California Street continue to be similar to pre-COVID-19 conditions. Signal timing changes included in the project included both safety enhancements providing additional walking time for pedestrians, as well as adjustments to green time on California Street to mitigate traffic impacts from the road diet. Overall vehicle volumes in the eastbound direction dropped by about 19% daily and 31% during the morning peak period compared to pre-project (and pre-COVID-19) conditions. There was also a 23% reduction of afternoon

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peak period vehicles traveling westbound in the post condition (January 2022). The overall number of vehicles per day travelling westbound on California Street westbound did not significantly change.

Vehicle volumes and speeds were also measured on Lake and Clement streets to identify any traffic diversion impacts from California Street. Volumes on Lake Street were significantly lower than pre-project conditions because of its designation as a Slow Street during the pandemic. Average daily traffic volumes on Clement Street were roughly even on the whole after project implementation, with a 5 percent decrease westbound and a 6 percent increase westbound.

The tables below show additional detail regarding the 85th percentile speed, average speed, median speed and average daily travel.

85th Percentile Speeds (in miles per hour)

Location	Pre-project Sep 2019	Post-project Aug 2020	Post-project Mar 2021	Post-project Dec 2021	Post-project Jan 2022	% Change Sep 2019 to Aug 2020	% Change Aug 2020 to Mar 2021	% Change 2019 to Dec 2021	% Change 2019 to Jan 2022
California Street between 2nd and 3rd avenues									
Westbound	29	30.3	29	29	30	4%	-4%	0%	3%
Eastbound	29	29	28.5	28	28	0%	-2%	-3%	-3%
Clement Street between 2nd and 3rd avenues									
Westbound	20	21.3	N/A	21	21.5	7%	N/A	5%	8%
Eastbound	23	23.3	N/A	23.3	23.5	1%	N/A	1%	2%
Lake Street between 2nd and 3rd avenues									
Westbound	28	24	23	24.3	24.5	-14%	-4%	-13%	-13%
Eastbound	25	23	18	23	27	-8%	-22%	-8%	8%

Average Speeds (in miles per hour)

Location	Pre-project Sep 2019	Post-project Aug 2020	Post-project Mar 2021	Post-project Dec 2021	Post-project Jan 2022	% Change Sep 2019 to Aug 2020	% Change Aug 2020 to Mar 2021	% Change 2019 to Dec 2021	% Change 2019 to Jan 2022
California Street between 2nd and 3rd avenues									
Westbound	24	25.1	23.7	24	24	5%	-6%	0%	0%
Eastbound	23	24.4	23	22	23	6%	-6%	-4%	0%
Clement Street between 2nd and 3rd avenues									
Westbound	14	15.6	N/A	15.4	16	11%	N/A	10%	14%
Eastbound	16	17.6	N/A	17.6	17.8	10%	N/A	10%	11%
Lake Street between 2nd and 3rd avenues									
Westbound	23	17.2	17.6	18.8	19	-25%	2%	-18%	-17%
Eastbound	20	17.3	14.1	18.1	20.7	-14%	-18%	-9%	4%

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Median Speeds (in miles per hour)

Location	Pre-project Sep 2019	Post-project Aug 2020	Post-project Mar 2021	Post-project Dec 2021	Post-project Jan 2022	% Change Sep 2019 to Aug 2020	% Change 2019 to Mar 2021	% Change 2019 to Dec 2021	% Change 2019 to Jan 2022
California Street between 2nd and 3rd avenues									
Westbound	24	25.3	24	24	25	5%	0%	0%	4%
Eastbound	23	25	23	23	23	9%	0%	0%	0%
Clement Street between 2nd and 3rd avenues									
Westbound	15	15.3	N/A	21	16	2%	N/A	40%	7%
Eastbound	17	17.6	N/A	24	18	4%	N/A	41%	6%
Lake Street between 2nd and 3rd avenues									
Westbound	24	17.3	18	19	19.5	-28%	-25%	-21%	-19%
Eastbound	21	17.3	N/A	18	21	-18%	N/A	-14%	0%

