4.14 TRANSPORTATION AND CIRCULATION

This section of the EIR analyzes the potential impacts of the project on the surrounding transportation system including roadways, bicycle and pedestrian facilities, and transit facilities and services. All technical calculations can be found in Appendix I of the Draft EIR.

4.14.1 Environmental Setting

PROJECT LOCATION

The project is located immediately southwest of the City of Davis city limits and immediately south of the University of California at Davis (UC Davis). The project site is bordered on the south by Interstate 80 (I-80), on the north by the Union Pacific Railroad (UPRR), and on the east by the Putah Creek Trail. Figure 4.14-1 displays the site and surrounding roadway network.

STUDY AREA ROADWAYS

Regional access to the project site is provided by I-80 and State Route (SR) 113. Olive Drive provides direct access to the project site. Old Davis Road is the primary roadway that connects south campus destinations, located between Putah Creek and the UPRR, with I-80 and Downtown Davis. Other key roadways in the project vicinity include Richards Boulevard and First Street. Freeway access to the site is currently provided via the I-80/Richards Boulevard interchange. These key roadways are described below.

I-80 is an east-west interstate highway along the southeastern boundary of the project site. In the project vicinity at the Richards Boulevard overpass, I-80 provides three travel lanes per direction and carries approximately 120,000 vehicles per day, based on data provided by the California Department of Transportation (Caltrans). The speed limit on I-80 is 65 miles per hour (mph).

State Route 113 (SR 113) is a north-south state highway that runs through west Davis, connecting I-80 to Woodland and other cities to the north of Davis. SR 113 continues south of I-80 in Dixon, terminating at SR 12 in Rio Vista. SR 113 provides two travel lanes per direction and the facility carries approximately 30,000 vehicles a day, based on data provided by Caltrans. The speed limit on SR 113 is 65 mph.

Olive Drive is a two-lane east-west street that would provide access to the project. The City of Davis General Plan Transportation Element (2013) classifies this street as a collector west of Richards Boulevard and a minor arterial east of Richards Boulevard. Olive Drive dead-ends on both sides of Richards Boulevard; a single westbound off-ramp from I-80 connects at the eastern terminus. The speed limit on Olive Drive is 30 mph. Bicycle lanes are provided on the roadway east of Richards Boulevard. Sidewalks are provided on one or both sides along the extent of the roadway. A connection to the Putah Creek Trail is provided near the western terminus and a connection to the Old Highway 40 Bike Path is provided at the eastern terminus.

Old Davis Road is a two-lane north-south roadway northwest of the project. It connects to UC Davis campus as well as First Street and downtown Davis to the north and I-80 to the south. The road is identified in the UC Davis Long Range Development Plan as the southern campus gateway. The speed limit on Old Davis Road is 25 mph from where the road divides south of LaRue Road to its northern terminus and 35 mph from the division south to I-80. Bicycle lanes are provided from I-80 to the northern terminus. Sidewalks are provided on the west side of the road from LaRue Road to the northern terminus and on the east side of the road from Arboretum Drive to the northern terminus. The road also connects to the Arboretum Trail at the Hutchison Road intersection.

Richards Boulevard is a two- to four-lane north-south roadway to the east of the project connecting downtown Davis to the north and South Davis to the south. The City of Davis General Plan Transportation Element (2013) classifies this street as a major arterial. The roadway provides four lanes south of I-80 and becomes Cowell Boulevard at Research Park Drive. The roadway transitions to two lanes north of I-80 and south of Olive Drive. North of Olive Drive, the roadway terminates at the intersection of First Street and E Street. The speed limit on Richards Boulevard is 35 mph. Bicycle lanes are provided on the roadway south of Olive Drive. A sidewalk is provided on the west side of the roadway south of Olive Drive. North of Olive Drive, a bicycle and pedestrian path is provided on the west side of the roadway through the UPRR tunnel.

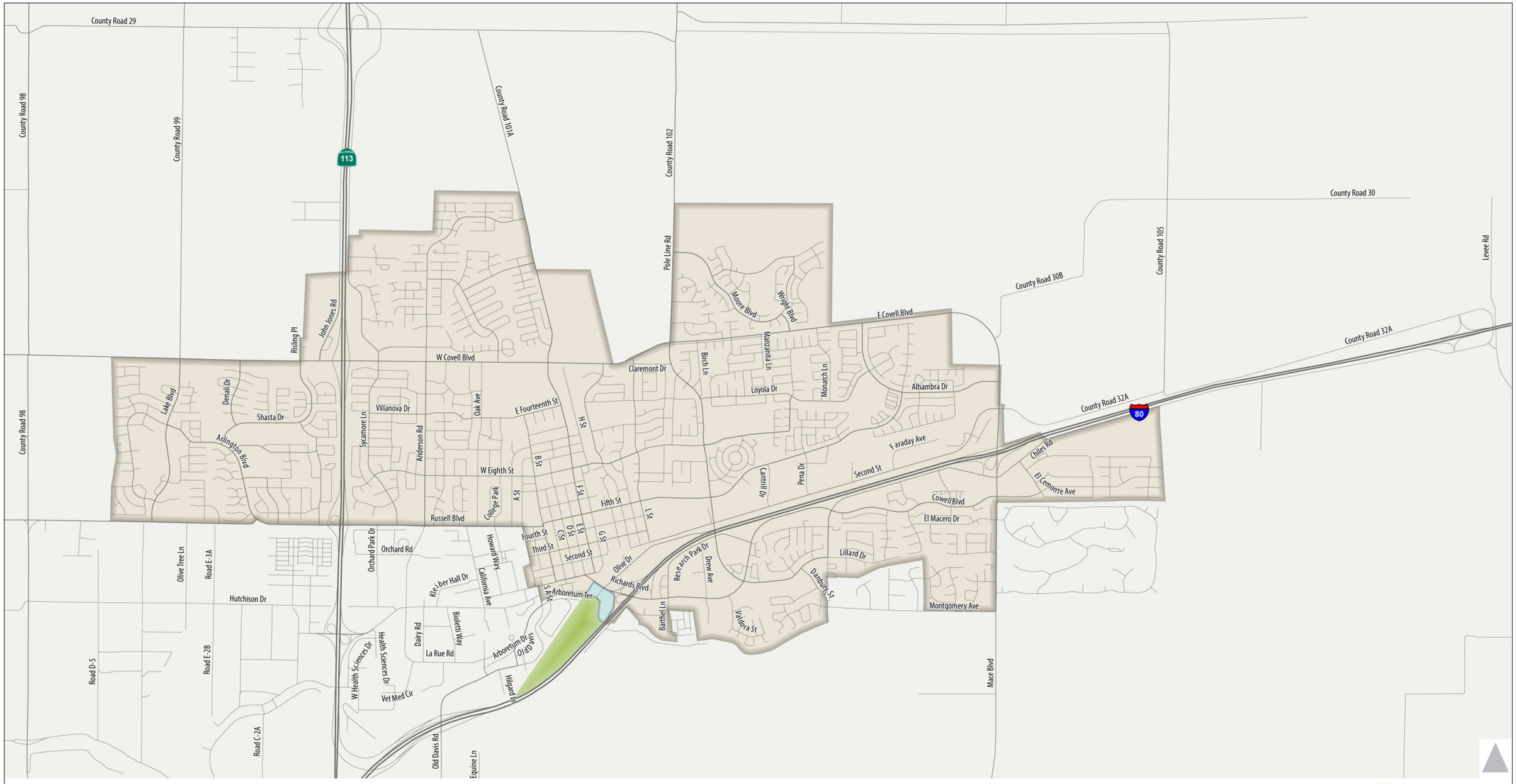
First Street is a two-lane east-west major arterial to the north of the project at the southern edge of downtown Davis. Three lanes are provided for a short section of the street between A Street and B Street. First Street terminates at A Street and the UC Davis campus just west of Old Davis Road and becomes G Street just east of Richards Boulevard and F Street. The speed limit on First Street is 25 mph. Bicycle lanes are provide on the north side of the street from A Street to F Street and on the south side of the street from A Street to B Street. Sharrows (i.e., shared-lane markings for bicycles and vehicles) are provided in the eastbound lanes from B Street to F Street. Sidewalks are provided along the full length of the street except for a section on the south side of the street between B Street and F Street, along which a bicycle and pedestrian path is provided. A connection to the Arboretum Trail is provided at the B Street intersection.

STUDY AREA

Figure 4.14-2 shows the 48 study intersection locations. The intersections are also listed in Table 4.14-1a, for intersections outside the Richards Boulevard interchange area, and in Table 4.14-1b for intersections within the Richards Boulevard interchange area. These intersections are listed separately because they are analyzed as a system (see the methodology section for more information).

The study intersections were selected based on the projected distribution of project traffic, with the intent to capture intersections that would serve substantial project traffic.

Figure 4.14-3 shows the freeway analysis locations and roadway segments within the local study area, the latter of which are evaluated for the Cumulative traffic scenarios (see Chapter 5, *Cumulative Impacts*). The freeway analysis locations include all regional freeway access routes serving the site, including SR 113, I-80 to the east and I-80 to the west, and sections of I-80 within Davis. The study freeway mainline segment locations are listed in Table 4.14-2.



Source: Fehr & Peers 2015

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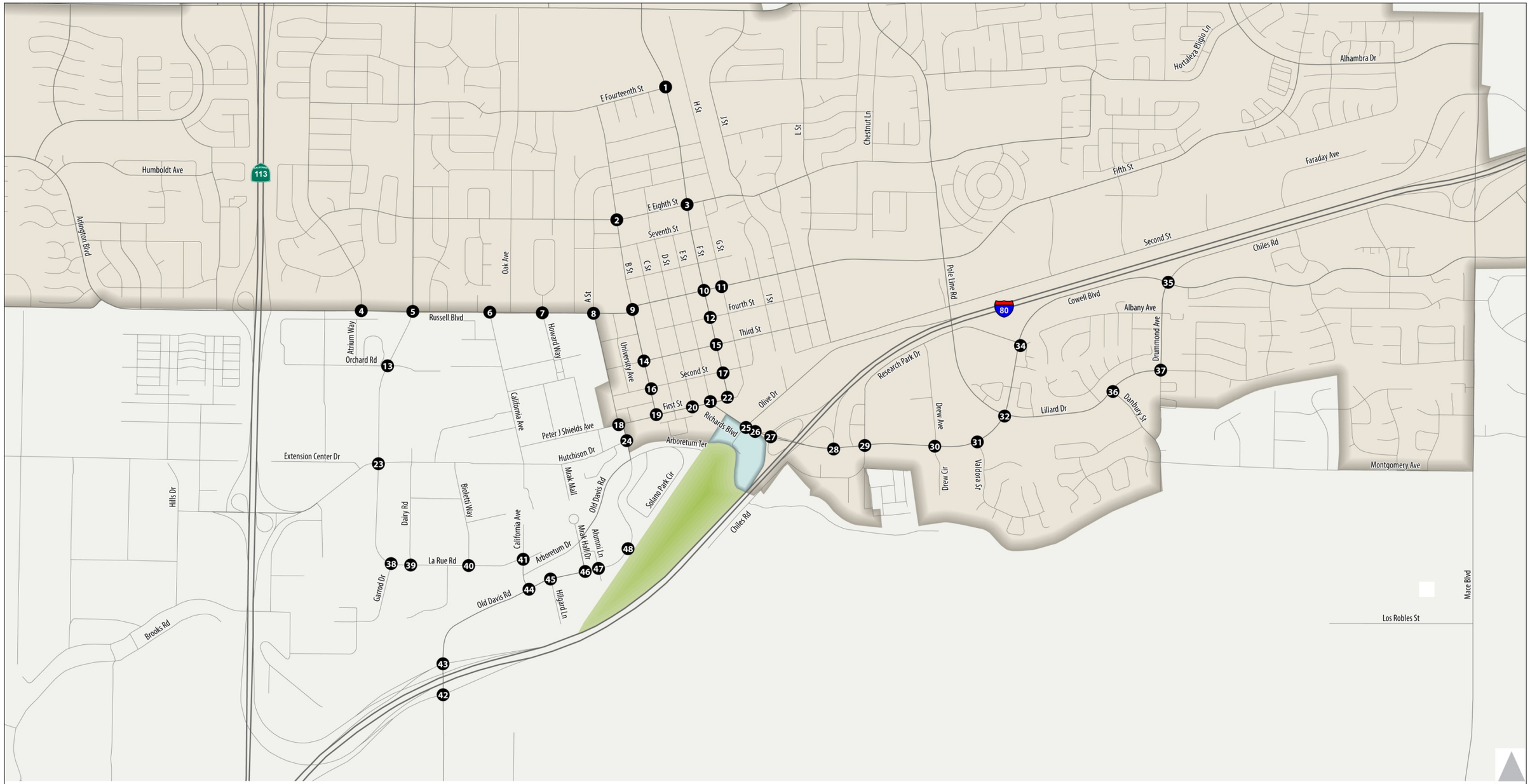
Figure 4.14-1

Project Locations and Surrounding Roadway Network



Source: Fehr & Peers 2015

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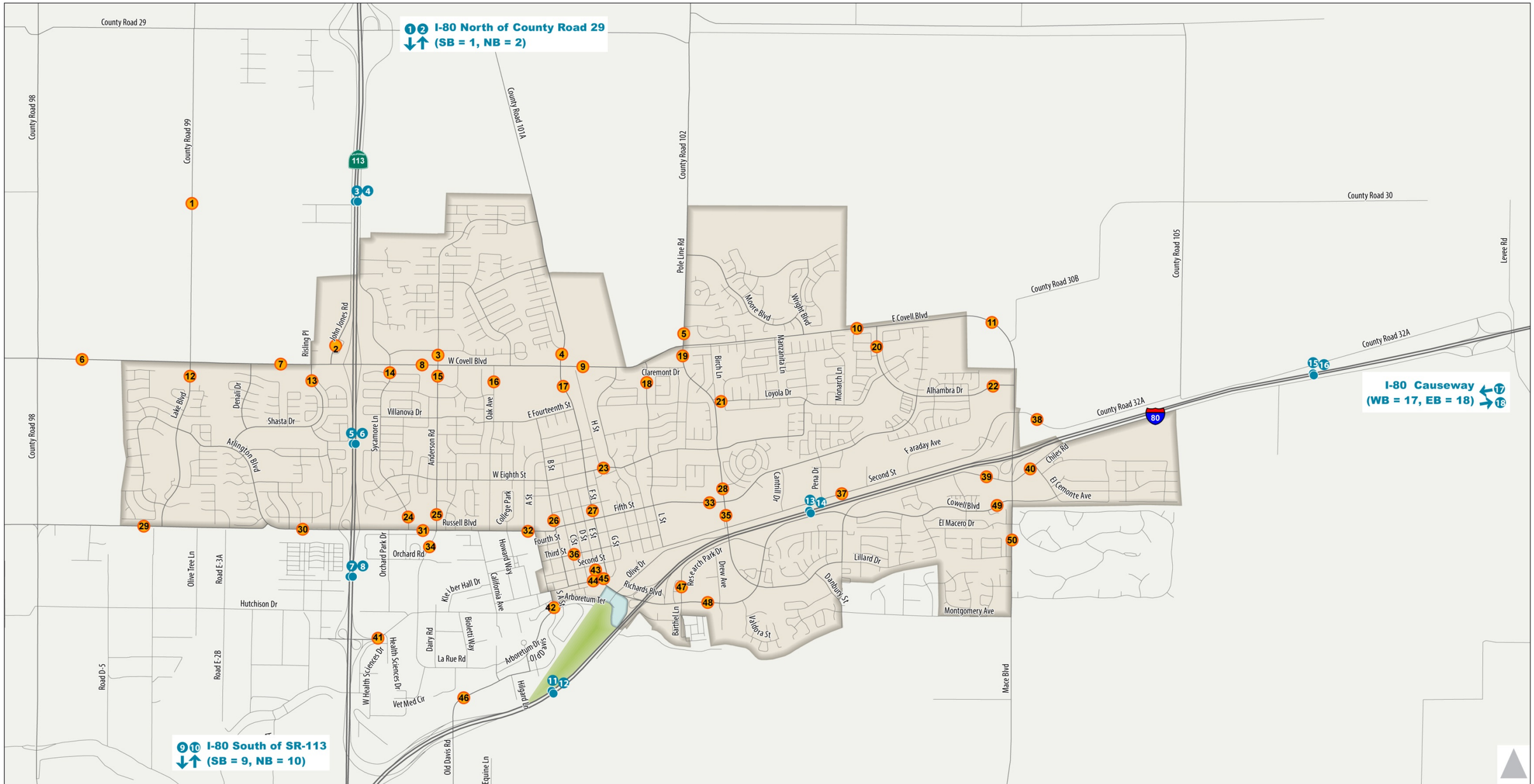
Figure 4.14-2

Study Roadway and Freeway Segments

ASCENT ENVIRONMENTAL



Source: Fehr & Peers 2015

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Figure 4.14-3 **Study Roadway Segments**

Table 4.14-1a Study Intersections Outside of Richards Boulevard Interchange Area

No.	Study Intersection	No.	Study Intersection
1	Fourteenth Street/F Street	23	LaRue Road/Hutchison Drive
2	Eighth Street/B Street	24	Old Davis Road/Hutchison Drive
3	Eighth Street/F Street	30	Cowell Boulevard/Drew Avenue
4	Russell Boulevard/Sycamore Lane	31	Cowell Boulevard/Valdora Street
5	Russell Boulevard/Anderson Road	32	Cowell Boulevard/Pole Line Road
6	Russell Boulevard/California Avenue	34	Cowell Boulevard/Research Park Drive
7	Russell Boulevard/Howard Way	35	Cowell Boulevard/Drummond Avenue
8	Russell Boulevard/A Street	36	Lillard Drive/Danbury Street
9	Fifth Street/B Street	37	Lillard Drive/Drummond Avenue
10	Fifth Street/F Street	38	LaRue Road/Garrod Drive
11	Fifth Street/G Street	39	LaRue Road/Dairy Road
12	Fourth Street/F Street	40	LaRue Road/Bioletti Way
13	LaRue Road/Orchard Park Drive	41	LaRue Road/California Avenue
14	Third Street/B Street	42	Old Davis Road/I-80 EB Ramps
15	Third Street/F Street	43	Old Davis Road/I-80 WB Ramps
16	Second Street/B Street	44	Old Davis Road/La Rue Road
17	Second Street/F Street	45	Old Davis Road/Hilgard Lane
18	First Street/A Street	46	Old Davis Road/Mrak Hall Drive
19	First Street/B Street	47	Old Davis Road/Alumni Lane
20	First Street/D Street	48	Old Davis Road/Hyatt Place
22	First Street/F Street		

Table 4.14-1b Study Intersections within the Richards Boulevard Interchange Area

No.	Study Intersection
20	First Street/D Street
21	First Street/E Street
22	First Street/F Street
25	Richards Boulevard/Olive Drive
26	Richards Boulevard/Private Driveway
27	Richards Boulevard/WB I-80 Ramps
28	Richards Boulevard/EB I-80 Ramps
29	Richards Boulevard/Research Park Drive

Table 4.14-2 Study Freeway Mainline Segments

Route	Direction	Study Freeway Mainline Segment
I-80	Eastbound	Kidwell Road to SR-113 Junction Old Davis Road to Richards Boulevard Richards Boulevard to Mace Boulevard Mace Boulevard to Chiles Road Chiles Road to Enterprise Boulevard
	Westbound	Enterprise Boulevard to Chiles Road Chiles Road to Mace Boulevard Mace Boulevard to Olive Drive Richards Boulevard to Old Davis Road SR-113 Junction to Kidwell Road
SR-113	Northbound	Hutchison Drive to Russell Boulevard Russell Boulevard to Covell Boulevard Covell Boulevard to County Road 29 County Road 29 to County Road 27
	Southbound	County Road 27 to County Road 29 County Road 29 to Covell Boulevard Covell Boulevard to Russell Boulevard Russell Boulevard to Hutchison Drive

COMMON TRAFFIC ANALYSIS TERMS

Level of service (LOS) is a qualitative measure of traffic operating conditions, whereby a letter grade, from A to F is assigned, based on quantitative measurements of delay per vehicle. The grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving. In general, LOS A represents free-flow conditions, and LOS F represents severe delay under stop-and-go conditions. Level of service is assessed using the control delay methodology described in the Transportation Research Board's *2010 Highway Capacity Manual.* Table 4.14-3 summarizes the relationship between delay and LOS for signalized and unsignalized intersections. The delay ranges for unsignalized intersections are lower than for signalized intersections as drivers expect less delay at unsignalized intersections.

