Memorandum

Date: November 9, 2016

Project: SUN007

To: Mr. Michael Fisher/CSG

From: Steve Fitzsimons
sfitzsimons@w-trans.com

Subject: Parking Study for the Fair Oaks Avenue Corridor

As requested, W-Trans has prepared a parking study for the Fair Oaks Avenue Bikeway and Streetscape project. The purpose of this memo is to summarize the collected parking inventory and parking occupancy data, and identify changes to parking spaces due to the project.

Project Description

The proposed project involves the installation of bicycle lanes on Fair Oaks Avenue between Old San Francisco Road and Evelyn Avenue, between Kifer Avenue and Arques Avenue, and between Wolfe Road and Ahwanee Avenue. There are mixtures of parking and no parking zones on two study segments on Fair Oaks Avenue: i) Old San Francisco Road to Evelyn Avenue, and ii) Wolfe Road to Ahwanee Avenue. The third study segment on Fair Oaks Avenue between Kifer Avenue and Arques Avenue contains continuous parking restrictions, so no parking inventory data was collected for that segment.

This study summarizes parked vehicle counts and available nearby empty parking spaces. The bicycle lane project area is shown in Attachment 1. The parking study area was organized into numbered blocks for the data collection effort as shown in Attachment 2.

Relevant General Plan Policies

Project development proceeds within the context of adopted City policies. The policies stated in the General Plan establish guidance for decisions that must be made. Relevant policies from the Land Use and Transportation chapter of the Sunnyvale General Plan (City of Sunnyvale, July, 2011) include:

- Policy LT-1.9: Support flexible and appropriate alternative transportation modes and transportation system management measures that reduce reliance on the automobile and serve changing regional and Citywide land use and transportation needs. (Previously LUTE Policy R1.9)
- LT-5.1g: Minimize the total number of vehicle miles traveled by Sunnyvale residents and commuters. (Previously LUTE Action Strategy C3.1.7)
- Policy LT-5.5: Support a variety of transportation modes. (Previously LUTE Policy C3.5)
- LT-5.5d: Maximize the provision of bicycle and pedestrian facilities. (Previously LUTE Action Strategy C3.5.4)
- LT-5.5e Implement the City of Sunnyvale Bicycle Plan. (Previously LUTE Action Strategy C3.5.5)

- ❖ Policy LT-5.12: City streets are public space dedicated to the movement of vehicles, bicycles and pedestrians. Providing safe accommodation for all transportation modes takes priority over non-transport uses. Facilities that meet minimum appropriate safety standards for transport uses shall be considered before non-transport uses are considered.
- ❖ Policy LT-5.13: Parking is the storage of transportation vehicles and shall not be considered a transport use.
- ❖ Policy LT-5.14: Historical precedence for street space dedicated for parking shall be a lesser consideration than providing street space for transportation uses when determining the appropriate future use of street space.
- ❖ Policy LT-5.18: The City Council shall make the final decisions on roadway space reconfiguration when roadway reconfiguration will result in changes to existing accommodations.

Also, general engineering guidance is provided by the *Roadside Design Guide* (AASHTO, 2011 plus July 2015 Errata).

Parking Inventory Survey

The main purpose of the parking survey was to capture counts of total available parking spaces and occupied spaces on Fair Oaks Avenue from Old San Francisco Road to Evelyn Avenue, and Wolfe Road to Ahwanee Avenue during periods of peak parking demand, which are:

- During school drop-off between 7:30 a.m. and 8:30 a.m. when parking spaces around schools are used for short-term parking
- Late night after 1:00 a.m. when peak residential use typically occurs

Parking occupancy data was collected one time for each time period. Public parking space data was collected on a weekday in mid-September 2016 when schools were in session.

Locations within the project corridor where public parking data was collected were identified prior to the field visit. Generally, Fair Oaks Avenue occupancy was surveyed where parking is permitted together with street parking on all side streets within up to a block or 600 feet, whichever is less, from Fair Oaks Avenue. In total, 24 roadway segments were identified for the parking survey. These segments are shown in Attachment 2. Six out of 24 roadway segments are on Fair Oaks Avenue. Data on the empty and occupied parking spaces was collected during the field visit for each segment.

