Appendix F
Traffic Impact Analysis

TRAFFIC IMPACT ANALYSIS

FOR

COMMUNICARE HEATH SERVICES EXPANSION

Davis, CA 95616

Prepared For:

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COMMUNICARE HEATH SERVICES EXPANSION
TRAFFIC IMPACT ANALYSIS

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COMMUNICARE HEATH SERVICES EXPANSION
TRAFFIC IMPACT ANALYSIS

INTRODUCTION

Study Purpose and Objectives

This study evaluates the traffic impacts associated with the proposed CommuniCare Health Services Expansion north of the Sutter Davis Hospital in Davis. The existing CommuniCare Health Center is located along John Jones Road north and adjacent to the Sutter Davis Hospital site. The proposed project will expand the existing facility by constructing a new 17,663 square foot building to the north (Figure 1). The site plan is illustrated in Figure 2. Primary access to the site will be along John Jones Road at the north side of the three-acre site. Secondary access will be provided via a 20-foot fire lane and ambulance drop-off constructed as part of the project. This roadway will provide access to the parking lot for the existing CommuniCare building. While not part of this project, the fire lane may be extended onto the Sutter campus in the future.

The study parameters are consistent with City of Davis guidelines and recently prepared studies of similar projects in the vicinity.

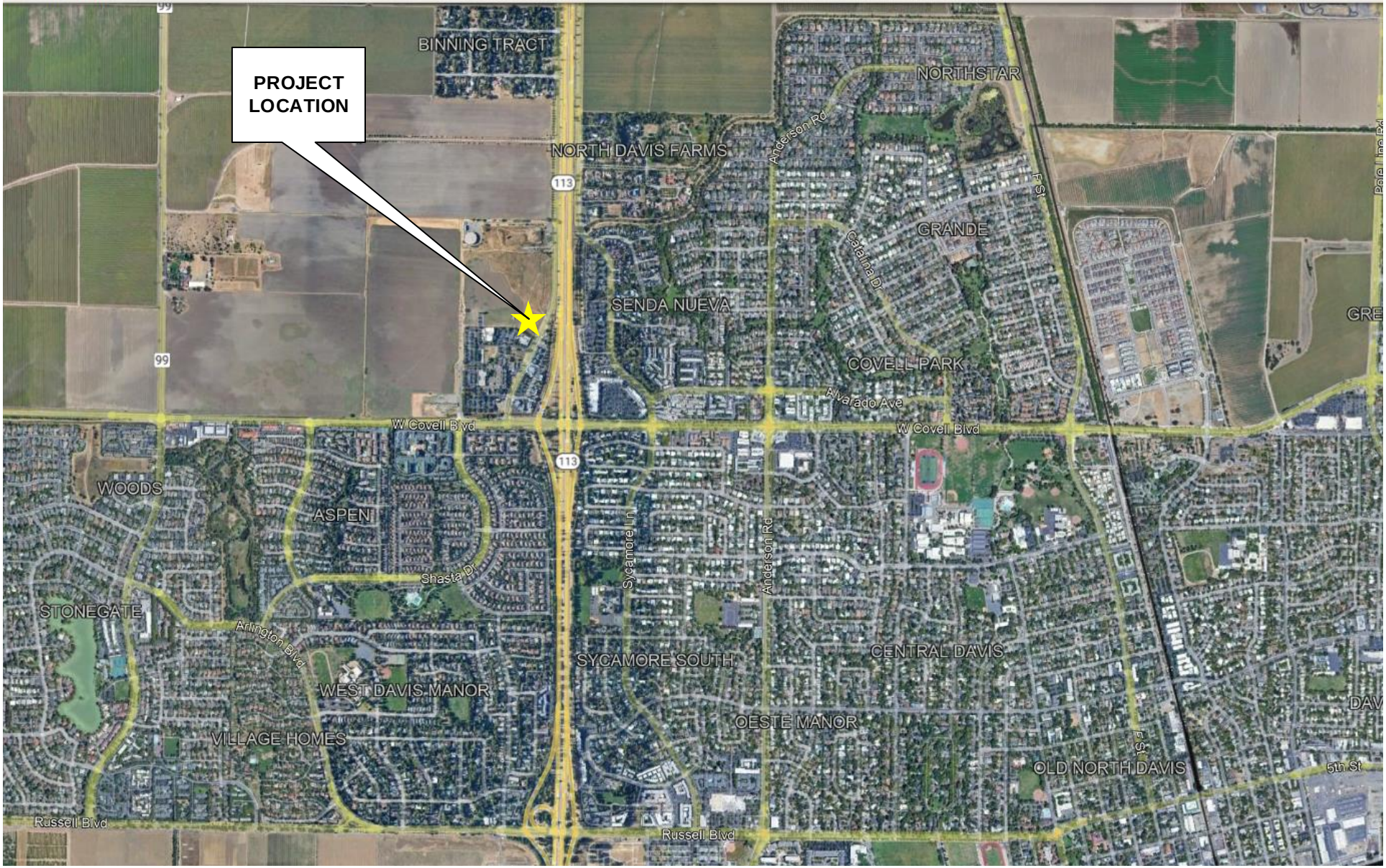
A VMT analysis was conducted to determine the effect of the project on vehicle miles travelled. This is consistent with the updated 2018 CEQA guidelines. Roadway operating conditions, specifically intersection level of service was also analyzed to confirm the project is consistent with the City of Davis General Plan.

The study addresses the following traffic scenarios for intersection analysis:

