

4.11

TRANSPORTATION AND CIRCULATION

4.11.1 INTRODUCTION

This section of the EIR analyzes the potential impacts of the proposed Lincoln40 Project on the surrounding transportation system, including roadways, bicycle, pedestrian, and transit facilities and services under existing and cumulative scenarios. The section was prepared by Fehr & Peers, a transportation planning and engineering firm. All technical calculations are included as Appendix O to this EIR.

While CEQA does not require this EIR to include an analysis of project specific or cumulative impacts from cars and light-duty truck trips generated by the project on the regional transportation network, based on consultation with the City of Davis, it was determined that potential impacts on the regional transportation network would be included in the Transportation and Circulation section of the EIR to provide additional information for the public and decision makers to consider in evaluating the proposed project. See the “CEQA Streamlining” section below for more detail.

4.11.2 EXISTING ENVIRONMENTAL SETTING

This section describes the existing environmental setting, which is the baseline scenario upon which project-specific impacts are evaluated. The environmental setting components include roadway, pedestrian, bicycle, and transit networks in the vicinity of the project site.

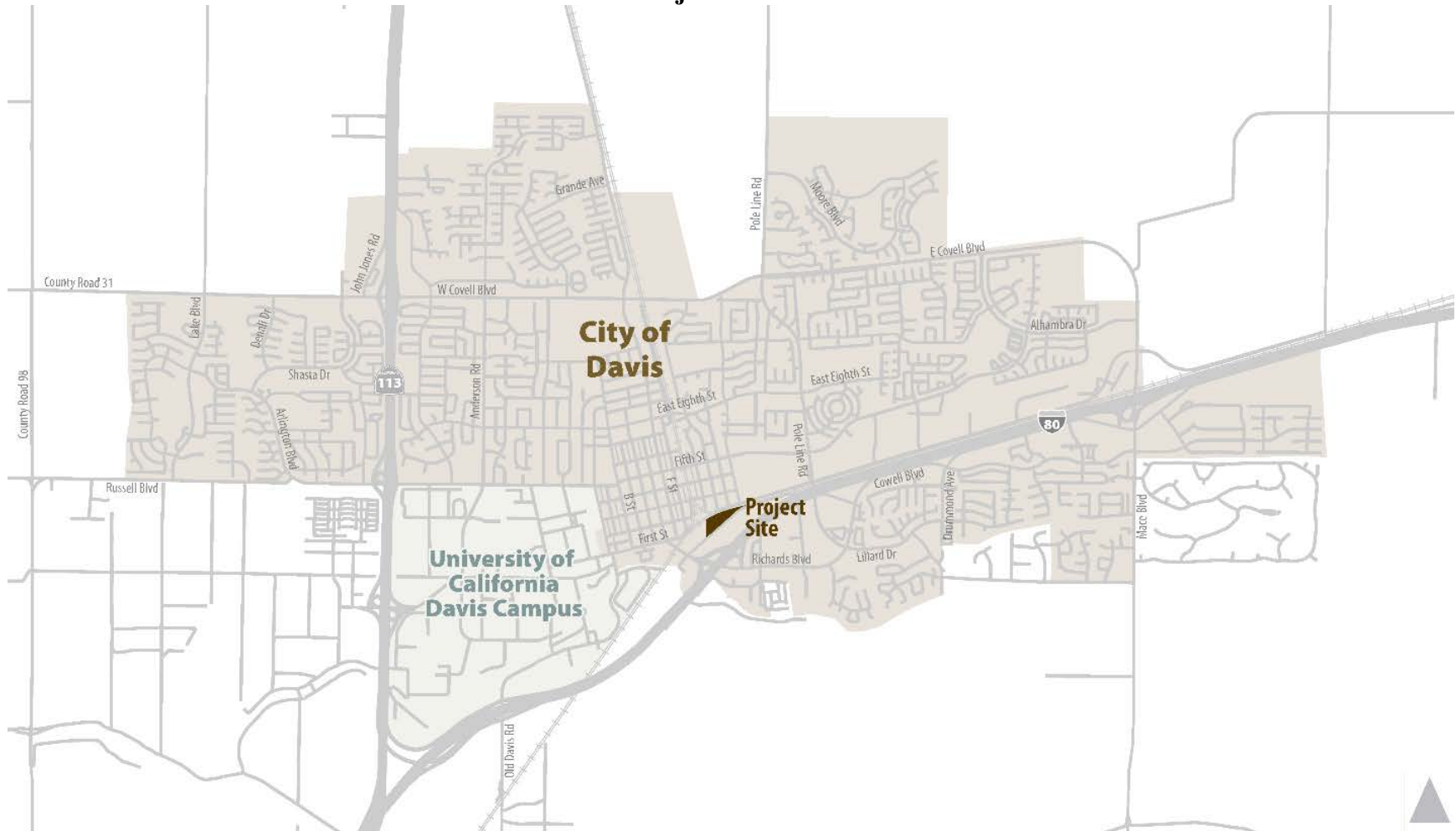
Project Location

The project is located in the City of Davis, approximately one-quarter ($\frac{1}{4}$) mile south of Downtown Davis and three-quarters ($\frac{3}{4}$) mile east of the University of California at Davis (UC Davis). The project site is located on Olive Drive east of Richards Boulevard, and is bordered on the north by the Union Pacific Railroad (UPRR) (see Figure 4.11-1). Regional vehicular access to the proposed project site is provided by the Olive Drive off-ramp (inbound trips only) from westbound Interstate 80 (I-80) and the I-80/Richards Boulevard interchange, located southwest of the Lincoln40 project site.

Study Area

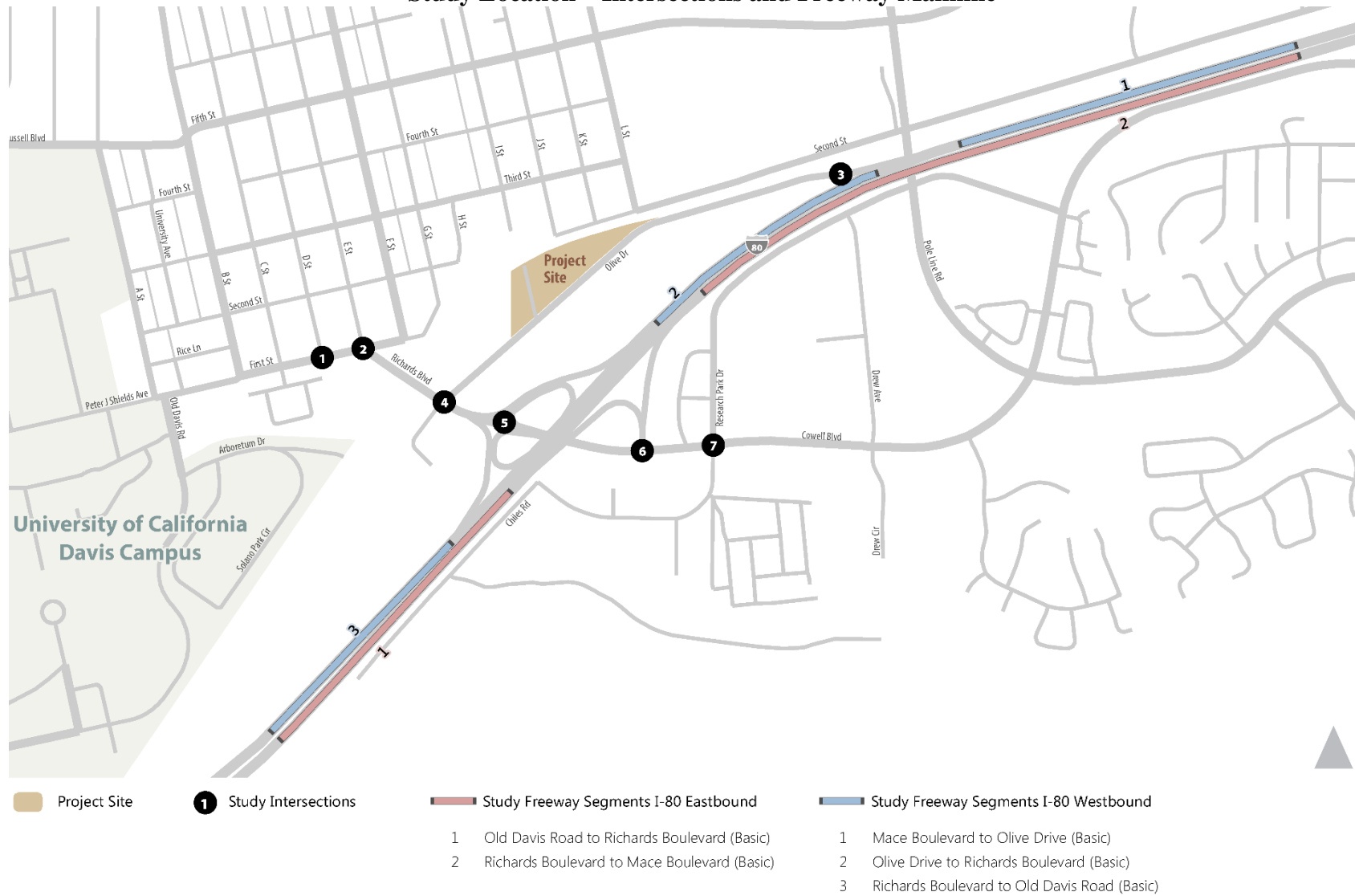
The study area includes seven intersections that would serve the majority of project-generated traffic based on the expected distribution of project traffic (see Figure 4.11-2). These seven (7) intersections were selected based on a combination of a) their proximity to the proposed site and b) where project-generated traffic has the highest potential of impacting the multi-modal transportation system, which includes vehicles (cars and trucks), bicycle, pedestrian, and transit facilities within the project vicinity.

**Figure 4.11-1
Project Location**



Source: Fehr & Peers, 2017.

Figure 4.11-2
Study Location – Intersections and Freeway Mainline



Source: Fehr & Peers, 2017.

Study Intersections

1. 1st Street/D Street;
2. 1st Street /E Street/Richards Boulevard;
3. Olive Drive/I-80 Westbound Off-Ramp;
4. Richards Boulevard/Olive Drive;
5. Richards Boulevard/I-80 Westbound Ramps;
6. Richards Boulevard/I-80 Eastbound Ramps; and
7. Richards Boulevard/Cowell Boulevard/Research Park Drive

Note that intersections 3 and 5 are uncontrolled intersections or ramps where vehicles are not required to stop. The purpose for their inclusion is to show the traffic volumes using these intersections. Operations were not reported for intersection 3, because the off-ramp traffic transitions onto East Olive Drive without any traffic control. Delay associated at intersection 5 (Richards Boulevard/I-80 Westbound Ramps) is captured at the adjacent intersection of Richards Boulevard/Olive Drive.

The study area also includes Interstate 80 freeway mainline segments in the vicinity of the project site (see Figure 4.11-2). On eastbound I-80, the freeway mainline study area extends before and after the Richards Boulevard interchange. On westbound I-80, the freeway mainline study area starts before the Olive Drive off-ramp and extends past the Richards Boulevard interchange.

Study Freeway Mainline Segments

I-80 Westbound

1. Mace Boulevard to Olive Drive;
2. Olive Drive to Richards Boulevard; and
3. Richards Boulevard to Old Davis Road.

I-80 Eastbound

1. Old Davis Road to Richards Boulevard; and
2. Richards Boulevard to Mace Boulevard.

Roadway System

Key Roadways

Direct access to the project site is provided via East Olive Drive. Other key local roadways in the project vicinity include Richards Boulevard and 1st Street. Freeway access to the site is provided via the I-80 Westbound/Olive Drive off-ramp (inbound traffic only) and the I-80/Richards Boulevard interchange. Refer to Figure 4.11-2 to see the location of key roadways in the study area.

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 minor arterial east of Richards Boulevard (East Olive Drive) and a collector west of Richards Boulevard (West Olive Drive).

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 miles per hour (mph). Bicycle lanes are provided on the roadway east of Richards Boulevard. Sidewalks are mostly provided 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.

Richards Boulevard is a two- to four-lane north-south roadway to the west of the project site, connecting Downtown Davis to the north and South Davis to the south. The City of Davis General Plan Transportation Element (2013) classifies Richards Boulevard as a major arterial. The roadway provides four lanes south of I-80 and becomes Cowell Boulevard east of Research Park Drive. The roadway transitions to two lanes at the I-80/Richards Boulevard interchange through the Olive Drive intersection and toward downtown Davis. North of Olive Drive, the roadway terminates at the intersection of 1st Street and E Street.

The speed limit on Richards Boulevard is 35 mph. Bicycle lanes are provided on Richards Boulevard south of Olive Drive. A sidewalk is provided on the west side of Richards Boulevard south of Olive Drive. North of Olive Drive, a bicycle and pedestrian path is provided on the west side of Richards Boulevard through a tunnel under the UPRR railroad tracks.

1st Street - 1st Street is a two-lane east-west roadway to the north of the project site, at the southern edge of Downtown Davis. The City of Davis General Plan Transportation Element (2013) classifies this street as a major arterial. Three lanes are provided for the section of 1st Street between A Street and B Street. 1st 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 1st Street is 25 mph. Bicycle lanes are provide on the north side of 1st 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 1st Street except for a section on the south side of 1st Street between B Street and F Street. Lastly, a multi-use path is provided on the south side of 1st Street between B Street and F Street.

Interstate 80 (I-80) is an east-west interstate highway located directly south of the project site. In the project study area, I-80 provides three travel lanes per direction at the Richards Boulevard interchange overpass. In the westbound direction, there is an off-ramp at East Olive Drive, and a full interchange at Richards Boulevard. In the eastbound direction, there is a full interchange at Richards Boulevard. The speed limit on I-80 is 65 (mph).

Intersections

Data Collection

Vehicle turning movement counts were collected at the study intersections in May 2016, during the AM peak period (7 AM to 9 AM) and PM peak period (4 PM to 6 PM), when schools, including UC Davis, were in session.

Analysis Periods

Based on the data collection, the peak hour of traffic at the study intersections was determined to occur in the morning between 8 AM and 9 AM, and in the afternoon between 5 PM and 6 PM.

Intersection Analysis Methodology and LOS Definitions

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 4.11-1 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 4.11-1 Intersection LOS Definitions			
LOS	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: Highway Capacity Manual, 6th Edition (Transportation Research Board, 2016)

Existing Traffic Volumes

The existing traffic volumes during the AM and PM peak hours are presented in Figure 4.11-3. Throughout this document, Richards Boulevard is noted as the north-south roadway for intersections 2, 4, 5, and 6.

Existing Intersection Operations

The study intersections currently operate at LOS D or better during AM and PM peak hours and the study freeway ramp intersections currently operate at LOS E or better during the AM and PM peak hours (see Table 4.11-2). The signalized Richards Boulevard/Olive Drive intersection is the primary intersection that would serve project generated traffic (cars, pedestrians, bicycles, and transit). In the northbound direction, a combination of vehicle, pedestrian, and bicycle activity at the signalized 1st Street/E Street/Richards Boulevard intersection results in traffic occasionally extending along the Richards Boulevard corridor to the overcrossing and towards the I-80 Westbound off-ramp. The I-80 Eastbound off-ramp at Richards Boulevard also experiences delays attributed to the approximately 550 left-turning vehicles exiting the freeway in the PM with only one left-turn pocket for vehicle storage.

Table 4.11-2 Existing Intersection Operations			
Intersection	Traffic Control	Average Control Delay (seconds per vehicle)/LOS	
		AM Peak Hour	PM Peak Hour
1. 1 st Street/D Street	Signal	16 B	29 C
2. 1 st Street/E Street/Richards Boulevard	Signal	28 C	28 C
3. Olive Drive/I-80 Westbound Off-Ramp	Uncontrolled	N/A	N/A
4. Richards Boulevard/Olive Drive	Signal	33 C	36 D
5. Richards Boulevard/I-80 Westbound Ramps	Uncontrolled	N/A	N/A
6. Richards Boulevard/I-80 Eastbound Ramps	Signal	32 C	63 E
7. Richards Boulevard/Cowell Boulevard/Research Park Drive	Signal	29 C	29 C
<i>Source: Fehr & Peers, 2017</i>			

**Figure 4.11-3
 Existing Peak Hour Intersection Volumes**



1. First St/D St	2. First St/E St/Richards Blvd	3. Olive Dr/I-80 WB Off-Ramp	
			<p>1 Study Intersection</p> <p>↔ Turn Lane</p> <p>AM (PM) Peak Hour Traffic Volume</p> <p> Traffic Signal</p>
4. Richards Blvd/Olive Dr	5. Richards Blvd/I-80 WB Ramps	6. Richards Blvd/I-80 EB Ramps	

Source: Fehr & Peers, 2017.