Data was also collected on private driveways in October 2016 in the same general study area, but only for parcels fronting Fair Oaks Avenue. Data collection times were the same as listed previously.

Results

The total number of available parking spaces on public streets, the number of occupied spaces, and the number of empty spaces for all surveyed roadway segments are shown in Attachment 3, and the number of available parking spaces for all the study roadway segments is shown in Attachment 4. The results for Fair Oaks Avenue and the side streets are summarized as follows:

1. Between East Arbor Avenue and East Maude Avenue: parking is allowed only the west side of Fair Oaks Avenue. Five and four of the six available parking spaces were occupied during the off-peak hour and school drop-off time, respectively. All parking spaces were occupied within a block from this location.

The loss of parking on this block would require the vehicle owners to walk about one-quarter mile to find available parking.

2. Between Bryan Avenue and East McKinley Avenue: there are 10 parking spaces on the west side and 7 spaces on the east side of Fair Oaks Avenue. However, none of these parking spaces was occupied during the data collection periods. Therefore, eliminating these parking spaces would not be expected to have a substantial adverse impact on the parking supply.
3. Between East McKinley Avenue and East Olive Avenue: there are 18 parking spaces on the west side and 4 on the east side of Fair Oaks Avenue. Seven of 18 and five of 18 on the west side were occupied during the off-peak hour and the school drop-off time, respectively. Three of four spaces were occupied in both the off-peak and school drop-off hours. There would be a need to allocate 12 alternative parking spaces if parking spaces were eliminated due to the project. There were 19 empty parking spaces available in the next block to the north, which is McKinley Avenue. The loss of parking on this block would require residents to park farther from home to their parked vehicles, but there were available spaces within one-quarter mile.
4. Between East Olive Avenue and Old San Francisco Road: on-street parking is allowed on the west side only. There were 15 parking spaces in this segment and 14 and 11 parking spaces were occupied during the off-peak hour and school drop-off time, respectively. The closest side streets with available parking are East Olive Avenue to the north and Old San Francisco Road to the south. Thirteen parking spaces, 11 parking spaces on East Olive Avenue and two parking spaces on Old San Francisco Road, were available to replace 13 of the 14 eliminated parking spots. The loss of parking on this block would require at least one local resident to walk about one-quarter mile to find available parking.
5. Between East Evelyn Avenue and Bryan Avenue: there were no public parking areas provided on either side of the street
6. Between East Olive Avenue and Old San Francisco Road: there were no public parking areas on the east side of the street.

The percent of public parking space occupancy is summarized in Attachment 5.

Parking capacity and occupied spaces on private driveways are shown in Attachment 6. For a single family home, the intent was to count the parking availability and use on the driveway only (outside the garage). Some parcels in the study area with multi-family homes had a covered carport space instead of a garage. These covered spaces had a second space on the driveway in line with the covered space. For the purposes of this study, the covered carport spaces were treated the same as if they were a garage space, and are not included in the numbers shown in Attachment 6.

Between East Arbor Avenue and East Maude Avenue there were 34 spaces on the west side and 13 spaces on the east side of Fair Oaks Avenue. On the west side, 31 of the 34 were occupied in the off-peak and 18 were occupied in the morning peak hour. On the east side, eight and six were occupied in the off-peak and morning peak hours, respectively.

Between Bryan Avenue and East McKinley Avenue there is one available driveway space on the west side and two on the east side of Fair Oaks Avenue. The one space on the west side was occupied in the off-peak hour and available in the morning peak hour. The two spaces on the east side were available in the off-peak and morning peak hours.

Between East McKinley Avenue and East Olive Avenue there were 20 spaces on the west side and 27 on the east side of Fair Oaks Avenue. Of the 20 on the west side, nine were occupied during each peak. Of the 27 on the east side, 22 were occupied in the off-peak and 14 in the morning peak.

The percentage of occupied private driveway parking spaces is shown in Attachment 7.