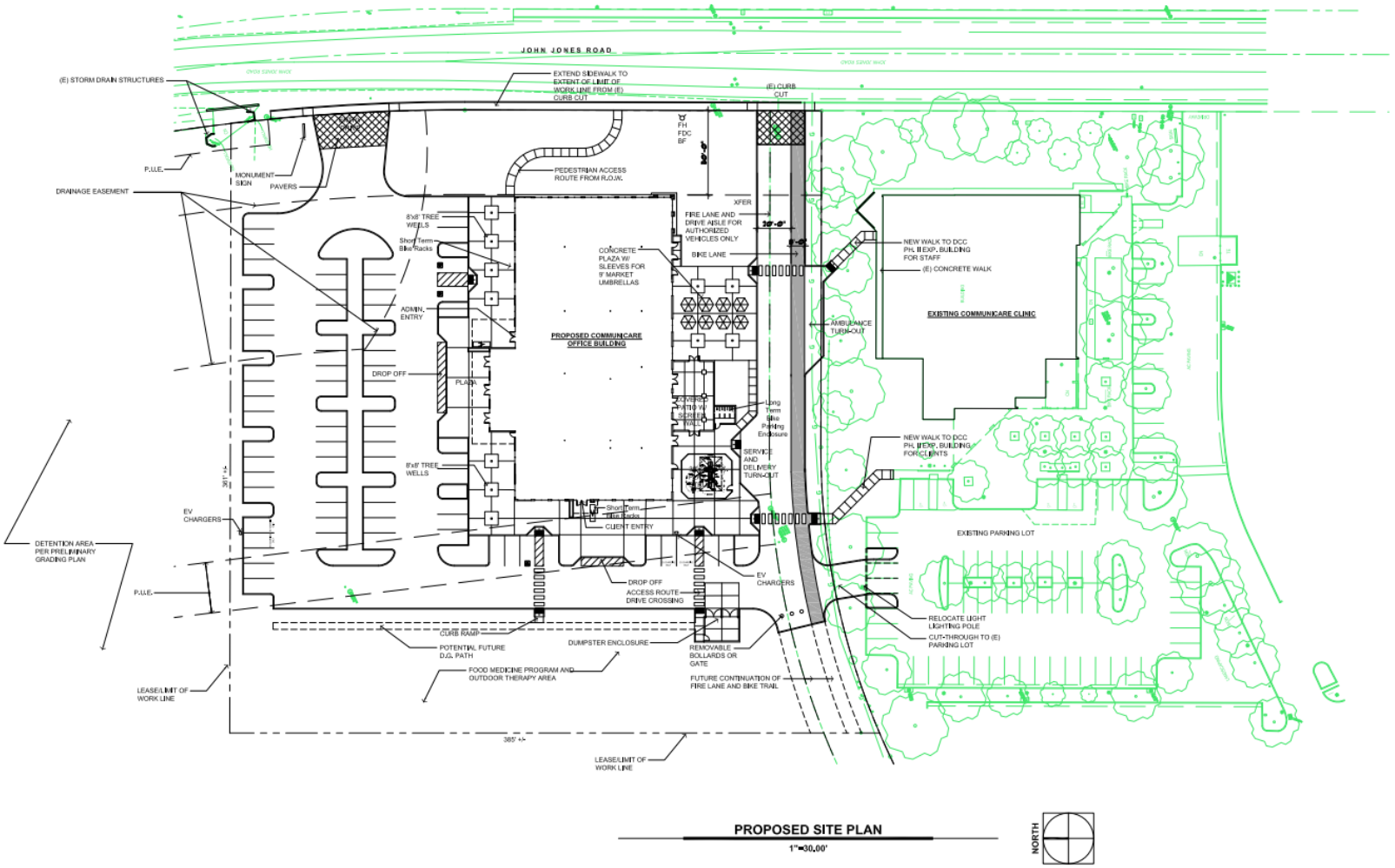
1. Existing AM and PM Peak Hour Traffic Conditions;
2. Existing Plus Project AM and PM Peak Hour Traffic Conditions;
3. Cumulative AM and PM Peak Hour Traffic Conditions;
4. Cumulative Plus Project AM and PM Peak Hour Traffic Conditions.

The Cumulative scenarios include without and with the Bretton Woods project west of Sutter Hospital.

The objective of this study is to identify what effects the project will have on area wide travel as well as the local roadway network. Site conditions were also reviewed including review of queue conditions at the intersections and sight distance at the project driveway.



VICINITY MAP



PROPOSED SITE PLAN
1"=30.00'

NORTH

PROJECT DATA

ZONING:	PD #3-90: SUTTER DAVIS HOSPITAL
SITE AREA:	3 ACRES OR 130,680 SF
BUILDING AREA:	17,663 SF
SITE COVERAGE	13.5 %

PARKING REQUIRED

9,133 SF AREA ADMIN. + HALF COMMON 1,956 = 11,089 SF @ 1/400 (BUSINESS OFFICE 11,089 SF)	28
4,188 SF AREA CLINIC + HALF COMMON 1,956 = 6,144 SF @1/250 (MEDICAL OFFICE 6,144 SF)	25
TOTAL	52

PARKING PROVIDED

STANDARD	63
COMPACT	0
ACCESSIBLE	3
EV CHARGING	4
TOTAL	70

BICYCLE PARKING

SHORT TERM REQUIRED: 70x5% =	4
SHORT TERM PROVIDED:	6
LONG TERM REQUIRED: 70x5% =	4
LONG TERM PROVIDED:	4
TOTAL PROVIDED	10

SHEET INDEX

A0 SITE PLAN AND PROJECT DATA
A1 FLOOR PLAN AND AREA CALCS
A2 ELEVATIONS EAST & WEST
A3 ELEVATIONS NORTH & SOUTH
A4 BUILDING SECTIONS
A5 ROOF PLAN

SITE PLAN

EXISTING SETTING

Intersections

The quality of traffic flow is often governed by the operation of the local intersections. For this study five existing intersections were identified for evaluation. These include:

The **Covell Blvd / Shasta Drive – Risling Ct intersection** is a signal-controlled intersection west of the project site. The intersection has four legs with Shasta Drive the south leg and Risling Ct the north. The eastbound Covell Blvd approach includes a single left turn lane, two through lanes and a free right- turn lane while the westbound approach includes two left turn lanes, two through lanes and a free right turn lane. The Shasta Drive approach includes a left turn lane and a shared through-right turn lane. A free right turn lane is present to allow northbound to eastbound vehicles to pass the 50'± through lane. The southbound Risling Ct approach includes a left turn lane and a shared though-right lane. The signal is an 8-phase signal with protected left turn lanes. Crosswalks are available across all approaches. Sidewalk is present in the northeast, southeast and southwest quadrants with sidewalk or a multi-use pathway continuing along the roadways. In the northwest quadrant, sidewalk is present from the crosswalks to a Unitrans / YoloBus stop west of the intersection. Bicycle lanes are present along Covell Blvd and along Shasta Drive.

The **Covell Blvd / John Jones Road intersection** is a three-way signal-controlled intersection providing direct access to the project entrance. The eastbound Covell Blvd approach includes a left turn lane and two through lanes while the westbound Covell Blvd approach includes a through lane and a shared through-right lane. The southbound John Jones Road approach includes a left turn lane and a right turn lane. The intersection is a five-phase intersection, with the fifth phase a bicycle signal for northbound traffic crossing Covell Blvd. Multi-use pathways are present along both sides of Covell Blvd with sidewalk present along John Jones Road. Crosswalks are available across the southbound and eastbound approaches, and bike lanes are present along all roadways. A Unitrans / YoloBus stop is present at the intersection.

The **Covell Blvd / SR 113 Southbound Ramps intersection** is a four-way signal-controlled intersection east of the project site. The eastbound Covell Blvd approach includes a through lane and a shared through-right lane while the westbound Covell Blvd approach includes a left turn lane and two through lanes. The southbound SR 113 off-ramp approach includes a shared through-left turn lane and a right turn lane. The south leg of the intersection is the on-ramp to southbound SR 113. The signal provides protected left turns for westbound to southbound movements. The multi-use pathway along the south side of Covell Blvd transitions to sidewalk west of the intersection and continues across the SR 113 overpass. The multi-use path on the north side of Covell Blvd continues as a separated facility across SR 113. Crosswalks are available along the north, west and south legs of the intersection. Bicycle lanes are present along Covell Blvd.