Freeways

Data Collection

Freeway mainline traffic volumes were collected from Caltrans Performance Measurement System (PeMS) from six mid-week days (Tuesday, Wednesday, Thursday) May 10 through May 19, 2016. It should be noted that the freeway mainline data was also collected when schools, including UC Davis, were in session. The mainline traffic volumes used in the analysis are the average of the six days. Freeway ramp volumes were determined from the ramp terminal intersections.

Analysis Periods

Similar to the study and ramp terminal intersection analysis, the same AM and PM peak hour periods were used to analyze potential freeway impacts (i.e., AM peak hour (8 AM to 9 AM) and PM peak hour (5 PM to 6 PM)).

Freeway Mainline Analysis Methodology and LOS Definitions

Freeway operations are assessed using the methodology outlined in the 2010 Highway Capacity Manual, which describes freeway mainline LOS based on vehicle density, calculated using peak hour traffic volumes by direction and the number of mainline segment lanes (see Table 4.11-3).

Table 4.11-3 Freeway Mainline LOS Definitions		
LOS	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, 6th Edition (Transportation Research Board, 2016)*

Existing Freeway Operations

All freeway mainline segments currently operate at acceptable LOS D or better during the AM and PM peak hours (see Table 4.11-4). I-80 Westbound (before the East Olive Drive off-ramp) has the highest density of vehicles in the AM peak hour with approximately 4,900 vehicles. Directly west of the Richards Boulevard interchange, the number of lanes on westbound I-80 increases from three (3) to four (4) travel lanes.

Table 4.11-4 Freeway Mainline Operations			
Freeway	Segment	Density pcplpm/LOS	
		AM Peak Hour	PM Peak Hour
I-80 Westbound	1. Mace Boulevard to Olive Drive	28/D	25/C
	2. Olive Drive to Richards Boulevard	27/D	24/C
	3. Richards Boulevard to Old Davis Road	20/C	20/C
I-80 Eastbound	1. Old Davis Road to Richards Boulevard	26/C	26/C
	2. Richards Boulevard to Mace Boulevard	24/C	23/C
<i>Note: pcplpm = passenger cars per lane per mile Source: Fehr & Peers, 2017</i>			

Existing Freeway Off-Ramp Queuing

The freeway off-ramps with vehicle queuing during the AM and PM peak hours are presented in Table 4.11-5. The maximum vehicle queues remain within the available storage length at both off-ramps.

Table 4.11-5 Existing Off-Ramp Maximum Queue Length			
Off-Ramp	Storage (feet)	Maximum Queue (feet)	
		AM Peak Hour	PM Peak Hour
I-80 Westbound Off-Ramp at Richards Boulevard	1,450	800	350
I-80 Eastbound Off-Ramp at Richards Boulevard	1,250	200	400
<i>Note: Existing queues based on field observations taken in October 2016. Source: Fehr & Peers, 2017</i>			

Bicycle System

Bicycle Facility Classification

The following types of bicycle facilities exist within the project vicinity:

- Class I bike path – facility separated from automobile traffic exclusively for bicyclists and pedestrians
- Class II bike lane – facility dedicated for bicyclists immediately adjacent to automobile traffic, identified with striping and pavement markings
- Class III bike route – on-street routes where bicyclists and motorists share the road typically to connect to Class I or Class II bicycle facilities, identified with pavement markings and signage, and usually assigned to low-volume and/or low-speed streets

Key Bicycle Facilities

Existing bicycle facilities in the study area are presented in Figure 4.11-4. Notable bicycle facilities include:

- Bike lanes (Class II) on East Olive Drive adjacent to the project site
- Putah Creek Bike Path (Class I), on the western terminus of West Olive Drive (with connection to UC Davis)
- Bicycle/pedestrian path and tunnel (Class I) along Richards Boulevard (with connection to Downtown Davis)
- Old Lincoln Highway Bike Path (Class I) on the eastern terminus of East Olive Drive (with connection to Mace Boulevard and to the CR 32 route to West Sacramento)

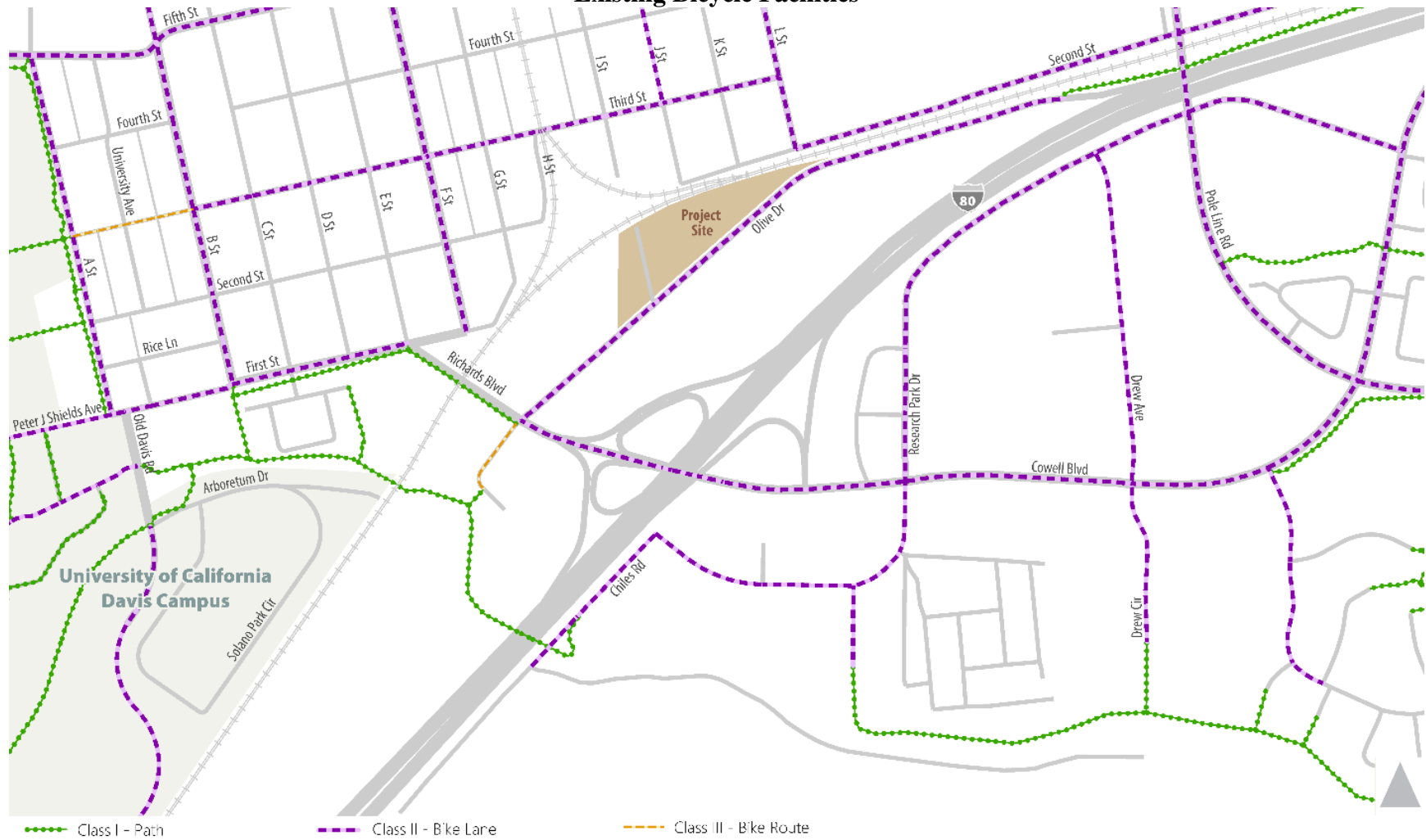
Bicycle Level of Traffic Stress

Bicycle Level of Traffic Stress (LTS) refers to the comfort associated with roadways, or the mental ease people experience riding on them. Metrics for bicycling LTS were developed at the Mineta Transportation Institute (MTI) and published in the report “Low-Stress Bicycling and Network Connectivity.” Factors influencing LTS include:

- Number of travel lanes
- Speed of traffic
- Presence of bike lanes
- Presence of on-street parking
- Width of bike lanes
- Presence of physical barrier

Bicycle riders vary in experience, skill, ability, and confidence. Different bicycle riders are correlated with a level of “traffic stress” they are willing to experience while cycling. Bicycle LTS criteria span from 1 to 4, with 1 being the least stressful and 4 being the most stressful:

**Figure 4.11-4
Existing Bicycle Facilities**



Source: Fehr & Peers, 2017.

- LTS 1: Most children and elderly riders can tolerate this level of stress and feel safe and comfortable; bicyclists typically require more separation from traffic.
- LTS 2: This is the highest level of stress that the mainstream adult population will tolerate while still feeling safe.
- LTS 3: Bicyclists who are considered “enthused and confident” but still prefer having their own dedicated space for riding will tolerate this level of stress and feel safe while bicycling.
- LTS 4: For bicyclists, this is tolerated only by those characterized as “strong and fearless,” which comprises a small percentage of the population. These roadways have high speed limits, multiple travel lanes, limited or non-existent bike lanes and signage, and large distances to cross at intersections.

Figure 4.11-5 shows the LTS for key bicycle corridors and intersection approaches near the project site. Figure 4.11-6 presents photos of the existing bicycle infrastructure in the study area.

The eastbound bike lane on East Olive Drive leading to the project site is categorized as higher stress LTS 3 or 4 mainly due to the narrow width of the combined bike lane and on-street parking. The westbound bike lane on the same corridor is noted as lower stress LTS 1 or 2 as it is a wider bike lane without adjacent parking. This westbound approach to Richards Boulevard/Olive Drive though becomes higher stress as the bike lane ends approximately 150 feet from the intersection and bicyclists have to mix with vehicle traffic.

Pedestrian System

Key Pedestrian Facilities

Pedestrian facilities include the bicycle/pedestrian paths, sidewalks, and crosswalks within the project vicinity (see Figure 4.11-7).

Pedestrian StreetScore+

Pedestrian StreetScore+ refers to measure of pedestrian comfort on sidewalks and paths. StreetScore+ metrics were developed by Fehr & Peers using parameters and best practice guidance provided by the NACTO Urban Streets Design Guide. Factors influencing StreetScore include:

- Number of travel lanes
- Speed of traffic
- Presence of sidewalk
- Presence of landscape buffer and street trees
- Width of sidewalk
- Amount of driveway curb cuts
- Type of curb ramps and pedestrian signal accessibility at crosswalks

Pedestrian StreetScore+ has a parallel structure to the LTS approach for bicyclists, using a 1-4 scale (see Figure 4.11-8). Figure 4.11-9 presents photos of the pedestrian facilities.

**Figure 4.11-5
 Existing Bicycle Level of Traffic Stress (LTS)**



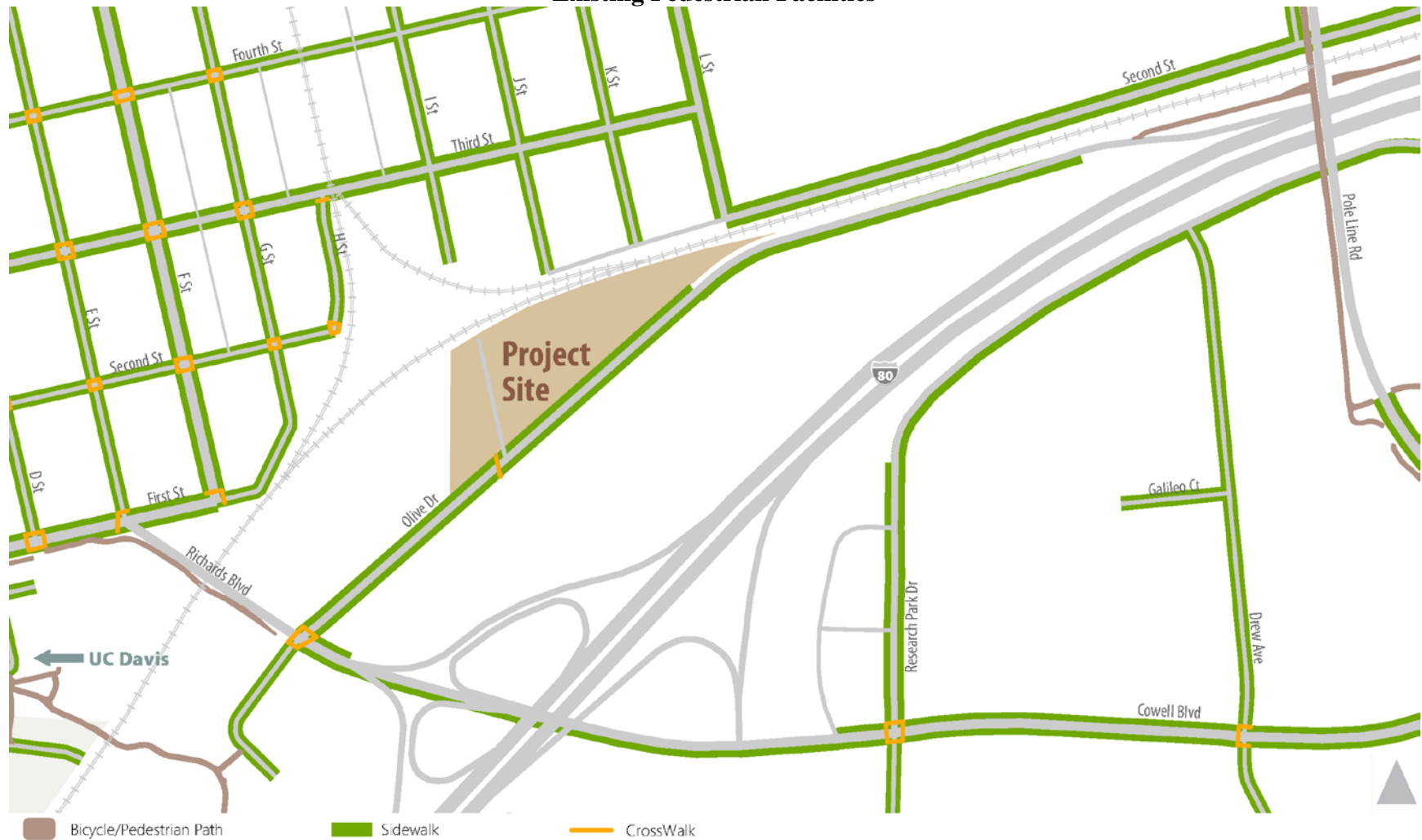
Source: Fehr & Peers, 2017.

**Figure 4.11-6
Existing Bicycle Facilities**



Source: Fehr & Peers, 2017.

Figure 4.11-7
Existing Pedestrian Facilities



Source: Fehr & Peers, 2017.

**Figure 4.11-8
 Existing Pedestrian StreetScore+**



Source: Fehr & Peers, 2017.

**Figure 4.11-9
Existing Pedestrian Facilities**



Source: Fehr & Peers, 2017.

- StreetScore+ 1: Highly comfortable, pedestrian-friendly, and easily navigable for pedestrians of all ages and abilities, including seniors or school-aged children walking unaccompanied to school. These streets provide an ideal “pedestrian-friendly” environment.
- StreetScore+ 2: Generally comfortable for many pedestrians, but parents may not feel comfortable with children walking alone. Seniors may have concerns about the walking environment and take more caution. These streets may be part of a “pedestrian-friendly” environment where it intersects with a more auto-oriented roadway or other environmental constraints.
- StreetScore+ 3: Walking is uncomfortable but possible. Minimum sidewalk and crossing facilities may be present, but barriers are present that make the walking experience uninviting and uncomfortable.
- StreetScore+ 4: Walking is a barrier and is very uncomfortable or even impossible. Streets have limited or no accommodation for pedestrians and are inhospitable and possibly unsafe environment for pedestrians.

The sidewalks on the north-side of East Olive Drive adjacent to the project site range from lower comfort StreetScore+ 3 or 4 mainly due to the lack of landscape buffer between the sidewalk and street, locations of poor sidewalk quality, and amount of driveway curb-cuts without a defined sidewalk. On the south-side of East Olive Drive, there is a higher comfort StreetScore+ 2 generally because of the separation of the sidewalk and street with the landscape buffer. The crosswalks at Richards Boulevard/Olive Drive have lower comfort StreetScore+ 4 due to diagonal curb ramps and lack of pedestrian audible push buttons/countdown signals.