Since there is no way to tell if a car parked on the street could reasonably be parked in one of the empty driveway spaces, it is not the intent of this memo to state whether or not the driveway parking capacity could practically accommodate the vehicles parked in public parking spaces. However, it is reasonable to state that some of the vehicles observed in the public street spaces may be able to be parked in the private driveway spaces if parking were to be removed along the public streets.

Conclusions

Parking surveys were conducted on Fair Oaks Avenue within the project limits where on-street parking is permitted. The survey included parking on side streets within a block or 600 feet whichever is less. The empty parking spaces were reviewed in order to assess whether any parking spaces that would be eliminated by the project could be accommodated within the available on-street supply on the closest side street. Parking spaces and availability on private driveways were also counted.

- Five parking spaces on Fair Oaks Avenue between Arbor Avenue and East Maude Avenue would be eliminated by the project and no alternative parking is available within one-quarter mile.

- Seventeen parking spaces would be eliminated due to the project on Fair Oaks Avenue between Bryan Avenue and East McKinley Avenue. All of these parking spaces were empty during the survey periods, so no substantial impact on parking would be anticipated due to the project.

- Twenty-two parking spaces would be eliminated on Fair Oaks Avenue between East McKinley Avenue and East Olive Avenue, ten of which were occupied during the survey periods. There are 19 empty parking spaces in the next block on McKinley Avenue on the east side of Fair Oaks Avenue, so replacement parking is available within one-quarter mile.

- Fifteen parking spaces would be eliminated on Fair Oaks Avenue between East Olive Avenue and Old San Francisco Road; fourteen of the parking spaces were occupied during the study periods. The loss of thirteen of the eliminated parking spaces could be mitigated through available on-street parking on side streets of adjacent blocks. The remaining one parking space to be eliminated will not have replacement parking within one-quarter mile.

- Between Arbor Avenue and East Maude Avenue there were three empty parking spaces in private driveway on the east side of Fair Oaks Avenue and five on the west side during the off-peak hour, and 16 empty spaces on the west side and seven empty spaces on the east side in the morning peak hour.

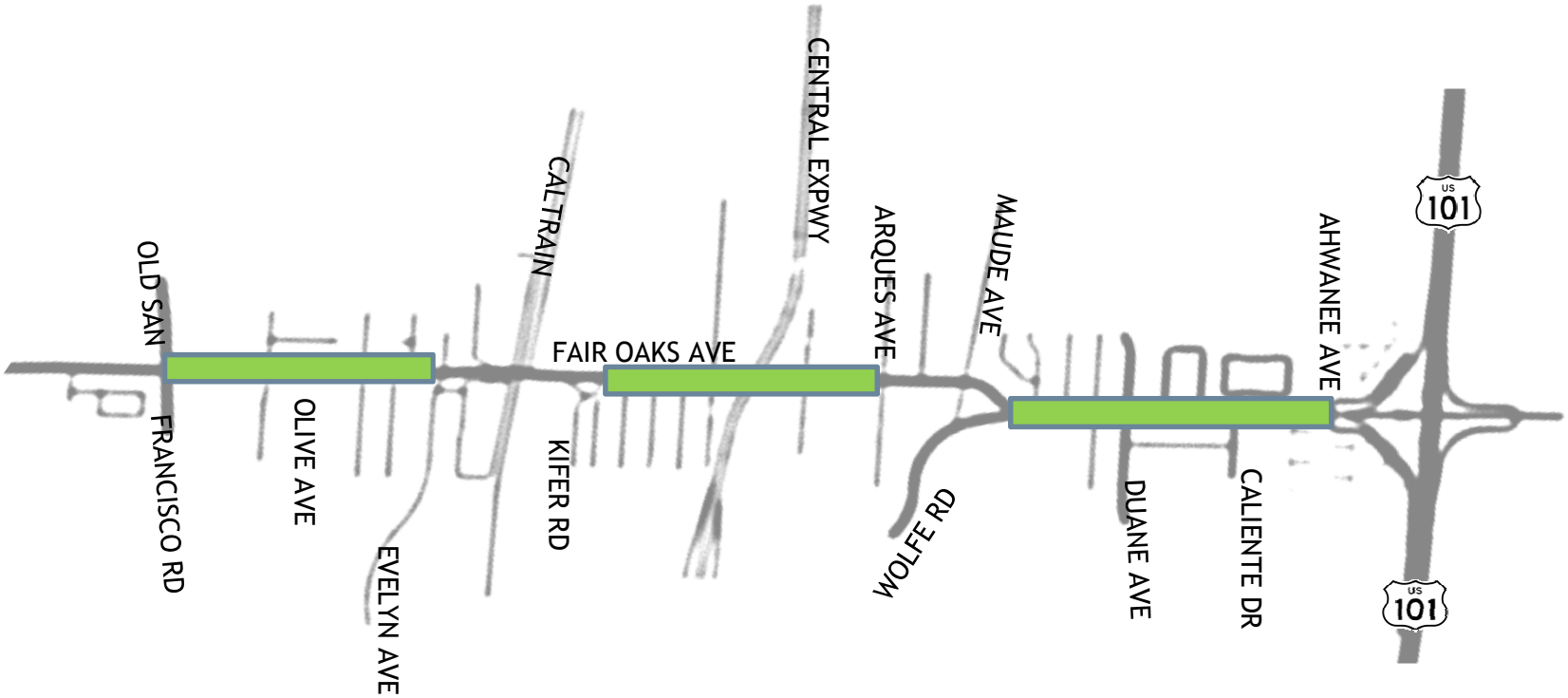
- There were no empty spaces in private driveways on the west side and two empty spaces on the east side between Bryan Avenue and East McKinley Avenue in the off-peak hour. All three spaces were empty in the morning peak hour.