Table 4.14-3 Intersection LOS Criteria

Level of Service	Description	Average Control Delay (seconds per vehicle)	
		Signalized Intersections	Unsignalized Intersections
A	Represents free flow. Individual users are virtually unaffected by others in the traffic stream.	≤ 10	≤ 10
B	Stable flow, but the presence of other users in the traffic stream begins to be noticeable.	> 10 to 20	> 10 to 15
C	Stable flow, but the operation of individual users becomes significantly affected by interactions with others in the traffic stream.	> 20 to 35	> 15 to 25
D	Represents high-density, but stable flow.	> 35 to 55	> 25 to 35
E	Represents operating conditions at or near the capacity level.	> 55 to 80	> 35 to 50
F	Represents forced or breakdown flow.	> 80	> 50

Source: Transportation Research Board 2010 (*Highway Capacity Manual*)

Freeway operations are assessed using the methodology outlined in the 2010 Highway Capacity Manual, which is based on vehicle density, calculated using peak hour traffic volumes by direction and the number of mainline segment lanes. Table 4.14-4 presents the level of service definitions.

Table 4.14-4 Freeway Mainline LOS Criteria

Level of Service	Description	Density (pcplpm)
A	Represents free flow. Vehicles are almost completely unaffected in their ability to maneuver within the traffic stream.	≤ 11
B	Free-flow speeds are maintained. The ability to maneuver with the traffic stream is only slightly restricted.	> 11 to 18
C	Flow with speeds at or near free-flow speeds. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.	> 18 to 26
D	Speeds decline slightly with increasing flows. Freedom to maneuver with the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort.	> 26 to 35
E	Operation at capacity. Virtually no usable gaps within the traffic stream, leaving little room to maneuver. Any disruption can be expected to produce a breakdown with queuing.	> 35 to 45
F	Represents forced or breakdown flow.	> 45

Note: pcplpm = passenger cars per lane per mile

Source: Highway Capacity Manual (Transportation Research Board 2010).

EXISTING INTERSECTION OPERATIONS

Table 4.14-5 presents the existing service levels for the intersections outside the Richards Boulevard interchange area. All intersections operate at or above the applicable level of service standard set by the jurisdiction controlling the intersection (see Section 4.14.4, "Standards of Significance").

Table 4.14-6 presents the existing service levels for the intersections within the Richards Boulevard interchange area. Currently, all intersections operate at LOS D or better.

Figure 4.14-4 shows all of the intersection service levels on the study area map.

FREEWAY MAINLINE OPERATIONS

Using the latest available peak hour traffic volumes obtained from the Caltrans PeMS database (www.pems.dot.ca.gov), the vehicle densities and service levels were calculated, and are shown in Table 4.14-7. All freeway mainline segments analyzed currently operate at LOS C or better.

Table 4.14-5 Existing Peak Hour Levels of Service Outside Richards Boulevard Interchange Area

No.	Study Intersection	Traffic Control	Jurisdiction	Existing			
				a.m.		p.m.	
				Delay	LOS	Delay	LOS
1	Fourteenth Street/F Street	Signal	City of Davis	10	B	9	A
2	Eighth Street/B Street	Signal	City of Davis	8	A	9	A
3	Eighth Street/F Street	Signal	City of Davis	10	B	13	B
4	Russell Boulevard/Sycamore Lane	Signal	City of Davis	30	C	12	B
5	Russell Boulevard/Anderson Road	Signal	City of Davis	20	C	23	C
6	Russell Boulevard/California Avenue	SSSC	City of Davis	11	B	15	B

Table 4.14-5 Existing Peak Hour Levels of Service Outside Richards Boulevard Interchange Area

No.	Study Intersection	Traffic Control	Jurisdiction	Existing			
				a.m.		p.m.	
				Delay	LOS	Delay	LOS
7	Russell Boulevard/Howard Way	Signal	City of Davis	44	D	16	B
8	Russell Boulevard/A Street	Signal	City of Davis	5	A	6	A
9	Fifth Street/B Street	Signal	City of Davis	16	B	16	B
10	Fifth Street/F Street	Signal	City of Davis	17	B	26	C
11	Fifth Street/G Street	Signal	City of Davis	17	B	20	B
12	Fourth Street/F Street	AWSC	City of Davis	9	A	11	B
13	LaRue Road/Orchard Park Drive	Signal	UC Davis	5	A	15	B
14	Third Street/B Street	Signal	City of Davis	15	B	29	C
15	Third Street/F Street	AWSC		8	A	11	B
16	Second Street/B Street	SSSC	City of Davis	13 (14)	B (B)	18 (24)	B (B)
17	Second Street/F Street	AWSC	City of Davis	8	A	9	A
18	First Street/A Street	SSSC	UC Davis	12	B	12	B
19	First Street/B Street	AWSC	City of Davis	11	B	14	B
20	First Street/D Street	Signal	City of Davis	7	A	19	B
22	First Street/F Street	AWSC	City of Davis	9	A	11	B
23	LaRue Road/Hutchison Drive	Signal	UC Davis	7	A	10	A
24	Old Davis Road/Hutchison Drive	AWSC	UC Davis	9	A	10	B
30	Cowell Boulevard/Drew Avenue	Signal	City of Davis	15	B	16	B
31	Cowell Boulevard/Valdora Street	Signal	City of Davis	14	B	14	B
32	Cowell Boulevard/Pole Line Road	Signal	City of Davis	24	C	16	B
34	Cowell Boulevard/Research Park Drive	SSSC	City of Davis	12 (12)	B (B)	13 (16)	B (C)
35	Cowell Boulevard/Drummond Avenue	AWSC	City of Davis	10	B	12	B
36	Lillard Drive/Danbury Street	AWSC	City of Davis	9	A	10	A
37	Lillard Drive/Drummond Avenue	AWSC	City of Davis	9	A	8	A
38	LaRue Road/Garrod Drive	SSSC	UC Davis	9	A	9	A
39	LaRue Road/Dairy Road	SSSC	UC Davis	12	B	13	B
40	LaRue Road/Bioletti Way	SSSC	UC Davis	13	B	13	B
41	LaRue Road/California Avenue	AWSC	UC Davis	12	B	10	B
42	Old Davis Road/I-80 EB Ramps	AWSC	UC Davis	11	B	11	B
43	Old Davis Road/I-80 WB Ramps	AWSC	UC Davis	13	B	8	A
44	Old Davis Road/La Rue Road	Roundabout	UC Davis	16	C	11	B
45	Old Davis Road/Hilgard Lane	TWSC	UC Davis	13	B	21	C
46	Old Davis Road/Mrak Hall Drive	Signal	UC Davis	12	B	11	B
47	Old Davis Road/Alumni Lane	SSSC	UC Davis	9	A	9	A
48	Old Davis Road/Hyatt Place	TWSC	UC Davis	10	A	10	B

Notes:
1. Traffic Control: AWSC = all-way stop control; SSSC = side street stop control; Signal = traffic signal; RAB = roundabout.
2. Signals, all-way stops and roundabouts: LOS based on average control delay in seconds. Side street stop controlled intersections: LOS given for the average intersection followed by the worst side-street movement in parentheses.

Table 4.14-6 Existing Peak Hour Intersection Operations Richards Boulevard/I-80 Interchange Area

No.	Intersection	Control	Jurisdiction	Existing			
				a.m. Peak		p.m. Peak	
				Delay	LOS	Delay	LOS
20	First Street/D Street	Signal	City of Davis	6.0	A	21.1	C
21	First Street/E Street	Signal	City of Davis	16.6	B	23.0	C
22	First Street/F Street	3-way Stop	City of Davis	8.2	A	10.4	B
25	Richards Boulevard/Olive Drive	Signal	City of Davis	15.4	B	20.7	C
26	Richards Boulevard/Private Driveway	SSSC	City of Davis	15.5	C	36.8	E
27	Richards Boulevard/WB I-80 Ramps	Signal	City of Davis	3.6	A	6.9	A
28	Richards Boulevard/EB I-80 Ramps	Signal	City of Davis	29.3	C	29.1	C
29	Richards Boulevard/Research Park Drive	Signal	City of Davis	22.3	C	27.1	C

Note: Delay is reported in seconds per vehicle for the overall intersection for signalized intersections. Delay is reported in seconds per vehicle for the worst movement for unsignalized/uncontrolled intersections.

Table 4.14-7 Existing Midweek Peak Hour Freeway Operations

Route	Direction	Segment	a.m. Peak		p.m. Peak	
			Density	LOS	Density	LOS
I-80	Eastbound	Kidwell Road to SR-113 Junction	11	A	11	A
		Old Davis Road to Richards Boulevard	17	B	18	B
		Richards Boulevard to Mace Boulevard	20	C	22	C
		Mace Boulevard to Chiles Road	25	C	26	C
		Chiles Road to Enterprise Boulevard	19	C	24	C
	Westbound	Enterprise Boulevard to Chiles Road	18	B	20	C
		Chiles Road to Mace Boulevard	17	B	21	C
		Mace Boulevard to Olive Drive	25	C	22	C
		Richards Boulevard to Old Davis Road	17	B	25	C
		SR-113 Junction to Kidwell Road	14	B	17	B
SR-113	Northbound	Hutchison Drive to Russell Boulevard	8	A	12	B
		Russell Boulevard to Covell Boulevard	9	A	15	B
		Covell Boulevard to County Road 29	6	A	13	B
		County Road 29 to County Road 27	7	A	12	B
	Southbound	County Road 27 to County Road 29	17	B	15	B
		County Road 29 to Covell Boulevard	16	B	16	B
		Covell Boulevard to Russell Boulevard	18	B	9	A
		Russell Boulevard to Hutchison Drive	18	B	7	A

Notes: Delay and LOS is based on 2010 HCM methodology.

EXISTING PEDESTRIAN AND BICYCLE FACILITIES

Pedestrian Facilities

The City of Davis has an extensive system of off-street multi-use pathways, sidewalks, and crosswalks available for use by pedestrians. Sidewalk coverage on the key roadways in the project vicinity is discussed

in the Study Area Roadways section above. In addition, the following multi-use paths are located in the vicinity of the project site:

- The Putah Creek Trail is located along the northeast edge of the project. This trail connects to South Davis via a grade-separated underpass beneath I-80. The trail also connects to downtown Davis and the university via a grade-separated underpass beneath the UPRR where it connects to the Arboretum Trail at the northernmost corner of the project.

- The Arboretum Trail is located to the northwest of the project and connects the university and downtown Davis via a dedicated grade-separated multi-use path shared by bicyclists and pedestrians. This trail also connects to the Putah Creek Trail and South Davis as described above.

Pedestrian facilities do not exist along the northwest and southeast boundaries of the project as the land is currently undeveloped. No sidewalk exists along the east side of Richards Boulevard between West Chiles Road and Olive Drive. Sidewalks also do not exist along Old Davis Road south of LaRue Road.

Bicycle Facilities

The City of Davis has a robust network of bicycle facilities that span the city. The following types of bicycle facilities exist within the city:

- Multi-use paths (Class I) are paved trails that are separated from roadways and allow for shared use by both cyclists and pedestrians

- On-street bike lanes (Class II) are designated for use by bicycles by striping, pavement, legends, and signs

- On-street bike routes (Class III) are designated by signage for shared bicycle use with vehicles but do not include any additional pavement width

Figure 4.14-5 displays existing bicycle facilities within the project vicinity. The previously discussed Arboretum Trail and Putah Creek Trail serve the project. This trail serves as a major bicycle connection between South Davis, UC Davis, and Downtown Davis.

Class II bike lanes are located on the following streets in the project vicinity:

- Richards Boulevard, east of Olive Drive
- Olive Drive, north of Richards Boulevard
- West Chiles Road, connecting to the Putah Creek Trail

Class III bike routes are located in the following areas:

- Olive Drive, south of Richards Boulevard
- Old Davis Road, south of the Arboretum Trail

The Davis Bike Loop is an approximate 12-mile bicycle facility that loops through and connects North, East, West, and South Davis. The Loop route is a combination of off-street and on-street bike facilities. It runs adjacent to the project site as an off-street path along the Putah Creek Trail. The Davis Bike Loop has green arrows and a distinctive logo that allows users to follow the route.

The Beyond Platinum Bike Plan calls for several bicycle infrastructure enhancements in the project vicinity including a redesign of the Richards Boulevard/West Olive intersection, bike lane conflict markings at the interchange ramp junctions along Richards Boulevard, and bike intersection crossing markings at the Richards Boulevard/eastbound I-80 ramps intersection.