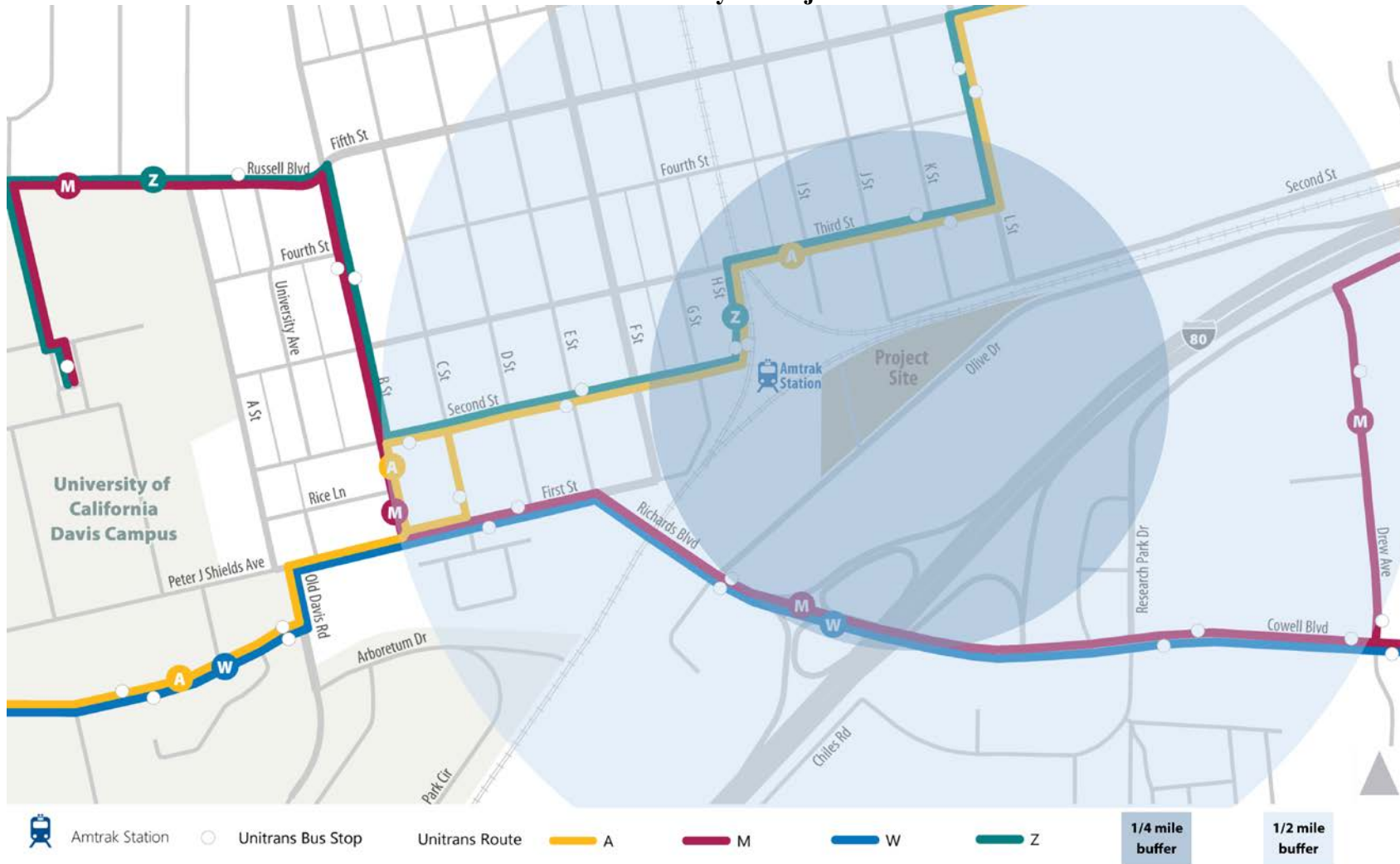
Transit System

The proposed project is located within the Yolo Transit Priority Area. Transit Priority Areas are areas of the region within one-half mile of a major transit stop (existing or planned light rail, street car, train station, or the intersection of two or more major bus routes) or an existing or planned high-quality transit corridor included in the Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS). The project is entirely within one-half mile of two streets identified as high-quality transit corridors in the MTP/SCS (Richards Boulevard and 1st Street) and is within a ½ mile of the Davis Amtrak Station, as shown in Figure 4.11-10.

Key Transit Routes

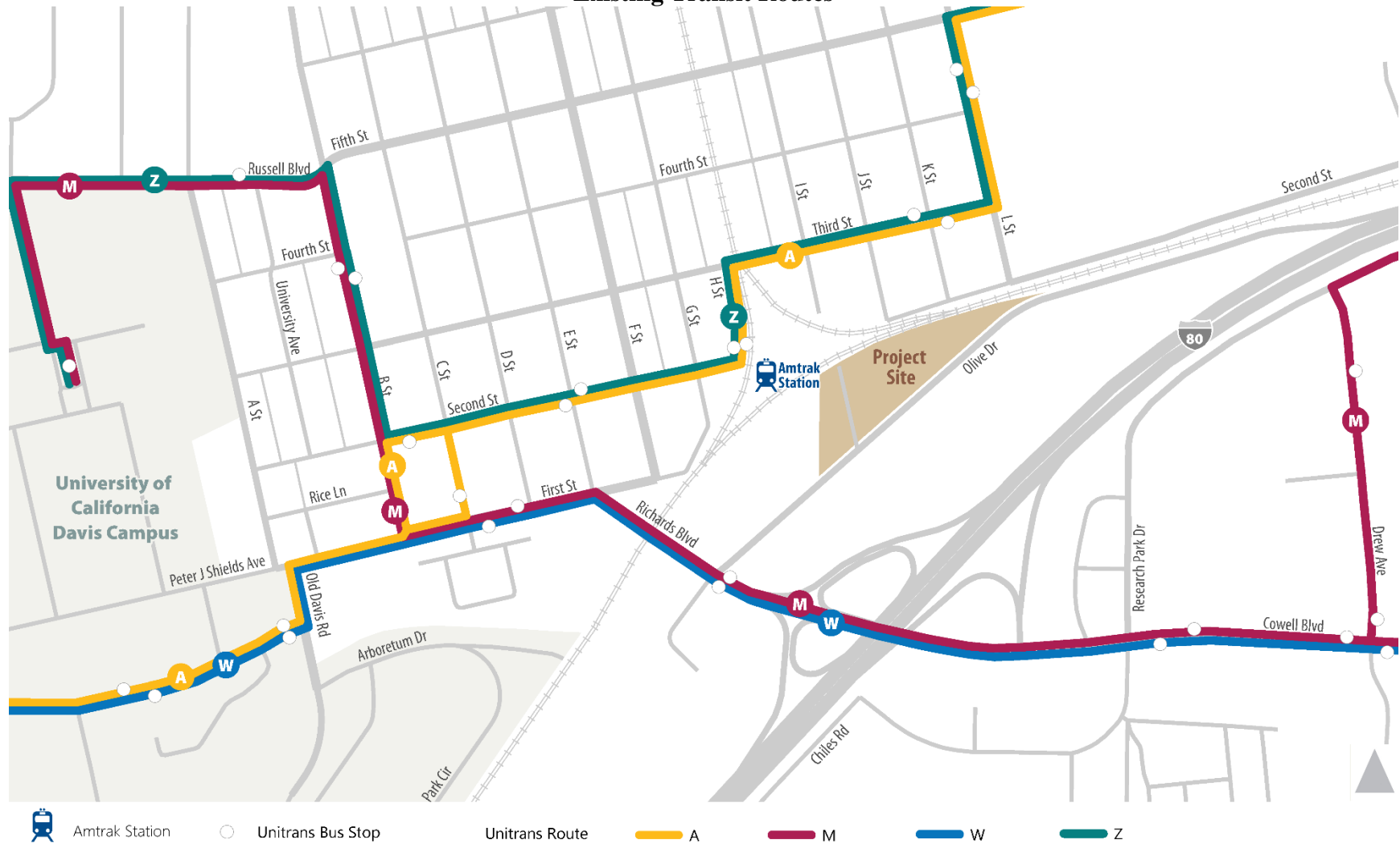
Key transit routes near the project site are shown in Figure 4.11-11. Transit service in the City of Davis is provided by Unitrans (local), Davis Community Transit (paratransit), Yolobus (regional), and Capitol Corridor (inter-regional passenger rail).

**Figure 4.11-10
 Transit in Vicinity of Project Site**



Source: Fehr & Peers, 2017.

**Figure 4.11-11
 Existing Transit Routes**



Source: Fehr & Peers, 2017.

Unitrans

Unitrans is a student-run public transportation bus system that serves the City of Davis. Service is provided on weekdays between 7:00 AM to 11:00 PM, and on Saturdays from 9:00 AM to 6:00 PM. Specific hours and headways vary by line. Buses run more frequently during the UC 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. Unitrans lines within one-half (1/2) mile/2,640 feet of the Lincoln40 project site include:

- 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, 1st Street, Richards Boulevard, Cowell Boulevard, Drew Avenue, and Research Park Drive. Weekday service operates from 7:00 AM to 8:35 PM with headways every 25-35 minutes. Weekend service operates from 9:00 AM to 6:35 PM. The M Line stops at the intersection of Richards Boulevard/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 Street, Richards Boulevard, Cowell Boulevard, Danbury Street, Lillard Drive, and Drummond Avenue. Weekday service operates from 6:59 AM to 11:05 PM (Monday-Thursday) or 8:40 PM (Friday). Headways are 10-20 minutes through 7:00 PM, and every 25-35 minutes thereafter. No W line service is provided on weekends. The W Line stops near the project site at the intersection of Richards Boulevard and Olive Drive.
- Unitrans A Line (Downtown/5th Street/Alhambra) provides fixed-route service between the Memorial Union Terminal at UC Davis and Davis via 5th Street, Alhambra Drive, Mace Boulevard, Cowell Boulevard and Chiles Road. Weekday service operates from 7:00 AM to 8:10 PM with headways every 30 minutes. The A Line stops near the project site at the intersection of 2nd Street/H Street near the Davis Amtrak station.
- Unitrans Z Line (Amtrak/Cantrill/5th Street) provides fixed-route service between the Memorial Union Terminal at UC Davis and North Davis via B Street, 2nd Street, 3rd Street, L Street, 5th Street, and Alhambra Drive. Weekday service operates from 7:15 AM to 5:55 PM with headways every 30 minutes. Weekend service operates from 9:00 AM to 6:35 PM. The Z Line stops near the project site at the intersection of 2nd Street/H Street near the Davis Amtrak station.

Yolobus

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.

- Yolobus Route 44 (South Davis/Sacramento Express) provides fixed-route commuter express service between UC Davis, South Davis, and Downtown Sacramento. There are three morning trips to Sacramento and three evening trips to Davis. This route operates along Richards Boulevard but does not stop at Richards Boulevard/Olive Drive. The closest stop is at 1st Street/C Street, which is within one-half (½) mile of the project site.
- Yolobus Route 231 (Sacramento -Davis) provides one evening commuter express service between Downtown Sacramento and Davis. The Route 231 bus leaves H Street and 11th Street at 6:06 PM. The closest stop to the project site is at 1st Street/D Street, which is within one-half (½) mile of the project site.

Capitol Corridor (Amtrak)

The Capitol Corridor serves inter-regional trips between the Sacramento area and the Bay Area. It provides 34 trains on a daily basis. Most trains originate in Sacramento and travel to either Oakland or San Jose (via Oakland); two trains per day continue northeast to Auburn. Currently access from Olive Drive to the Amtrak station requires travelling through Richards Boulevard into Downtown Davis.

Existing Transit Ridership

Unitrans provided average ridership per transit trip during January 2016 for the key transit routes: M, W, A, and Z lines. Over the course of the day, average ridership on the M Line was approximately 800 riders, on the W Line about 3,500 riders, on the A Line about 1,200 riders, and on the Z Line about 1,000 riders.

The M Line on average operates within the roughly 60-person capacity for standard buses, even during the highest peak occurring at between 8:25 to 8:55 AM with 43 riders.

For the W Line, there is available capacity throughout the day except for several peak times the route operates above double capacity (with two buses serving a single transit run), notably toward UC Davis at between 8:20 and 8:50 AM with 124 riders.

For the A Line, there is available capacity throughout the day except during the highest peak occurring between 8:25 to 8:55 AM, with an average of 85-90 passengers.

The Z Line on average operates within the roughly 60-person capacity for standard buses, even during morning and evening peak periods with an average of 20-30 passengers.

4.11.3 REGULATORY CONTEXT

This section describes the state and local transportation-related regulations that are applicable to the proposed project.

State of California

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.

Caltrans Transportation Corridor Concept Report Interstate 80

A Transportation Corridor Concept Report (TCCR) is a long-term planning document that the District Transportation Planning Office prepares for each State highway, or portion thereof, in its jurisdiction.

The purpose of a TCCR is to plan how a highway will be developed and managed so that it operates at the targeted level of service over a twenty-year period. The TCCR for I-80 (Caltrans, 2010) establishes concept LOS F standard for the segment between Solano/Yolo County Line to Mace Boulevard in the project study area. In addition, the same document also establishes a concept LOS F between Mace Boulevard and the Yolo County/Sacramento County line.

During the majority of weekday and weekend conditions, Interstate 80 would operate better than LOS F conditions. The concept level of service is defined as the targeted operational goal during peak hour conditions that takes into account the trade-offs between level of service and right-of-way impacts.

Regional and 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 2016 MTP/SCS was adopted by the SACOG board in February 18, 2016.

It should be noted that the proposed project is located within the Yolo Transit Priority Area. Transit Priority Areas are areas of the region within one-half mile of a major transit stop (existing or planned light rail, street car, train station, or the intersection of two or more major bus routes) or an existing or planned high-quality transit corridor included in the MTP/SCS. The project is entirely within one-half mile of two streets identified as high-quality transit corridors in the MTP/SCS (Richards Boulevard and 1st Street) and is within a ½ mile of the Davis Amtrak Station.

City of 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:

- Goal #2: The Davis transportation system will evolve to improve air quality, reduce carbon emissions, and improve public health by encouraging usage of clean, energy-efficient, active (i.e. human powered), and economically sustainable means of travel.
 - Performance Objective #2.1: Reduce carbon emissions from the transportation sector 61 percent by 2035.
 - Performance Objective #2.2: Reduce vehicle miles traveled (VMT) 39 percent by 2035.
 - Performance Objective #2.3: Annually increase funding for maintenance and operation needs of the transportation system, until fully funded.
- 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 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 2.5 Create a network of street and bicycle facilities that provides for multiple routes between various origins and destinations.
- 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.
- Policy TRANS 2.8: Improve the function, safety, and appearance of selected corridors as illustrated.
 - Actions
 - a. Develop “corridor plans” for selected streets which warrant special treatment because of existing impact problems or operational issues. Corridor plans should take into consideration adjacent land uses and result in streets that are both functional and aesthetic. The plans should utilize innovative means of slowing traffic, where appropriate, and provide safe access for pedestrians and bicyclists. Mitigation shall be incorporated to protect residences and sensitive receptors from noise, air pollution and other traffic related impacts. The corridor plans may deviate from the standards established in the General Plan, if deviates improve the livability of the area.

The streets to consider for participation in this program are listed below. The identification and prioritization of corridors and/or segments will be established through the Davis Transportation Plan (DTP).

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. 8th Street – B Street to Pole Line Road
8. E Street – 1st Street to 3rd Street
9. F Street – 5th Street to Covell Boulevard
10. 5th Street - B Street to L Street and Russell Boulevard – A to B Street
11. 5th Street – L Street to Cantrill Drive
12. 1st 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 – 1st Street to I-80
22. Russell Boulevard – A Street to State Route 113
23. Russell Boulevard – State Route 113 to west city limit
24. Chiles Road – Drummond Avenue to east city limit

- Policy TRANS 2.9: Enhance access to downtown, including from south Davis and I-80 by improving circulation and connectivity for all modes through and across the Richards Boulevard/1st Street corridor.
- 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 should serve as the backbone of the 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 Gateway/Olive Drive Specific Plan

This section provides the policies regarding the movement of people and goods via various modes of transport that was originally adopted in 1996, and amended in 2002. Implementation of the specific plan does not require major modification to existing roadways. The Gateway/Olive Drive Specific Plan was amended in 2016 as part of the Nishi Gateway planning entitlements. Although the Nishi development was denied by the voters in June 2016, the amendments to the Specific Plan continue to be in effect.