Average Daily Travel (ADT) or Vehicles Per Day

Location	Pre-Project Sep 2019	Post-Project Aug 2020	Post-Project Mar 2021	Post-Project Dec 2021	Post-Project Jan 2022	% Change Sep 2019 to Aug 2020	% Change 2019 to Mar 2021	% Change 2019 to Dec 2021	% Change 2019 to Jan 2022
California Street between 2nd and 3rd avenues									
Westbound	5,883	6,047	6,473	6,090	5,964	3%	10%	4%	1%
Westbound (PM Peak (4pm to 7pm))	1,669	1,583	1,539	1,351	1,292	-5%	-8%	-19%	-23%
Eastbound	7,918	6,531	6,763	6,446	6,420	-18%	-15%	-19%	-19%
Eastbound (AM Peak (7am to 10am))	2,041	1,305	1,453	1,490	1,405	-36%	-29%	-27%	-31%
Clement Street between 2nd and 3rd avenues									
Westbound	2,212	1,768	N/A	2,048	2,104	-20%	N/A	-7%	-5%
Eastbound	2,352	2,254	N/A	2,479	2,484	-4%	N/A	5%	6%
Lake Street between 2nd and 3rd avenues									
Westbound	4,181	212	266	365	460	-95%	-94%	-91%	-89%
Eastbound	3,578	246	465	551	630	-93%	-87%	-85%	-82%

* Post data ADT for Lake Street is lower due to the Lake Slow Street that was installed during the pandemic

TRAFFIC COLLISIONS

In the three full calendar years before project implementation (2017-2019), there was an average of 11 injury collisions per year on California Street between Arguello to Park Presidio boulevards. During 2021, the first full calendar year after project implementation, there were four injury collisions. This represents a 64 percent reduction in overall injury collisions per year after project implementation. In addition, no injury collisions were recorded in the first three months of 2022.

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Injury Collisions in the Project Area Before and After Implementation

Location	Injury Collisions			
	2017-2019 yearly average (pre-project)	2020 (year project implemented)	2021 (first full year after project)	Percentage Change (pre-project to 2021)
Project area	11	4*	4	-64%
Citywide	3,372	2,405	2,592	-23%

*The project was installed in July 2020. Of the four collisions in 2020, one occurred after project implementation

TRANSIT-INVOLVED COLLISIONS

In the five-year period prior to project implementation, there were 70 transit collisions on the 1 California route within the project limits, an average of 5.8 collisions per year. As of December 31, 2021, there has been just one reported transit collision within the project limits during the eighteen months since project implementation (a rate of 0.66 collisions per year). This represents an 89% reduction in transit-involved collisions since project implementation.

TRANSIT PERFORMANCE

Between fall 2019 (before project) and fall 2021 (after project), transit speeds declined slightly on the 1 California bus route. During the morning peak period, inbound buses heading downtown saw a 6% increase in median travel time within the project area. In the afternoon peak, outbound buses heading toward the Outer Richmond saw a 12% increase in median travel time.

Increased travel times were not evenly distributed throughout the project corridor. In the inbound direction, AM peak stop-to-stop travel times between 12th Avenue and 4th Avenue remained nearly unchanged from pre-project travel times. Travel time increases were concentrated between the stops at Park Presidio Boulevard and 12th Avenue, where median travel time increased by 8 seconds (20%), and between 4th Avenue and Arguello Boulevard, with a median travel time increase of 7 seconds (10%).

In the outbound direction, PM peak stop to stop travel time increases were concentrated between Arguello Boulevard and 4th Avenue (8 seconds, 21% travel time increase), 12th Avenue and Park Presidio (10 seconds, 17%), and 10th Avenue and 12th Avenue (17 seconds, 65%).

While general vehicle speeds have not changed as a result of the project, transit speeds may be impacted somewhat more by the new roadway design because there are fewer gaps in the travel lane for buses to reenter after serving bus zone stops. The project team is currently identifying potential project modifications to reduce queuing at the westbound approach to Park Presidio Boulevard to address transit travel time impacts between 10th Avenue and Park Presidio. In addition, a planned future 1 California Muni Forward project will provide an opportunity to further improve transit travel times and reliability on this corridor.