The **Covell Blvd / SR 113 Northbound Ramps intersection** is a four-way signal-controlled intersection east of the project site. The eastbound Covell Blvd approach includes a left turn lane and two through lanes while the westbound Covell Blvd approach includes a through lane and a shared through-right lane. The north leg of the intersection is the on-ramp to northbound SR 113. The signal provides protected left turns for eastbound to northbound movements. A sidewalk is

present across SR 113 and continues east towards Sycamore Lane. The multi-use path on the north side of Covell Blvd continues as a separated facility to the east towards Sycamore Lane. Crosswalks are available along the north and south legs of the intersection, and bicycle lanes are present along Covell Blvd.

The **Covell Blvd / Sycamore Lane intersection** is a four-way signal-controlled intersection east of the project site. The eastbound and westbound approaches include a left turn lane, a through lane and a shared through-right lane. The northbound and southbound approaches include a left turn lane and a shared through-right lane. Free right turn lanes are present on all approaches to allow right turning vehicles to pass queued through vehicles. There is an 8-phase signal with protected left turn lanes. Crosswalks are available across all approaches. Sidewalk is present in the northwest quadrant along Sycamore Lane, along Sycamore Lane in the southeast quadrant and within the southwest quadrant. The multi-use pathway continues along the north side of Covell Blvd while no sidewalk or pathway is present along the south side of Covell Blvd east of the intersection. Bicycle lanes are present along all approaches. Unitrans / YoloBus stops are present west of the intersection.

Analysis Criteria

Vehicle Miles Traveled (VMT).

Background. SB 743 changes the focus of transportation impact analysis in CEQA from measuring impacts to drivers to measuring the environmental impact of driving. The change has been made by replacing LOS with Vehicle Miles of Travel (VMT). This change was made to align CEQA transportation impact analysis and mitigation with the State's goals for reducing greenhouse gas (GHG) emissions, to encourage infill development, and to improve public health through more active transportation. Level of Service is still used to assess a project's effects outside of CEQA, consistent with the City's General Plan policies.

In January 2019, the Natural Resources Agency finalized updates to the CEQA Guidelines including the incorporation of SB 743 modifications. The Guidelines' changes were approved by the Office of Administrative Law and are now in effect. The provisions apply statewide as of July 1, 2020.

To help aid lead agencies with SB 743 implementation, the Governor's Office of Planning and Research (OPR) produced the *Technical Advisory on Evaluating Transportation Impacts in CEQA*[1] (December 2018). This document provides guidance regarding the variety of implementation questions to be faced with respect to shifting to a VMT metric. Key guidance from this document includes:

- VMT is the most appropriate metric to evaluate a project's transportation impact.
- OPR recommends tour- and trip-based travel models to estimate VMT, but ultimately defers to local agencies to determine the appropriate tools.
- OPR recommends measuring VMT for residential and office projects on a "per capita" and "per employee" basis.

[1] *Technical Advisory on Evaluating Transportation Impacts in CEQA.* Governor's Office of Planning and Research State of California, December 2018.

- OPR recommends that a per capita or per employee VMT that is fifteen percent below that of existing development may be a reasonable significance threshold. In other words, an office project that generates VMT per employee that is more than 85 percent of the regional average VMT per employee could result in a significant impact. OPR notes that this threshold is supported by evidence that connects this level of reduction to the State's emissions goals.
- OPR recommends that where a project replaces existing VMT-generating land uses, if the replacement leads to a net overall decrease in VMT, the project would lead to a less-than-significant transportation impact. If the project leads to a net overall increase in VMT, then the thresholds described above should apply.
- OPR states that by adding retail opportunities into the urban fabric and thereby improving retail destination proximity, local-serving retail development tends to shorten trips and reduce VMT. Generally, OPR suggested that retail development including stores smaller than 50,000 square feet might be considered local serving.
- Lead agencies have the discretion to set or apply their own significance thresholds.

The City has yet to develop specific VMT criteria; therefore; the OPR guidelines are being used in evaluating transportation impacts.

General Plan Policy Consistency Level of Service Analysis Methodology

Level of Service Analysis has been employed to provide a basis for describing existing traffic conditions and for evaluating the significance of project traffic impacts. Level of Service measures the *quality* of traffic flow and is represented by letter designations from "A" to "F", with a grade of "A" referring to the best conditions, and "F" representing the worst conditions. Table 1 presents typical Level of Service characteristics.

Local agencies adopt minimum Level of Service standards for their facilities. The City of Davis identifies LOS 'E' as the acceptable Level of Service within the City during the peak hour while LOS F is acceptable for the 'Core Area'. The *Highway Capacity Manual 6th Edition* was used to provide a basis for describing existing traffic conditions and for evaluating the significance of project traffic impacts.

Synchro 11 / SimTraffic micro-simulation software was used to analyze the study intersections as some intersections contain conditions that Synchro is unable to analyze. The SimTraffic software is a stochastic model, i.e. randomness is present when running the simulations. The results will vary between computers and within each scenario and between scenarios. This may result in intersections having lower delays or queues in the Plus Project scenario than in the No Project scenario. The simulation results contained in this report reflect the average of the mean 10 one-hour simulation runs selected from a 20-run sample. The intersection Levels of Service presented in this analysis are based on the delay thresholds shown in Table 1.

TABLE 1 LEVEL OF SERVICE DEFINITIONS			
Level of Service	**Signalized Intersection**	**Unsignalized Intersection**	**Roadway (Daily)**
"A"	Uncongested operations, all queues clear in a single-signal cycle. Delay ≤ 10.0 sec	Little or no delay. Delay ≤ 10 sec/veh	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and ≤ 20.0 sec	Short traffic delays. Delay > 10 sec/veh and ≤ 15 sec/veh	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and ≤ 35.0 sec	Average traffic delays. Delay > 15 sec/veh and ≤ 25 sec/veh	Ability to maneuver and select operating speed affected.
"D"	Significant congestion of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and ≤ 55.0 sec	Long traffic delays. Delay > 25 sec/veh and ≤ 35 sec/veh	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 55.0 sec and ≤ 80.0 sec	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/veh and ≤ 50 sec/veh	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. Delay > 80.0 sec	Intersection blocked by external causes. Delay > 50 sec/veh	Forced flow, breakdown.
Sources: Highway Capacity Manual 6th Edition, Transportation Research Board (TRB).			

Significance Thresholds

Intersections. Significant traffic impacts at intersections within the City of Davis jurisdiction are defined when the addition of proposed project traffic causes any of the following:

a) For signalized intersections outside the Core Area, causes overall intersection operations to deteriorate from an acceptable level (LOS E or better in the AM or PM peak hour) to an unacceptable level (LOS F in the AM or PM peak hour);

b) For signalized intersections outside the Core Area, exacerbate unacceptable (LOS F) operations by increasing an intersection's average delay by five seconds or more;

c) For unsignalized intersections outside the Core Area, causes the worst-case movement (or average of all movements for all-way stop-controlled intersections) to deteriorate from an acceptable level (LOS E or better in the AM or PM peak hour) to an unacceptable level

(LOS F in the AM or PM peak hour) and meet the California Manual on Uniform Traffic Control Devices (MUTCD) peak hour signal warrant;

d) For unsignalized intersections outside the Core Area that operate unacceptably (LOS F in the AM or PM peak hour) and meet MUTCD's peak hour signal warrant without the project, exacerbate operations by increasing the overall intersection's volume by more than one percent; or

e) For unsignalized intersections that operate unacceptably, but do not meet MUTCD's peak hour signal warrant without the project, add sufficient volume to meet the MUTCD peak hour signal warrant.