Vehicle Circulation

- (1) West Olive Drive shall be extended to accommodate vehicle trips generated by the Nishi property.

Richards Boulevard

The Davis General Plan calls for widening and capacity and safety improvements to the Richards Boulevard corridor and underpass. The improvements are necessary for the roadway to operate at acceptable levels of service.

- (2) Richards Boulevard shall be improved to accommodate vehicular, pedestrian and bicycle traffic consistent with the Davis General Plan and the ultimate final design determined through the Richards Corridor EIR process.
- (3) All improvements to the intersection of Richards Boulevard and Olive Drive shall recognize the importance of the intersection as a gateway to Davis. Use of paver materials and extensive use of landscaping shall be a high priority.

Safety Issues

The speed at which vehicles enter East Olive Drive after exiting I-80 has long been a concern of residents in the area. The options available for addressing the concern are various traffic calming measures or closure of the Olive Drive off-ramp.¹

- (4) City staff and Safety Advisory Commission shall identify applicable traffic calming measures to slow traffic exiting I-80.
- (5) As part of the review of any development in the plan area, the effects of trip generation shall be reviewed, and if warranted due to adverse impacts on traffic, shall be conditioned to provide traffic calming measures as part of site improvements. After 5 years the city shall reevaluate the need for closing the I-80/East Olive Drive exit (i.e. off-ramp).
- (6) The Olive Drive corridor needs to be reviewed immediately and traffic calming implemented.

¹ More recently, the Richards/Olive Corridor Study (ROCS) was completed and brought to City Council in November 2016. Closure of the westbound I-80 exit ramp at Olive Drive was one of three projects designated as a high priority (other two being Richards/I-80 Interchange, and Olive/Train Depot crossing).

Emergency Vehicle Access

Due to the physical barriers of the SP tracks and I-80, ensuring that acceptable emergency vehicle access has been provided is a high priority. City policy has been that all large projects have more than one emergency vehicle access.

Construction Traffic

The following policies apply:

- (7) All construction traffic should use designated truck routes and the freeway, to the extent feasible.
- (8) With the exception of construction activities in East Olive Drive, no construction vehicles shall be exiting I-80 at the East Olive Drive exit.

Local and Regional Transit

The following policies apply:

- (9) Maintain current Yolobus and Unitrans routes with stops on First Street.
- (10) The SP Depot shall continue to have land set aside and available for a potential light rail station.

Key Pedestrian/Bicycle Connections

The following policies apply:

- (11) The following pedestrian/bicycle linkages connecting the specific plan to the rest of Davis are included as part of the plan:
 - Aggie Village to the Southern Pacific Depot.
 - East Olive Drive to the SP Depot via Hickory Lane.
 - Undercrossing of I-80 at Putah Creek with a possible extension under the West Olive Drive extension.

Davis Beyond Platinum Bicycle Action Plan

Bicycle related policies are included in the Transportation Element of the Davis General Plan. Proposed bicycle infrastructure enhancements are identified in Appendix C of the Davis Beyond Platinum Bicycle Action Plan and include:

- Intersection redesign at Richards Boulevard/Olive Drive
- Bike lanes on East Olive Drive
- Shared Lane Markings on West Olive Drive
- Bike lane conflict markings on Richards Boulevard/I-80 Westbound ramps

4.11.4 IMPACTS AND MITIGATION MEASURES

The transportation impact analysis and proposed mitigation measures presented in this section were developed within the framework of applicable regulations pertaining to transportation described in the Regulatory Context section.

Standards of Significance

The standards of significance and methodology were used to analyze and determine the project impacts related to transportation and circulation. The standards of significance identified below apply to both the project-specific and cumulative transportation and circulation impact analyses.

Standard of Significance 1: Intersections

The following significance criteria are used to identify operational deficiencies based on the intersection 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 for the majority of streets within the City; however, the City's General Plan permits LOS F in the Davis Core Area and Richards Boulevard/Olive Drive area subject to the requirements of subdivision (b).
- b. For signalized intersections within the Core Area and Richards Boulevard/Olive Drive area, a project impact is considered significant if project traffic exacerbates LOS F operations by increasing an intersection's average delay by five or more seconds.

All seven (7) study intersections for the Lincoln40 analysis are signalized and located in the Davis Core Area or Richards Boulevard/Olive Drive area; therefore, they are all subject to the City's LOS F standard. It should be noted that although the City allows LOS F, the City considers an increase in delay by more than five (5) seconds to be a significant impact. Secondary impacts to the environment for the seven signalized intersections, where the addition of project-generated traffic would result in a delay increase of less than five (5) seconds, are considered in other sections of this EIR.

Standard of Significance 2: Freeway Mainline

For Caltrans facilities (I-80), 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. Based on the TCCR for I-80 (Caltrans, 2010) establishing an LOS F standard for I-80 between the Solano/Yolo County line to Mace Boulevard in the project study area, a significant traffic impact on freeway segments occurs when the traffic volume on a freeway segment already operating at LOS F without the project increases by more than five percent.

In addition, based on Caltrans increased emphasis on safety, the analysis of the ramp terminal intersections included the project's potential increase in vehicle queue. For the I-80 off-ramp

diverge segments, the off-ramp queuing analysis was included to determine if the proposed project would result in queue lengths extending back onto the freeway mainline. The project is considered to result in a significant impact if the addition of the project causes freeway off-ramp queuing to increase beyond the capacity of the off-ramp and onto the freeway mainline.

Standard of Significance 3: Bicycle and Pedestrian Facilities

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

- a. The project conflicts with existing, planned, or possible future bicycle and/or pedestrian facilities;
- b. The project otherwise decreases the performance or safety of such facilities.

Standard of Significance 4: Transit Facilities and Service

The project is considered to result in a significant transit impact if:

- a. The project conflicts with existing, planned, or possible future transit facilities and services;
- b. The project otherwise decreases the performance or safety of such facilities.

Standard of Significance 5: Other Transportation Considerations

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

- a. The project does not provide for adequate emergency vehicle access and on-site circulation;
- b. Construction-related traffic causes significant intersection impacts as defined by the traffic system criteria described above; or
- c. The project's VMT exceeds local or regional per capita averages.

It should be noted that parking is not a CEQA issue and is not required to be analyzed in this EIR. Parking, however, is an important planning consideration that will be evaluated as part of the merits of the proposed project.

CEQA Streamlining

It should be noted that the proposed project is consistent with SACOG's MTP/SCS. Under Senate Bill (SB) 375, projects that are SCS consistent are granted certain CEQA streamlining benefits. These benefits include excluding an analysis of project impacts on the "regional transportation network" from CEQA's requirements for this EIR. (Pub. Resources Code, § 21159.28, subd. (a).) In this context, the "regional transportation network" means existing and proposed transportation system improvements, including but not limited to the state transportation system (e.g. I-80 freeway), that were included in the transportation and air quality conformity modeling, including congestion modeling, for the final regional transportation plan

adopted by SACOG, but not including “local streets and roads.” (Pub. Resources Code, § 21159.28, subd. (c).)

SB 375 does not alter the City’s discretion to impose “conditions, exactions, or fees for the mitigation of the project’s impacts on the structure, safety, or operations of the regional transportation network or local streets and roads” as conditions of project approval. However, to comply with the requirements of CEQA, SB 375 provides that the City is not “required to reference, describe, or discuss... any project specific or cumulative impacts from cars and light-duty truck trips generated by the project on... the regional transportation network.” (Pub. Resources Code, § 21159.28, subds. (a), (c).)

As defined in the City of Davis General Plan, a local street is defined as “[a] street, other than a collector or arterial, providing access to abutting property and designed not to accommodate or encourage through trips.” (City of Davis General Plan, Section IV.02 (Transportation), p.24.) The key roadways impacted by the proposed project, include Olive Drive (a minor arterial), Richards Boulevard (a major arterial), and 1st Street (a major arterial); roadways that are not classified as local roads pursuant to the City of Davis General Plan. (*Id.*, Map 3.) Similarly, SACOG’s online mapping tool identifies these roadways as part of the regional network. (See <http://www.arcgis.com/apps/webappviewer/index.html?id=456fc5ca2ae34385be97a9222c4c4914&extent=-13550124.5493,4645787.2569,-13476745.0022,4683012.0897,102100.>)

While CEQA does not require this EIR to include an analysis of project specific or cumulative impacts from cars and light-duty truck trips generated by the project on the regional transportation network, based on consultation with the City of Davis, it was determined that potential impacts on the regional transportation network would be included in the Transportation and Circulation section of the EIR to provide additional information for the public and decision makers to consider in evaluating the proposed project.

Issues Not Discussed Further

The proposed project would not include air travel and would not be located near, or affect in any way, air traffic patterns at the nearest airport (the UC Davis airport). Accordingly, the Initial Study prepared for the proposed project (see Appendix B) determined that no impact would occur as a result of the proposed project related to a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks. Therefore, impacts related to air traffic are not further analyzed or discussed in this EIR section.

Method of Analysis

The methodology employed by Fehr & Peers for the Lincoln40 traffic analysis is discussed below:

Analysis Scenarios

The following analysis scenarios are included in this section.

Existing Conditions

The Existing Conditions scenarios are as follows:

- **Existing Conditions**: operating conditions as of Fall 2016. Existing conditions represent the baseline conditions, upon which project impacts are evaluated.
- **Existing Plus Project Conditions**: evaluates the project-specific effects of the proposed project during the AM and PM peak hours.

Fehr & Peers determined that it was not necessary to also evaluate a midday lunch hour peak for the proposed project. The combination of project work-related commuter, school and shopping trips results in the highest traffic volumes occurring during the morning (7-9 AM) and evening (4-6 PM) peak hours. In addition, the proposed Lincoln40 Project would generate the highest number of project-generated multi-modal trips (vehicles, peds, and bikes) during the same time periods. During the midday lunch hour (noon to 1:00 pm), the combination of background and project-related traffic would be lower than either the morning or evening peak hours. Therefore, it was determined through the scoping process that both morning and evening peak hours would be evaluated in the Transportation and Circulation Section of the EIR.

Cumulative Conditions

The cumulative traffic analysis for this EIR addresses several different conditions, which can be grouped into two overarching scenarios. The first scenario, “Cumulative Condition”, includes buildout of the City of Davis General Plan without the two Measure R projects having either a “hold” status (Mace Ranch Innovation Center (MRIC)) or other uncertain status (Nishi Project). The Cumulative Condition includes the approved Embassy Suites Hotel/Conference Center project. The Embassy Suites was revised and re-approved in early 2017, with a reduction in conference room space and anticipated vehicle trips. To provide a conservative analysis, the traffic analysis retains the original assumptions of the Hotel/Conference Center.

The second scenario, “CEQA Cumulative Condition”, includes City General Plan buildout, the Embassy Suites Hotel/Conference Center project, and adds traffic generated by the MRIC project and the Nishi project. Within this scenario several sub-scenarios are considered that include different combinations of roadway improvements currently being evaluated by the City of Davis within the project vicinity. These sub-scenarios are described in detail later in this section of the EIR.

The general breakdown of the cumulative scenarios is as follows:

- **Cumulative No Project Conditions**: includes 2035 MTP/SCS cumulative year planned land use and roadway network assumptions, but without development of the project.
- **Cumulative Plus Project Conditions**: evaluates the effects of the proposed project under Cumulative Conditions.

- **CEQA Cumulative Scenarios No Project Conditions:** includes MTP/SCS cumulative year 2035 planned land use and roadway network assumptions, MRIC and Nishi project development, and possible roadway network developments (specified later in the CEQA Cumulative Scenarios section). This does not include the development of the project.
- **CEQA Cumulative Scenarios Plus Project Conditions:** evaluates the effects of the proposed project under each CEQA Cumulative Scenario.

Project Definition for Transportation Analysis

This section describes the project’s characteristics related to the transportation network.

Project Description

Existing Residential: refers to the existing residential units that are within the project site. These units would be removed as part of the project. There are currently ten single-family homes (six of which were occupied when the existing data was collected at the time of release of the Notice of Preparation for this EIR) and fourteen apartment units (all occupied).

Lincoln40 Apartments: refers to the proposed apartment complex that would be built on the project site. This complex would be oriented toward a student population with unit types consisting of two to five bedrooms. Table 4.11-6 shows the number of dwelling units and rooms by unit type (2 to 5 bedrooms) for the Lincoln40 Apartments and Figure 4.11-12 presents the project site plan. It should be noted that in addition to the total number of rooms (473), a portion of the 2-bedroom to five-bedroom units are double occupancy. A maximum of 235 of the rooms are double occupancy for a total of 708 beds for the proposed project.

Table 4.11-6 Lincoln40 Apartments - Unit Types, Dwelling Units, and Rooms		
Unit Type	Dwelling Units	Rooms
2 bedroom	17	34
3 bedroom	21	63
4 bedroom	84	336
5 bedroom	8	40
Total	130	473
<i>Source: HighBridge Properties – Lincoln 40 Project Description.</i>		

Figure 4.11-12
Lincoln40 Project Site Plan



Project: refers to the removal of the “Existing Residential” and the addition of the “Lincoln40 Apartments”. Project impacts are based on the net effect of the “Project” on the transportation network.

Data Collection

Applicable vehicle trip generation rates for the Lincoln40 Apartments were developed using vehicle counts in October 2016 at two student-oriented apartment complexes located on the south side of Olive Drive adjacent to the project site: Lexington Apartments and the Arbors Apartments. Table 4.11-7 shows the vehicle traffic counts at the two apartment complexes during the AM and PM peak hours of the surrounding roadway network.

Table 4.11-7 Counted Vehicle Trips of Lincoln40 Similar Apartments							
Apartment	Counted Vehicle Trips						
	Daily	AM Peak Hour (8 AM – 9 AM)			PM Peak Hour (5 PM – 6 PM)		
	Total	Total	In	Out	Total	In	Out
Lexington	670	25	10	15	50	24	26
Arbors	532	35	13	22	34	18	16
Total	1202	60	23	37	84	42	42

*Note: Vehicle counts for Lexington and Arbors Apartments conducted on Tuesday, October 4, 2016.
 Source: Fehr & Peers, 2017*

Bicycle and pedestrian counts were also collected during the same time at the two apartment complexes in order to develop travel mode split. Field observations at the Richards Boulevard/Olive Drive Unitrans bus stops were conducted to determine the split of pedestrians taking transit versus continuing their trip by walking. Parking supply and parking utilization during the highest demand for parking (occurring overnight between 2 AM – 5 AM) was also collected at both apartment complexes.

Trip Generation

The trip generation of the existing residential units on the site was estimated using trip rates from the Davis Travel Demand Model, reflecting typical single-family homes and apartments in Davis. Table 4.11-8 presents the vehicle trip generation rates for the existing land uses on the project site.

Table 4.11-8 Vehicle Trip Rates of Existing Residential								
Land Use	Dwelling Units	Vehicle Trip Rates (Per Dwelling Unit)						
		Daily	AM Peak Hour		PM Peak Hour			
		Rate	Rate	In %	Out %	Rate	In %	Out %
Single-Family Homes	6	12.82	0.98	15%	85%	1.01	70%	30%
Apartments	14	5.96	0.43	15%	85%	0.47	70%	30%

Source: Fehr & Peers, 2017

Due to the unique travel characteristics of a student-oriented apartment in Davis, calculating trip generation using local data at similar apartment complexes was more appropriate than using the industry standard of general apartment trip rates in the Institute of Transportation Engineers (ITE) Trip Generation Manual. The trip generation of the Lincoln40 Apartments was determined from the counts at Lexington and Arbors Apartments.

The number of dwelling units and rooms for each apartment complex was determined based on data from the City of Davis and the respective apartment complex websites/property management. Lexington has a higher density of rooms per dwelling unit (2.84) than at Arbors (1.70), resulting in a difference in daily and PM trips between the two complexes despite a similar number of units. Table 4.11-9 shows the resulting vehicle trip rates per dwelling unit from the traffic counts at the two apartment complexes in Davis.