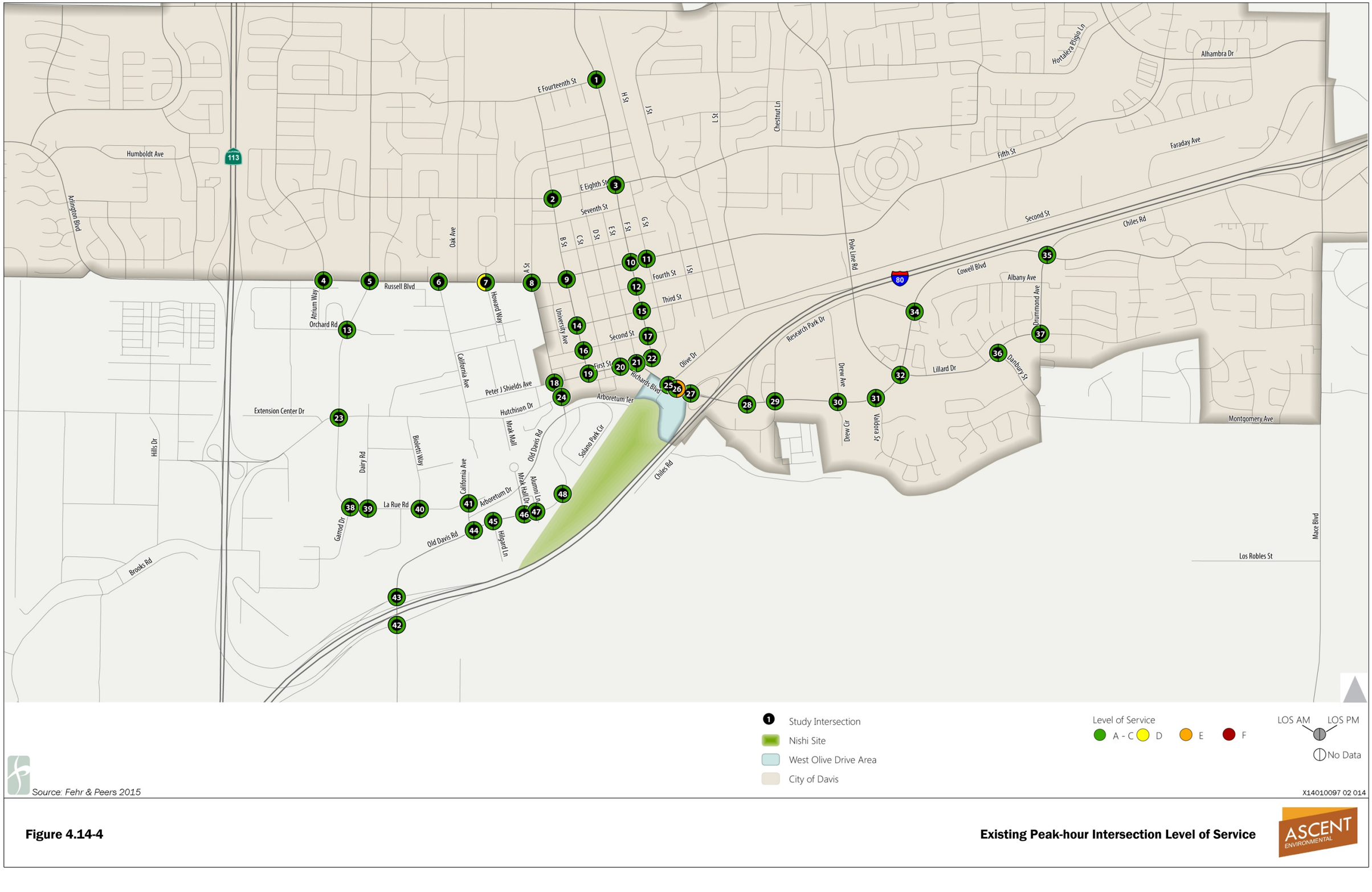


Figure 4.14-4

Existing Peak-hour Intersection Level of Service

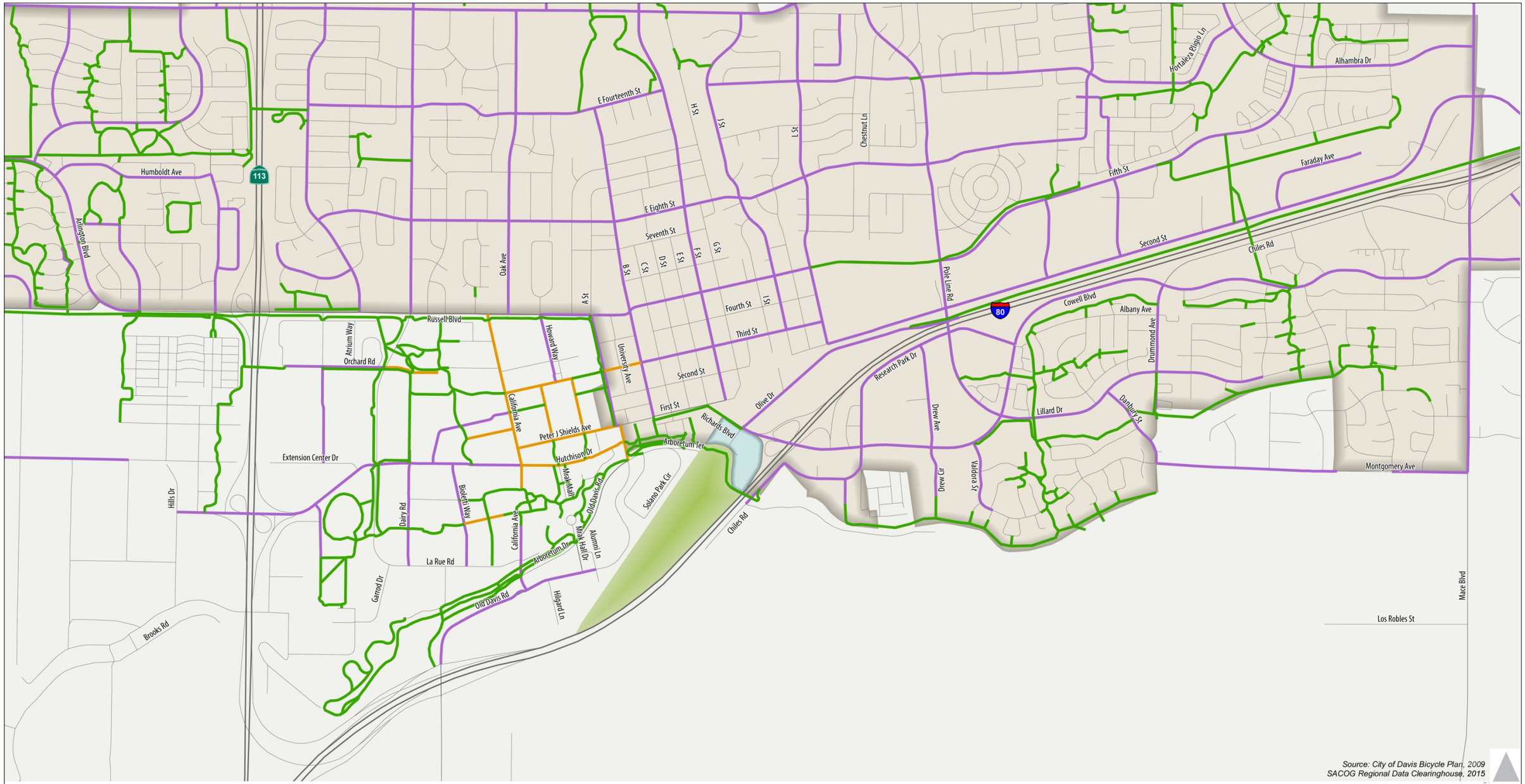


Figure 4.14-5

Existing Bicycle Facilities

Transit Service

Transit service in the City of Davis is provided by Unitrans (local), Yolobus (regional), and Davis Community Transit (paratransit). Figure 4.14-6 displays existing transit service in the project vicinity.

Unitrans is a student-run public transportation bus system that serves the City of Davis. Service is provided on weekdays between 7:00 a.m. to 11:00 p.m., and on Saturdays from 9:00 a.m. to 6:00 p.m. Specific hours and headways vary by line. Buses run more frequently during the University of California Davis academic year, corresponding to higher ridership demand, and less frequently during the summer and breaks. Unitrans charges one-dollar cash fare, and many types of prepaid discounted tickets and passes are available. One special fare category is UC Davis undergraduate students, who can show a valid student ID instead of a cash fare, because they pay a portion of their quarterly ASUC Davis fee to Unitrans. Seniors (60+) may also ride free with an ID card available from the Senior Center.

Yolobus provides regional transit services for Yolo County. It offers express service between Davis and Winters, Vacaville, Sacramento, Woodland, and the Sacramento Airport, with connections to other cities in the county. Express transit fares are $3.00, and discounts are offered for seniors, children, and frequent riders. Free transfers to Unitrans are provided to Yolobus passengers upon request.

According to the websites for Unitrans (http://unitrans.com) and Yolobus (http://www.yolobus.com), the following transit routes exist in the study area:

- Unitrans M Line (B Street / Cowell / Drew) provides fixed-route service between the Memorial Union Terminal at UC Davis and South Davis via Howard Way, Russell Boulevard, First Street, Richards Boulevard, Cowell Boulevard, Drew Avenue, and Research Park Drive. Weekday service operates from 7:00 a.m. to 8:35 p.m. with headways every 25-35 minutes. During the summer and breaks, the M Line operates hourly between 7:00 a.m. and 9:00 p.m.; additional night service is provided Monday-Thursday every 25-35 minutes between 8:10 p.m. and 10:23 p.m. No M Line service is provided on weekends. The M Line stops near the project at the intersection of Richards Boulevard and Olive Drive.

- Unitrans W Line (Cowell / Lillard / Drummond) provides fixed-route service between the Silo Terminal at UC Davis and South Davis via Hutchison Drive, A St, Richards Boulevard, Cowell Boulevard, Danbury St, Lillard Drive, and Drummond Avenue. Weekday service operates from 6:59 a.m. to 11:05 p.m. (Monday-Thursday) or 9:05 p.m. (Friday-Sunday). Headways are 10-20 minutes through 6:21 p.m., and every 25-35 minutes thereafter. During the summer and breaks, the M Line operates every 20-40 minutes between 7:00 a.m. and 8:40 p.m. On weekends, service is provided hourly from 9:00 a.m. to 5:40 p.m. throughout the year. The W Line stops near the project at the intersection of Richards Boulevard and Olive Drive.

- Unitrans H Line (Hutchison / Health Sciences / La Rue / Dairy) provides fixed-route service along a one-way loop that circles the perimeter of the UC Davis Campus. The H Line operates along Howard Way, Russell Boulevard, B Street, First Street, Old Davis Road, La Rue Road, Garrod Drive, Campbell Road, Hutchison Drive, and Health Sciences Drive. The H Line operates year-round from 7:10 a.m. and 6:15 p.m. with headways every 30 minutes. No service is provided on nights or weekends. The H Line stops near the project at the intersection of Old Davis Road and Alumni Lane (although this stop is presently inaccessible because of the railway).

- Yolobus Route 43R (Sacramento-Davis) provides fixed-route express service between the Memorial Union Terminal at UC Davis and Downtown Sacramento. It provides one morning trip (at 7:01 a.m.) to Davis and one evening trip (at 5:10 p.m.) to Downtown Sacramento on weekdays only. Route 43R operates adjacent to the project, but does not stop at the intersection of Richards Boulevard and Olive Drive (the closest stop is at the intersection of B Street and 4th Street).

- Yolobus Route 44 (South Davis-Sacramento Express) provides fixed-route express service between Davis, South Davis, and Downtown Sacramento. Route 44 provides three morning trips (departing 6:04

a.m., 6:45 a.m., and 7:23 a.m.) and three evening trips (departing 4:16 p.m., 4:36 p.m., and 5:06 p.m.) on weekdays only. Route 44 operates adjacent to the project, but does not stop at the intersection of Richards Boulevard and Olive Drive (the closest stop is at the intersection of First Street and D Street).

- Yolobus Route 231 (Sacramento-Davis) provides fixed-route express service as the last p.m. express trip from Downtown Sacramento to Davis. It departs Sacramento on Weekdays at 6:06 p.m. Route 231 operates adjacent to the project, but does not stop at the intersection of Richards Boulevard and Olive Drive (the closest stop is at the intersection of First Street and D Street).

The closest bus stop to the project, at Richards Boulevard and Olive Drive, includes a pullout and a stop marker; no shelter or other amenities are present. Combined, Unitrans Lines M and W provide seven buses each hour, per direction.

Freight and Passenger Rail

Union Pacific owns and operates a freight railroad line that borders the western boundary of the project site. Three grade-separated crossings of the railroad exist adjacent to the project site: at Richards Boulevard, Putah Creek, and I-80. The project includes a fourth crossing to connect to Old Davis Road and the UC Davis Campus.

The City of Davis is served by two passenger rail lines along the UPRR line: the Capitol Corridor and Coast Starlight. The Capitol Corridor serves interregional trips between the Sacramento area and the Bay Area. It provides 30 trains on weekday and 22 trains on weekends. Most trains originate in Sacramento and travel to either Oakland or San Jose (via Oakland); two trains per day continue northeast to Auburn. The Coast Starlight serves long distance trips between Seattle, WA and Los Angeles, CA. It provides two trains per day through Davis.

According to the Federal Railroad Administration (website at: http://safetydata.fra.dot.gov/officeofsafety/publicsite/crossing/xingqryloc.aspx), this line is used by an average of 42 trains per day, including both passenger and freight rail.

4.14.2 Regulatory Setting

FEDERAL

There are no federal plans, policies, regulations, or laws related to transportation and circulation that would affect the project.

STATE

California Department of Transportation

The California Department of Transportation (Caltrans) is responsible for planning, designing, constructing, operating, and maintaining all State-owned roadways in Yolo County. Federal highway standards are implemented in California by Caltrans. Any improvements or modifications to the State highway system within the City of Davis need to be approved by Caltrans. The City of Davis does not have the ability to unilaterally make improvements to the State highway system.

Caltrans' *Guide for the Preparation of Traffic Impact Studies* (December 2002) provides guidance on the evaluation of traffic impacts to State highway facilities. The document outlines when a traffic impact study is needed and what should be included in the scope of the study.

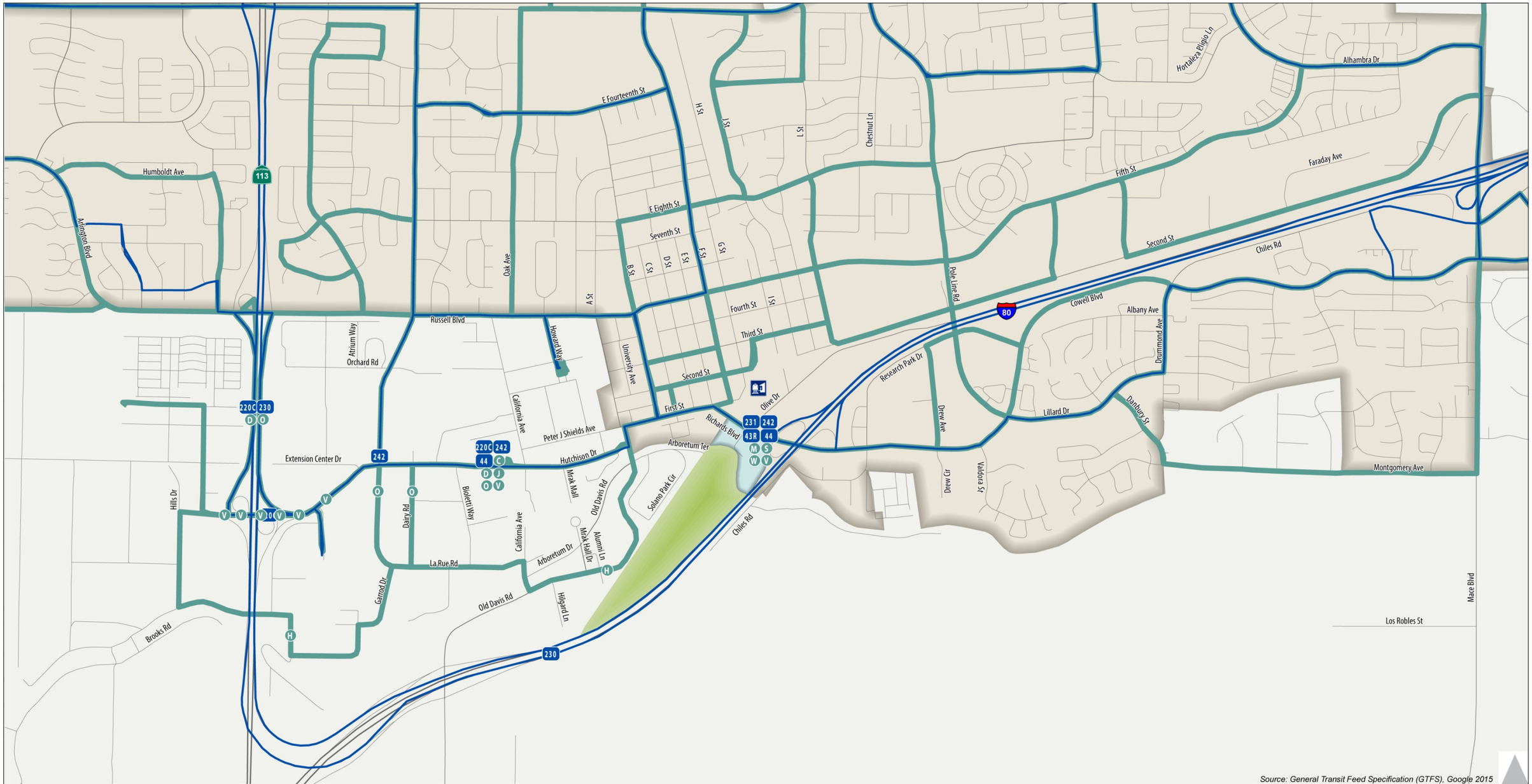


Figure 4.14-6

Existing Transit Facilities

LOCAL

Sacramento Area Council of Governments

The Sacramento Area Council of Governments (SACOG) is an association of local governments from six counties and 22 cities within the Sacramento Region. The counties include El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba. SACOG is responsible for the preparation of, and updates to, the Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) for the region and the corresponding Metropolitan Transportation Improvement Program (MTIP). The MTP/SCS provides a 20-year transportation vision and corresponding list of projects. The MTIP identifies short-term projects (7-year horizon) in more detail. The 2035 MTP/SCS was adopted by the SACOG board in 2012.

Davis General Plan

The City of Davis General Plan Transportation Element was updated in 2013. The following goals and policies related to transportation and circulation would be applicable to the project:

- **Policy TRANS 1.6:** Reduce carbon emissions from the transportation system in Davis by encouraging the use of non-motorized and low carbon transportation modes.

- **Policy TRANS 1.7:** Promote the use of electric vehicles and other low-polluting vehicles, including Neighborhood Electric Vehicles (NEV).

- **Policy TRANS 1.8:** Develop and maintain a work trip-reduction program designed to reduce carbon emissions, criteria pollutants, and local traffic congestion.

- **Policy TRANS 2.1:** Provide Complete Streets to meet the needs of drivers, public transportation vehicles and riders, bicyclists, and pedestrians of all ages and abilities in all transportation planning, programming, design, construction, reconstruction, retrofit, operations, and maintenance activities and products. The City shall view all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in Davis, and recognizes bicycle, pedestrian, fixed-route transit, and demand-response para transit modes as integral elements of the transportation system along with motor vehicles.

- **Policy TRANS 2.2:** Implement state-of-the-art street design solutions to improve bicycle/pedestrian access, comfort, and safety that may include:

  - Bicycle boxes at intersections
  - Cycletracks
  - Shared lane markings (sharrows)
  - Contraflow bicycle lanes
  - Improved bicycle detection at intersections
  - Two-stage turn queue boxes
  - Colored bicycle lanes
  - Bicycle route wayfinding

- **Policy TRANS 2.3:** Apply best practices in sustainability to new streets and redesigns of existing streets/corridors.

- **Policy TRANS 2.4:** As part of the initial project review for any new project, a project-specific traffic study may be required. Studies shall identify impacted transportation modes and recommend mitigation measures designed to reduce these impacts to acceptable levels.

- **Policy TRANS 2.7:** Minimize impacts of vehicle traffic on local streets to maintain or enhance livability of the neighborhoods. Consider traffic calming measures along collector and minor arterial streets, where

appropriate and feasible, to slow speeds. Examples of assorted traffic calming measures are shown in Figure 3.

