

Project Overview

Fed by a two-lane Interstate-280 (I-280) off-ramp, high vehicular volumes and speeds are longstanding issues along Northbound San Jose Avenue. Residents in the surrounding neighborhoods have expressed concerns about the speeds and the negative effects this speeding has on the safety of those who walk, drive and bike along the corridor. After an initial community engagement period initiated by District 8 Supervisor Scott Wiener, the San Francisco Municipal Transportation Agency (SFMTA) worked with the California Department of Transportation (Caltrans) to develop the Northbound San Jose Avenue & I-280 Off-Ramp Road Diet Pilot Project. The goal of this project is to reduce measured speeds along the corridor by 15 MPH to enhance safety for all road users.¹ Because this reduction was not achieved in Phase I (completed in June 2014), Phase II was implemented in June 2015. The two phases of the pilot included the following scope:

Phase I

- Merged the left lane of the I-280 off-ramp with the northbound lane from San Jose Avenue that passes underneath I-280.
- Reduced San Jose Avenue from three to two lanes north of St. Marys Avenue, and then opened roadway back up to three lanes just south of Randall Street to maintain the traffic calming effect of the road diet.
- Upgraded the San Jose Avenue bicycle lane to a more comfortable and separated bikeway (where space allowed).

Phase II

- Maintained Phase I changes on the surface street portion of San Jose Avenue.
- Merged the two lanes of the I-280 off-ramp into a single lane south of the existing I-280 tunnel, which then merges with the Monterey Boulevard lane.

Phase I Evaluation: Key Findings

To understand the effects of the pilot on vehicular and bike traffic, this evaluation analyzed morning (AM) peak vehicle volumes, 85th percentile vehicular speeds, and bicycle counts both before and after the implementation of Phase I of the project. Key findings of the Phase I analysis include:

San Jose Avenue and I-280 Off-Ramp

- AM peak hour traffic volumes and speeds decreased, though speed decreases were minor with a 6 percent decrease in speeds from 49 mph to 46 mph.
- With the new wider bike lane and buffer zone, evening peak bike traffic increased by 62 percent on northbound San Jose Avenue and the average daily bike traffic and increased by 15 percent on San Jose Avenue.

¹ For a project of this nature, speed is measured by observing the 85th percentile speed observed as a benchmark. 85th percentile speed is defined as the speed 85% of drivers are moving at or below during free-flow traffic.



- Staff observations show motorists navigating the two new merges at the foot of the ramp well with no significant problems.
- Drive time surveys show approximately 2 minutes of traffic delay on northbound I-280 during the AM and PM peak hours.
- 14 collisions were reported along northbound San Jose Avenue between the I-280 Off-Ramp and Randall Street from 2010 to 2014, resulting in 22 injured persons.
- The primary collision factor in this area of northbound San Jose Avenue is unsafe speeding. Unsafe speeding accounts for 57% of the collisions reported.

Side Streets

- *Rousseau Street*: AM peak hour traffic volumes increased 79 percent and speeds increased 18 percent.
- *Milton Street*: AM peak hour traffic volumes decreased 22 percent and speeds decreased 4 percent.
- *St. Marys Avenue*: Mixed results with general increases in both AM peak speeds and volumes in the southbound direction, and a decrease in volume but a 63 percent increase in speed in the northbound direction. During the PM peak hour, southbound traffic volumes on St. Marys Avenue rose by 125 percent (from 157 to 353 vehicles).

In summary, while vehicular volumes and speeds were reduced on San Jose Avenue as a result of Phase I, speeds were not significantly reduced and will need to be reevaluated at the close of Phase II. Though the widening and buffering of the bike lane was not the primary goal of the project, the number of bicyclists on San Jose has risen. This surge may be indicative of an increased feeling of safety on San Jose Avenue. The effect of the pilot on cross streets has been varied with some streets seeing increases in both traffic volumes and speeds. Traffic calming measures may need to be explored for the affected side streets. Some traffic delays during the morning commute have been observed, though these delays will need to be explored further as part of the final evaluation.

Phase I Evaluation: Detailed Data Summaries

Vehicular Volume Data

Post-pilot counts show a decrease in AM peak vehicular volumes on San Jose Avenue. Morning peak traffic increased on southbound Rousseau Street and St. Marys Avenue and will need to be further evaluated. Detailed pre-and post-pilot AM peak volume counts are shown in Figure 1 below.



Figure 1: Area Map and AM Peak Vehicular Volumes



Vehicular Speed Data

Speeds on San Jose Avenue and the surrounding cross streets modestly decreased. Speeds were reduced most notably when exiting the I-280 off ramp and merging with San Jose Avenue and were then reduced further while continuing northbound on San Jose. Some cross streets, such as St. Marys Avenue, are experiencing some increased speeds which will need to be further evaluated. Changes in AM peak speeds are detailed in Table 1.