Table 4.11-9 Vehicle Trip Rates of Lincoln40 Similar Apartments								
Apartment	Dwelling Units (Rooms Per Dwelling Unit)	Vehicle Trip Rates (Per Dwelling Unit)						
		Daily	AM Peak Hour		PM Peak Hour			
		Rate	Rate	In%	Out %	Rate	In%	Out %
Lexington	122 (2.84)	5.49	0.20	40%	60%	0.41	48%	52%
Arbors	120 (1.70)	4.43	0.29	37%	63%	0.28	53%	47%
Weighted Average of Similar Davis Apartments	242 (2.28)	4.97	0.25	38%	62%	0.35	50%	50%

*Note: Weighted average of similar Davis Apartments is based on the total number of dwelling units.
Source: Fehr & Peers, 2017*

Adjustment for Higher Density (Rooms Per Dwelling Unit) of Proposed Project

As shown in Table 4.11-10, the proposed project has an average of 3.64 rooms per dwelling unit, which is higher than the 2.28 rooms per dwelling unit density of the weighted average of similar

Davis apartments. This equates to a 59 percent (3.64/2.28) higher rooms per dwelling rate for the proposed project.

Apartment	Dwelling Unit ¹	Rooms ²	Rooms/Dwelling Unit
Lexington	122	347	2.84
Arbors	120	206	1.70
Total	242	553	-
Weighted Average of Similar Davis Apartments	-	-	2.28
<u>Proposed Project</u>	<u>130</u>	<u>473</u>	<u>3.64</u>

Note:
¹ Dwelling unit data acquired from the City of Davis GIS Library.
² Room data for Lexington and Arbors Apartments from each complex's website and property management.
 Source: Fehr & Peers, 2017

A comparison of density based on the number of residents per room was also evaluated. Property management at Lexington specified 407 residents at their complex, Arbors approximated 275 residents, resulting in a total of 682 residents in 553 rooms (average 1.23 residents per room). Lincoln40 proposes a maximum of 708 residents in 473 rooms (average 1.50 residents per room).

This would equate to a 21 percent higher residents per room density; however, considering that the number of residents can vary and to provide a conservative analysis, the trip generation estimate that incorporates the rooms per dwelling unit adjustment was determined appropriate for application on this project.

The average daily, AM peak hour, and PM peak hour trip rates per dwelling unit for the proposed project were therefore increased by 59 percent to reflect the increased room density of the project, as shown in Table 4.11-11. The primary reasons for applying these adjustments are:

- Despite Lincoln40 proposing a similar number of dwelling units (130) compared to Lexington (122) or Arbors (120), the number of rooms is 36 percent higher than Lexington, and 130 percent higher than Arbors.
- The additional residents based on increased density would add additional vehicle, bicycle, pedestrian, and transit trips to and from the project site.

Apartment	Rooms /DU	% Increase Density	Vehicle Trip Rates (Per Dwelling Unit)						
			Daily	AM Peak Hour			PM Peak Hour		
			Rate	Rate	In%	Out %	Rate	In%	Out %
Weighted Average of Similar Davis Apartments	2.28	-	4.97	0.25	38%	62%	0.35	50%	50%
<u>Preliminary Vehicle Trip Rates for Lincoln40</u>	<u>3.64</u>	<u>+59%</u>	<u>7.91</u>	<u>0.39</u>	<u>38%</u>	<u>62%</u>	<u>0.55</u>	<u>50%</u>	<u>50%</u>

Source: Fehr & Peers, 2017

Adjustment for Parking Cost and Reduced Parking Supply of Proposed Project

The project proposes to charge per parking space as an additional monthly fee above rent. In addition, the project proposes to provide 240 parking spaces, which is a 6.6 percent reduction from the City of Davis Zoning Ordinance that requires 256 parking spaces. This unbundled parking cost and reduction in parking supply (notably with limited adjacent street parking and no near-by parking locations) has the potential to reduce parking demand and the associated number of vehicles and vehicle trips to and from the project. The additional parking cost also has the potential to encourage residents to use other travel modes (walking, bicycling, or transit) to travel to and from the project site. To estimate the potential reduction in vehicle trips due to these parking strategies, the Transportation Demand Management Model (TDM+) was used. This model incorporates comprehensive peer-reviewed research by the California Air Pollution Control Officers Association for estimating percentage reduction in VMT based on specific transportation demand management strategies (including parking), and was calibrated and validated to actual trip generation. Inputs into the model include the proposal to charge an additional fee for parking, and the difference between the unconstrained parking demand and the proposed parking supply.

To determine the unconstrained parking demand, peak parking occupancy counts were conducted at Lexington Apartments and the Arbors Apartments. Peak parking demand occurred between 2 AM and 5 AM, at which time both parking lots were not fully occupied (approximately 92 percent at Lexington and 70 percent at Arbors).

The peak unconstrained parking demand was determined to be 0.71 parking spaces per room, which would equate to 336 parking spaces for the proposed project. The project proposes a parking supply of 0.51 parking spaces per room (240 parking spaces/473 rooms). Output from the TDM+ model resulted in a 13 percent reduction in VMT. This same reduction percentage is expected to apply to the number of the vehicle trips (and vehicle trip rates). The resulting vehicle trip rates after this parking adjustment are presented in Table 4.11-12.

Parking Scenario	% Decrease in Trips	Vehicle Trip Rates (Per Dwelling Unit)						
		Daily	AM Peak Hour		PM Peak Hour			
		Rate	Rate	In%	Out%	Rate	In%	Out%
Unconstrained free parking	-	7.91	0.39	38%	62%	0.55	50%	50%
<u>Final Vehicle Trip Generation Rates for Lincoln40 Apartments</u>	<u>-13%</u>	<u>6.88</u>	<u>0.34</u>	<u>38%</u>	<u>62%</u>	<u>0.48</u>	<u>50%</u>	<u>50%</u>

Source: Fehr & Peers, 2017

Final Vehicle Trip Generation and Comparison

Table 4.11-13 presents the final vehicle trip generation rates for the proposed project after refinements to reflect the particular location, higher density, and parking constraints, plus comparison of vehicle trip generation based on other non-refined methodologies.

- Despite the higher density of the proposed project compared to a typical apartment in Davis or in the Institute of Transportation Engineers (ITE) Trip Generation Manual, the total vehicle trips are comparable due to the high percentage of trips by non-automobile modes (bicycle, walk, transit), as presented in the following section.

Vehicle Trip Generation Methodology	Vehicle Trip Rates (Per Dwelling Unit)						
	Daily	AM Peak Hour		PM Peak Hour			
	Rate	Rate	In%	Out %	Rate	In%	Out %
Davis Travel Demand Model ¹	5.96	0.43	15%	85%	0.47	70%	30%
ITE (Land Use 220 – Apartment) ²	6.65	0.51	20%	80%	0.62	65%	35%
<u>Final Vehicle Trip Generation Rates for Lincoln40 Apartments³</u>	<u>6.88</u>	<u>0.34</u>	<u>38%</u>	<u>62%</u>	<u>0.48</u>	<u>50%</u>	<u>50%</u>

Notes:
¹ Vehicle trip rates shown for the Davis Travel Demand Model includes input of 130 dwelling units for a general Davis apartment.
² Vehicle trip rates shown for ITE includes input of 130 dwelling units for a general apartment (ITE Land Use Code 220).
³ Final vehicle trip rates for the proposed project includes input of 130 dwelling units based on local Lexington and Arbors Apartments count data, refinement for higher room density, and adjustment for parking constraints.
Source: Fehr & Peers, 2017

- During the AM peak hour, the refined proposed project vehicle trip generation rate was estimated to be 21 percent lower than the Davis Travel Demand Model and 33 percent lower than industry standard, general apartment trip rates in ITE based on number of dwelling units.
- During the PM peak hour, the refined proposed project vehicle trip generation rate was estimated to be 1 percent higher than the Davis Travel Demand Model and 23 percent lower than ITE.
- On a daily basis, the refined proposed project vehicle trip generation was estimated to be 15 percent higher than the Davis Travel Demand Model and 3 percent higher than ITE.

The resulting Average Daily, AM peak hour (8 AM – 9 AM), and PM peak hour (5 PM – 6 PM) vehicle trips following the final adjusted Lincoln40 vehicle trip rates are presented in Table 4.11-14.

Table 4.11-14								
Vehicle Trip Generation of Lincoln40 Apartments								
Apartment	Dwelling Units	Vehicle Trips						
		Daily	AM Peak Hour			PM Peak Hour		
		Total	Total	In	Out	Total	In	Out
Lincoln40 Apartments	130	894	45	17	28	63	32	31
<i>Source: Fehr & Peers, 2017</i>								

Net Vehicle Trips Added to Roadway Network

Table 4.11-15 shows the net vehicle trips added to the roadway network with the project. The proposed project, after subtracting the vehicle trips from the existing land uses, would result in a net addition of 734 daily, 33 AM peak hour, and 50 PM peak hour vehicle trips.

Table 4.11-15								
Net Project Vehicle Trips								
Land Use	Vehicle Trips							
	Daily	AM Peak Hour			PM Peak Hour			
	Total	Total	In	Out	Total	In	Out	
Lincoln40 Apartments	894	45	17	28	63	32	31	
Remove Existing Single Family	-77	-6	-1	-5	-6	-4	-2	
Remove Existing Apartments	-83	-6	-1	-5	-7	-5	-2	
Net Vehicle Trips Added	734	33	15	18	50	23	27	
<i>Source: Fehr & Peers, 2017</i>								

Trip Generation Comparison of Project Site Pursuant to Existing Zoning Buildout

The proposed project requires an amendment from the existing zoning/specific plan designation. For informational purposes, this section describes the trip generation comparison of the project site with the proposed project versus assumed buildout of the project site under existing zoning/specific plan designation. Based upon input from the City of Davis, the existing zoning buildout for the project site includes 49 single family units and 8,000 square feet of commercial space in addition to the existing on-site units. However, for conservative purposes the below tables do not reflect trips from the existing on-site uses. Table 4.11-16 presents the trip rates for these land use types from the Davis Travel Demand Model, reflecting typical single-family homes and commercial space in Davis. Table 4.11-17 shows the vehicle trip generation of the project site based on the existing zoning buildout.

Table 4.11-16 Vehicle Trip Rates of Project Site with Existing Zoning Buildout								
Land Use	Quantity	Vehicle Trip Rates (Per Dwelling Unit)						
		Daily	AM Peak Hour		PM Peak Hour			
		Rate	Rate	In%	Out%	Rate	In%	Out%
Single Family Homes	49 du	12.82	0.98	15%	85%	1.01	70%	30%
Commercial	8 ksf	167.0	10.33	72%	28%	14.59	39%	61%

*Notes: du = dwelling unit; ksf = 1,000 square feet
Source: Fehr & Peers, 2017*

Table 4.11-17 Project Site Trips Based on Existing Zoning Buildout								
Land Use	Quantity	Vehicle Trips						
		Daily	AM Peak Hour		PM Peak Hour			
		Total	Total	In	Out	Total	In	Out
Single Family Homes	49 du	628	48	7	41	49	34	15
Commercial	8 ksf	1,336	83	60	23	117	46	71
Total Trips	-	1,964	131	67	64	166	80	86

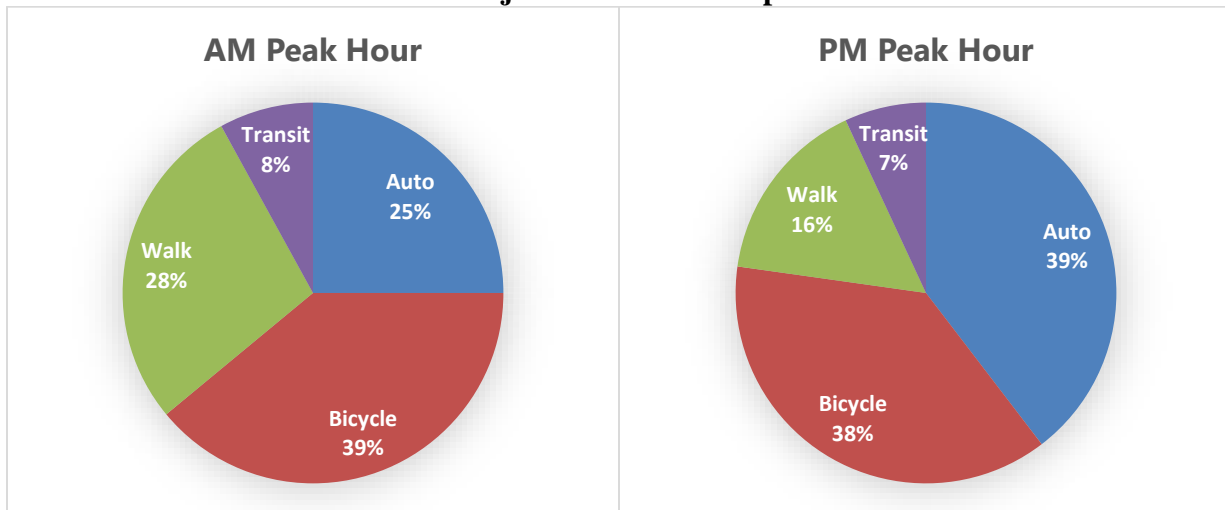
*Notes: du = dwelling unit; ksf = 1,000 square feet
Source: Fehr & Peers, 2017*

Travel Mode Split

Data collection at Lexington and Arbors Apartments included bicycle and pedestrian counts during the peak hours. Fehr & Peers also conducted field observations at the Richards Boulevard/Olive Drive bus stops to determine the split in pedestrians that boarded/exited transit versus continuing/originating as a pedestrian. The resulting travel mode split under the AM and PM peak hours are presented in Figure 4.11-13.

Due to the high student-oriented population and close proximity to UC Davis, the percentage of trips by non-automobile modes (i.e. bicycle, walk, transit) is much higher than a typical apartment complex included in ITE, or elsewhere in Davis further away from the university. For comparison, the analysis of the Sterling Apartments in Davis near Pole Line Road/5th Street (approximately 0.8 mile farther from UC Davis) determined peak hour mode splits of similar apartments in that location of between 50 to 66 percent for automobiles, 19 to 14 percent for bicycles, 30 to 19 percent transit, and minimal walk trips.

**Figure 4.11-13
Project Travel Mode Split**



Source: Fehr & Peers, 2017

Trip Distribution Under Existing Conditions

Vehicle trip distribution was estimated using the Davis Travel Demand Model. Project land use was input into the model in order to track project trips to/from destinations in Davis and neighboring cities. Figure 4.11-14 shows the project vehicle trip distribution under Existing Plus Project conditions. Approximately 47 percent of the proposed project traffic would pass through the UPRR tunnel on Richards Boulevard under Existing Plus Project.

Project-Specific Impacts and Mitigation Measures

The proposed project impacts on the transportation system are evaluated in this section based on the significance criteria and methodology described above. All seven (7) study intersections are signalized and located in the Davis Core Area or Richards Boulevard/Olive Drive area. Based on the project trip generation, mode split, and distribution/assignment analysis, the proposed project does not have the potential to contribute a significant number of vehicle trips to any unsignalized intersections during AM or PM peak hours.

4.11-1 Impacts to study intersections under the Existing Plus Project scenario. Based on the analysis below, the impact is *less than significant*.

Existing Plus Project peak hour intersection traffic volumes are presented in Figure 4.11-15. Existing Plus Project intersection traffic operations are presented in Table 4.11-18. As shown in Table 4.11-18, all intersections would continue to operate acceptably under the Existing Plus Project scenario. With the exception of Richards Boulevard and Olive Drive during the AM peak hour (which increases from LOS C to LOS D), the LOS grade does not increase at any other study intersection or freeway ramp as a result of the proposed project and no intersection or ramp operates at LOS F under Existing or Existing Plus Project conditions.

While the LOS grade does not change, additional delay occurs at Richards Boulevard/Olive Drive during the PM peak hour, which operates at LOS D, generally due to the increase in westbound vehicle and bicycle traffic.

LOS E is acceptable throughout the City of Davis and, so long as a proposed project does not result in a 5 percent increase in delay, LOS F is considered acceptable for all study intersections. Because all study intersections would operate at LOS E or better, the project would have a *less-than-significant* impact to the study intersections.