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1 California Inbound Travel Times (AM Peak)

From Stop	To Stop	Median Travel Time (Seconds)		
		Pre-project Fall 2019	Post-project Fall 2021	Difference
California & Park Presidio	California & 12 th Ave	40	48	8
California & 12 th Ave	California & 10 th Ave	37	37	-1
California & 10 th Ave	California & 8 th Ave	37	38	1
California & 8 th Ave	California & 6 th Ave	38	39	1
California & 6 th Ave	California & 4 th Ave	42	41	-1
California & 4 th Ave	California & Arguello	70	77	7

1 California Outbound Travel Times (PM Peak)

From Stop	To Stop	Median Travel Time (Seconds)		
		Pre-project Fall 2019	Post-project Fall 2021	Difference
California & Arguello	California & 4 th Ave	38	46	8
California & 4 th Ave	California & 6 th Ave	58	58	0
California & 6 th Ave	California & 8 th Ave	42	42	0
California & 8 th Ave	California & 10 th Ave	46	42	-4
California & 10 th Ave	California & 12 th Ave	26	43	17
California & 12 th Ave	California & Park Presidio	59	69	10

VEHICLE TRAVEL TIME

Vehicle travel time through the project area was measured utilizing Inrix IQ data in the peak periods. The following charts detail the median travel time (in minutes) during the morning and evening peak periods over the course of September 2019 to November 2021 on California Street from Arguello Boulevard to Park Presidio Boulevard. When assessing the eastbound (towards downtown) morning peak period, median travel time has remained relatively constant when compared to the pre-pandemic condition. The westbound (towards Outer Richmond) afternoon peak period travel time has been slightly more variable, though it has generally remained close to pre-pandemic travel times. As of November 2021, the median westbound afternoon peak travel time was 3 minutes, the same as it was pre-pandemic.