- **Policy TRANS 2.8:** Improve the function, safety, and appearance of [the following] selected corridors….[:]

  1) Anderson Road – Russell Boulevard to Covell Boulevard
  2) Chiles Road – Drummond Avenue to east city limit
  3) Covell Boulevard – Pole Line Road to F Street
  4) Covell Boulevard – F Street to State Route 113
  5) Covell Boulevard – State Route 113 to west city limit
  6) Cowell Boulevard – I-80 to Drummond Avenue
  7) Eighth Street – B Street to Pole Line Road
  8) E Street – First Street to Third Street
  9) F Street – Fifth Street to Covell Boulevard
  10) Fifth Street - B Street to L Street and Russell Boulevard – A Street to B Street
  11) Fifth Street – L Street to Cantrill Drive
  12) First Street and B Street – Richards Boulevard to Russell Boulevard
  13) L Street – 2nd Street to Covell Boulevard
  14) Lillard Drive – Cowell Boulevard to Drummond Avenue
  15) Loyola Drive – Pole Line Road to Mace Ranch
  16) Mace Boulevard – Harper Junior High to I-80
  17) Mace Boulevard – I-80 to south city limit
  18) Olive Drive – West end to east end
  19) Pole Line Road – Covell Boulevard to north city limit
  20) Pole Line Road – I-80 to Covell Boulevard (upgrades)
  21) Richards Boulevard – First Street to I-80
  22) Russell Boulevard – A Street to State Route 113
  23) Russell Boulevard – State Route 113 to west city limit

- **Policy TRANS 2.10:** Prohibit through truck traffic on streets other than identified truck routes shown in [the Transportation Element].

- **Policy TRANS 3.1:** Facilitate the provision of convenient, reliable, safe, and attractive fixed route, commuter, and demand responsive public transportation that meets the needs of the Davis community, including exploring innovative methods to meet specialized transportation needs.

- **Policy TRANS 3.3:** Require new development to be designed to maximize transit potential.

- **Policy TRANS 4.2:** Develop a continuous trails and bikeway network for both recreation and transportation that serves the Core, neighborhoods, neighborhood shopping centers, employment centers, schools and other institutions; minimize conflicts between pedestrians, bicyclists, equestrians, and automobiles; and minimize impacts on wildlife. Greenbelts and separated bike paths on arterials should serve as the backbone of much of this network.

- **Policy TRANS 4.5:** Establish and implement bicycle parking standards for new developments and significant redevelopment.

- **Policy TRANS 4.7:** Develop a system of trails around the edge of the city and within the city for recreational use and to allow pedestrians and bicyclists to reach open space and natural areas.

- **Policy TRANS 5.1:** Use parking management techniques to efficiently manage motor vehicle parking supply and promote sustainability.

- **Policy TRANS 5.2:** Existing and future off-street parking lots in development should contribute to the quality of the urban environment and support the goals of this chapter to the greatest extent possible.

Davis Trip Reduction Ordinance

Transportation Demand Management

Article 22.15 of the Davis Municipal Code establishes transportation system management requirements for employers located in the city. These requirements "promote alternative commute modes and reduce the total number of vehicle trips." The purpose of the requirements is to promote commuting options and to reduce vehicular trips. Major employers having 100 or more employees are required to file a Transportation Management Plan with a goal to reach an average of 1.5 employees per automobile during the peak commuting period. Employers with fewer than 100 employees and apartment complexes shall distribute and post information on commute alternatives. The Yolo Transportation Management Association serves as a clearinghouse for information, coordination and marketing of all transportation commuting options.

4.14.3 Impacts and Mitigation Measures

SIGNIFICANCE CRITERIA

This section describes the thresholds or criteria that determine whether the project causes a significant impact on the roadway, bicycle, pedestrian, or transit systems. These thresholds are based on policies from the City of Davis General Plan and recommended/example thresholds from the CEQA guidelines. Since several study road segments and intersections are located on the UC Davis campus and thus not within the City of Davis, the standards of significance applied by UC Davis are also described.

According to CEQA Guidelines, a project results in a significant impact if it conflicts with applicable plans, ordinances, or policies establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation and relative components of the circulation system. To evaluate a broad range of travel characteristics, the following standards of significance apply to the transportation impacts discussed in this traffic study.

Standard of Significance #1. Intersections and Local Roadways

The following significance criteria are used to identify operational deficiencies based on the intersection or roadway Level of Service (LOS) analysis (note criteria are categorized by jurisdiction):

a) Per the City of Davis General Plan, LOS E is the minimum acceptable LOS; LOS F is acceptable for the City for the Davis Core Area (LOS F is acceptable and considered a "congested condition" during peak traffic hours for Core Area and Richards Boulevard/Olive Drive intersections).

b) Per the 2003 Long Range Development Plan (LRDP), LOS D is the minimum acceptable LOS for UC Davis.

c) Per the 2009 Yolo County General Plan, LOS C is the minimum acceptable LOS in the unincorporated county, except as specified on designated roadways.

City of Davis

For the purposes of this traffic study, significant traffic impacts at intersections within the City of Davis jurisdiction would occur when 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 a.m. or p.m. peak hour) to an unacceptable level (LOS F in the a.m. or p.m. 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 a.m. or p.m. peak hour) to an unacceptable level (LOS F in the a.m. or p.m. 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 a.m. or p.m. 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.

UC Davis

For the purposes of this traffic study, significant traffic impacts at intersections within the UC Davis campus jurisdiction are defined when the addition of project traffic causes any of the following:

a) For signalized intersections, cause peak hour intersection operations to deteriorate from an acceptable level (LOS D) to an unacceptable level (LOS E or worse);

b) For unsignalized intersections, cause the average of all movements to deteriorate from an acceptable level (LOS D) to an unacceptable level and meet the MUTCD peak hour signal warrant; or

c) For signalized and unsignalized intersections that operate unacceptably without the project, add 10 or more peak hour vehicles to the intersection's volume.

Standard of Significance #2. Freeways

For Caltrans facilities (I-80 and State Route 113), freeway operations are evaluated based on their mainline volume density. Freeway segments with peak hour volumes that do not exceed capacity (LOS E) are generally considered acceptable. For the purposes of this analysis, significant traffic impacts on freeway segments are defined when the addition of project traffic causes either of the following to occur:

a) The operating level of a freeway segment to deteriorate from LOS E (or better) to LOS F; or

b) The traffic volume on a freeway segment already operating at LOS F, without the project, increases by more than five percent.

Standard of Significance #3. Other Transportation Considerations

The project is considered to result in a significant impact if any of the following conditions occur:

a) The project significantly increases traffic on local residential streets due to direct connections provided by those streets between the project site and key arterials;

b) The project does not provide for adequate emergency vehicle access and on-site circulation;

c) Construction-related traffic causes significant intersection impacts as defined by the traffic system criteria described above;

d) The project does not minimize vehicle miles travelled growth in accordance with City goals; or

e) Conflict, or create an inconsistency, with any applicable plan, policy, or regulation adopted for the purpose of avoiding or mitigating environmental effects related to transportation/traffic.

Standard of Significance #4. Transit, Pedestrian and Bicycle Facilities

The project is considered to result in a significant transit, bicycle, and/or pedestrian impact if:

a) The project conflicts with existing, planned, or possible future transit, bicycle, and/or pedestrian facilities and services;

b) The project conflicts with public transit services or creates demand for public transit services above that which is provided, or planned; or

c) The project does not provide connections to bicycle and pedestrian circulation systems of the surrounding area.

METHODS AND ASSUMPTIONS

The analysis methodology provided in the traffic analysis, prepared for the project by Fehr & Peers Transportation Consultants, is discussed below.

Components of the Nishi Sustainability Implementation Plan That Could Affect Project Impacts

The following components of the Nishi Sustainability Plans are considered applicable to the evaluation of environmental impacts related to transportation and circulation:

Goal 2: Strive for carbon neutral transportation through the use of innovative designs, infrastructure, technologies, and programs.

- **Objective 2.1:** Reduce automobile dependency and reduce vehicle trips generated within the District by 10 percent compared to original project trip generation forecasts, working towards the communitywide goal of achieving 50 percent non-single-occupancy-vehicle (SOV) mode share for residential and commercial development by 2035.
- **Objective 2.2:** Achieve a 20 percent reduction in project-related vehicle miles traveled (VMT), compared to original project VMT forecasts.
- **Objective 2.3:** Achieve maximum connectivity and safety for pedestrians, bicyclists, and transit users.
- **Objective 2.4:** Incentivize the use of clean, energy-efficient, active (i.e., human powered), and economically sustainable means of travel.
- **Objective 2.5:** Achieve an average vehicle ridership (AVR)[1] of 1.5 for peak period commute trips by employees of the project office uses.

Goal 5: Create synergy with other project design goals and existing community sustainability initiatives.

- **Objective 5.2:** Ensure appropriately sited and programmed open spaces and parks, in order to meet the recreational needs of new residents and workers while maximizing habit connectivity, public health, connectivity, and stormwater management.

Impact Analysis Methodology

The following analysis scenarios are included in this chapter:

- Existing Conditions: presents operating conditions as of fall 2014. Existing Conditions represents the baseline condition, upon which project impacts are evaluated.
- Existing plus Project Conditions: evaluates the project-specific effects of the project.

[1] Average Vehicle Ridership (AVR) shall be determined by dividing the employee population at the work site, that report to work during the a.m. peak period, by the number of single-occupant autos (that have not dropped off employees at other work sites en route) driven by these employees commuting from home to the work site during these hours. Zero emission vehicles will be excluded from the count.

The Cumulative No Project and Cumulative plus Project scenarios are evaluated in Chapter 5, "Cumulative Impacts," of this EIR.

Intersections

The a.m. and p.m. peak hour intersection operations are used to assess the impacts of the project relative to existing conditions (i.e., Existing and Existing Plus Project operations are assessed). Isolated intersection analysis is used for most study intersections, and multi-intersection simulation is used at intersections within the Richards Boulevard interchange area.[2]

For most of the study intersections, LOS is assessed using the Synchro 8.0 software, which applies the 2010 HCM methodology to isolated intersections. For the intersections in the Richards Boulevard interchange influence area, the VISSIM software was used to simulate operations. Use of the VISSIM simulation model allows the analysis of the signalized intersections as an interconnected roadway network, which yields a more accurate assessment of the vehicle interactions and queuing issues. For intersections analyzed with VISSIM, the LOS is reported for each intersection.

To assess the current peak hour service levels at the study intersections, peak period intersection volume counts of vehicles, bicycles and pedestrians were collected in October 2014, and used to determine the study area peak hours, which are 7:45 – 8:45 a.m. and 4:30 – 5:30 p.m. Additional volume and lane configurations are available in Appendix I to this EIR.

Freeway Mainline

Using the latest available peak hour traffic volumes obtained from the Caltrans PeMS database (www.pems.dot.ca.gov), the vehicle densities and service levels were calculated. a.m. and p.m. peak hour freeway volumes, vehicle densities and level of service are assessed for Existing and Existing Plus Project scenarios.[3]

Existing Plus Project Scenario

As described in Chapter 3, "Project Description," of this EIR, the project is composed of 325,000 square feet (sf) of research and development office space; 650 multi-family residential units including 440 rental and 210 for sale units; and 20,000 sf of supporting retail space.

This transportation assessment evaluates two different project access scenarios as described below:

- Access Scenario 1 (two project access points)
  - Access via an extension of the existing West Olive Drive
  - Access via a new connection to Old Davis Road on the UC Davis campus, via a new underpass under the UPRR line

- Access Scenario 2 (one project access point)
  - Access via an extension of the existing West Olive Drive

The project also includes a rezoning to Planned Development (P-D) for the 10.8-acre West Olive Drive area. This zoning designation allows for project-specific regulations to enable a diverse mix of uses. Combined with the new land use designation for West Olive Drive, approximately 55,900 sf of new commercial uses are anticipated to occur and evaluated at a programmatic level. The new commercial uses were assumed to be comprised of 14,650 sf of office use, 29,250 sf of retail uses, and 12,000 sf of auto service uses based on land use data by parcel provided by City of Davis staff. Because the evaluation of traffic impacts is assessed based on a project's effects on discrete locations outside of the project and the fact that future growth within West Olive Drive and Nishi would generate project-related trips at these intersections together, the potential impacts of development of the Nishi site and redevelopment of West Olive Drive have been assessed as one in this section of the EIR.

[2] See Chapter 5, "Cumulative Impacts," for cumulative analysis where a.m. and p.m. peak hour roadway segment volumes and capacities are used to assess the impacts of the project relative to future cumulative conditions (i.e., 2035 No Project and 2035 With Project).

[3] Note: the cumulative freeway volume analysis is included in Chapter 5, *Cumulative Impacts*, of this EIR.

Chapter 3 contains a general description of the Nishi portion of the project site's internal vehicle circulation network, which would connect the above access points, allowing circulation to any point within the site from any access point. Chapter 3 also describes the internal pedestrian and bicycle network and amenities.

Travel Forecasting

The following discussion addresses forecasting for the Existing Plus Project case. See Chapter 5, *Cumulative Impacts*, for the 2035 Plus Project forecasting method.

Local Study Area

Intersection and roadway traffic forecasts for the local study area for the Existing Plus Project scenario were developed using the City of Davis travel demand model, which is a focused four-step model with a much more detailed roadway network and land use zone structure than the six-county regional model developed by SACOG (the "SACMET" model). The land use forecasts for the base year for the City model were updated by Fehr & Peers to reflect 2008 conditions, which is the same base year for the regional travel model that reflects the current version of the MTP/SCS.

To develop Existing Plus Project traffic forecasts, the Nishi Gateway Project and additional development in the West Olive Drive area were incorporated into the base year of the City model. Intersection and roadway volumes were developed using the difference method procedure, which adds the growth in traffic between the base year and the base year plus project forecasts to existing volumes.

Forecasts of project VMT was estimated by utilizing a combination of vehicle trip generation estimates as well as trip length data based on household locations in the *Economic Evaluation of Innovation Park Proposals* (BAE, March 2015), California Household Travel Survey data, and census data. This provides a full accounting of VMT generated by the project.

The travel model assigns most of the external vehicle trips generated by the Nishi Gateway project to the I-80/Richards Boulevard interchange given the proximity of the interchange to the project. For project Access Scenario 1, which includes a new connection to the UC Davis campus, some external project trips from the Nishi Gateway project would use the I-80/Old Davis Road interchange. Some vehicle trips generated by the campus will use the new connector and the internal Nishi project streets to access the I-80/Richards Boulevard interchange as an alternate route to using First Street through Downtown Davis.

Project Trip Generation

The trip generation of the project is based on the following three-step process. The approach reflects the projected mode share based on the location of the project (i.e., both the project's central location in Davis as well as its proximity to UC Davis and Downtown Davis) as well as the mix of land uses (i.e., combination of housing and employment). The approach does not assume any additional travel demand reductions that are described in the Nishi Gateway Sustainability Plan. As described below, this process considers internal trips and external trips made by all travel modes:

- **Step 1** – Estimate gross trip generation of proposed land uses.
- **Step 2** – Estimate expected internalization of trips between complementary land uses.
- **Step 3** – Calculate number of external project trips made by walking, bicycling, or transit, with the remainder being external vehicle trips.

The SACSIM travel demand model, which was developed by SACOG, estimates that the City of Davis has a combined bike/walk/transit mode share of 27 percent for the total number of person trips generated throughout the City. Various data sources show that 19 to 22 percent of Davis residents bicycle to work and about 2.5 percent of Davis residents take transit to work. In contrast, the Sacramento region's average was 8.7 percent for these three modes. This information provides strong evidence that adjustments to trip generation rates are justified to account for the greater levels of walking, biking, and transit that occurs

within the Davis community versus typical suburban areas from which trip rates (to be presented below) were originally derived.

Step 1 – Estimate Gross Trip Generation

Table 4.14-8a shows the gross trip generation associated with build-out of the Nishi Gateway Project using trip rates from Trip Generation (Institute of Transportation Engineers [ITE] 2008), as well as the City of Davis Traffic Model (*City of Davis Travel Demand Model Development Report*, Fehr & Peers 2003).

For the office employment uses, as well as the multi-family market residential uses, rates from Trip Generation (Institute of Transportation Engineers 2008) are applied and then adjusted for internalization. The trip generation forecasts for the rental units assume that 85 percent are occupied by UC Davis students. The trip generation for student housing is based on trip generation surveys for student apartment housing on the UC Davis campus. For the ancillary retail uses, because no separate parking is provided and these retail establishments are internal to the office/housing units and intended for use by residential and employees only, no additional vehicle trips are added.

Table 4.14-8a Proposed Nishi Gateway Project Trip Generation[1]

Land Use	Quantity	Units[2]	Daily Trips	a.m. Peak Hour Trips			p.m. Peak Hour Trips		
				In	Out	Total	In	Out	Total
R&D/Research Office	325	ksf	2,636	329	67	397	52	296	348
Residential – Students in Rental Units	1,275	students	2,754	79	11	89	35	169	204
Residential – Market Rental and For Sale Units	298	units	1,833	25	99	124	105	45	150
Gross Trips			7,223	432	177	610	192	510	702
Internal Trips[3]			429	32	13	45	13	35	48
New (External) Trips[4]			6,794	401	164	565	179	475	653

Notes:

1 Trip Rates based on data from ITE Trip Generation for R&D/Research Office uses and multi-family market residential rates, and from UC Davis studies of student apartments for the portion of the residential apartments designated for students. For Ancillary Retail uses, because no separate parking is provided and these retail establishments are internal to the office/housing units and intended for use by residential and employees only, no additional vehicle trips are added.

2 ksf = 1,000 square feet.

3 Internal Trips estimated based on mixed-use trip generation model results, reflecting trips between R&D office and Residential uses.

4 Includes external trips made by vehicle, walk, bike, and transit. Refer to following text and table for estimated split for each mode.

Step 2 – Estimate Internal Trip Capture and Pass-by Traffic

The expected internalization of trips generated by complementary land uses within the project site was estimated based on the Mixed-Use (MXD) Trip Generation Model, which was developed by Fehr & Peers and several academic researchers in association with the U.S. Environmental Protection Agency[4]. Although an internal trip calculation methodology is contained in Trip Generation Handbook (ITE 2004), it was not used in this instance because the MXD model is based on more extensive and current data.