Existing Traffic Conditions

Fehr and Peers completed the Circulation Element / traffic study as part of the December 2017 *Bretton Woods DEIR* west of Sutter Hospital. The Synchro files and traffic volumes used for the DEIR were the basis for the CommuniCare Expansion project. After discussion with City staff, the traffic volumes from the *Bretton Woods DEIR* were adjusted upward at 2% annually as a result of the current remote learning conditions at UC Davis as a result of Covid-19. Figure 3 displays the existing traffic volumes for the study intersections.

Intersection Levels of Service. Table 2 summarizes the current Levels of Service at the study intersections. During the a.m. and p.m. peak hours all intersections operate at LOS C or better. This meets the minimum City standards.

TABLE 2
EXISTING PEAK HOUR LEVELS OF SERVICE AT INTERSECTIONS

Location	Control	AM Peak Hour		PM Peak Hour	
		LOS	Average Delay (scs)	LOS	Average Delay (secs)
1. Covell Blvd / Shasta Dr – Risling Ct	Signal	B	18.5	B	17.3
2. Covell Blvd / John Jones Rd	Signal	C	21.6	B	14.2
3. Covell Blvd / SR 113 SB Ramps	Signal	C	26.3	B	16.6
4. Covell Blvd / SR 113 NB Ramps	Signal	C	21.8	C	22.6
5. Covell Blvd / Sycamore Ln	Signal	C	23.7	C	24.3

Bicycle and Pedestrian Facilities. Bicycle and pedestrian facilities are available throughout the City of Davis. The City has developed an extensive bicycle system throughout the City extending into the University and Yolo County. On-street and off-street facilities exist along Covell Blvd with bike lanes present on the surrounding streets, including John Jones Road. Bike lanes are present along John Jones Road from Covell Blvd to the project frontage, where it converts to a bike route into Yolo County. The local City facilities were described in the section, "*Intersections.*"



Legend

- XX — AM Peak Hour Volume
- (XX) — PM Peak Hour Volume
- R1-1 — Stop Sign
- Signalized Intersection

NORTH

N.T.S.

6

(44) 38
(0) 0

(0) 0
(0) 0

62 (34)
0 (0)

John Jones Rd/ Project Access

1

(57) 31
(4) 7
(31) 11

88 (26)
508 (654)
140 (213)
4 (4)

(11) 41
(575) 682
(17) 15

301 (203)
13 (8)
11 (12)

Shasta Dr/ Risling Ct/ Covell Blvd

2

(255) 204
(62) 64

330 (193)
677 (836)

(36) 82
(804) 937

John Jones Rd/ Covell Blvd

3

(138) 174
(1) 1
(89) 145

862 (940)
501 (258)

(788) 667
(270) 475

SR 113 SB Ramps/ Covell Blvd

4

155 (168)
1028 (818)

(2) 1
(106) 83
(825) 757

319 (587)
1 (0)
335 (384)

SR 113 NB Ramps/ Covell Blvd

5

(165) 86
(85) 67
(109) 233

66 (106)
664 (664)
33 (28)

(155) 128
(863) 608
(140) 189

39 (50)
38 (66)
213 (129)

Sycamore Ln/ Covell Blvd

EXISTING TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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Transportation Engineers

1645-01 RA 2/10/2022

figure 3

PROJECT IMPACTS

Project Characteristics

The development of this project will attract additional traffic to the project site. The amount of additional traffic on a particular section of the street network is dependent upon two factors:

I. Trip Generation, the number of new vehicular trips generated by the project, and
II. Trip Distribution and Assignment, the specific routes that the new traffic takes.

Vehicular Trip Generation. Trip generation is determined by identifying the type and size of development. The Institute of Transportation Engineers (ITE) publication *Trip Generation, 11th Edition, 2021* publishes trip generation rates for a variety of land uses. Land-Use 720 "Medical/Dental Office Building" was used to estimate project trips and are shown in Table 3. The land use subcategory "Within / Near Hospital Campus" was used due to the location of the building adjacent to Sutter Hospital. The site is projected to generate 563 daily trips, 47 a.m. peak hour trips and 50 p.m. peak hour trips.

Pass-By Trips. Trips generated by retail projects fit into two categories. Some trips will be made by patrons who would not otherwise be on the local street system and who go out of their way to reach the site. These are "new" primary trips. Other trips will be made by patrons who are already in the roadway network and stop by the site as part of a trip made for another purpose. Pass-by trips were not considered as part of this project.

TABLE 3
TRIP GENERATION

Land Use	Amount	Daily	Peak Hour					
		Rate						
			AM	In	Out	PM	In	Out
Medical/Dental Office Building (LU 720)	17.66 ksf	31.86	2.68	81%	19%	2.84	25%	75%
		Trips						
		Daily	AM	In	Out	PM	In	Out
Medical/Dental Office Building (LU 720)		563	47	38	9	50	13	58
Total Trips		**563**	**47**	38	9	**50**	13	58

ITE Trip Generation, 11th Edition ksf – thousand square feet
Numbers may not match due to rounding

Vehicle Trip Distribution / Assignment. The distribution of project vehicular traffic was determined based on review of the existing traffic counts at the surrounding intersections and knowledge of the project's attractors and destinations. Table 4 displays the trip distribution assumptions used for the proposed project.

Traffic generated by the project was assigned to the study area street system based on the projected distribution percentages. Figure 4 displays the project generated traffic while Figure 5 displays the resulting Existing plus Project volumes for a.m. and p.m. peak hour conditions at each study intersection.

TABLE 4
TRIP DISTRIBUTION

Route	% of Total Trips
West on Covell Blvd	35%
South on Shasta Dr	10%
North on John Jones Rd	5%
North on SR 113	5%
South on SR 113	15%
South on Sycamore Ln	5%
East on Covell Blvd	25%
Total	100%



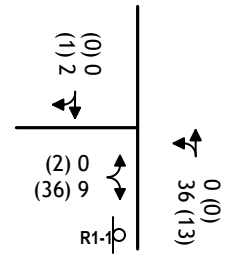
Legend

- XX — AM Peak Hour Volume
- (XX) — PM Peak Hour Volume
- R1-1 — Stop Sign
- Signalized Intersection

NORTH

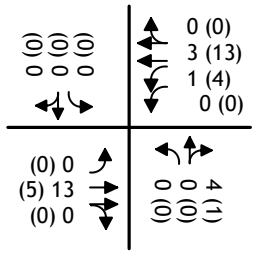
N.T.S.