- Between East McKinley Avenue and East Olive Avenue there were eleven empty spaces in private driveways in the both hours on the west side of Fair Oaks Avenue. There were five empty driveway spaces on the east side in the off-peak hour and 13 empty spaces in the morning peak hour.

Recommendations

- Residents along blocks that will lose public parking as well as those on blocks where there will be an increase in parking demand for public spaces should be notified of the proposed parking changes.

PROJECT LIMITS



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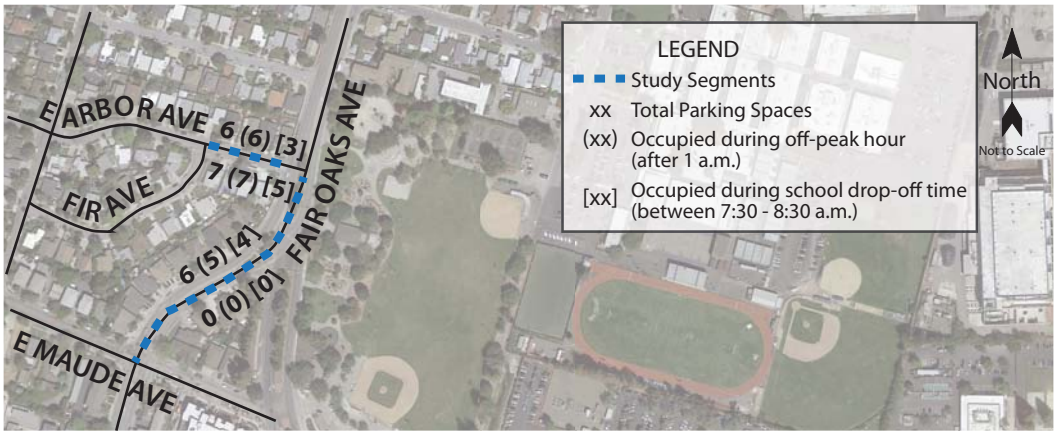
Fair Oaks Avenue Parking Study