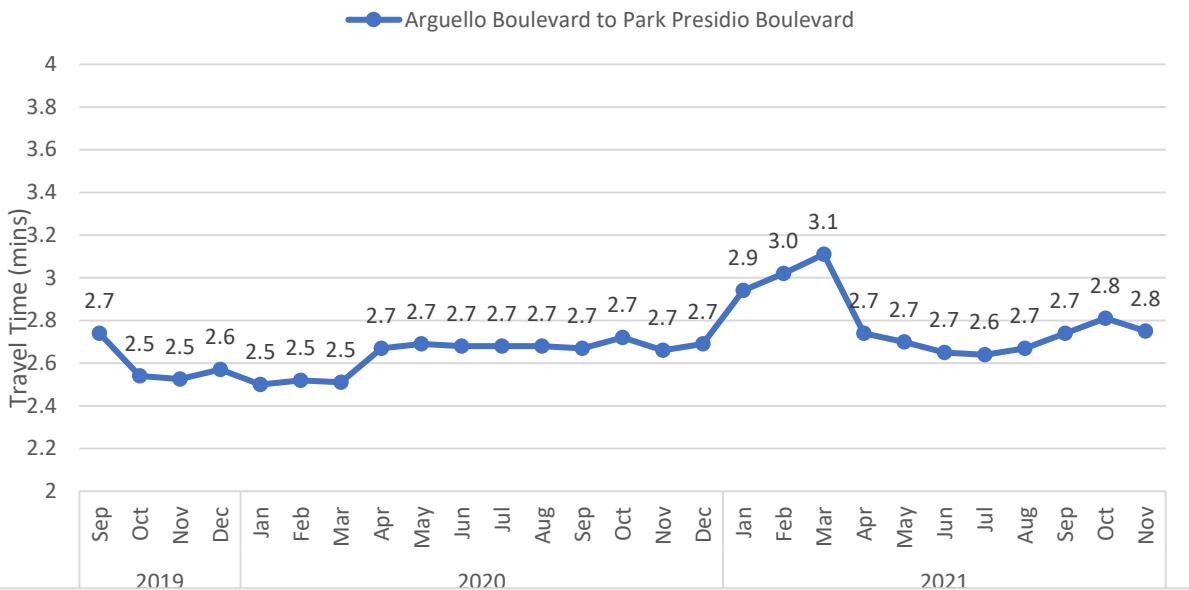
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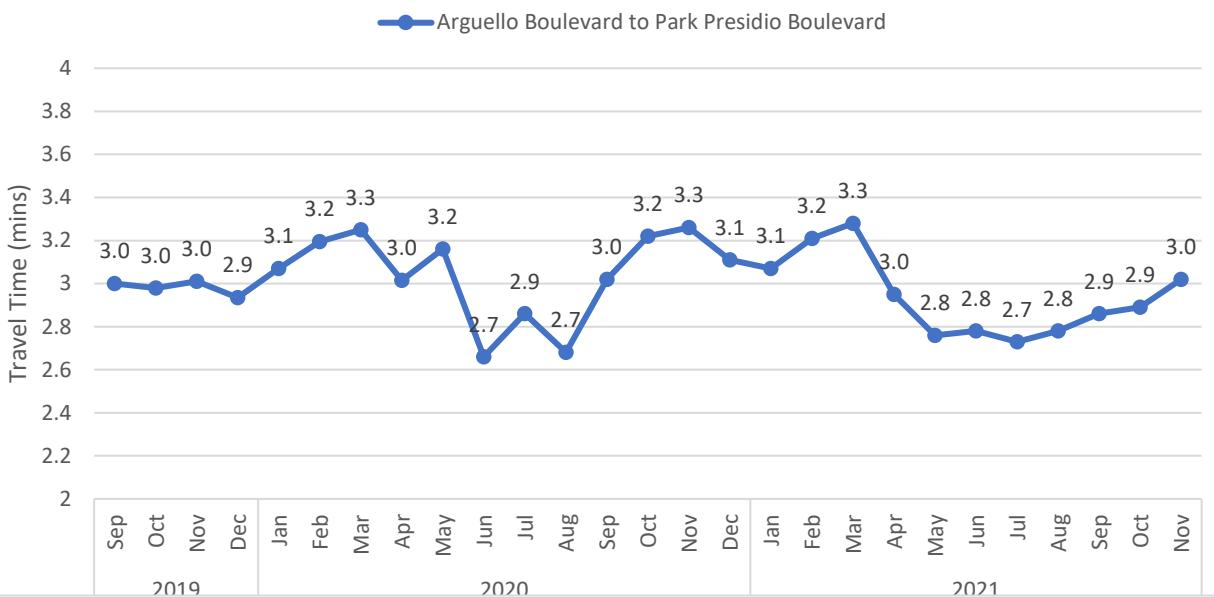


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California Street Vehicle Travel Time (Q3 2019 - 2021) AM-Peak Eastbound



California Street Vehicle Travel Time (Q3 2019 - 2021) PM-Peak Westbound



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VEHICLE YIELDING BEHAVIOR

Prior to project implementation, video footage was collected to quantify "close calls" or "near misses" between vehicles and pedestrians crossing California Street at 7th Avenue, in the middle of the project area. Data was collected on a weekday from 7-9 AM, 2-4 PM and 4-6 PM. After project implementation, there were zero close calls observed, while in the pre-condition, there were two observations of close call incidences in the same time period.

After project implementation, data was also gathered on yielding behavior at multiple intersections in the project area, as shown in the table below. Vehicle yielding rates ranged from 19% to 100%. The project team is working to identify potential project modifications to continue to improve pedestrian visibility and further enhance the safety benefits of the project.

Vehicle Yielding Behavior After Implementation for Pedestrians Crossing California Street

Time Period	Vehicle Yielded	Did Not Yield	Total # of interactions	Vehicle Yielding Rate
3rd Ave at California St				
7-9 AM	12	7	19	63%
2-4 PM	24	11	35	69%
4-6 PM	53	69	122	43%
9th Ave at California St				
7-9 AM	7	2	9	78%
2-4 PM	7	30	37	19%
4-6 PM	20	29	49	41%
11th Ave at California St				
7-9 AM	9	0	9	100%
2-4 PM	17	6	23	74%
4-6 PM	16	21	37	43%