6



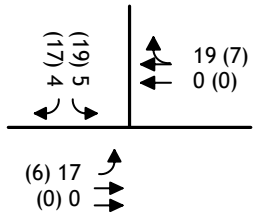
John Jones Rd/ Project Access

1



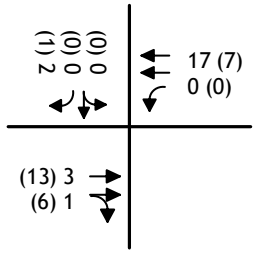
Shasta Dr/ Risling Ct/ Covell Blvd

2



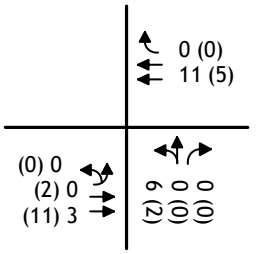
John Jones Rd/ Covell Blvd

3



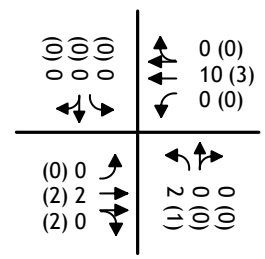
SR 113 SB Ramps/ Covell Blvd

4



SR 113 NB Ramps/ Covell Blvd

5



Sycamore Ln/ Covell Blvd

PROJECT ONLY TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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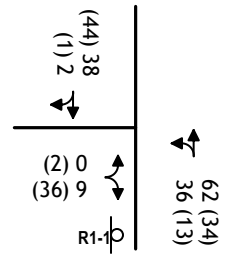
Legend

- XX — AM Peak Hour Volume
- (XX) — PM Peak Hour Volume
- R1-1 — Stop Sign
- Signalized Intersection

NORTH

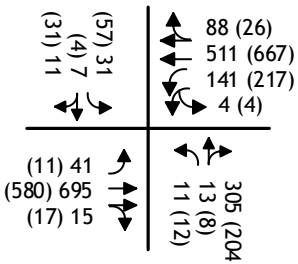
N.T.S.

6



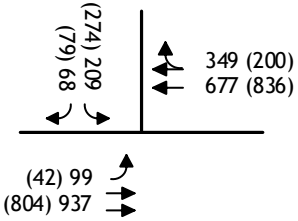
John Jones Rd/ Project Access

1



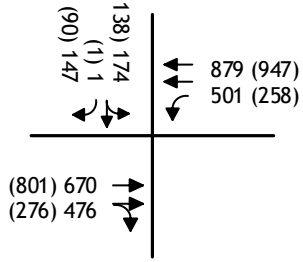
Shasta Dr/ Risling Ct/ Covell Blvd

2



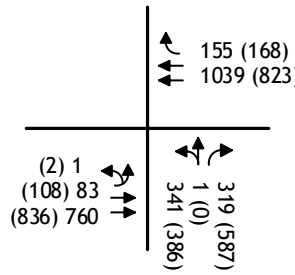
John Jones Rd/ Covell Blvd

3



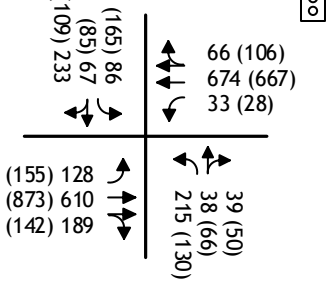
SR 113 SB Ramps/ Covell Blvd

4



SR 113 NB Ramps/ Covell Blvd

5



Sycamore Ln/ Covell Blvd

EXISTING PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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Existing Plus Project Conditions

VMT Impacts

VMT Methodology and Assumptions. For the purposes of the VMT analysis, Existing and Existing plus Project conditions scenarios were analyzed.

SacSim Travel Demand Model. Consistent with other projects in the City of Davis, SacSim was used as the principal tool to determine VMT. The SacSim TDM contains a base year of 2016 and future year of 2040, and only the base year version of the model was used to determine the VMT impact of the proposed project. The SacSim TDM includes a VMT analysis tool, and the tool was used to complete the analysis of the Project. The VMT estimation tool generates estimates in a manner that is consistent with OPR's guidelines. With the exception of adding land use to the specific site TAZ, no other modifications were made to the SacSim TDM.

Project Land Use Model Input. Based on discussion with **CommuniCare** staff it is projected that 68 employees will work in the new building. This figure was input into the SacSim TDM TAZ.

VMT Forecasts. The EDC TDM determines VMT through three steps. First, the travel distance between each pair of TAZs is calculated. Next the VMT between each TAZ is determined by multiplying the number of trips between each TAZ by the calculated distance between each TAZ. These results are then aggregated for the entire TDM area.

Table 5 compares the total SacSim VMT without the project and estimated with the occupancy of the proposed project. In comparing the 'No Project' and 'Proposed Project' estimates the overall SacSim VMT will increase by 2,998 with the project. This is considered a significant impact.

TABLE 5
COMMUNICARE VMT ESTIMATES

Use	SacSim VMT Estimates
	Total Daily VMT
No Project	61,365,252
Proposed Project	61,368,250
Net Change	2,998

Level of Service Impacts

Intersection Levels of Service. Table 6 displays the a.m. and p.m. peak period level of service at the study intersections under Existing plus Project conditions. All intersections will operate at LOS C or better. The John Jones Road / Project Driveway intersection does not meet minimum side street volumes to meet the peak hour signal warrant.

TABLE 6
PEAK HOUR INTERSECTION LEVELS OF SERVICE
EXISTING PLUS PROJECT CONDITIONS

Location	Control	AM Peak Hour				PM Peak Hour				Traffic Signal Warranted?
		Existing		Ex Plus Project		Existing		Ex Plus Project		
		LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	
1. Covell Blvd / Shasta Dr – Risling Ct	Signal	B	18.5	B	17.8	B	17.3	B	18.1	N/A
2. Covell Blvd / John Jones Rd	Signal	C	21.6	C	21.0	B	14.2	B	15.2	N/A
3. Covell Blvd / SR 113 SB Ramps	Signal	C	26.3	C	25.6	B	16.6	B	16.8	N/A
4. Covell Blvd / SR 113 NB Ramps	Signal	C	21.8	C	22.1	C	22.6	C	22.4	N/A
5. Covell Blvd / Sycamore Ln	Signal	C	23.7	C	23.8	C	24.3	C	24.1	N/A
6. John Jones Rd / Project Driveway	EB Stop									
NB Left		---	---	A	2.3	---	---	A	2.3	No
EB				A	2.5			A	2.9	

CUMULATIVE CONDITIONS

The analysis of the long-range cumulative condition is intended to consider the impact of this project within the context of buildout of the General Plan. The cumulative base conditions were obtained from the City of Davis *Bretton Woods DEIR*. Two Cumulative conditions were considered. The first Cumulative scenario assumed Bretton Woods is not developed while the second scenario includes Bretton Woods.