The model estimates the percentage of daily and peak hour trips that remain internal to a project site, as well as external transit, walk, and vehicle mode splits. The model was developed from surveys of residents and employees in 240 mixed-use projects in six major metropolitan areas (Sacramento, Houston, Boston, Atlanta, Portland, and Seattle) in the United States. A set of 15 independent mixed use sites that were not included in the initial model were tested to validate the model. It should be noted that an alternative approach for estimating walk/bike trips (described on the following page) was used instead of the MXD model given the unique bicycling and walking environment within the City of Davis.

[4] *Traffic Generated by Mixed-Use Developments-Six-Region Study Using Consistent Built Environment Measures*, Ewing, R (University of Utah), Greenwald M. (Lane Council of Governments, Eugene, OR), Zhang M. (University of Texas), Walters J. (Fehr & Peers), Feldman M. (Fehr & Peers), Cervero R. (U.C. Berkeley), Frank L. (University of British Columbia), and Thomas J. (U.S. E.P.A.), A.S.C.E. Journal of Urban Planning and Development, October 2010.

As shown in Table 4.14-8a, the Nishi Gateway project would generate about 565 a.m. peak hour trips, 650 p.m. peak hour trips, and 6,790 daily trips before considering external trips made by non-auto travel modes.

Step 3 – Estimate External Trips by Travel Mode

Table 4.14-4b shows the expected number of external trips by travel mode for the Nishi Gateway project. The Bike/Walk and Transit mode shares range between 25-30 percent, and vary slightly between Access Scenario 1 and Access Scenario 2. Access Scenario 1 has a new connection to the UC Davis campus, and Unitrans staff has indicated that they would use to provide direct service to the Nishi Gateway project (with either Route M or W) with a new stop internal to the project under this scenario. As such, Access Scenario 1 has a higher transit share than Access Scenario 2 (5 percent vs. 2.5 percent). Access Scenario 2 has a slightly higher bike share, as those not using transit are assumed to use bikes to access the UC Davis Campus and Downtown Davis.

Table 4.14-8b External Nishi Gateway Project Trips by Travel Mode

Travel Mode	Daily	a.m. Peak Hour	p.m. Peak Hour
Total External Trips[1]	6,794	565	653
External Trips by Bike/Walk[2]	1,585/1,755	112/125	160/175
External Trips by Transit[3]	340/170	30/15	30/15
External Trips by Vehicle[4]	4,869	423	463

Notes:
[1] Source: Last row of Table 4.14-8a
[2] The bike/walk trips are listed first for Access Scenario 1 and second for Access Scenario 2.
[3] The transit trips are listed first for Access Scenario 1 and second for Access Scenario 2.
[4] External trips not estimated to walk, bike, or use transit would otherwise travel by vehicle.

After accounting for internal trips, pass-by trips, and external trips made by walking, bicycling, and transit, the project would generate about 425 new a.m. peak hour vehicle trips, 465 new p.m. peak hour vehicle trips, and 4,870 new daily vehicle trips.

Tables 4.14-8c and 8d present the same information for the West Olive Drive area development.

Table 4.14-8c Proposed West Olive Area Commercial Development Project Trip Generation[1]

Land Use	Quantity	Units[2]	Daily Trips	a.m. Peak Hour Trips			p.m. Peak Hour Trips		
				In	Out	Total	In	Out	Total
Office	14.65	ksf	256	32	4	36	7	27	33
Retail	29.25	ksf	1,770	42	28	71	62	62	124
Auto Service	12	ksf	450	43	7	23	14	22	36
Gross Trips			2,476	91	39	129	83	110	193
Internal Trips[3]			248	9	4	13	8	11	19
New (External) Trips[4]			2,228	81	35	116	75	99	174

Notes:
[1] Trip Rates based on data from City of Davis Travel Demand Model.
[2] ksf = 1,000 square feet.
[3] Internal vehicle trip adjustment of 10 percent between uses in the West Olive district.
[4] Includes external trips made by vehicle, walk, bike, and transit. Refer to following text and table for estimated split for each mode.

Table 4.14-8d External West Olive Area Commercial Development Trips by Travel Mode

Travel Mode	Daily	a.m. Peak Hour	p.m. Peak Hour
Total External Trips[1]	2,228	116	174
External Trips by Bike/Walk[2]	301	16	23
External Trips by Transit[3]	30	2	2
External Trips by Vehicle[4]	1,897	99	148

Notes:
1 Source: Last row of Table 4.14-8c
2 13.5 percent expected to be bike/walk based on the following methodology: 54 percent of employees are projected to live in Davis. 22 percent of current Davis residents bike to work. 3 percent of employees traveling to the site are estimated to walk to work.
3 1.35 percent are projected to take transit based on the following methodology: 54 percent of employees are projected to live in Davis. 2.5% of current Davis residents take transit to work.
4 External trips not estimated to walk, bike, or use transit would otherwise travel by vehicle.

ISSUES NOT EVALUATED FURTHER

No issues related to transportation and circulation have been eliminated from further discussion in this EIR.

PROJECT-SPECIFIC IMPACTS AND MITIGATION MEASURES

The project impacts on the transportation system are evaluated in this section based on the thresholds of significance and methodology described above. As noted above, the discussions and mitigation measures presented below apply to both the Nishi Gateway Project and West Olive Area development unless otherwise stated.

Impact 4.14-1: Impacts to local intersections outside freeway interchange areas.

Nishi Site and West Olive Drive

The addition of project-related traffic would increase delay at local intersections outside Freeway Interchange Areas under Access Scenario 1. While no local intersections would exceed City of Davis LOS standards, the intersection of Old Davis Road/La Rue Road within UC Davis campus under Access Scenario 1 would exceed significance thresholds. This would be a **significant** impact.

Tables 4.14-9 (Access Scenario 1) and 4.14-10 (Access Scenario 2) show the service levels for intersections outside the Richards Boulevard interchange area, with the addition of project traffic. The service levels for all intersections, including those within the interchanges areas, are also shown in Figures 4.14-7a and 4.14-7b for Access Scenario 1 and Figures 4.14-8a and 4.14-8b for Access Scenario 2.

According to Tables 4.14-9 (Access Scenario 1) and 4.14-10 (Access Scenario 2), for the non-Richards Boulevard interchange area intersections, all but one intersection, Old Davis Road/La Rue Road, is projected to operate at acceptable service levels with the addition of project traffic. The intersection of Old Davis Road/La Rue Road, which is currently controlled by a roundabout, is projected to fall from LOS C during the a.m. peak hour, without project traffic, to LOS E with project traffic in the a.m. peak hour, as shown below. It should be noted that under Access Scenario 2, the intersection of First Street/D Street would change from LOS C to LOS F during the p.m. peak hour with implementation of the project. However, LOS F conditions are considered acceptable within Downtown Davis, and this project-related change is not considered substantial.

Table 4.14-9 Existing Plus Project Access Scenario 1 - Peak Hour Levels of Service Outside Richards Boulevard Interchange Area

No.	Study Intersection	Traffic Control	Jurisdiction	Existing No Project				Existing Plus Project Access Scenario 1			
				a.m.		p.m.		a.m.		p.m.	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Fourteenth Street/F Street	Signal	City of Davis	10	B	9	A	10	B	9	A
2	Eighth Street/B Street	Signal	City of Davis	8	A	9	A	9	A	9	A
3	Eighth Street/F Street	Signal	City of Davis	10	B	13	B	11	B	12	B
4	Russell Boulevard/Sycamore Lane	Signal	City of Davis	30	C	12	B	24	C	12	B
5	Russell Boulevard/Anderson Road	Signal	City of Davis	20	C	23	C	28	C	23	C
6	Russell Boulevard/California Avenue	SSSC	City of Davis	11	B	15	B	11	B	15	B
7	Russell Boulevard/Howard Way	Signal	City of Davis	44	D	16	B	52	D	16	B
8	Russell Boulevard/A Street	Signal	City of Davis	5	A	6	A	5	A	7	A
9	Fifth Street/B Street	Signal	City of Davis	16	B	16	B	17	B	15	B
10	Fifth Street/F Street	Signal	City of Davis	17	B	26	C	52	D	26	C
11	Fifth Street/G Street	Signal	City of Davis	17	B	20	B	21	C	20	C
12	Fourth Street/F Street	AWSC	City of Davis	9	A	11	B	11	B	11	B
13	LaRue Road/Orchard Park Drive	Signal	UC Davis	5	A	15	B	5	A	15	B
14	Third Street/B Street	Signal	City of Davis	15	B	29	C	13	B	22	C
15	Third Street/F Street	AWSC	COD	8	A	11	B	10	A	12	B
16	Second Street/B Street	SSSC	City of Davis	13 (14)	B (B)	18 (24)	B (B)	16 (17)	C (C)	18 (27)	C (D)
17	Second Street/F Street	AWSC	City of Davis	8	A	9	A	8	A	9	A
18	First Street/A Street	SSSC	UC Davis	12	B	12	B	11	B	9	B
19	First Street/B Street	AWSC	City of Davis	11	B	14	B	12	B	13	B
20	First Street/D Street	Signal	City of Davis	6	A	21	C	6	A	18	B
22	First Street/F Street	AWSC	COD	9	A	11	B	10	A	10	A
23	LaRue Road/Hutchison Drive	Signal	UC Davis	7	A	10	A	6	A	10	A
24	Old Davis Road/Hutchison Drive	AWSC	UC Davis	9	A	10	B	8	A	11	A
30	Cowell Boulevard/Drew Avenue	Signal	City of Davis	15	B	16	B	17	B	14	B
31	Cowell Boulevard/Valdora Street	Signal	City of Davis	14	B	14	B	14	B	13	B
32	Cowell Boulevard/Pole Line Road	Signal	City of Davis	24	C	16	B	16	B	15	B
34	Cowell Boulevard/Research Park Drive	SSSC	City of Davis	12 (12)	B (B)	13 (16)	B (C)	12 (12)	B (B)	15 (15)	B (B)
35	Cowell Boulevard/Drummond Avenue	AWSC	City of Davis	10	B	12	B	11	B	12	B
36	Lillard Drive/Danbury Street	AWSC	City of Davis	9	A	10	A	10	A	9	A
37	Lillard Drive/Drummond Avenue	AWSC	City of Davis	9	A	8	A	8	A	8	A
38	LaRue Road/Garrod Drive	SSSC	UC Davis	9	A	9	A	8	A	10	A
39	LaRue Road/Dairy Road	SSSC	UC Davis	12	B	13	B	10	B	12	B
40	LaRue Road/Bioletti Way	SSSC	UC Davis	13	B	13	B	13	B	13	B
41	LaRue Road/California Avenue	AWSC	UC Davis	12	B	10	B	16	C	10	C
42	Old Davis Road/I-80 EB Ramps	AWSC	UC Davis	11	B	11	B	13	B	11	B

Table 4.14-9 Existing Plus Project Access Scenario 1 - Peak Hour Levels of Service Outside Richards Boulevard Interchange Area

No.	Study Intersection	Traffic Control	Jurisdiction	Existing No Project				Existing Plus Project Access Scenario 1			
				a.m.		p.m.		a.m.		p.m.	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
43	Old Davis Road/I-80 WB Ramps	AWSC	UC Davis	13	B	8	A	18	C	8	C
44	Old Davis Road/La Rue Road	Roundabout	UC Davis	16	C	11	B	35	E	11	B
45	Old Davis Road/Hilgard Lane	TWSC	UC Davis	13	B	21	C	11	B	19	B
46	Old Davis Road/Mrak Hall Drive	Signal	UC Davis	12	B	11	B	12	B	11	B
47	Old Davis Road/Alumni Lane	SSSC	UC Davis	9	A	9	A	9	A	9	A
48	Old Davis Road/Hyatt Place	TWSC	UC Davis	10	A	10	B	11	B	12	B

Notes:

1. Traffic Control: AWSC = all-way stop control; SSSC = side street stop control; Signal = traffic signal

2. Signals and all-way stops: LOS based on average control delay in seconds. Side street stop controlled intersections: LOS given for the average intersection followed by the worst side-street movement in parentheses.

3. Sub-standard LOS shown in **bold**; significant impact indicated by shading. If signal warrant is met, the entry is *italicized.*

Table 4.14-10 Existing Plus Project Access Scenario 2 - Peak Hour Levels of Service Outside Richards Boulevard Interchange Area

No.	Study Intersection	Traffic Control	Jurisdiction	Existing No Project				Existing Plus Project Access Scenario 2			
				a.m.		p.m.		a.m.		p.m.	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Fourteenth Street/F Street	Signal	City of Davis	10	B	9	A	10	B	9	A
2	Eighth Street/B Street	Signal	City of Davis	8	A	9	A	8	A	9	A
3	Eighth Street/F Street	Signal	City of Davis	10	B	13	B	11	B	13	B
4	Russell Boulevard/Sycamore Lane	Signal	City of Davis	30	C	12	B	32	C	12	B
5	Russell Boulevard/Anderson Road	Signal	City of Davis	20	C	23	C	21	C	23	C
6	Russell Boulevard/California Avenue	SSSC	City of Davis	11	B	15	B	11	B	15	C
7	Russell Boulevard/Howard Way	Signal	City of Davis	44	D	16	B	52	D	16	B
8	Russell Boulevard/A Street	Signal	City of Davis	5	A	6	A	5	A	7	A
9	Fifth Street/B Street	Signal	City of Davis	16	B	16	B	17	B	15	B
10	Fifth Street/F Street	Signal	City of Davis	17	B	26	C	17	B	25	C
11	Fifth Street/G Street	Signal	City of Davis	17	B	20	B	18	B	20	B
12	Fourth Street/F Street	AWSC	City of Davis	9	A	11	B	8	A	11	B
13	LaRue Road/Orchard Park Drive	Signal	UC Davis	5	A	15	B	5	A	15	B
14	Third Street/B Street	Signal	City of Davis	15	B	29	C	15	B	27	C
15	Third Street/F Street	AWSC	COD	8	A	11	B	8	A	12	B
16	Second Street/B Street	SSSC	City of Davis	13 (14)	B (B)	18 (24)	B (B)	13 (14)	B (B)	19 (26)	C (D)
17	Second Street/F Street	AWSC	City of Davis	8	A	9	A	8	A	10	B

Table 4.14-10 Existing Plus Project Access Scenario 2 - Peak Hour Levels of Service Outside Richards Boulevard Interchange Area

No.	Study Intersection	Traffic Control	Jurisdiction	Existing No Project				Existing Plus Project Access Scenario 2			
				a.m.		p.m.		a.m.		p.m.	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
18	First Street/A Street	SSSC	UC Davis	12	B	12	B	12	B	10	A
19	First Street/B Street	AWSC	City of Davis	11	B	14	B	11	B	15	C
20	First Street/D Street	Signal	City of Davis	6	A	21	C	6	A	108	**F**
22	First Street/F Street	AWSC	COD	9	A	11	B	9	A	10	B
23	LaRue Road/Hutchison Drive	Signal	UC Davis	7	A	10	A	7	A	11	B
24	Old Davis Road/Hutchison Drive	AWSC	UC Davis	9	A	10	B	9	A	9	A
30	Cowell Boulevard/Drew Avenue	Signal	City of Davis	15	B	16	B	14	B	17	B
31	Cowell Boulevard/Valdora Street	Signal	City of Davis	14	B	14	B	14	B	14	B
32	Cowell Boulevard/Pole Line Road	Signal	City of Davis	24	C	16	B	22	C	16	B
34	Cowell Boulevard/Research Park Drive	SSSC	City of Davis	12 (12)	B (B)	13 (16)	B (C)	12 (12)	B (B)	13 (14)	B (B)
35	Cowell Boulevard/Drummond Avenue	AWSC	City of Davis	10	B	12	B	10	B	11	B
36	Lillard Drive/Danbury Street	AWSC	City of Davis	9	A	10	A	9	A	10	A
37	Lillard Drive/Drummond Avenue	AWSC	City of Davis	9	A	8	A	8	A	8	A
38	LaRue Road/Garrod Drive	SSSC	UC Davis	9	A	9	A	9	A	10	A
39	LaRue Road/Dairy Road	SSSC	UC Davis	12	B	13	B	12	B	13	B
40	LaRue Road/Bioletti Way	SSSC	UC Davis	13	B	13	B	12	B	13	B
41	LaRue Road/California Avenue	AWSC	UC Davis	12	B	10	B	11	B	10	A
42	Old Davis Road/I-80 EB Ramps	AWSC	UC Davis	11	B	11	B	11	B	11	B
43	Old Davis Road/I-80 WB Ramps	AWSC	UC Davis	13	B	8	A	13	B	8	A
44	Old Davis Road/La Rue Road	Roundabout	UC Davis	16	C	11	B	16	C	11	B
45	Old Davis Road/Hilgard Lane	TWSC	UC Davis	13	B	21	C	13	B	18	C
46	Old Davis Road/Mrak Hall Drive	Signal	UC Davis	12	B	11	B	12	B	10	B
47	Old Davis Road/Alumni Lane	SSSC	UC Davis	9	A	9	A	9	A	9	A
48	Old Davis Road/Hyatt Place	TWSC	UC Davis	10	A	10	B	10	A	12	B

Notes:

1. Traffic Control: AWSC = all-way stop control; SSSC = side street stop control; Signal = traffic signal

2. Signals and all-way stops: LOS based on average control delay in seconds. Side street stop controlled intersections: LOS given for the average intersection followed by the worst side-street movement in parentheses.

3. Sub-standard LOS shown in **bold**; significant impact indicated by shading. If signal warrant is met, the entry is *italicized.*

Project-related traffic would substantially increase delay and decrease LOS during the a.m. peak hour at the Old Davis Road/La Rue Road intersection under Access Scenario 1. As a result, impacts would be ***significant****.*

Mitigation Measures

Mitigation Measure 4.14-1: The project applicant shall fund the design and construction of modifications to the single lane roundabout at the intersection of Old Davis Road/La Rue Road. These modifications will consist of constructing a right-turn bypass lane from southbound La Rue Road to westbound Old Davis Road. Implementation of this mitigation measure will improve LOS to D or better. The roundabout design shall be reviewed and approved by the University before implementation. .