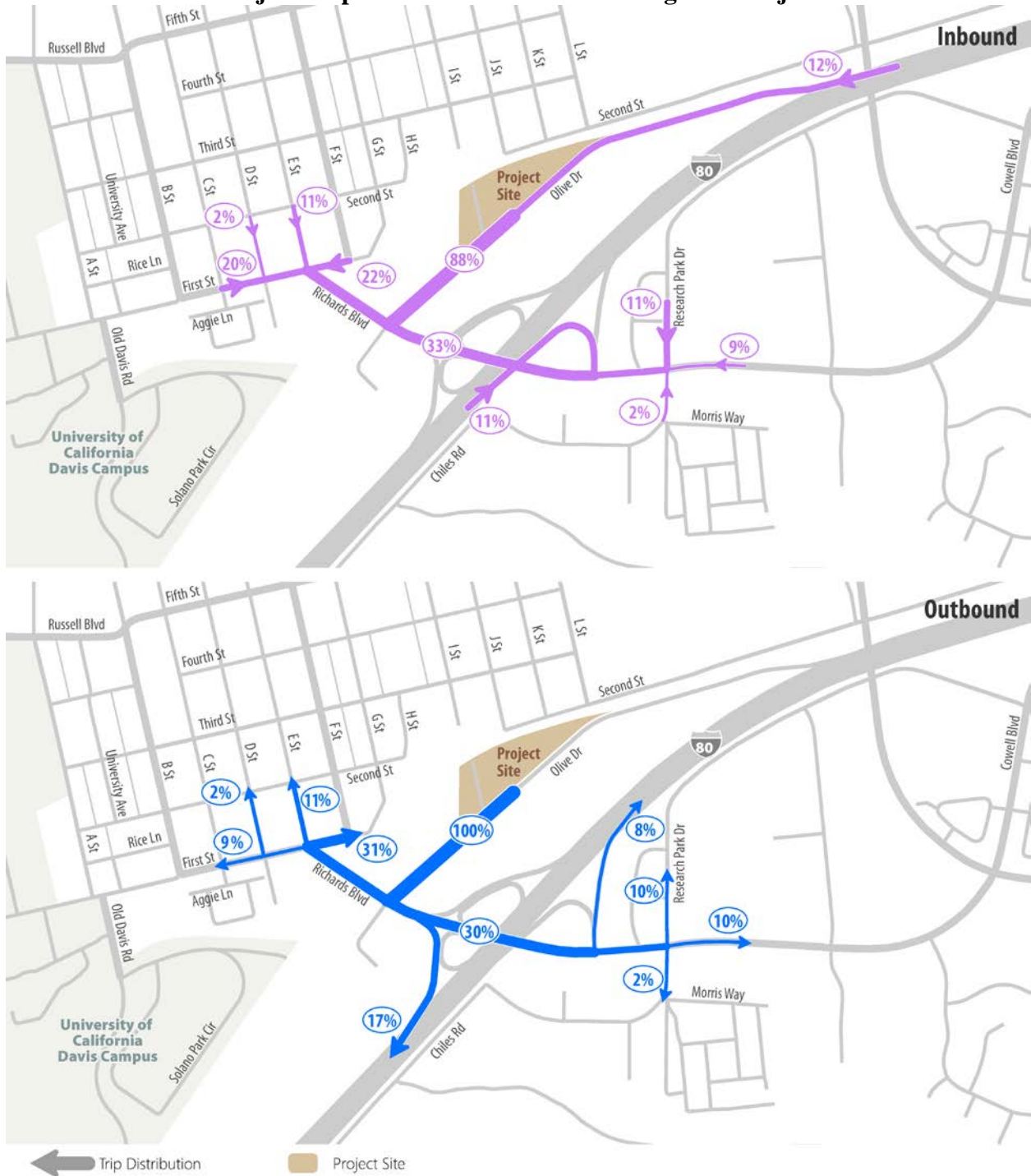
Mitigation Measure(s)

None required.

Table 4.11-18 Existing Plus Project Intersection Operations					
Intersection	Traffic Control	Average Control Delay Seconds/LOS			
		Existing		Existing Plus Project	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1. 1 st Street/D Street	Signal	16 B	29 C	19 B	34 C
2. 1 st Street/E Street/Richards Boulevard	Signal	28 C	28 C	28 C	34 C
3. Olive Drive/I-80 Westbound Off-Ramp	Uncontrolled	N/A	N/A	N/A	N/A
4. Richards Boulevard/Olive Drive	Signal	33 C	36 D	36 D	54 D
5. Richards Boulevard/I-80 Westbound Ramps	Uncontrolled	N/A	N/A	N/A	N/A
6. Richards Boulevard/I-80 Eastbound Ramps	Signal	32 C	63 E	32 C	63 E
7. Richards Boulevard/Cowell Boulevard/Research Park Drive	Signal	29 C	29 C	28 C	32 C

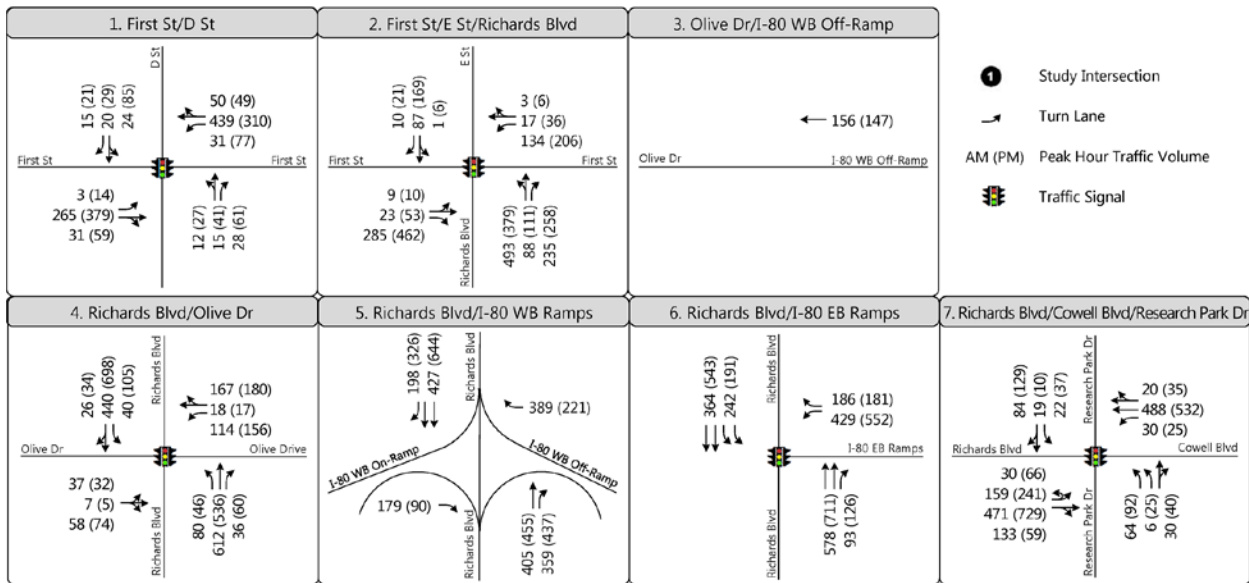
*Note: LOS and average control delay is reported in seconds per vehicle.
Source: Fehr & Peers, 2017*

Figure 4.11-14
Project Trip Distribution Under Existing Plus Project



Source: Fehr & Peers, 2017

Figure 4.11-15
Existing Plus Project Peak Hour Intersection Volumes



Source: Fehr & Peers, 2017

4.11-2 Impacts to study freeway segments under the Existing Plus Project scenario. Based on the analysis below, the impact is *less than significant*.

Mainline

Table 4.11-19 presents the freeway mainline operations under the Existing Plus Project scenario.

Table 4.11-19 Existing Plus Project Freeway Mainline Operations					
Freeway	Segment	Density pcplpm/LOS			
		Existing		Existing Plus Project	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
I-80 Westbound	1. Mace Boulevard to Olive Drive	28/D	25/C	28/D	25/C
	2. Olive Drive to Richards Boulevard	27/D	24/C	27/D	24/C
	3. Richards Boulevard to Old Davis Road	20/C	20/C	20/C	20/C
I-80 Eastbound	1. Old Davis Road to Richards Boulevard	26/C	26/C	26/C	26/C
	2. Richards Boulevard to Mace Boulevard	24/C	23/C	24/C	23/C
<i>Note: pcplpm = passenger cars per lane per mile Source: Fehr & Peers, 2017</i>					

All study freeway mainline segments would operate at acceptable LOS D or better during the AM and PM peak hours under Existing Plus Project conditions. The project only adds five or fewer trips on each freeway segment during the AM and PM peak hours; the minor amount of traffic added does not change the freeway mainline LOS. The project would have a *less-than-significant* impact to the study freeway mainline segments.

Queues

Vehicles approaching the project site from westbound I-80 would add trips to the Olive Drive off-ramp, which does not have existing queuing issues. Vehicles would not use the westbound Richards Boulevard off-ramp, as the Olive Drive off-ramp provides more convenient access to the project site. Vehicles approaching the project site from eastbound I-80 would exit at the eastbound Richards Boulevard off-ramp, resulting in a moderate increase of three trips during the PM peak hour. As shown in Table 4.11-20, freeway off-ramp queuing would remain within the available storage length during the AM and PM peak hours under Existing Plus Project conditions. The proposed project would not cause a speed differential impact because the maximum queue would be less than the available storage of the I-80 off-ramps to Richards Boulevard during both AM and PM Peak hour conditions. Therefore, the

proposed project would have a *less-than-significant* impact to the study freeway off-ramps.

Mitigation Measure(s)

None required.

Table 4.11-20 Existing Plus Project Off-Ramp Maximum Queue Length					
Off-Ramp	Storage (feet)	Maximum Queue (feet)			
		Existing		Existing Plus Project	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
I-80 Westbound Off-Ramp at Richards Boulevard	1,450	800	350	800	350
I-80 Eastbound Off-Ramp at Richards Boulevard	1,250	200	400	200	400

Source: Fehr & Peers, 2017

4.11-3 The project’s Vehicle Miles of Travel (VMT) would exceed local or regional per capita averages. Based on the analysis below, the impact is *less than significant*.

This section discusses the effect of the project on VMT per capita for the City of Davis/UC Davis area and for the project influence area of Yolo County. It should be noted that the proposed project has been identified as being consistent with the SACOG MTP/SCS for the region and the corresponding Metropolitan Transportation Improvement Plan. In addition, the project is also located within the Yolo Transit Priority Area. Transit Priority Areas are areas of the region within one-half mile of a major transit stop (existing or planned light rail, street car, train station, or the intersection of two or more major bus routes) or an existing or planned high-quality transit corridor included in the MTP/SCS. The project is entirely within one-half mile of two streets identified as high-quality transit corridors in the MTP/SCS (Richards Boulevard and 1st Street) and is within a ½ mile of the Davis Amtrak Station.

These two major factors are included within the SACMET regional travel model in terms of the project, type of land use and proximity to destinations for residents. The SACMET regional travel model was used to estimate VMT per capita under the Existing Plus Project scenario. The project’s effect on VMT per capita for the Davis area was determined by capturing all VMT generated by the proposed project and dividing it by the 708 residents (beds) as defined in the project description.

The proposed project would provide a needed supply of student-oriented housing for UC Davis students who would otherwise have to live in other parts of the City of Davis. For the larger Yolo County region, the proposed project would provide student-oriented housing for UC Davis students who may otherwise have to live in

Woodland, Dixon, or West Sacramento due to the limited supply of rental housing in the City of Davis.²

Therefore, with the project travel mode split and the proximity of the Lincoln40 project to downtown Davis and UC Davis, the VMT per capita was determined to be 10.0 miles per day under Existing Plus Project Conditions. This result shows that by locating student-oriented housing on Olive Drive, within ½-mile of multiple transit options, and less than ¾-mile from the UC Davis campus, the proposed project would reduce the reliance on single occupant vehicles. The results show that the project's 10.0 VMT per capita per day is lower than the existing City Davis/UC Davis Area-generated 18.0 VMT per capita per day. This represents a 45 percent reduction in VMT per capita for the proposed Lincoln40 Project. Therefore, the proposed project would result in a *less-than-significant* impact with respect to exceeding local or regional per capita averages relative to the City Davis/UC Davis Area.

Mitigation Measure(s)

None required.

4.11-4 Impacts to Bicycle and Pedestrian Facilities. Based on the analysis below, the impact is *less than significant*.

The project would construct a sidewalk along the entire length of the project frontage, thereby improving pedestrian circulation on the north side of Olive Drive. The current bicycle lanes on Olive Drive would continue to be in place with the project.

As shown in Figure 4.11-8, the Level of Traffic Stress (LTS) for pedestrians is high (4) for the Richards Boulevard/Olive Drive intersection, even though crosswalks are provided on all four legs of the signalized intersection. A Streetscore of 4 means that walking is very uncomfortable as a result of the amount of vehicles (cars, trucks, and buses) using the intersection during both morning and evening peak hour conditions. As shown in Figure 4.11-5, the LTS for bicyclists ranges from low stress (1) for westbound to high stress (3 to 4) for eastbound Olive Drive. On southbound Richards Boulevard, the multi-use path provides a barrier separated path for pedestrians and bicyclists leaving downtown Davis. Based on the proposed project travel mode split (Figure 4.11-13), during the morning peak hour, 28 percent of all person trips would

² According to the City of Davis 2013-2021 Housing Element (p.3-24), the City's vacancy rates, at around 3.8 percent, remain extremely low. Within the field of urban economics, a residential vacancy rate of approximately 5 percent is considered an indicator of a real estate market with sufficient housing options for both renters and buyers, and a reasonable balance between supply and demand. Davis' consistently low vacancy rates indicate high levels of local housing demand relative to available supply. The high level of housing demand and limited supply of housing contributes to high housing costs in Davis. As a result of the high housing costs in Davis, approximately 46 percent of all Davis households (7,779 households) experienced some level of excessive housing cost burden in 2010, though renter households experienced a disproportionate share of housing affordability problems.

be walking and 39 percent would be bicycling. During the evening peak hour, 16 percent of all person trips would be walking and 38 percent would be bicycling.

During the morning peak hour (8 to 9 AM), approximately 50 residents of the proposed project would be anticipated to walk along Olive Drive and cross the north side of the signalized Richards Boulevard/Olive Drive intersection. Another approximately 70 residents would ride along the existing bicycle lane on the north side of Olive Drive, then cross Richards Boulevard to access the Putah Creek Parkway located at the end of Olive Drive. This corresponds to, on average, approximately one additional pedestrian and two additional bicyclists during each cycle at the signalized Richards Boulevard/Olive Drive intersection. A cycle is defined as a complete set of green indications serving all directions of traffic (automobiles, pedestrians, and bicyclists).