Consistent with the *Bretton Woods DEIR*, a second left turn lane along Covell Blvd providing access onto northbound and southbound SR 113 are assumed to be constructed as identified in the 2036 MTP/SCS.

Cumulative Traffic Conditions without Bretton Woods

The Fehr and Peers Synchro files and traffic volumes used for Bretton Woods EIR were the basis for cumulative conditions at the project intersections. Figure 6 displays the Cumulative traffic volumes at each study intersection without Bretton Woods developed.

Intersection Levels of Service. Table 7 summarizes the projected Levels of Service at the study intersections. During the a.m. peak hour all intersections are projected to operate at LOS C or better. In the p.m. peak hour the Covell Blvd / SR 113 Northbound ramps intersection and the Covell Blvd / Sycamore Lane intersection will operate at LOS F; the remaining intersections will operate at LOS C or better.

TABLE 7
CUMULATIVE PEAK HOUR LEVELS OF SERVICE AT INTERSECTIONS
(WITHOUT BRETTON WOODS)

Location	Control	AM Peak Hour		PM Peak Hour	
		LOS	Average Delay (scs)	LOS	Average Delay (secs)
1. Covell Blvd / Shasta Dr – Risling Ct	Signal	C	23.2	C	25.1
2. Covell Blvd / John Jones Rd	Signal	C	22.4	C	22.6
3. Covell Blvd / SR 113 SB Ramps	Signal	C	22.6	C	23.8
4. Covell Blvd / SR 113 NB Ramps	Signal	C	23.7	**F**	**89.9**
5. Covell Blvd / Sycamore Ln	Signal	C	28.2	**F**	**83.0**

Bold indicates unacceptable level of service



Legend

- XX — AM Peak Hour Volume
- (XX) — PM Peak Hour Volume
- R1-1 — Stop Sign
- Signalized Intersection

NORTH

N.T.S.

6

(42) 36

66 (39)

John Jones Rd/ Project Access

1

(150) 50
(30) 10
(80) 30

60 (50)
630 (910)
150 (180)

(50) 110
(630) 770
(30) 20

20 (10)
20 (20)
290 (200)

Shasta Dr/ Risling Ct/ Covell Blvd

2

(240) 200
(60) 60

350 (210)
780 (1080)

(50) 90
(930) 1020

John Jones Rd/ Covell Blvd

3

(190) 220
(10) 10
(90) 140

990 (1200)
550 (530)

(880) 770
(290) 450

SR 113 SB Ramps/ Covell Blvd

4

190 (310)
1200 (1270)

(90) 90
(980) 900

340 (460)
10 (0)
570 (780)

SR 113 NB Ramps/ Covell Blvd

5

(80) 50
(140) 80
(230) 350

50 (70)
710 (960)
40 (30)

(300) 120
(1060) 830
(190) 350

230 (280)
80 (50)
70 (100)

Sycamore Ln/ Covell Blvd

CUMULATIVE NO PROJECT (WITHOUT BRETTON WOODS) TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers

1645-01 RA 2/10/2022

figure 6

Cumulative plus Project Traffic Conditions without Bretton Woods

Intersection Levels of Service. Figure 7 displays the Cumulative plus Project traffic volumes at each study intersection without Bretton Woods developed. Table 8 displays the a.m. and p.m. peak period level of service at the study intersections under Existing plus Project conditions. All intersections will operate at LOS C or better in the a.m. peak hour. During the p.m. peak hour the Covell Blvd / SR 113 Northbound Ramps and Covell Blvd / Sycamore Lane intersections will continue to operate at LOS F conditions. However, the average delays are shown to decline at both locations. This is a result of stochastic modeling, as mentioned earlier, where the simulations may vary as a result of averaging multiple simulation runs. This is not considered significant.

The John Jones Road / Project Driveway intersection will operate at acceptable levels of service, and the side street driveway traffic volumes do not approach the minimum volumes requiring signalization.



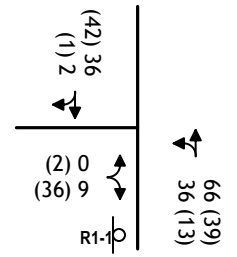
Legend

- XX — AM Peak Hour Volume
- (XX) — PM Peak Hour Volume
- R1-1 — Stop Sign
- Signalized Intersection

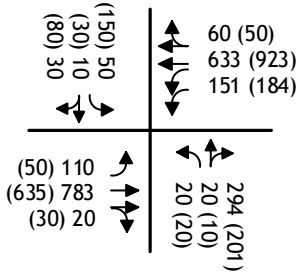
NORTH

N.T.S.

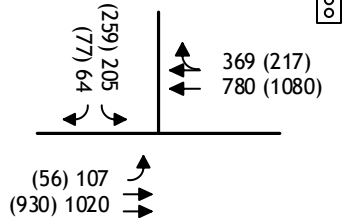
6 — John Jones Rd/ Project Access



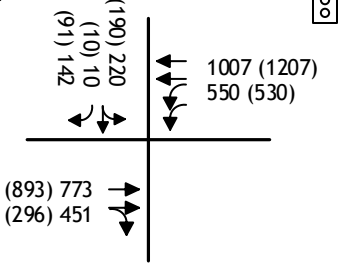
1 — Shasta Dr/ Risling Ct/ Covell Blvd



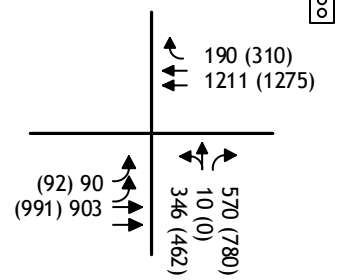
2 — John Jones Rd/ Covell Blvd



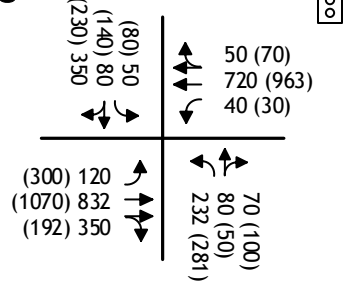
3 — SR 113 SB Ramps/ Covell Blvd



4 — SR 113 NB Ramps/ Covell Blvd



5 — Sycamore Ln/ Covell Blvd



CUMULATIVE PLUS PROJECT (WITHOUT BRETTON WOODS) TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers

TABLE 8
PEAK HOUR INTERSECTION LEVELS OF SERVICE
CUMULATIVE PLUS PROJECT CONDITIONS
(WITHOUT BRETTON WOODS)

Location	Control	AM Peak Hour				PM Peak Hour				Traffic Signal Warranted?
		Cumulative		Cum Plus Project		Cumulative		Cum Plus Project		
		LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	
1. Covell Blvd / Shasta Dr – Risling Ct	Signal	C	23.2	C	24.3	C	25.1	C	26.1	N/A
2. Covell Blvd / John Jones Rd	Signal	C	22.4	C	23.3	C	22.6	C	21.8	N/A
3. Covell Blvd / SR 113 SB Ramps	Signal	C	22.6	C	22.4	C	23.8	C	24.0	N/A
4. Covell Blvd / SR 113 NB Ramps	Signal	C	23.7	C	25.0	**F**	**89.9**	**F**	**87.5**	N/A
5. Covell Blvd / Sycamore Ln	Signal	C	28.2	C	28.9	**F**	**83.0**	**F**	**85.0**	N/A
6. John Jones Rd / Project Driveway	EB Stop									
NB Left		---	---	A	2.4	---	---	A	2.0	No
EB				A	2.6			A	2.9	

Bold indicates unacceptable level of service

Cumulative Traffic Conditions with Bretton Woods

The Fehr and Peers Synchro files and traffic volumes under Cumulative plus Bretton Woods Project conditions were the basis for this baseline No Project scenario. Figure 8 displays the Cumulative traffic volumes at each study intersection with Bretton Woods developed.