Significance after Mitigation

Implementation of this mitigation measure would improve LOS to D or better, which would be considered acceptable. While this mitigation measure would reduce the impact to a less-than-significant level, implementation requires future approval by the UC Davis. Since neither the project applicant nor the City of Davis can guarantee approval by UC Davis, this remains **significant and unavoidable**.

Impact 4.14-2: Impacts to intersections within the Richards Boulevard interchange area.

Nishi Site and West Olive Drive

The addition of project-related traffic would increase delay at local intersections within the Richards Boulevard Freeway Interchange Areas under Access Scenario 1. This is considered a **significant** impact.

Implementation of the project would increase traffic volumes within the Richards Boulevard Interchange Area, including the Richards Boulevard/Olive Drive, Richards Boulevard/I-80 Westbound Ramps, Richards Boulevard/Private Driveways, and Richards Boulevard/I-80 Eastbound Ramps intersections.,

Tables 4.14-11 (Access Scenario 1) and 4.14-12 (Access Scenario 2) shows the traffic simulation LOS results for the Richards Boulevard interchange area. With the addition of project traffic, service levels would deteriorate substantially, and peak queues would spill back in several locations to and beyond upstream intersections.

The following intersections would fall to LOS F with the addition of project traffic:

1. Richards Boulevard/Private Driveways
2. Richards Boulevard/ I-80 Westbound Ramps
3. Richards Boulevard/ I-80 Eastbound Ramps

While LOS at Richards Boulevard/Olive Drive would also fall to LOS F with the addition of project traffic, as shown in Figure 4.14-7, the City considers LOS F at this intersection to be acceptable.

*Project traffic would exceed the relevant threshold of significance for three freeway interchange area intersections. As a result, impacts would be **significant**.*

Figure 4.14-7a

Existing and Existing Plus Project a.m. Peak Hour LOS

Figure 4.14-7b

Existing and Existing Plus Project p.m. Peak Hour LOS

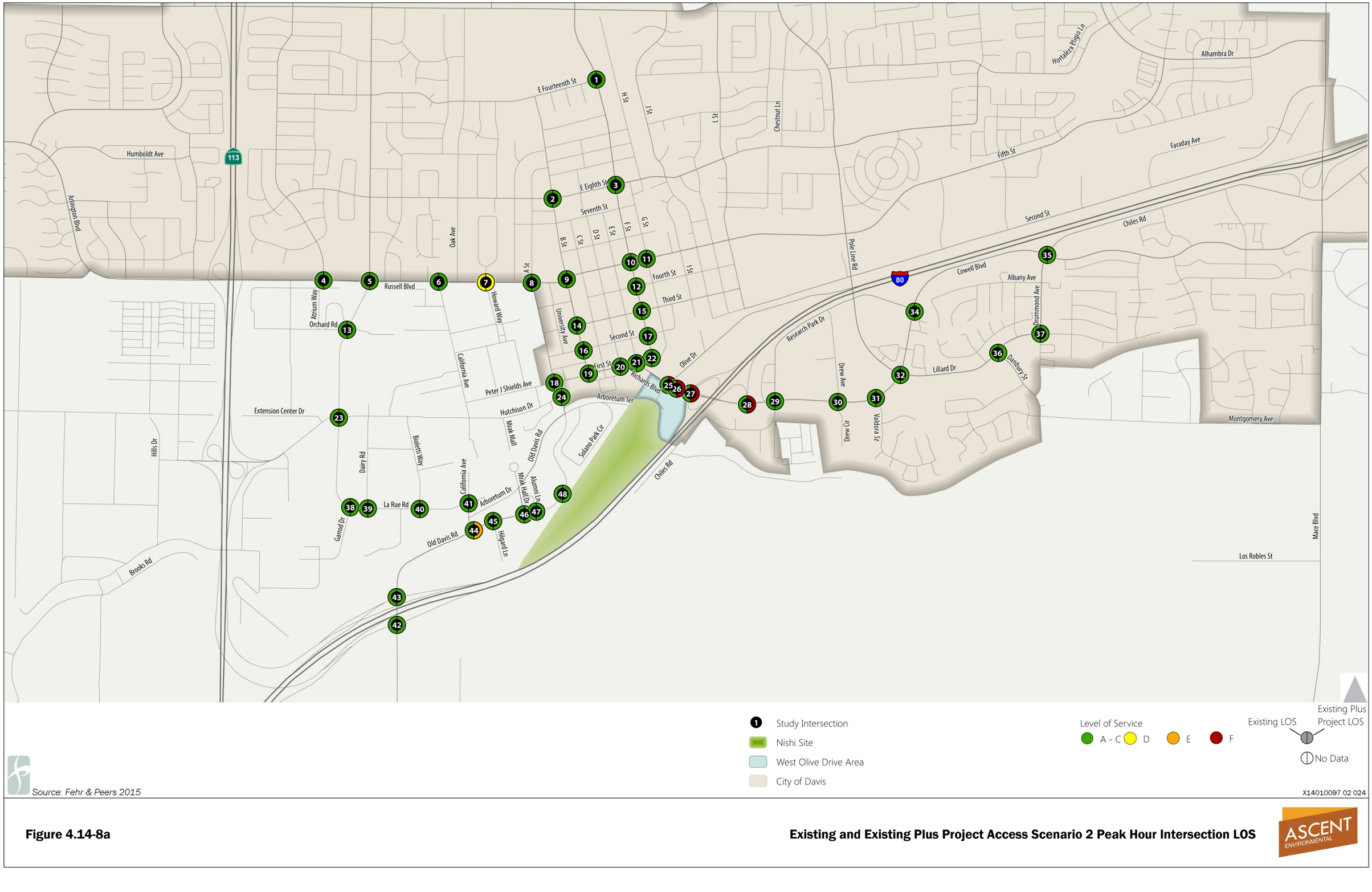


Figure 4.14-8a

Existing and Existing Plus Project Access Scenario 2 Peak Hour Intersection LOS

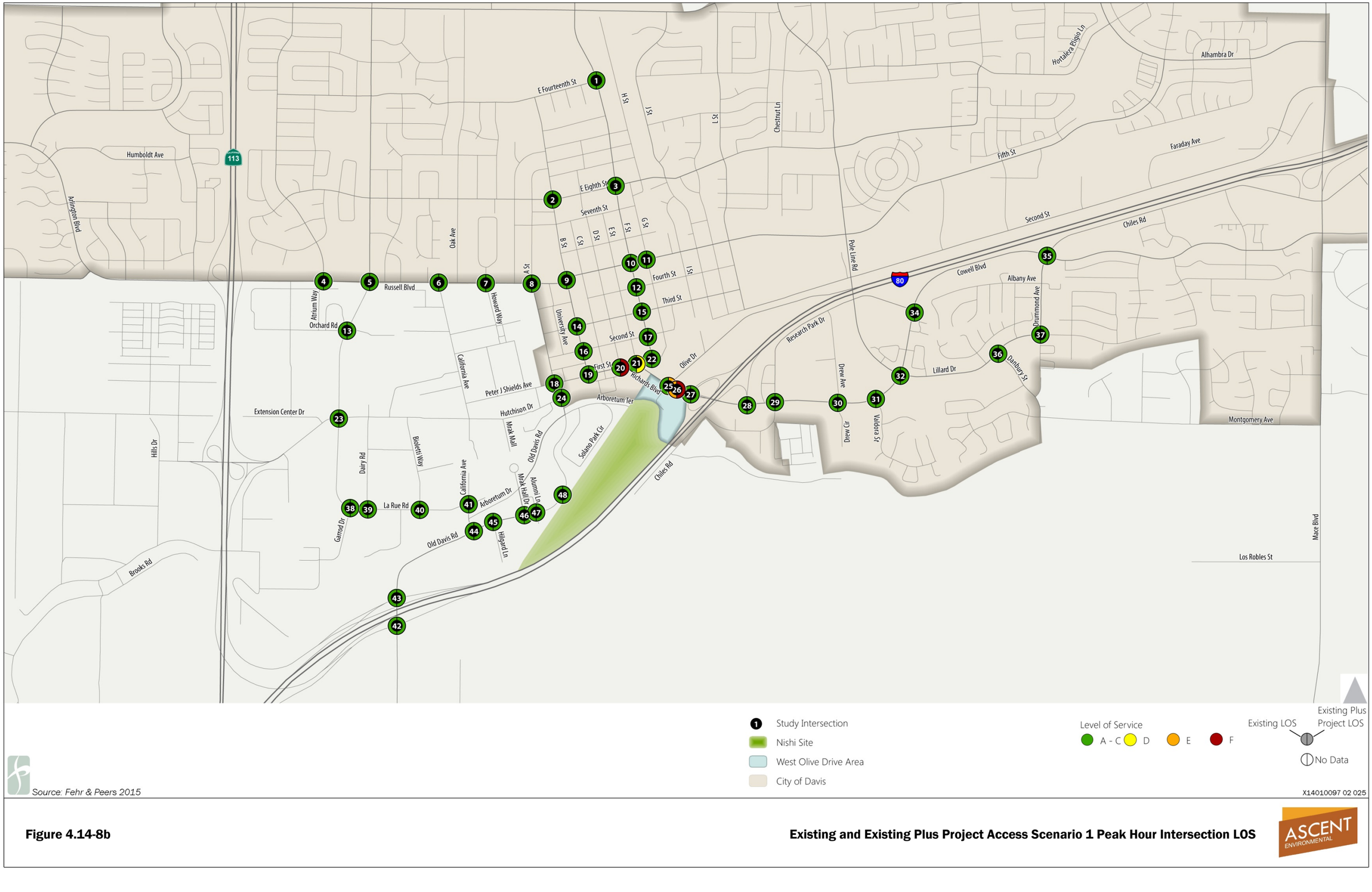


Figure 4.14-8b

Existing and Existing Plus Project Access Scenario 1 Peak Hour Intersection LOS

Table 4.14-11 Existing Plus Project Access Scenario 1 - Peak Hour Intersection Operations Richards Boulevard/I-80 Interchange Area

No.	Intersection	Control	Jurisdiction	Existing				Existing Plus Project Access Scenario 1			
				a.m. Peak		p.m. Peak		a.m. Peak		p.m. Peak	
				Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS
20	First Street/D Street	Signal	City of Davis	6.0	A	21.1	C	6.0	A	17.8	B
21	First Street/E Street	Signal	City of Davis	16.6	B	23.0	C	26.6	C	23.5	C
22	First Street/F Street	3-Way Stop	City of Davis	8.2	A	10.4	B	39.9	E	10.1	B
25	Richards Boulevard/Olive Drive	Signal	City of Davis	15.4	B	20.7	C	85	F	59.8	E
26	Richards Boulevard/Private Driveway	SSSC	City of Davis	15.5	C	36.8	E	156	F	82	F
27	Richards Boulevard/WB I-80 Ramps	Uncontrolled	City of Davis	3.6	A	6.9	A	363	F	20.4	C
28	Richards Boulevard/EB I-80 Ramps	Signal	City of Davis	29.3	C	29.1	C	125	F	28.7	C
29	Richards Boulevard/Research Park Drive	Signal	City of Davis	22.3	C	27.1	C	17.8	B	26.2	C

Notes:

1. Delay is reported in seconds per vehicle for the overall intersection for signalized intersections. Delay is reported in seconds per vehicle for the worst movement for unsignalized/uncontrolled intersections.

2. **Bold** – LOS below standard. Shading indicates significant impact.

Table 4.14-12 Existing Plus Project Access Scenario 2 - Peak Hour Intersection Operations Richards Boulevard/I-80 Interchange Area

No.	Intersection	Control	Jurisdiction	Existing				Existing Plus Project Access Scenario 2			
				a.m. Peak		p.m. Peak		a.m. Peak		p.m. Peak	
				Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS
20	First Street/D Street	Signal	City of Davis	6.0	A	21.1	C	6.4	A	108	F
21	First Street/E Street	Signal	City of Davis	16.6	B	23.0	C	15.2	B	54.2	D
22	First Street/F Street	3-way Stop	City of Davis	8.2	A	10.4	B	8.7	A	14.5	B
25	Richards Boulevard/Olive Drive	Signal	City of Davis	15.4	B	20.7	C	84.6	F	58.9	E
26	Richards Boulevard/Private Driveway	SSSC	City of Davis	15.5	C	36.8	E	60.9	F	52.4	F
27	Richards Boulevard/WB I-80 Ramps	Uncontrolled	City of Davis	3.6	A	6.9	A	363	F	11.2	B
28	Richards Boulevard/EB I-80 Ramps	Signal	City of Davis	29.3	C	29.1	C	145	F	27.9	C
29	Richards Boulevard/Research Park Drive	Signal	City of Davis	22.3	C	27.1	C	31.7	C	28.2	C

Notes:

1. Delay is reported in seconds per vehicle for the overall intersection for signalized intersections. Delay is reported in seconds per vehicle for the worst movement for unsignalized/uncontrolled intersections.

2. **Bold** – LOS below standard. Shading indicates significant impact.

Mitigation Measures

Mitigation Measure 4.14-2: The project applicant shall implement the following measures related to roadway and intersection widening within the Richards Boulevard interchange area.

Phase 1 Improvements

The project applicant shall either make a fair share contribution for the following Phase 1 improvements prior to initiation of construction of Phase 1 or conduct a focused traffic assessment to provide a more detailed assessment of the mitigation trigger timing.

- Richards Boulevard/Olive Drive:
  - Widen the south leg of Richards Boulevard to add a second northbound left turn lane (from northbound Richards to westbound Olive Drive) with a storage length of approximately 250 feet. Widen the north leg of Richards Boulevard to add a second southbound through/turn lane. The widening of the south leg may require some widening of the approach to the underpass and construction of new retaining walls to support the new turn lane. No modification of the existing underpass is required.
  - Widen the west leg of West Olive Drive to provide two westbound lanes and three eastbound lanes. The eastbound lanes on West Olive Drive at Richards Boulevard shall include a left turn lane, a through/right lane, and a right turn lane. On-street bike lanes, which may include either a sharrow (shared bike and vehicle lane) or dedicated bike lane, shall be provided on West Olive Drive.
- Richards Boulevard/Private Driveways: Place barriers in the median of Richards Boulevard to restrict driveway access, between West Olive Drive and the I-80 westbound ramps, to right-in, right-out movements only.
- Richards Boulevard/I-80 Westbound Ramps: Realign the westbound ramps to eliminate the two loop ramps to provide a diamond ramp configuration and install a traffic signal. Provide an exclusive left turn lane and two exclusive right turn lanes on the westbound off-ramp approach. Provide one through lane and two exclusive left turn lanes on the northbound approach. Provide two through lanes and an exclusive right turn lane on the southbound approach. The southbound right turn lane shall extend from just south of the existing Cafe Italia driveway to the new westbound on-ramp entrance.

Phase 2 Improvements

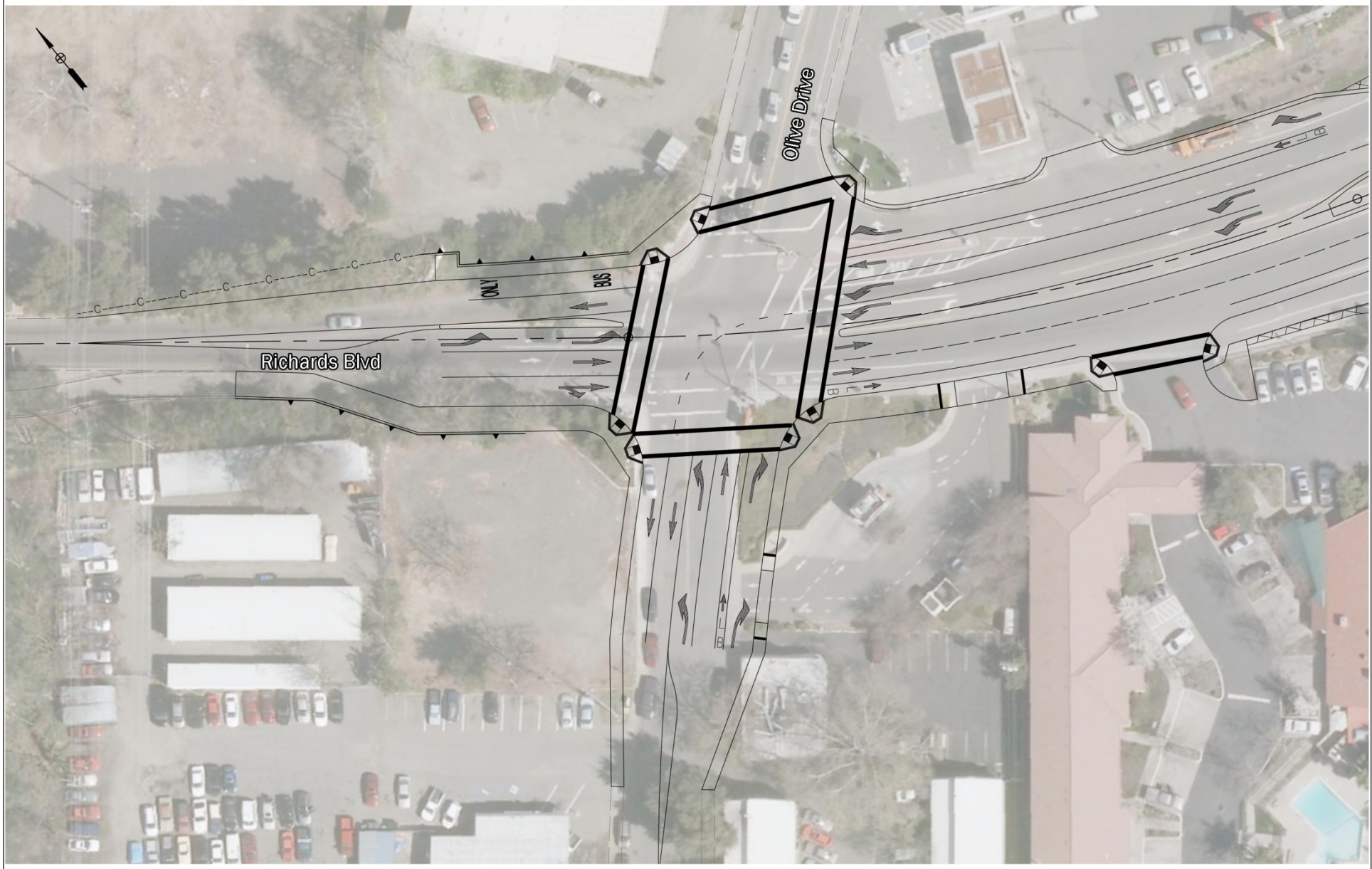
The project applicant shall contribute appropriate funds for the following Phase 2 improvements, which shall be constructed before occupancy of project uses that would generate fifty percent or more of the forecast project a.m. peak hour trips. Alternately, the project applicant may conduct a focused traffic assessment to provide a more detailed assessment of the mitigation trigger timing.