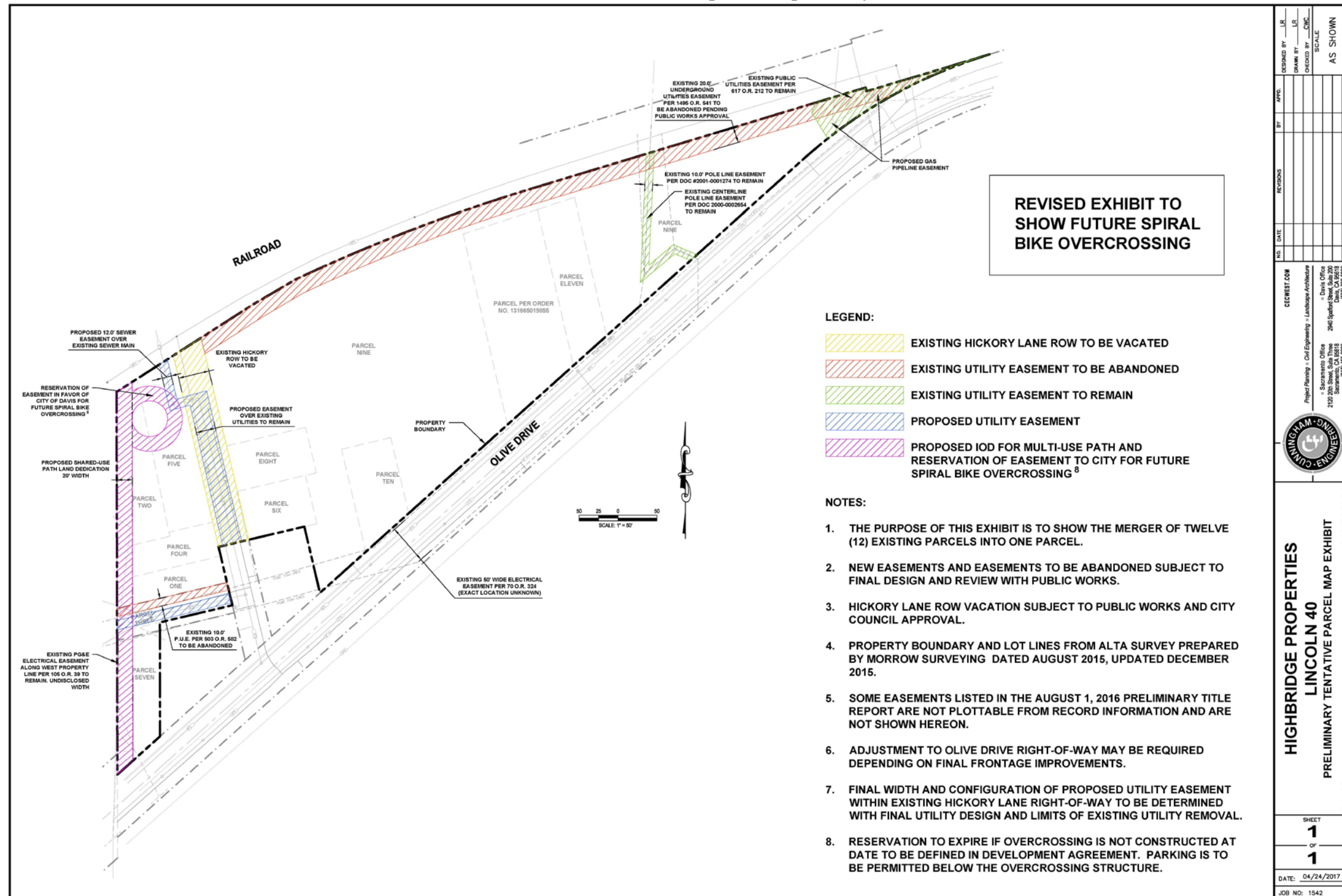
During the evening peak hour (5 to 6 PM), approximately 26 residents of the proposed project would be anticipated to walk along Olive Drive and cross the north side of the signalized Richards Boulevard/Olive Drive intersection. Another approximately 61 residents would ride along the existing bicycle lane on the north side of Olive Drive, then cross Richards Boulevard to access the Putah Creek Parkway located at the end of Olive Drive. This corresponds to, on average, one additional pedestrian and one additional bicyclist during each cycle at the signalized Richards Boulevard/Olive Drive intersection. With respect to the bike lane on the south side of East Olive Drive, approximately 32 residents of the project would be expected to bike on eastbound Olive Drive towards the project site during the PM peak hour. Over the course of the PM peak hour, this corresponds to 1 to 2 bicyclists during each cycle (green phase) for the Richards Boulevard/Olive Drive intersection.

During both morning and evening peak hours, based on the number of pedestrians (>350) and bicyclists (>190) currently using the signalized Richards Boulevard/Olive Drive intersection, the addition of project-generated multi-modal person trips would not trigger the need for additional pedestrian or bicycle signal phases, and thus not decrease the performance of the existing crosswalks or Class II bicycle lane.

The standard of significance for pedestrian and bicycle facilities also considers whether the project would conflict with existing, planned, or possible future bicycle and/or pedestrian facilities. The Gateway / Olive Drive Specific Plan identifies three planned pedestrian/bicycle linkages connecting the specific plan to the rest of Davis, one of which is from East Olive Drive to the SP Depot via Hickory Lane. This planned linkage has recently been evaluated by the City as part of the Richards Olive Corridor Study. Among the potential design options considered, the City has indicated a preference for a grade-separated overcrossing with spiral ramps on either end. Figure 4.11-16 illustrates how the Lincoln40 Site Plan has sufficient space to accommodate the spiral ramp design of the planned grade-separated crossing.

Therefore, the project would have a *less-than-significant* impact to the bicycle and pedestrian facilities.

Figure 4.11-16
Lincoln40 Site Plan with Spiral Ramp Overlay



Mitigation Measure(s)

None required.

4.11-5 Impact to Transit Service. Based on the analysis below, the impact is less than significant.

Project-related transit trips would likely utilize existing routes serving the project area, particularly the Unitrans M and W Lines. Based on the proposed project travel mode split (Figure 4.11-13), during the morning peak hour, it is estimated that 8 percent of all person trips would take transit. During the evening peak hour, it is estimated that 7 percent of all person trips would take transit.

Based upon these percentages, during the morning peak hour (8 to 9 AM), 14 residents, and during evening peak hour (5 to 6 PM), 11 residents, of the proposed project would take one of the following (all of which are located within ½ mile of the project site):

- M Unitrans Line (Northbound Richards at Olive Drive)
- W Unitrans Line (Southbound Richards at Olive Drive)
- Z Unitrans Line (Westbound 2nd Street at E Street)
- A Unitrans Line (Eastbound 2nd Street at E Street)
- Amtrak Capitol Corridor (2nd Street and H Street)
- Yolobus Routes 44 (1st Street and C Street)
- Yolobus Routes 231 (1st Street and D Street)

The ½-mile radius is used in this transit analysis because it corresponds to the definition of a “Transit Priority Area” in Public Resources Code 21099: “*Transit priority area*” means an area within one-half mile of a major transit stop that is either existing or planned. A “major transit stop” is defined in Section 21064.3 to mean “...a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.” Being located within a transit priority area is one of the performance standards listed in Appendix M of the CEQA Guidelines that must be met for a project to qualify for streamlined environmental review, pursuant to CEQA Guidelines Section 15183.5(b). As previously discussed, the project site is within the Yolo Transit Priority Area. The project site is entirely within one-half mile of two streets identified as high-quality transit corridors in the MTP/SCS (Richards Boulevard and 1st Street) and is within ½ mile of the Davis Amtrak Station.

Unitrans provided average ridership per transit trip during January 2016 for the key transit routes: M, W, Z, and A lines. Over the course of the day, average ridership on the M Line was approximately 800 riders and 3,500 riders on the W Line. The M Line, on average, operates within the roughly 60-person capacity for standard buses, even during the highest peak occurring at between 8:25 to 8:55 AM with 43 riders.

For the W Line, there is available capacity throughout the day except for several peak times the route operates above double capacity (with two buses serving a single transit run), notably toward UC Davis between 8:20 and 8:50 AM with 124 riders.

The Z Line operates along 3rd Street and 2nd Street through Downtown Davis in both directions to and from Memorial Union on the UC Davis campus. The Z Line operates between 7:15 AM to 5:55 PM. Based on data provided by Unitrans, the Z Line serves about 20-30 passengers during morning and evening peak periods; and with a design capacity of 60 passengers for planning purposes, the Z Line has available capacity. The A Line operates along 3rd Street and 2nd Street through downtown Davis in both directions to and from the Silo Terminal on the UC Davis campus. The A Line operates between 7:00 AM to 8:00 PM. Based on data provided by Unitrans, the A Line serves about 40-45 passengers during morning and evening peak hours; and with a design capacity of 60 passengers for planning purposes, the A Line has available capacity. As discussed in OPR's Technical Advisory for SB 743,³

When evaluating impacts to multimodal transportation networks, lead agencies generally should not treat the addition of new users as an adverse impact. Any travel-efficient infill development is likely to add riders to transit systems, potentially slowing transit vehicle mobility, but also potentially improving overall destination proximity. Meanwhile, such development improves regional vehicle flow generally by loading less vehicle travel onto the regional network than if that development was to occur elsewhere.

In conclusion, while the Unitrans W Line has insufficient capacity at certain peak periods during the day, the project site is located in close proximity to several other transit resources (i.e. the Unitrans M, A and Z Lines, YoloBus Routes 44 and 231, and the Amtrak Station) and is a short walk or bicycle ride from both Downtown Davis and UC Davis. Based on the project site's proximity to numerous transit resources and central location, the addition of project-generated multi-modal person trips would not decrease the performance of the existing transit service. Therefore, the project would have a *less-than-significant* impact to transit service.

Mitigation Measure(s)

None required.

4.11-6 Impacts to Emergency Vehicle Access. Based on the analysis below, the impact is less than significant.

It should be noted that the Public Services and Recreation section of this EIR evaluates provision of emergency services to the Lincoln40 project site, and the following discussion focuses on site access sufficiency for emergency vehicles.

³ Governor's Office of Planning and Research. *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA: Implementing Senate Bill 743* (Steinberg, 2013) [pg. III:26]. January 20, 2016.

The project would provide two driveways on Olive Drive that would serve the 130-unit proposed project site. The westerly project driveway would provide emergency vehicle access to the project site and is designed to provide adequate sight distance and width for City of Davis fire trucks and other emergency vehicles traveling to and from the project site from Richards Boulevard. A second project driveway would provide emergency vehicle access in the event that the westerly driveway is blocked. By providing two access and egress points, the proposed project will meet City of Davis standards for providing emergency vehicle access (EVA) to the site. Therefore, the proposed project would have a *less-than-significant* impact to the emergency vehicle access.

Mitigation Measure(s)

None required.

4.11-7 Impacts associated with Construction Vehicle Traffic. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Construction of the project, including site preparation and construction, and delivery activities, would generate contractor employee trips and a variety of construction-related vehicles. 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.

These activities will result in additional vehicles (cars and trucks) at the I-80/Richards Boulevard interchange and the Richards Boulevard/Olive Drive intersection. All study intersections for the Lincoln40 analysis are subject to the City's LOS F standard.

During morning (8 to 9 AM) peak hour conditions, with all seven study intersections operating at acceptable LOS D conditions or better (and a level of service criteria of F), the addition of construction vehicle traffic would not result in an intersection impact. During evening (5 to 6 PM) peak hour conditions, six of the seven study intersections operate at acceptable LOS D conditions or better.

The intersection of Richards Boulevard/I-80 Eastbound Ramps is projected to operate at acceptable LOS E conditions. The majority of construction-related traffic occurs between 6:30 AM and 4:00 PM, not during the peak hour. Therefore, the addition of construction vehicle traffic would not result in an intersection impact.

On the other hand, with the Richards Boulevard corridor providing a major access point to downtown Davis and UC Davis and the amount of pedestrians, bicyclists and transit users, construction-related traffic at the Richards Boulevard/Olive Drive intersection could result in the disruption of traffic flow along one of the primary multi-modal corridors serving the City of Davis.

Therefore, without implementation of a detailed construction traffic management program, the construction of the proposed project could result in a *significant* impact.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above-identified impact to a *less-than-significant* level by ensuring appropriate signage and access would be provided so as to maintain the flow of traffic in the vicinity of the project site.

4.11-7 *Before commencement of 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 safety.*

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.

Cumulative Impacts and Mitigation Measures

The cumulative traffic analysis for this EIR incorporates two scenarios. The first scenario, “Cumulative Condition”, which includes buildout of the City of Davis General Plan without the two Measure R projects having either a “hold” status (Mace Ranch Innovation Center) or other uncertain status (Nishi project). This Cumulative Condition includes the approved Embassy Suites Hotel/Conference Center project. As discussed earlier, the Embassy Suites was revised

and re-approved in early 2017, with a reduction in conference room space and anticipated vehicle trips. To provide a conservative analysis, the traffic analysis retains the original assumptions of the Hotel/Conference Center. The Cumulative Condition is evaluated within this section of the EIR.

The second scenario, “CEQA Cumulative Condition”, includes City General Plan buildout, the Embassy Suites Hotel/Conference Center project, and adds traffic generated by the Mace Ranch Innovation Center (MRIC) project and the Nishi project. Within this scenario several sub-scenarios are considered that include different combinations of roadway improvements currently being evaluated by the City of Davis within the project vicinity. These sub-scenarios are described in detail later in this section of the EIR.

Cumulative Conditions

This section describes the anticipated travel characteristics under cumulative (2035) conditions. The Davis Travel Demand Forecasting (TDF) Model, used to develop travel forecasts, was updated to reflect the Sacramento Area Council of Governments adopted Metropolitan Transportation Plan (MTP) and Sustainable Communities Strategy (SCS).

The TDF model also includes approved cumulative land use projects, notably the following project:

- Hotel Conference Center
 - Embassy Suites hotel (132 rooms)
 - Restaurant for hotel guests and conference attendees
 - Conference center (14,900 square feet)

For the purposes of this EIR, the conservative approach of assuming no additional development on the Lincoln40 Project Site was used for the Cumulative No Project scenario.

The cumulative transportation analysis also incorporates approved transportation projects, notably the following roadway improvement:

- Richards Boulevard/Cowell Boulevard/Research Park Drive eastbound approach widening/left-turn pocket

Travel Forecasting

Cumulative conditions traffic volumes were forecast using the “difference method”, which adjusts raw model volume forecasts based on expected incremental growth from Existing Conditions using the following formula:

$$\begin{aligned} \text{Cumulative Forecasts} = & \text{Existing Traffic Count} \\ & + \text{Cumulative Raw Model Volume} \\ & - \text{Base Year Raw Model Volume} \end{aligned}$$

The Cumulative No Project peak hour intersection traffic volume forecasts are presented in Figure 4.11-17.

Trip Distribution Under Cumulative Plus Project Conditions Scenarios

The Cumulative Plus Project Conditions scenarios manually adds project trips to the Cumulative No Project traffic forecasts according to the cumulative project trip distribution developed using the Davis Travel Demand Model.

With the inclusion of the cumulative land use and transportation projects, the project trip distribution is expected to differ slightly from existing conditions; however, 57 percent of the proposed project traffic would continue to pass through the UPRR tunnel on Richards Boulevard under Cumulative Plus Project conditions (see Figure 4.11-18).

4.11-8 Impacts to study intersections under the Cumulative Plus Project scenario. Based on the analysis below and with implementation of mitigation, the impact is less than significant.

Cumulative Plus Project peak hour intersection traffic volumes are presented in Figure 4.11-19. Cumulative Plus Project intersection traffic operations are presented in Table 4.11-21.

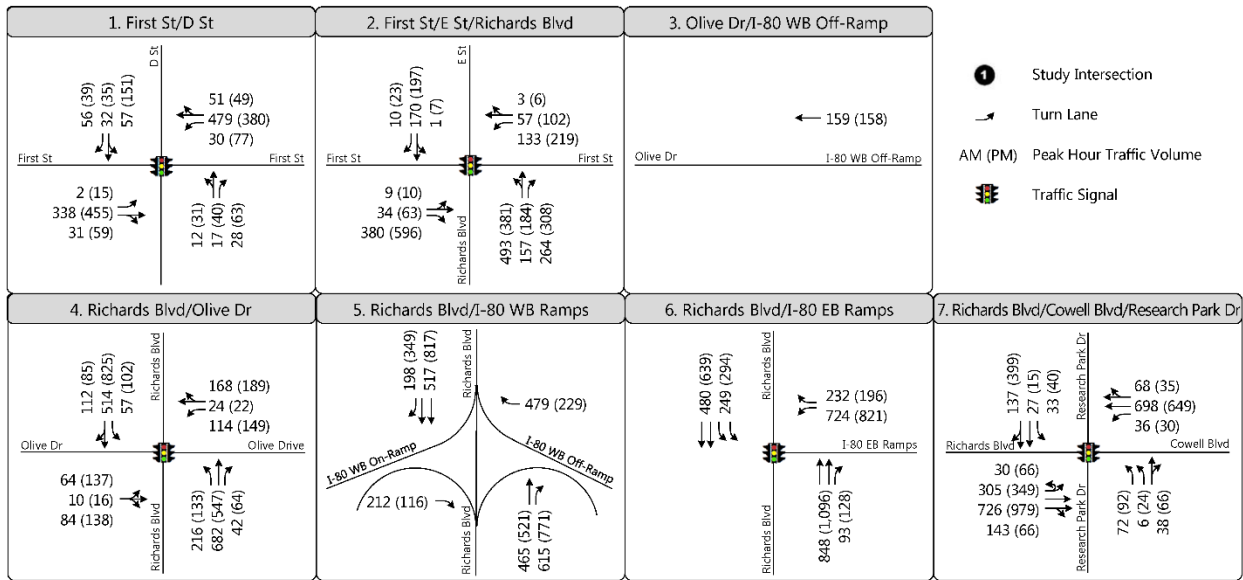
Under Cumulative No Project Conditions, all seven (7) study intersections operate at acceptable conditions, with the following intersections operating at LOS F:

- 1st Street/D Street – PM Peak Hour;
- Richards Boulevard/Olive Drive – AM Peak Hour; and
- Richards Boulevard/I-80 Eastbound Ramps – AM and PM Peak Hours.