Intersection Levels of Service. Table 9 summarizes the current Levels of Service at the study intersections. During the a.m. all intersections operate at LOS C or better. In the p.m. peak hour the Covell Blvd / SR 113 Northbound ramps intersection and the Covell Blvd / Sycamore Lane intersection will operate at LOS F. The remaining intersections will operate at LOS C or better.

TABLE 9
CUMULATIVE PEAK HOUR LEVELS OF SERVICE AT INTERSECTIONS
(WITH BRETTON WOODS)

Location	Control	AM Peak Hour		PM Peak Hour	
		LOS	Average Delay (scs)	LOS	Average Delay (secs)
1. Covell Blvd / Shasta Dr – Risling Ct	Signal	D	39.9	C	30.5
2. Covell Blvd / John Jones Rd	Signal	C	30.1	C	20.4
3. Covell Blvd / SR 113 SB Ramps	Signal	C	23.8	C	22.3
4. Covell Blvd / SR 113 NB Ramps	Signal	C	24.6	**F**	**87.2**
5. Covell Blvd / Sycamore Ln	Signal	C	28.4	**F**	**95.1**

Bold indicates unacceptable level of service



Legend

- XX — AM Peak Hour Volume
- (XX) — PM Peak Hour Volume
- R1-1 — Stop Sign
- Signalized Intersection

NORTH

N.T.S.

6 — John Jones Rd/ Project Access

(46) 37 →

→ 66 (39)

1 — Shasta Dr/ Risling Ct/ Covell Blvd

(207) 158
(39) 16
(90) 41

96 (94)
655 (982)
150 (180)

(82) 137
(630) 770
(30) 20

290 (200)
27 (16)
22 (22)

2 — John Jones Rd/ Covell Blvd

(270) 200
(62) 61

350 (210)
840 (1194)

(52) 92
(985) 1126

3 — SR 113 SB Ramps/ Covell Blvd

(190) 220
(10) 10
(105) 149

1041 (1299)
550 (530)

(936) 833
(319) 493

4 — SR 113 NB Ramps/ Covell Blvd

190 (310)
1227 (1325)

(102) 104
(1024) 949

570 (780)
10 (0)
364 (504)

5 — Sycamore Ln/ Covell Blvd

(80) 50
(140) 80
(231) 352

50 (70)
727 (997)
40 (30)

(302) 121
(1090) 864
(195) 356

70 (100)
80 (50)
234 (286)

CUMULATIVE NO PROJECT (WITH BRETTON WOODS) TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers

1645-01 RA 2/10/2022

figure 8

Cumulative Plus Project Level of Service Impacts with Bretton Woods

Intersection Levels of Service. Figure 9 displays the Cumulative plus Project traffic volumes at each study intersection with Bretton Woods developed. Table 10 displays the a.m. and p.m. peak period level of service at the study intersections under Existing plus Project conditions. All intersections will operate at LOS C or better in the a.m. peak hour. During the p.m. peak hour the Covell Blvd / SR 113 Northbound Ramps and Covell Blvd / Sycamore Lane intersections will continue to operate at LOS F conditions. However, the average delays are shown to decline at both locations. This is not considered significant.

The John Jones Road / Project Driveway intersection will operate at acceptable levels of service, and the side street driveway traffic volumes do not approach the minimum volumes requiring signalization.



Legend

- XX — AM Peak Hour Volume
- (XX) — PM Peak Hour Volume
- R1-1 — Stop Sign
- Signalized Intersection

NORTH

N.T.S.

6

(46) 37
(1) 2
(2) 0
(36) 9
R1-1
66 (39)
36 (13)

John Jones Rd/ Project Access

1

(207) 158
(39) 16
(90) 41
96 (94)
658 (995)
151 (184)
(82) 137
(635) 783
(30) 20
294 (201)
27 (16)
22 (22)

Shasta Dr/ Risling Ct/ Covell Blvd

2

(289) 205
(79) 65
369 (217)
840 (1194)
(58) 109
(985) 1126

John Jones Rd/ Covell Blvd

3

(190) 220
(10) 10
(106) 151
1058 (1306)
550 (530)
(949) 836
(325) 494

SR 113 SB Ramps/ Covell Blvd

4

190 (310)
1238 (1330)
(104) 104
(1035) 952
570 (780)
10 (0)
370 (506)

SR 113 NB Ramps/ Covell Blvd

5

(80) 50
(140) 80
(231) 352
50 (70)
737 (1000)
40 (30)
(302) 121
(1100) 866
(197) 356
70 (100)
80 (50)
236 (287)

Sycamore Ln/ Covell Blvd

CUMULATIVE PLUS PROJECT (WITH BRETTON WOODS)
TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers

TABLE 10
PEAK HOUR INTERSECTION LEVELS OF SERVICE CUMULATIVE PLUS PROJECT CONDITIONS
(WITH BRETTON WOODS)

Location	Control	AM Peak Hour				PM Peak Hour				Traffic Signal Warranted?
		Cumulative		Cum Plus Project		Cumulative		Cum Plus Project		
		LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	
1. Covell Blvd / Shasta Dr – Risling Ct	Signal	D	39.9	D	39.2	C	30.5	C	28.7	N/A
2. Covell Blvd / John Jones Rd	Signal	C	30.1	C	31.4	C	20.4	C	23.3	N/A
3. Covell Blvd / SR 113 SB Ramps	Signal	C	23.8	C	23.9	C	22.3	C	23.0	N/A
4. Covell Blvd / SR 113 NB Ramps	Signal	C	24.6	C	26.7	**F**	**87.2**	**F**	**85.4**	N/A
5. Covell Blvd / Sycamore Ln	Signal	C	28.4	C	30.2	**F**	**95.1**	**F**	**89.0**	N/A
6. John Jones Rd / Project Driveway	EB/WB Stop									
NB Left		---	---	A	2.2	---	---	A	2.0	No
EB				A	2.6			A	2.9	

Bold indicates unacceptable level of service

Site Circulation

The project will add a new driveway along John Jones Road on the north side of the frontage, about 280 feet from the fire lane north of the existing CommuniCare building. North of the project John Jones Road transfers to County ownership and is known as County Road 99D (CR 99D). Full access will be provided. A second full access to the site will be provided on the west side of the proposed CommuniCare building, accessing onto the fire lane; the fire lane is identified to be continued to the west in the future. Employees and patients will be able to use either driveway entering or existing the project's parking lot. Sidewalk will be provided along John Jones Road and from John Jones Road to the building. Concrete plazas will be provided along the north, west and south sides of the building and bike racks will be provided. Short term bike parking will be provided on the north and west sides of the building while long term bike parking will be provided in an enclosed space on the south side of the building.