- Richards Boulevard/Eastbound Off-Ramp: Widen the eastbound off-ramp to provide a second exclusive left turn lane.
- Richards Boulevard Bicycle Cycle Track: construct a separated cycle track on the west side of Richards Boulevard from West Olive Drive to Research Park Drive.

Significance after Mitigation

The City is in the process of implementing improvements at the Richards Boulevard/Research Park Drive intersection that include the addition of a second southbound through lane, and this improvement was taken into consideration as part of the mitigated condition. With that improvement and implementation of the mitigation shown above, LOS E would be restored to the impacted intersections and impacts would be reduced to less than significant. Figure 4.14-9 illustrates the intersection of Richards Boulevard/West Olive Drive with implementation of Mitigation Measure 4.14-2. Refer to Section 4.5, "Cultural Resources" for a discussion of potential impacts to the underpass, which is considered a historic resource, as a result of implementation of this mitigation.

Modification of the I-80/Richards Boulevard interchange, including off-ramps, would require approval by Caltrans and is outside the purview of the City as lead agency. Further, Caltrans is currently considering improvements to the I-80/Richards Boulevard Interchange, which may or may not coincide with improvements necessary to reduce impacts of the project to less than significant levels. Because the approval of interchange improvements by Caltrans cannot be assured, the impact would remain **significant and unavoidable**.



Source: Mark Thomas & Company, Inc. 2015

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Figure 4.14-9 **Conceptual Design of Richards Boulevard at Olive Drive Improvements**

ASCENT ENVIRONMENTAL

Impact 4.14-3: Impacts to freeways.

Nishi Site and West Olive Drive

Implementation of the project would not contribute substantial traffic volumes to freeway segments in the area such that LOS of the freeway segments would be considered unacceptable. Impacts would be **less-than-significant**.

Tables 4.14-13 (Access Scenario 1) and 4.14-14 (Access Scenario 2) present the freeway operations within the local study area with the addition of project traffic. All freeway segments would operate at LOS D or better with addition of project traffic.

*Per threshold of significance #2, an impact to a freeway facility would be considered significant if the operating level of a freeway segment deteriorates from LOS E (or better) to LOS F. Because project traffic would not trigger this threshold, the Project would have a **less-than-significant** impact to freeways in the local study area.*

Mitigation Measures

No mitigation measures are required.

Table 4.14-13 Existing Plus Project Access Scenario 1 - Peak Hour Freeway Operations (Local Study Area)

Route	Direction	Segment	Existing				Existing Plus Project Scenario 1			
			a.m. Peak		p.m. Peak		a.m. Peak		p.m. Peak	
			Density	LOS	Density	LOS	Density	LOS	Density	LOS
BIC-80	Eastbound	Kidwell Road to SR-113 Junction	11	A	11	A	11	A	11	A
		Old Davis Road to Richards Boulevard	17	B	18	B	17	B	18	B
		Richards Boulevard to Mace Boulevard	20	C	22	C	20	C	22	C
		Mace Boulevard to Chiles Road	25	C	26	C	25	C	27	D
		Chiles Road to Enterprise Boulevard	19	C	24	C	19	C	24	C
	Westbound	Enterprise Boulevard to Chiles Road	18	B	20	C	19	C	23	C
		Chiles Road to Mace Boulevard	17	B	21	C	18	B	21	C
		Mace Boulevard to Olive Drive	25	C	22	C	26	C	22	C
		Richards Boulevard to Old Davis Road	17	B	25	C	17	B	25	C
		SR-113 Junction to Kidwell Road	14	B	17	B	14	B	17	B
SR-D113	Northbound	Hutchison Drive to Russell Boulevard	8	A	12	B	7	A	12	B
		Russell Boulevard to Covell Boulevard	9	A	15	B	9	A	15	B
		Covell Boulevard to County Road 29	6	A	13	B	6	A	14	B
		County Road 29 to County Road 27	7	A	12	B	7	A	13	B
	Southbound	County Road 27 to County Road 29	17	B	15	B	17	B	15	B
		County Road 29 to Covell Boulevard	16	B	16	B	17	B	16	B
		Covell Boulevard to Russell Boulevard	18	B	9	A	18	B	11	A
		Russell Boulevard to Hutchison Drive	18	B	7	A	18	B	7	A

Notes: Delay and LOS is based on 2010 HCM methodology.

Table 4.14-14 Existing Plus Project Access Scenario 2 - Peak Hour Freeway Operations (Local Study Area)

Route	Direction	Segment	Existing				Existing Plus Project Scenario 1			
			a.m. Peak		p.m. Peak		a.m. Peak		p.m. Peak	
			Density	LOS	Density	LOS	Density	LOS	Density	LOS
I-80	Eastbound	Kidwell Road to SR-113 Junction	11	A	11	A	11	A	11	A
		Old Davis Road to Richards Boulevard	17	B	18	B	17	B	18	B
		Richards Boulevard to Mace Boulevard	20	C	22	C	20	C	22	C
		Mace Boulevard to Chiles Road	25	C	26	C	25	C	27	D
		Chiles Road to Enterprise Boulevard	19	C	24	C	19	C	24	C
	Westbound	Enterprise Boulevard to Chiles Road	18	B	20	C	19	C	23	C
		Chiles Road to Mace Boulevard	17	B	21	C	18	B	21	C
		Mace Boulevard to Olive Drive	25	C	22	C	26	C	22	C
		Richards Boulevard to Old Davis Road	17	B	25	C	17	B	26	C
		SR-113 Junction to Kidwell Road	14	B	17	B	14	B	17	B
SR-113	Northbound	Hutchison Drive to Russell Boulevard	8	A	12	B	8	A	12	B
		Russell Boulevard to Covell Boulevard	9	A	15	B	9	A	15	B
		Covell Boulevard to County Road 29	6	A	13	B	6	A	14	B
		County Road 29 to County Road 27	7	A	12	B	7	A	13	B
	Southbound	County Road 27 to County Road 29	17	B	15	B	17	B	15	B
		County Road 29 to Covell Boulevard	16	B	16	B	17	B	16	B
		Covell Boulevard to Russell Boulevard	18	B	9	A	18	B	11	A
		Russell Boulevard to Hutchison Drive	18	B	7	A	19	C	7	A

Notes: Delay and LOS is based on 2010 HCM methodology.

Impact 4.14-4: Impacts to local neighborhood street traffic.

Nishi Site and West Olive Drive

While the project would increase daily trips to and from the project site, the project would not result in a substantial increase in local residential street volumes. Impacts would be **less than significant**.

The nearest residential street to the project site is East Olive Drive. The Davis General Plan includes policy direction (Policy TRANS 2.7) to minimize impacts of vehicle traffic on local streets to maintain or enhance livability of the neighborhoods. The project is forecast to add approximately five peak hour trips to East Olive Drive. The current volume of traffic on East Olive Drive, immediately east of Richards Boulevard, is about 250 vehicles during the a.m. peak hour and 460 vehicles during the p.m. peak hour. The projected level of project-related traffic 1-2 percent is not considered substantial and would not detract from the livability of residences along East Olive Drive.

*The project would not substantially increase traffic volumes along East Olive Drive, the nearest residential street to the project. Impacts would be **less than significant**.*

Mitigation Measures

No mitigation measures are required.

Impact 4.14-5: Increase in vehicle miles travelled.

Nishi Site and West Olive Drive

The project would increase local and regional vehicle miles traveled as a result of people driving to and from the project site on a daily basis. Taking into account local and regional VMT reduction goals, the project may impede the ability of the City/region to achieve established goals. This would be a **potentially significant** impact because of projected increases in VMT.

The Davis General Plan Mobility Element Goal #2 contains performance objectives designed to improve air quality and reduce greenhouse gas (GHG) emissions related to travel in the City. Performance Objective 2.2 requires a reduction in VMT of 39 percent from 2010 levels, by 2035. This reduction is set at the level needed to achieve a 61 percent carbon reduction from the Davis transportation system, based on SACOG modelling. In addition, the City of Davis *Climate Action and Adaptation Plan* (2010) has a long-term goal to reach Carbon Neutrality (zero greenhouse gas emissions) by 2050 and a series of short-term goals including one to reduce citywide greenhouse gas emissions 28 percent below 1990 levels by 2020. The Climate Action Plan contains actions to promote VMT reduction within the City and regionally. One of the 2015 Actions aimed at reducing VMT is to "Develop Transportation Demand Management Programs with Employers."

The project would generate substantial new travel demand related to commuting and other trip purposes associated with the industrial and retail uses on-site. The project is projected to generate approximately 45,000 VMT at build-out. As such, it would increase City-generated VMT and GHG, not reduce them. The Nishi Gateway project includes several characteristics, with respect to site location (i.e., central location in Davis as well as close proximity to the UC Davis campus and Downtown Davis) and the mix of residential and employment land uses, that would generate lower auto trip generation and VMT when compared to projects of similar size and intensity in other parts of the Sacramento region.

As a concentrated employment and housing center, the project applicant and future tenants would have a unique ability to implement programs that promote travel alternatives to the single-occupant vehicle, control the fuel types and efficiencies of vehicles accessing the site, and collectively contribute to the goal of minimizing VMT and GHG growth.

*As the project would increase VMT by approximately 45,000 miles per day, potential increases would be considered substantial and impacts would be **potentially significant** if they impede the City's/region's ability to achieve VMT reduction goals.*

Mitigation Measures

Mitigation Measure 4.14-5: Before issuance of the first building permit, the applicant shall prepare a TDM program, including any anticipated phasing, and submit it to the City Department of Public Works for review and approval. The TDM program must be designed to achieve the following.

1. Reduce trips to achieve one and five-tenths (1.5) AVR in accordance with Davis Municipal Code Section 22.15.060, and

2. Reduce daily and peak hour vehicle trips, as forecast for the project in this transportation impact assessment, by 10 percent for every project phase.

The management entity shall be responsible for implementing the TDM Program.

(a) The plan shall identify trip reduction/TDM proposed programs and strategies to achieve the above objectives that may include, but are not limited to, the following. The following programs and strategies are described in more detail in the Nishi Gateway Project Sustainability Implementation Plan.

(1) Bicycle Infrastructure and Incentives;

(2) Transit Infrastructure and Incentives;

(3) Work Force Housing;

(4) Parking Pricing and Supply Management;

(5) Transportation Management Association (TMA) Membership and Program Management;

(6) Innovative Electric Vehicle Infrastructure and Shared Fleet;

(7) Additional Implementing Actions – Subsidized Bikeshare Membership, Subsidized Carshare Membership, Ride Sharing Program, and Vanpool Program.

(b) Single-phase development projects shall achieve TDM AVR objectives within five (5) years of issuance of any certificate of occupancy. Multi-phased projects shall achieve the objectives for each phase within three (3) years of the issuance of any certificate of occupancy.

(c) In conjunction with final map approval, recorded codes, covenants and restrictions (CC&Rs) shall include provisions to guarantee adherence to the TDM objectives and perpetual operation of the TDM program regardless of property ownership, inform all subsequent property owners of the requirements imposed herein, and identify potential consequences of nonperformance. Each space use agreement (i.e., lease document) shall also include TDM provisions for the site as a means to inform and commit tenants to, and participate in, helping specific applicable developments meet TDM performance requirements.

(d) Ongoing reporting:

(1) Annual TDM Report. The Management Entity for the Project shall submit an annual status report on the TDM program to the City Department of Public Works beginning a year after the issuance of any certificate of occupancy and no less than five (5) years after buildout. Data shall be collected in October of each year and the Annual Report submitted by December 31 of each year. The report shall be prepared in the form and format designated by the City, which must either approve or disapprove the program within sixty (60) days.

i. The TDM performance reports shall focus on the trip reduction incentives offered by the project, their effectiveness, the estimated greenhouse gas (GHG) emissions generated by the project, and the methods by which Carbon Neutrality will be achieved. The report shall:

- report the AVR levels attained;
- verify the TDM plan incentives that have been offered;
- describe the use of those incentives offered by employers;
- evaluate why the plan did or did not work to achieve the AVR targets and explain why the revised plan is more likely to achieve the AVR target levels;
- list additional incentives which can be reasonably expected to correct deficiencies;
- evaluate the feasibility and effectiveness of trip reduction/TDM program and strategies, as implemented;

- estimate the greenhouse gas emissions generated by Project transportation operations; and
- identify off-setting GHG credits to be secured by the Project to achieve carbon neutrality.

ii. The Management Entity shall conduct employee travel surveys annually to determine TDM program participation, AVR levels, and estimated mode shares, and monitor weekday a.m. and p.m. peak hour traffic operations every three years at all impact locations identified in this EIR, comparing the operating LOS with the relevant standards in this EIR. The survey instrument and LOS monitoring plan will be reviewed and approved by the City before implementation.

iii. The Management Entity shall also develop and implement a program to monitor daily and peak hour traffic volumes entering and exiting the site, to be conducted annually. The monitoring shall demonstrate that the external vehicle trip generation remains below the EIR projection of 425 a.m. peak hour trips and 465 p.m. peak hour trips. The monitoring program may include statistical considerations to ensure that non-statistically significant increases do not constitute violation of the trip ceiling.

iv. If the trip ceiling is exceeded for any two consecutive years, the Management Entity will contribute funding to be determined in a separate study, subject to review and approval by the City of Davis, toward the provision of additional or more intensive travel demand management programs, such as enhanced regional transit service to the site, employee shuttles, subsidies for existing transit service, bicycle facilities, and/or make multi-modal street improvement and other potential measures.

v. In the event that other TDM objectives are not met as documented in the Annual Monitoring Report submitted by December 31 of each year, the Management Entity shall:

- Submit to the City within thirty (30) days of submittal of the annual report, a list of TDM measures that will be implemented to meet the TDM objectives within one hundred eighty (180) days of submittal of annual report. At the end of the one-hundred-eighty-day period, the Management Entity shall submit a revised performance report to determine compliance with TDM objectives. No further measures will be necessary if the TDM objectives are met.

Significance after Mitigation

With implementation of Mitigation Measure 4.14-5, daily VMT associated with the project would be reduced in accordance with local/regional goals. As a result, this impact would be reduced to a **less-than-significant** level.

Impact 4.14-6: Impacts to emergency vehicle access.

Nishi Site

During Phase 2 of construction of Access Scenario 1 and under Access Scenario 2, only one emergency vehicle access point may be available. Further, during construction, disruption of area roadways may hinder traffic flow (e.g., Richards Boulevard and intersection of Richards Boulevard and Olive Drive), which could negatively affect emergency response. This would be a **potentially significant** impact.

Please note that the following discussion is specific to emergency vehicle access (i.e., emergency vehicle access [EVA] points and roadway widths). Impact 4.8-5 in Section 4.8, "Hazards and Hazardous Materials" evaluates the potential for the project to interfere with emergency response or emergency evacuation planning efforts. Under Access Scenario 1, the project would ultimately provide two EVA points (one from West Olive Drive and one from the project's connection to Old Davis Road, while Access Scenario 2 would

provide one EVA point from West Olive Drive. However, during Phase 2 of construction under Access Scenario 1, only one EVA point may be available prior to connection to Old Davis Road. Because the project would not provide at least two EVA points under either Access Scenario, emergency access would be insufficient.

Under Access Scenario 2 and prior to Phase 2 of construction under Access Scenario 1, there may only be one emergency vehicle access point to and from the Nishi site, which could hinder emergency response. . Additionally, during construction, disruption of area roadways may hinder traffic flow, which could negatively affect emergency response. This would be a ***potentially significant*** *impact.*

Mitigation Measures

Implement Mitigation Measure 4.14-7 (Construction Traffic Management Plan) and Mitigation Measure 4.8-5 (Secure Emergency Access along UPRR Access Road).

Significance after Mitigation

During construction, preparation and implementation of a Construction Traffic Management Plan, as required by Mitigation Measure 4.14-7, would adequately address any potential conflicts with emergency access during construction by communicating proposed lane and road closures with first responders and allowing first responders to plan accordingly to ensure that emergency response times and maintain adequate emergency access. With respect to operations under Access Scenario 1, a minimum of two EVA points would be available to emergency responders, however, prior to construction of the connection to Old Davis Road and under Access Scenario 2, it is possible that only one EVA point would be provided, which would be considered insufficient. Mitigation Measure 4.8-5 requires the City to pursue an agreement with UPRR for the use of the existing access road along the south side of the UPRR line at the southern tip of the Nishi site. Should UPRR grant emergency use of this road, two EVA points would be provided on-site, which would be considered sufficient. However, coordination with UPRR has yet to take place and approval of emergency access cannot be guaranteed at this time. As a result, this is considered a **significant and unavoidable** impact.

West Olive Drive

Potential redevelopment of West Olive Drive would not result in inadequate access for emergency vehicles. Impacts would be **less than significant**.