Attachment 2 – Parking Study Area Map

W-Trans



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No.	Side	Street	Segment Boundaries		Parking Inventory	Number of occupied spaces		Number of empty spaces		Maximum number of parking spaces occupied	Minimum number of parking spaces available (during off-peak time and school drop-off time)	% Occupancy After 1:00 AM (4:00 AM)	% Occupancy During AM School Drop-off (7:30-8:30 AM)
						After 1:00 AM (4:00 AM)	During AM School Drop-off (7:30-8:30 AM)	After 1:00 AM (4:00 AM)	During AM School Drop-off (7:30-8:30 AM)				
1	North	E Arbor Avenue	Fair Oaks Avenue	Fir Avenue	6	6	3	0	3	6	0	100%	50%
2	South	E Arbor Avenue	Fir Avenue	Fair Oaks Avenue	6	7	5	0	1	7	0	117%	83%
3	West	Fair Oaks Avenue	E Arbor Avenue	E Maude Avenue	6	5	4	1	2	5	1	83%	67%
4	West	Fair Oaks Avenue	Bryan Avenue	E McKinley Avenue	10	0	0	10	10	0	10	0%	0%
5	West	Fair Oaks Avenue	E McKinley Avenue	E Olive Ave	18	7	5	11	13	7	11	39%	28%
6	West	Fair Oaks Avenue	E Olive Ave	Old San Francisco Road	15	14	11	1	4	14	1	93%	73%
7	East	Fair Oaks Avenue	E Olive Ave	E McKinley Avenue	4	3	3	1	1	3	1	75%	75%
8	East	Fair Oaks Avenue	E McKinley Avenue	Bryan Avenue	7	0	0	7	7	0	7	0%	0%
9	North	Bryan Avenue	Fair Oaks Avenue	Wilson Avenue	5	2	1	3	4	2	3	40%	20%
10	South	Bryan Avenue	Wilson Avenue	Fair Oaks Avenue	7	1	0	6	7	1	6	14%	0%
11	North	Bryan Avenue	Briton Avenue	Fair Oaks Avenue	22	11	6	11	16	11	11	50%	27%
12	South	Bryan Avenue	Fair Oaks Avenue	Briton Avenue	18	8	6	10	12	8	10	44%	33%
13	North	E McKinley Avenue	Fair Oaks Avenue	Wilson Avenue	9	7	6	2	3	7	2	78%	67%
14	South	E McKinley Avenue	Wilson Avenue	Fair Oaks Avenue	6	5	5	1	1	5	1	83%	83%
15	North	E McKinley Avenue	Briton Avenue	S Fair Oaks Avenue	23	13	13	10	10	13	10	57%	57%
16	South	E McKinley Avenue	S Fair Oaks Avenue	Briton Avenue	22	13	10	9	12	13	9	59%	45%
17	North	E Olive Ave	S Fair Oaks Avenue	Wilson Avenue	5	0	0	5	5	0	5	0%	0%
18	South	E Olive Ave	Wilson Avenue	S Fair Oaks Avenue	5	0	0	5	5	0	5	0%	0%
19	South	E Olive Ave	S Fair Oaks Avenue	Firloch Avenue	7	8	6	0	1	8	0	114%	86%
20	North	E Olive Ave	Firloch Avenue	S Fair Oaks Avenue	6	5	5	1	1	5	1	83%	83%
21	North	Old San Francisco Road	S Fair Oaks Avenue	Central Avenue	5	5	3	0	2	5	0	100%	60%
22	South	Old San Francisco Road	Central Avenue	S Fair Oaks Avenue	0	0	0	0	0	0	0	0%	0%
23	South	Old San Francisco Road	S Fair Oaks Avenue	Grand Fir Avenue	6	7	4	0	2	7	0	117%	67%
24	North	Old San Francisco Road	Grand Fir Avenue	S Fair Oaks Avenue	9	7	5	2	4	7	2	78%	56%