Sight Distance. Approximate sight distance at the proposed driveway along John Jones Road was compared to the requirements of the Caltrans Highway Design Manual (HDM), Chapters 2 and 4. John Jones Road is level; however, the project driveway is located along a horizontal curve. The posted speed limit on CR 99D is 45 mph while along John Jones Road the speed is reduced to 35 mph. As the project is located at the edge of the city limit and speeds along CR 99D is 45 mph a conservative assessment was considered in analyzing sight distance. Using Corner Sight Distance criteria for rural driveways in Chapter 400 of the HDM a sight distance of at least 410 feet should be provided.

Figure 10 illustrates the sight lines from the approximate location of a vehicle waiting at the driveway, 15 feet behind the edge of travel way. Currently, a clear line of sight should be maintained within the limits of the sight lines. This will be consistent with a 45-mph approach.



SIGHT DISTANCE

FINDINGS / RECOMMENDATIONS / MITIGATIONS / IMPROVEMENTS

The preceding analysis has identified project impacts that may occur without identifying any recommendations or improvements. The text that follows identifies a strategy for recommendations to the 'No Project' conditions mitigations required for VMT or improvements to the 'Plus Project' roadway conditions.

Existing Conditions

The study intersections operate at LOS C or better during both a.m. and p.m. peak periods. This is within the City's LOS thresholds.

Existing Plus Project Conditions

VMT

The project will result in a net increase of 2,998 additional vehicle miles traveled. This exceeds the OPR recommendation that employee VMT reduces 15% below that of existing development.

Below are transportation reduction alternatives based on guidance provided by the California Air Pollution Control Officers Association (CAPCOA).[2] The SacSim TDM does not take into account certain project features that have been shown to typically reduce VMT.

Commute Trip Reduction SDT-1: Provide Pedestrian Network Improvements. Providing a pedestrian access to link areas of the project site encourages people to walk instead of drive. The project will extend sidewalk along the John Jones Road project frontage and provide pedestrian access from the street to the facility as well as providing access between this site and the existing CommuniCare building and Sutter Hospital. CAPCOA suggests that implementation of these facilities results in a 1% reduction to the Project's VMT (SDT-1, Page 186).

Commute Trip Reduction SDT-6: Provide Bike Parking in Non-Residential Projects. The project intends to install ten (10) short-term bicycle parking spaces via bike racks and eight (8) long-term secured bike parking spaces for employees. The CAPCOA guidance states that for installing bike parking at non-residential projects, a reduction of 0.625% may be applied to the Project's VMT (SDT-6, Page 202).

Vehicles VT-3: Utilize Electric or Hybrid Vehicles. The project will provide four (4) EV charging stations. CAPCOA suggests the use of electric or hybrid vehicles can result in a 0.4 – 20.3% reduction in GHG emissions VT-3, Page 309). CAPCOA notes that their

[2] *Quantifying Greenhouse Gas Mitigation Measures*. California Air Pollution Control Officers Association (CAPCOA). August, 2010.

August 2010 document notes that transportation emissions can be reduced by reducing the vehicle miles travelled (Page 47). While the use of electric vehicles may not result in a decrease of vehicle miles travelled "criteria pollutant emissions will be 100% reduced for equipment running solely on electricity."

General Plan Consistency LOS

Adequate operating level of service will be maintained at the study intersections with all intersections operating at LOS C or better.

The following improvements are identified:

- The driver's line of sight at the driveway should be maintained within the visibility triangle. Landscaping and other visibility restricting elements should be limited to below 2 ½ feet and higher than 8 feet.
- The frontage improvements should include extension of the marked bike lane to the County line.

Cumulative No Project Conditions without Bretton Woods

Two study intersections are projected to operate at LOS F during the p.m. peak period. These include the Covell Blvd / SR 113 NB ramps intersection and the Covell Blvd / Sycamore Lane intersection. The Bretton Woods DEIR noted the following improvements should be undertaken:

- Covell Blvd / SR 113 NB ramps
  - Widen and install a third lane on the northbound off-ramp. The off-ramp will consist of a left turn lane, a shared left-through-right lane and a right turn lane.

- Covell Blvd / Sycamore Lane
  - Lengthen the eastbound left turn lane to 275 feet.

The resultant levels of service are LOS C (23.9 seconds per vehicle) at the Covell Blvd / SR 113 NB Ramps intersection and LOS E (76.6 seconds per vehicle) at the Covell Blvd / Sycamore Lane intersection. Both intersections are within the accepted City LOS threshold.

Cumulative Plus Project Conditions without Bretton Woods

The Covell Blvd / SR 113 NB ramps intersection and the Covell Blvd / Sycamore Lane intersection will continue to operate at LOS F during the p.m. peak period.

With the improvements cited under the Cumulative No Project Conditions without Breton Woods scenario the Covell Blvd / SR 113 NB Ramps intersection is projected to operate at LOS C (26.2 seconds per vehicle) while the Covell Blvd / Sycamore Lane intersection is

projected to operate at LOS E (71.3 seconds per vehicle). Both intersections operate within the accepted City LOS threshold.

The project operates within acceptable level of service thresholds and does not adversely impact the Cumulative No Project conditions.

Cumulative No Project Conditions with Bretton Woods

The Covell Blvd / SR 113 NB ramps intersection and the Covell Blvd / Sycamore Lane intersection will continue to operate at LOS F during the p.m. peak period.

With the improvements cited under the Cumulative No Project Conditions without Breton Woods scenario the Covell Blvd / SR 113 NB Ramps intersection is projected to operate at LOS C (26.5 seconds per vehicle) while the Covell Blvd / Sycamore Lane intersection is projected to operate at LOS E (77.5 seconds per vehicle). Both intersections operate within the accepted City LOS threshold.

Cumulative Plus Project Conditions with Bretton Woods

The Covell Blvd / SR 113 NB ramps intersection and the Covell Blvd / Sycamore Lane intersection will continue to operate at LOS F during the p.m. peak period.

With the improvements cited under the Cumulative No Project Conditions without Breton Woods scenario the Covell Blvd / SR 113 NB Ramps intersection is projected to operate at LOS C (26.6 seconds per vehicle) while the Covell Blvd / Sycamore Lane intersection is projected to operate at LOS E (78.6 seconds per vehicle). Both intersections operate within the accepted City LOS threshold.

As noted under the Cumulative No Project Conditions with Bretton Woods scenario, the project operates within acceptable level of service thresholds and does not adversely impact the Cumulative No Project conditions.

APPENDIX