Please note that the following discussion is specific to emergency vehicle access (i.e., EVA points and roadway widths). Impact 4.8-5 in Section 4.8, "Hazards and Hazardous Materials" evaluates the potential for potential redevelopment of West Olive Drive to interfere with emergency response or emergency evacuation planning efforts. Because the project would not provide at least two EVA points, adequate emergency access would be provided.

Due to the presence of at least two EVA points to and from West Olive Drive, adequate EVA would be provided, and impacts would be ***less than significant****.*

Mitigation Measures

No mitigation measures are required.

Impact 4.14-7: Impacts associated with construction vehicle traffic.

Nishi Site and West Olive Drive

During construction of the project, construction activities and temporary construction vehicle traffic would increase traffic congestion in the area. Depending on the timing and intensity of such activities, this could result in substantial congestion in excess of City standards. Impacts would be **significant**.

Construction of the project, including site preparation and construction, and delivery activities, would generate employee trips and a variety of construction-related vehicles. During construction, up to 60 construction workers may be present on the project site at any given time. In addition, the proposed improvement of West Olive Drive and utility improvements within East Olive Drive (refer to Section 4.15, "Utilities" for further clarification) may require construction activities within existing roadways. As a result, construction activities would include disruptions to the transportation network near the project site, including the possibility of temporary lane closures, street closures, sidewalk closures, and bikeway closures. Bicycle and transit access may also be disrupted. These activities could result in degraded roadway conditions.

Construction traffic associated with the project could result in significant short-term traffic impact on several local intersections. Therefore, this impact would be ***significant****.*

Mitigation Measures

Mitigation Measure 4.14-7: Before any construction activities for the project site, the project applicant shall prepare a detailed Construction Traffic Control Plan and submit it for review and approval by the City Department of Public Works. The applicant and the City shall consult with Caltrans, Unitrans, Yolobus, and local emergency service providers for their input before approving the Plan. The plan shall ensure that acceptable operating conditions on local roadways and freeway facilities are maintained during construction. At a minimum, the plan shall include:

- the number of truck trips, time, and day of street closures;
- time of day of arrival and departure of trucks;
- limitations on the size and type of trucks, provision of a staging area with a limitation on the number of trucks that can be waiting;
- provision of a truck circulation pattern;
- provision of driveway access plan so that safe vehicular, pedestrian, and bicycle movements are maintained (e.g., steel plates, minimum distances of open trenches, and private vehicle pick up and drop off areas);
- maintain safe and efficient access routes for emergency vehicles;
- manual traffic control when necessary;
- proper advance warning and posted signage concerning street closures; and
- provisions for pedestrian and bicycle safety, including maintaining a clear path for cyclists and pedestrians along the Putah Creek bike path throughout construction.

A copy of the construction traffic control plan shall be submitted to local emergency response agencies and these agencies shall be notified at least 14 days before the commencement of construction that would partially or fully obstruct roadways.

Significance after Mitigation

With implementation of Mitigation Measure 4.14-7, appropriate signage and access would be provided so as to maintain the flow of traffic in the vicinity of the project site. As a result, this impact would be reduced to a **less-than-significant** level.

Impact 4.14-8: Impacts to pedestrian and bicycle facilities.

Nishi Site and West Olive Drive

The project would increase bicycle and pedestrian traffic to and from the project site, primarily towards Downtown Davis and UC Davis. While the project would provide adequate on-site bicycle and pedestrian facilities, the additional demand for such facilities adjacent to the site as a result of the project is anticipated to increase and impacts would be **significant**.

The project may interfere with existing, planned, or possible future pedestrian/bicycle facilities. Existing facilities that are adjacent to the project include on-street bike lanes on Richards Boulevard and East Olive Drive, and a shared use path that is a segment of the Davis Bike Loop. The Beyond Platinum Bike Plan calls for several bicycle infrastructure enhancements in the project vicinity including a redesign of the Richards Boulevard/West Olive intersection, bike lane conflict markings at the interchange ramp junctions along Richards Boulevard, and bike intersection crossing markings at the Richards Boulevard/eastbound I-80 ramps intersection.

The project would provide a network of bike/pedestrian trails that would connect to the existing Putah Creek Trail, Richards Boulevard, and Old Davis Road. This includes a grade-separation between the existing trail and the extension of West Olive Drive to the project site (i.e., the road would be constructed over the trail, with connections back to West Olive Drive). Additionally, under Access Scenario 1, the proposed undercrossing and connection to Old Davis Road would include a dedicated bike and pedestrian path to Old Davis Road that would connect with existing bicycle lanes within Old Davis Road. The proposed connection to Old Davis Road would include a stop-controlled intersection that would allow for safe passage of bicycles, pedestrians, and vehicles through the intersection. From this location, cyclists could proceed north along Old Davis Road or west along Old Davis Road to Mrak Hall Drive to access the central campus. Additionally, the project, under Access Scenarios 1 and 2, would increase bicycle and pedestrian traffic along the Putah Creek Trail, both towards campus and Downtown Davis. The project would improve the existing connections within the project site so as to provide ease of connection to existing bicycle/pedestrian facilities.

The City of Davis has constructed numerous bicycle/pedestrian improvements, including grade separations across freeways and roadways to facilitate safe crossings of high speed, high volumes facilities. Along Covell Boulevard, this includes an existing overpass west of F Street and an existing underpass west of Alhambra Drive. The Cannery Project will be constructing a bicycle/pedestrian grade separation. Given that approximately 22 percent of the project's employees that live in Davis households are projected to commute by bicycle, construction of the pedestrian and bicycle improvements along Richards Boulevard would facilitate the large number of future bicycle and pedestrian trips that would occur by project build-out, particularly those that would be traveling to and from Downtown Davis and the Amtrak station.

Because the project would increase bicycle and pedestrian traffic in the vicinity of the project site, the use of existing and proposed facilities within the City of Davis would increase. Although on-site improvements would be adequate to accommodate the demand anticipated by the project, the project-related demand for additional facilities, such as the Arch project, would be considered substantial, and impacts would be ***significant****.*

Mitigation Measures

Implement Mitigation Measure 4.14-2 (Fair Share Contribution to the Planned Cycle Track)

Significance after Mitigation

The improvement of bicycle/pedestrian access along Richards Boulevard would provide for additional safe travel by bicycles and pedestrians from the project site to Downtown Davis. As the improvement to the Richards Boulevard Interchange is currently a planned project by the City, a fair share contribution towards the improvement of bicycle and pedestrian access at the Richards Boulevard underpass would serve as adequate off-site mitigation for the project. As a result, impacts would be reduced to **less than significant**.

Impact 4.14-9: Impacts to transit service.

Nishi Site and West Olive Drive

The project would increase transit ridership and may require additional improvements/considerations to promote and handle increased transit ridership. Impacts would be **potentially significant**.

The project would introduce new office and residential land uses that are situated in close proximity to the current transit stops (at Richards Boulevard/Olive Drive) for the M and W bus routes operated by Unitrans. These routes serve a variety of retail, employment, residential, institutional, and recreational destinations throughout the City, and operate with 30 minute headways, and long service hours. On-board surveys conducted over the past three years indicated that 91-95 percent of all riders are UC Davis undergraduate students and 3-6 percent of riders are UC Davis graduate students. The 2012 on-board survey indicated that 5.3 percent of riders are non-UC Davis patrons.

The Unitrans General Manager Report for Fiscal Year 2013-14 (Unitrans, November 14, 2014) indicates that Unitrans experiences high levels of crowding (i.e., more than 60 passengers on standard bus or more than 100 passengers on a double-decker bus) on 6 percent of all buses, with 12 percent of all riders on buses experiencing those high loads.

The City of Davis Short Range Transit Plan (Fiscal Years 2014/15-2020/21) indicates that Route W has the second highest ridership of the 18 Unitrans routes, with approximately 550,000 annual one-way passenger trips in FY 2012-13. Ridership on Route W was unchanged between FY 2010/11 and 2012/13. Routes M and W experience average daily boardings of 1,300 and 3,100, respectively.

The average number of one-way trips per revenue service hour for these three routes in FY 2012/13 is as follows.

- Route M – 40
- Route W – 67

Unitrans policy is to increase daily headways from 30 minutes to 15 minutes on routes with more than 60 passengers per hour. The highest ridership levels occur on Unitrans Routes G, J, V and W. All of these routes average more than 60 passengers per hour. One of the routes that most directly serves the Nishi Gateway project site – route W – has ridership levels that are above the 60 passenger per hour threshold.

Under Access Scenario 1 (two access points), Unitrans has indicated they will realign the route for either Route M or W through the Nishi site with a stop at a central location. It is estimated that about 30 peak hour riders would be added to the realigned route. If Route W is realigned, this may be a sufficient increase in ridership to justify increasing service from 30 minute headways to 15 minute headways. If Route M is realigned, this may be a sufficient increase in ridership to justify increasing service from 60 minute headways to 30-minute headways.

Under Access Scenario 2 (one access point), the bus stop for routes M and W at the Richards Boulevard/Olive Drive intersection would remain. Given the distance from the project core, bus ridership would be lower for Access Scenario 2 than Access Scenario 1 (which has a bus stop at the center of the project). Approximately 15 peak hour riders are projected to be added to the two routes, which would not impact service levels.

Because Access Scenario 2 would likely involve the extension of a Unitrans line through the project site, potential Unitrans riders may wish to disembark within the project site. As a result, impacts would be considered ***potentially significant****.*

Mitigation Measures

Mitigation Measure 4.14-9: If Access Scenario 1 (2 access points) is adopted, the project applicant shall fund and construct new bus stops within the project site on the West Olive Drive Extension, at a central location in the project site upon occupancy of the first building. The improvements can be constructed within the existing right-of-way. The project applicant shall prepare design plans, to be reviewed and approved by the City Public Works Department, and construct bus stops with shelters, paved pedestrian waiting areas, lighting, real time transit information signage, and pedestrian connections between the new bus stops and all buildings on the project site.

Significance after Mitigation

The provision of on-site bus stops within the Nishi site and within West Olive Drive as part of Mitigation Measure 4.14-9 would allow for increased access by Unitrans ridership. As a result, impacts would be reduced to **less than significant**.

Impact 4.14-10: Conflict, or create an inconsistency, with any applicable plan, policy, or regulation adopted for the purpose of avoiding or mitigating environmental effects related to transportation and circulation.

Nishi Site and West Olive Drive

Implementation of the project within the Nishi site would be consistent with the policies of the City of Davis General Plan related to transportation and circulation. This would be a **less-than-significant** impact.

Table 4.14-15 includes a list of the relevant transportation and circulation policies and a corresponding discussion of how the project is consistent with each policy. As demonstrated in the table, the project is generally consistent with most of the applicable plans, policies, and regulations adopted for the purpose of avoiding or mitigating environmental effects related to transportation/traffic.

*Implementation of the project would not conflict with any local policies or ordinances protecting transportation and circulation. Impacts would be **less than significant**.*

Mitigation Measures

No mitigation measures are required.

Table 4.14-15 City of Davis General Plan Policy Consistency

Policy	Project Consistency
Policy TRANS 1.6: Reduce carbon emissions from the transportation system in Davis by encouraging the use of non-motorized and low carbon transportation modes.	The project would include on-site bicycle and pedestrian facilities and would connect with existing transit facilities, consistent with this policy.
Policy TRANS 1.7: Promote the use of electric vehicles and other low-polluting vehicles, including Neighborhood Electric Vehicles (NEV).	With implementation of Mitigation Measure 4.14-5, the project would promote the use of electric and low-polluting vehicles. As such, the project is consistent with this policy.
Policy TRANS 1.8: Develop and maintain a work trip-reduction program designed to reduce carbon emissions, criteria pollutants, and local traffic congestion.	With implementation of Mitigation Measure 4.14-5, the project would reduce daily VMT. As such, the project is consistent with this policy.
Policy TRANS 2.1: Provide Complete Streets to meet the needs of drivers, public transportation vehicles and riders, bicyclists, and pedestrians of all ages and abilities in all transportation planning, programming, design, construction, reconstruction, retrofit, operations, and maintenance activities and products. The City shall view all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in Davis, and recognizes bicycle, pedestrian, fixed-route transit, and demand-response para transit modes as integral elements of the transportation system along with motor vehicles.	On-site roadways would be designed to provide adequate opportunities for bicyclists, motorists, transit riders, and pedestrians. Further, the proposed improvements to West Olive Drive would increase access and safety for pedestrians and bicyclists, consistent with this policy and Complete Streets goals.
Policy TRANS 2.2: Implement state-of-the-art street design solutions to improve bicycle/pedestrian access, comfort, and safety that may include: ◢ Bicycle boxes at intersections ◢ Cycletracks ◢ Shared lane markings (sharrows) ◢ Contraflow bicycle lanes ◢ Improved bicycle detection at intersections ◢ Two-stage turn queue boxes ◢ Colored bicycle lanes ◢ Bicycle route wayfinding	The project would include on-site pedestrian and bicycle facilities, consistent with this policy, that would interconnect UC Davis, Downtown Davis, Richards Boulevard, and the Putah Creek channel trail, consistent with this policy. The on-site improvements include a multi-use trail around the proposed retention pond and recreation area northeast towards and connecting to the Putah Creek channel trail.
Policy TRANS 2.3: Apply best practices in sustainability to new streets and redesigns of existing streets/corridors.	The project is consistent with this policy.
Policy TRANS 2.4: As part of the initial project review for any new project, a project-specific traffic study may be required. Studies shall identify impacted transportation modes and recommend mitigation measures designed to reduce these impacts to acceptable levels.	A traffic study was conducted for the project and is presented herein. The project is consistent with this policy.
Policy TRANS 2.7: Minimize impacts of vehicle traffic on local streets to maintain or enhance livability of the neighborhoods. Consider traffic calming measures along collector and minor arterial streets, where appropriate and feasible, to slow speeds. Examples of assorted traffic calming measures are shown in Figure 3.	As noted under Impact 4.14-4, the project would be consistent with this policy.
Policy TRANS 2.8: Improve the function, safety, and appearance of [the following] selected corridors....[:] 1. Anderson Road – Russell Boulevard to Covell Boulevard 2. Chiles Road – Drummond Avenue to east city limit 3. Covell Boulevard – Pole Line Road to F Street 4. Covell Boulevard – F Street to State Route 113 5. Covell Boulevard – State Route 113 to west city limit 6. Cowell Boulevard – I-80 to Drummond Avenue 7. Eighth Street – B Street to Pole Line Road	The project would improve access and pedestrian/bicycle facilities along the western edge of Richard Boulevard (21), consistent with this policy. Further, the project would contribute towards the improvement of vehicle and bicycle/pedestrian access at the Richards Boulevard interchange.

Table 4.14-15 City of Davis General Plan Policy Consistency

Policy	Project Consistency
8. E Street – First Street to Third Street 9. F Street – Fifth Street to Covell Boulevard 10. Fifth Street - B Street to L Street and Russell Boulevard – A Street to B Street 11. Fifth Street – L Street to Cantrill Drive 12. First Street and B Street – Richards Boulevard to Russell Boulevard 13. L Street – 2nd Street to Covell Boulevard 14. Lillard Drive – Cowell Boulevard to Drummond Avenue 15. Loyola Drive – Pole Line Road to Mace Ranch 16. Mace Boulevard – Harper Junior High to I-80 17. Mace Boulevard – I-80 to south city limit 18. Olive Drive – West end to east end 19. Pole Line Road – Covell Boulevard to north city limit 20. Pole Line Road – I-80 to Covell Boulevard (upgrades) 21. Richards Boulevard – First Street to I-80 22. Russell Boulevard – A Street to State Route 113 23. Russell Boulevard – State Route 113 to west city limit	
Policy TRANS 2.10: Prohibit through truck traffic on streets other than identified truck routes shown in Map 6.	The project would not result in a substantial increase in truck traffic, based on use type, and would prohibit truck traffic on non-designated roadways, consistent with this policy.
Policy TRANS 3.1: Facilitate the provision of convenient, reliable, safe, and attractive fixed route, commuter, and demand responsive public transportation that meets the needs of the Davis community, including exploring innovative methods to meet specialized transportation needs.	As noted under Impact 4.14-9, the project would provide additional access to transit, as well as on-site bicycle and pedestrian facilities that would interconnect with existing City and UC Davis facilities, consistent with this policy.
Policy TRANS 3.3: Require new development to be designed to maximize transit potential.	As noted under Impact 4.14-9, the project applicant and Unitrans are coordinating for the extension of an existing Unitrans line through the project site, consistent with this policy.
Policy TRANS 4.2: Develop a continuous trails and bikeway network for both recreation and transportation that serves the Core, neighborhoods, neighborhood shopping centers, employment centers, schools and other institutions; minimize conflicts between pedestrians, bicyclists, equestrians, and automobiles; and minimize impacts on wildlife. Greenbelts and separated bike paths on arterials should serve as the backbone of much of this network.	The project would maintain and improve access to the Putah Creek channel trail and would increase access from the trail to Richards Boulevard and UC Davis campus (under Access Scenario 1). Additionally, the project would include an internal network of trails and recreational opportunities for bicyclists and pedestrians. The project would be consistent with this policy.
Policy TRANS 4.5: Establish and implement bicycle parking standards for new developments and significant redevelopment.	The project has established bicycle standards of 2 spaces per residential unit and 2 spaces per 1,000 sf of R&D space, consistent with this policy.
Policy TRANS 4.7: Develop a system of trails around the edge of the city and within the city for recreational use and to allow pedestrians and bicyclists to reach open space and natural areas.	Refer to policy consistency discussion for Policy TRANS 4.2 above.
Policy TRANS 5.1: Use parking management techniques to efficiently manage motor vehicle parking supply and promote sustainability.	The project would include various parking management strategies, including potential tandem parking for residential units and pricing to encourage transit/pedestrian/ bicycle usage to and from the project site, consistent with this policy.
Policy TRANS 5.2: Existing and future off-street parking lots in development should contribute to the quality of the urban environment and support the goals of this chapter to the greatest extent possible.	The proposed parking structure and surface parking lots within the Nishi would include solar panels, consistent with this policy.

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