Table 1: Vehicular AM Peak Speeds

Street	AM Peak Speeds Pre-Pilot	AM Peak Speeds Post-Pilot	Change
North I-280 off-ramp before merge w/ NB San Jose	52 MPH	47 MPH	-5 MPH (-10%*)
San Jose Avenue Northbound	49 MPH	46 MPH	-3 MPH (-6%)
Rousseau Street Southbound	13 MPH	15 MPH	2 MPH (+18%*)
Milton Street Northbound	23 MPH	22 MPH	-1 MPH (-4%)
St. Marys Avenue Southbound	23 MPH	27 MPH	+4 MPH (+19%*)
St. Marys Avenue Northbound	16 MPH	26 MPH	+10 MPH (+63%)

*Note: Percentage change based on unrounded speeds



Bicycle Volumes

After Phase I of the Pilot, evening peak bike traffic on northbound San Jose Avenue rose significantly with an increase of 62 percent, and average daily bike traffic increased 15 percent. Detailed volumes are listed in Table 2. It also should be noted that some motorists have been observed driving in the bike lane, particularly between Milton Street and St. Marys Avenue. Potential solutions for this issue are currently being considered.

Table 2: Bicycle Volumes on San Jose Avenue

San Jose Ave. (Monterey Blvd. before merge with San Jose)	Number of Bikes Pre-Pilot	Number of Bikes Post-Pilot	% Change
AM Peak	24	27	+14%
PM Peak	19	31	+62%
Ave. Daily Volume	174	200	+15%

Drive Time Analysis

The drive time surveys took place over four days in July and August of 2015. Four runs were conducted during this phase of evaluation. Two runs occurred during the AM peak and two during the PM peak. Data collection began on the northbound I-280 Ocean Avenue on-ramp and stopped at the far side of the Randall Street and San Jose Avenue intersection. During free-flow traffic, the average drive time is 4 minutes. The analysis showed approximately 2 minutes of delay in the AM and PM peak periods. Most of the delay is occurring near the approach to Randall Street, primarily due to the left turn lane from San Jose Avenue onto Dolores Street. At this left turn on San Jose, vehicles sometimes have to wait more than one signal cycle to make the left turn onto Dolores Street during peak traffic.

Collision History

The SFMTA has evaluated collision data from 2010 to 2014 to identify any issues and patterns for this portion of San Jose Avenue. There 14 collisions were reported along northbound San Jose Avenue between the I-280 Off-Ramp and Randall Street between 2010 and 2014, resulting in 22 injured persons. The predominant collision factor was unsafe speed, accounting for 57 percent of all collisions. Forty-three (43) percent of the collisions were rear-end collisions, and 42 percent of the collisions involved a single vehicle; all of these single-vehicle collisions were with a fixed object. Collisions peaked in the early morning, midday and in the evenings, mostly during off-peak hours in free flow traffic. Most of the collisions occurred midblock between St. Marys Avenue and Randall Street or at the intersection of San Jose Avenue and Randall Street.

Phase II Evaluation and Next Steps

SFMTA and Caltrans will continue to observe conditions post-Phase II and will collect additional data for traffic volumes, speeds, and drive times in September 2015 (with school back in session). This data will inform a final evaluation of the pilot project along with recommended next steps.



Based on the final evaluation and findings, SFMTA and Caltrans will recommend next steps and seek all necessary approvals. SFMTA will work with the San Francisco Department of Public Works to implement a post-pilot preferred design in coordination with a re-paving project scheduled to begin in March 2016.

Notes on Evaluation Methodology

Vehicular volume and speed data was collected in January 2014, September 2014, and January 2015 for the analysis of Phase I. During each data collection period, vehicle volumes, peak traffic volumes, vehicular speeds, and bicycle counts were taken on various segments of San Jose Avenue, the I-280 off-ramp, and adjacent streets. With the majority of vehicular traffic taking place in the morning rush hour on northbound I-280 and San Jose Avenue, AM peak hour vehicular data provided the most useful information and was used as the vehicular baseline data for this evaluation. Traffic delay estimates were collected over the course of two days in July and August of 2015, in both the AM and PM peak hours. Collision data was analyzed using San Francisco police report records from 2010 through 2014. SFMTA is currently refining reported collision data from January to June of 2015 and gathering additional collision history for the I-280 off ramp area.

Specific Data Collection Details and Assumptions

- Automatic tube vehicle and speed surveys were conducted 24 hours a day over a 72-hr period. AM and PM peak volumes were averaged over the three-day period.
- Bicycle counts were recorded at the Monterey Boulevard ramp (before the merge with San Jose Avenue) and averaged over a 72-hr period.
- For the purposes of this analysis, pre-pilot data collected in January of 2014 was compared to the post-pilot data collected in January 2015 to minimize the effect of seasonal traffic changes on the data. Data collected this fall will be compared to pre-pilot data gathered in September of 2014 for further evaluation.