Attachment 3

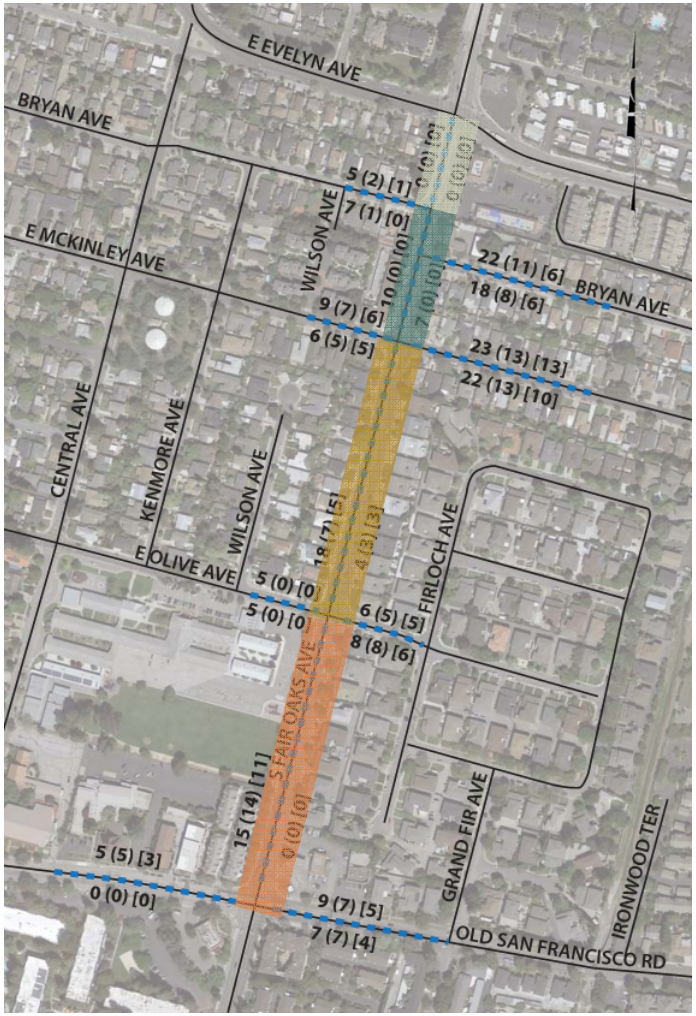
Attachment 4

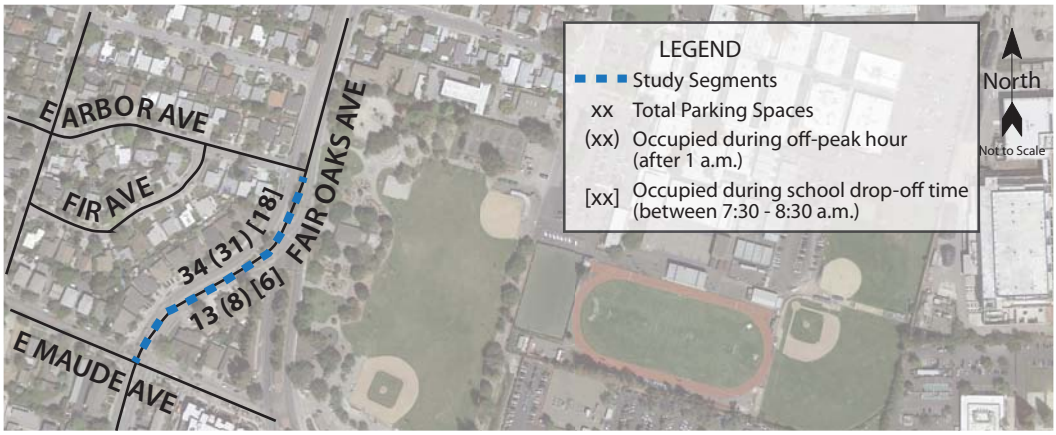
PUBLIC PARKING

Segment 1

LEGEND
- Study Segments
- xx Total Parking Spaces
- (xx) Occupied during off-peak hour (after 1 a.m.)
- [xx] Occupied during school drop-off time (peak between 7:30-8:30 a.m.)

	Available Parking Spaces	% Occupied (OFF-PEAK)	% Occupied [PEAK]
Evelyn Ave to Bryan Ave	0	n/a	n/a
Bryan Ave to McKinley Ave	17	0%	0%
McKinley Ave to Olive Ave	22	45%	36%
Olive Ave to Old San Francisco Rd	15	93%	73%





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PRIVATE DRIVEWAY PARKING

Segment 1

	Available Driveway Parking Spaces	% Occupied (OFF-PEAK)	% Occupied [PEAK]
Evelyn Ave to Bryan Ave	1	100%	0%
Bryan Ave to McKinley Ave	3	0%	0%
McKinley Ave to Olive Ave	47	66%	49%
Olive Ave to Old San Francisco Rd	0	n/a	n/a