Under Cumulative Plus Project conditions, the project adds traffic to three intersections already anticipated to operate at LOS F under Cumulative No Project conditions during either the morning or evening peak hour and, at one intersection (Richards Boulevard/Cowell Boulevard/Research Park Drive), will result in an increase from LOS E to LOS F. The increase in delay at these intersections can be attributed, in part, to the mix of vehicles, bicyclists, and pedestrians using the intersection.

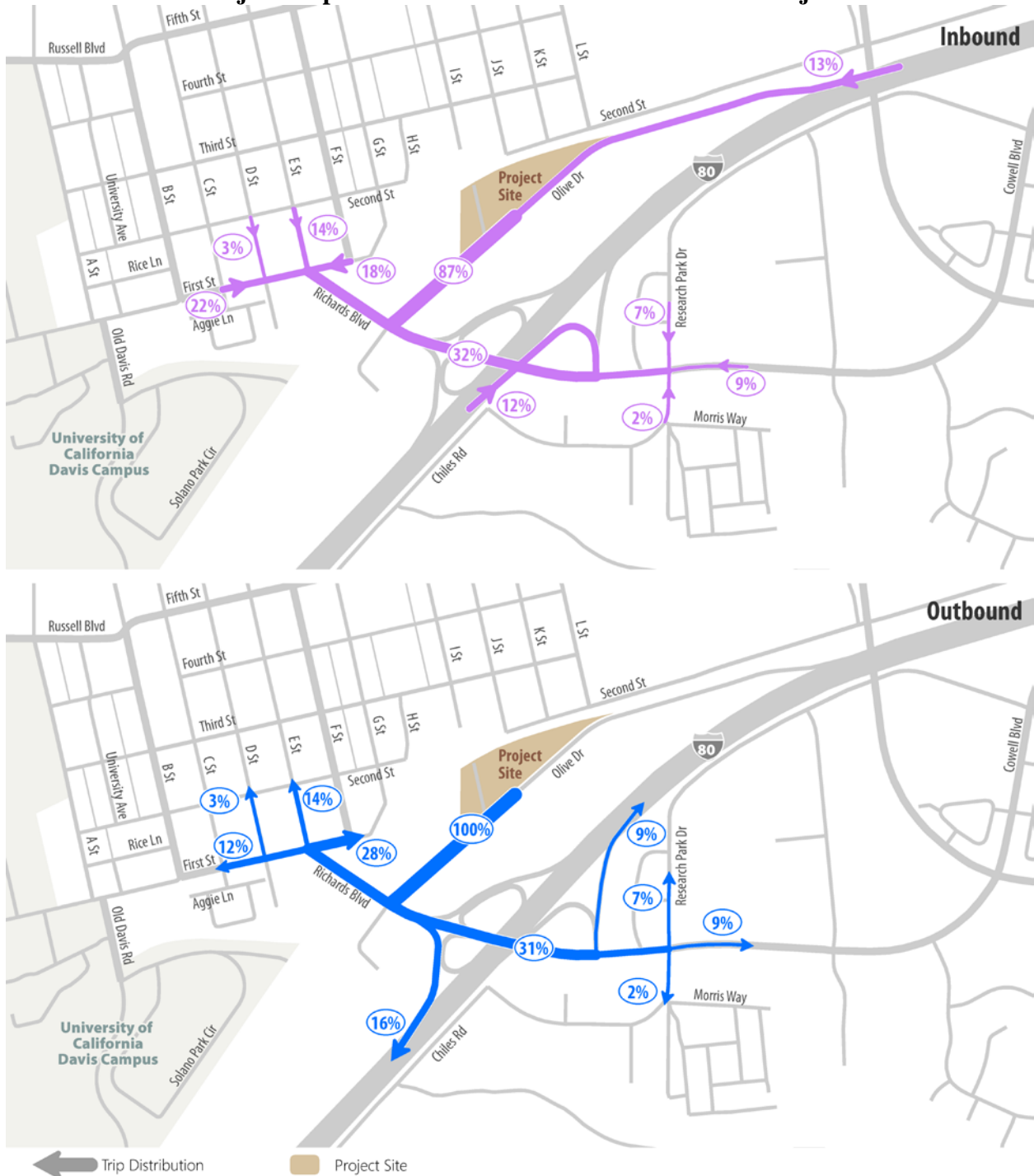
Many of the impacts are seen in upstream intersections from Richards Boulevard/Olive Drive as cars, transit vehicles, pedestrians and bicyclists use this heavily utilized multi-modal corridor in the City of Davis.

Figure 4.11-17
Cumulative No Project Peak Hour Intersection Volumes



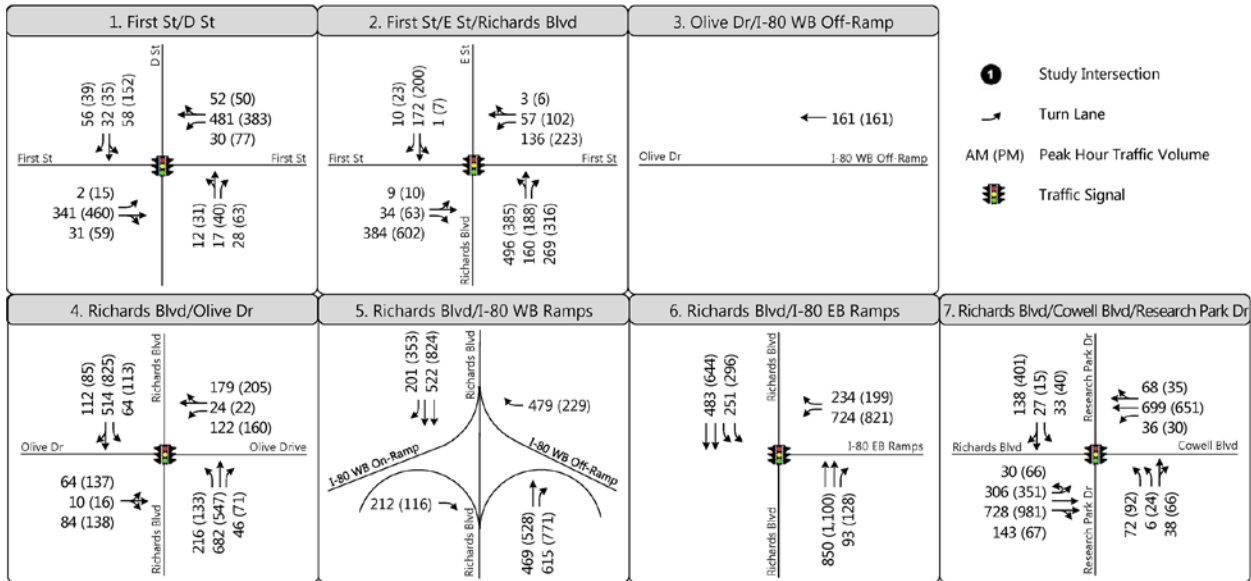
Source: Fehr & Peers, 2017

**Figure 4.11-18
 Project Trip Distribution Under Cumulative Plus Project**



Source: Fehr & Peers, 2017

Figure 4.11-19
Cumulative Plus Project Peak Hour Intersection Volumes



Source: Fehr & Peers, 2017

**Table 4.11-21
Cumulative No Project and Plus Project Intersection Operations**

Intersection	Traffic Control	Delay/LOS			
		Cumulative No Project		Cumulative Plus Project	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1. 1 st Street/D Street	Signal	17 B	133 F	19 B	<u>149</u> <u>F</u>
2. 1 st Street/E Street/Richards Boulevard	Signal	33 C	56 E	32 C	60 E
3. Olive Drive/I-80 Westbound Off-Ramp	Uncontrolled	N/A	N/A	N/A	N/A
4. Richards Boulevard/Olive Drive	Signal	84 F	66 E	<u>99</u> <u>F</u>	75 E
5. Richards Boulevard/I-80 Westbound Ramps	Uncontrolled	N/A	N/A	N/A	N/A
6. Richards Boulevard/I-80 Eastbound Ramps	Signal	156 F	110 F	<u>200</u> <u>F</u>	<u>128</u> <u>F</u>
7. Richards Boulevard/Cowell Boulevard/Research Park Drive	Signal	69 E	66 E	<u>110</u> <u>F</u>	<u>91</u> <u>F</u>

*Note: LOS and average control delay is reported in seconds per vehicle.
Bold and underline indicates a significant impact.
Source: Fehr & Peers, 2017*

During the morning peak hour (8 to 9 AM), the project would exacerbate LOS F conditions by more than 5 seconds at intersections #4, #6, and #7. During the evening peak hour (5 to 6 PM), the project would exacerbate LOS F conditions by more than 5 seconds at intersections #1, #6, and #7.

Therefore, a significant cumulative impact is anticipated and the proposed project would result in a *cumulatively considerable* contribution towards the impact at study intersections #1 (PM Peak hour), #4 (AM Peak Hour), #6 (AM and PM Peak Hours), and #7 (AM and PM Peak Hours).

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above-identified impact to a *less-than-significant* level.

- 4.11-8 *Prior to approval of the Lincoln40 Improvement Plans, the plans shall show the extension of the existing westbound Olive Drive bicycle lane an additional 145 feet from its current terminus on East Olive Drive to the intersection of Richards Boulevard/Olive Drive. The East Olive Drive*

lane configuration shall include the following as shown in the Exhibit below:

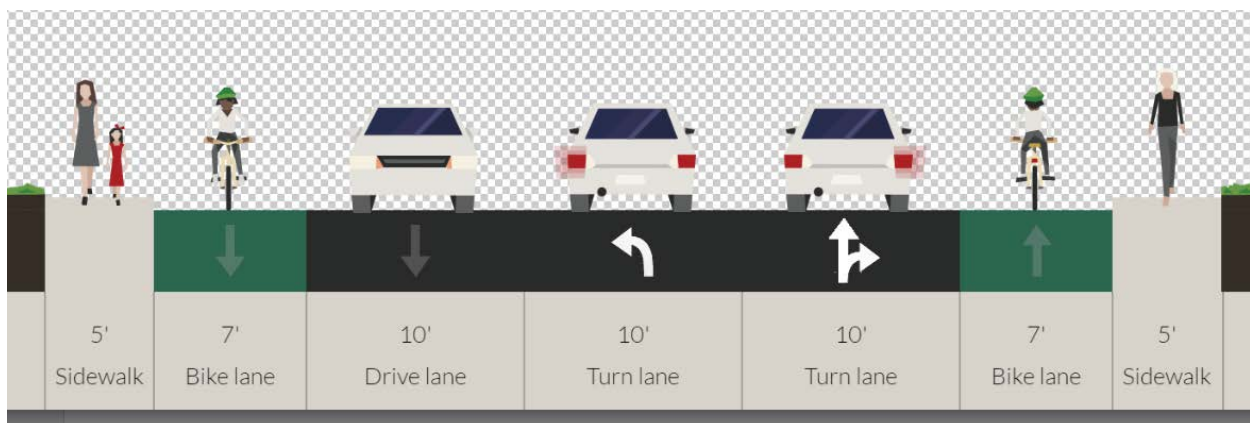
- A westbound bike lane (7 feet);
- A westbound shared through / right-turn lane (10 feet);
- A westbound left-turn lane (10 feet);
- An eastbound travel lane (10 feet); and
- An eastbound bike lane (7 feet).

The applicant shall construct the striping improvements prior to issuance of a certificate of occupancy. As part of this improvement, the coordinated traffic signals between First Street / D Street and Richards Boulevard / Research Park Drive shall be re-timed to provide efficient traffic flow.

Implementation of the mitigation measure would improve traffic operations for the study intersections as shown in Table 4.11-22.

As shown in Table 4.11-22, all study intersections would operate at acceptable LOS E or better in the AM peak hour. During the PM peak hour, intersection #1 (1st and D Streets) would continue to operate at LOS F, but with implementation of Mitigation Measure 4.11-8, the delay at intersection #1 would be decreased from 149 seconds of delay during the PM peak hour, to 122 seconds of delay (e.g., 11 seconds less than the delay under the Cumulative No Project condition).

By providing a dedicated westbound Olive Drive bicycle lane, the Richards / Olive Drive intersection would improve during both AM (LOS F to LOS E) and PM (LOS E to LOS D) peak hour conditions for this important multi-modal intersection. An additional element of this mitigation measure is the ability for the entire corridor to provide more green time for vehicles entering and exiting downtown Davis, resulting in shorter queues and improved intersection operations at 1st Street / D Street and 1st Street / E Street / Richards Boulevard. The additional green time will be provided through retiming of the coordinated signals between First Street / D Street and Richards Boulevard / Research Park Drive.



Intersection	Traffic Control	Delay/LOS			
		Cumulative No Project		Cumulative Plus Project With Mitigation	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1. 1 st Street/D Street	Signal	17 B	133 F	15 B	122 F
2. 1 st Street/E Street/Richards Boulevard	Signal	33 C	56 E	21 C	50 D
3. Olive Drive/I-80 Westbound Off-Ramp	Uncontrolled	N/A	N/A	N/A	N/A
4. Richards Boulevard/Olive Drive	Signal	84 F	66 E	59 E	52 D
5. Richards Boulevard/I-80 Westbound Ramps	Uncontrolled	N/A	N/A	N/A	N/A
6. Richards Boulevard/I-80 Eastbound Ramps	Signal	156 F	110 F	54 D	71 E
7. Richards Boulevard/Cowell Boulevard/Research Park Drive	Signal	69 E	66 E	28 C	32 C

*Note: LOS and average control delay is reported in seconds per vehicle.
 Source: Fehr & Peers, 2017*

4.11-9 Impacts to study freeway segments under the Cumulative Plus Project scenario. Based on the analysis below, and with implementation of mitigation, the impact is less than significant.

Mainline

Table 4.11-23 presents the freeway mainline operations under Cumulative Plus Project conditions. During the morning peak hour, the peak westbound direction has a forecasted traffic volume of approximately 6,000 vehicles east of the Richards Boulevard off-ramp. During the evening peak hour, the peak eastbound direction has a forecasted traffic volume of approximately 5,800 before Richards Boulevard. All study freeway mainline segments are projected to operate at acceptable LOS E or better during both AM and PM peak hours under Cumulative Plus Project conditions. Therefore, a significant cumulative impact is not anticipated.

Table 4.11-23 Cumulative No Project and Plus Project Freeway Mainline Operations					
Freeway	Segment	Density/LOS			
		Cumulative No Project		Cumulative Plus Project	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
I-80 Westbound	1. Mace Boulevard to Olive Drive	39/E	34/D	39/E	34/D
	2. Olive Drive to Richards Boulevard	37/E	32/D	37/E	32/D
	3. Richards Boulevard to Old Davis Road	25/C	26/D	25/C	26/D
I-80 Eastbound	1. Old Davis Road to Richards Boulevard	38/E	39/E	38/E	39/E
	2. Richards Boulevard to Mace Boulevard	32/D	33/D	32/D	33/D

Source: Fehr & Peers, 2017

Based on the proposed project vehicle trip generation and trip distribution patterns, the project is projected to add five or fewer trips on each freeway segment during the AM and PM peak hours. The overall result is that the minor amount of project-generated vehicle traffic added to the I-80 freeway does not change the freeway mainline LOS.

Mitigation Measure(s)

None required.

Ramp Terminal Vehicle Queues

As shown in Table 4.11-24, during the morning peak hour, the queue for the westbound I-80 off-ramp onto northbound Richards Boulevard is projected to increase from 1,300 feet to 1,550 feet under the Cumulative No Project and Cumulative Plus Project scenarios, respectively. This would be considered a significant cumulative impact based on both vehicle queue and speed differential for the westbound I-80 off-ramp onto northbound Richards Boulevard.

While project-generated traffic would use the Olive Drive off-ramp from westbound I-80 to access the project site, and thereby not have a direct effect on the westbound I-80 off-ramp, the project's incremental increase in vehicle, pedestrian, and bicycle activity at the Richards Boulevard/Olive Drive signalized intersection, would indirectly increase the maximum queue length for the westbound I-80 off-ramp by 250 feet as they merge onto northbound Richards Boulevard and travel towards downtown Davis and UC Davis.

Table 4.11-24 Cumulative No Project and Plus Project Off-Ramp Maximum Queue Length					
Off-Ramp	Storage (feet)	Maximum Queue (feet)			
		Cumulative No Project		Cumulative Plus Project	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
I-80 Westbound Off-Ramp at Richards Boulevard	1,450	1300	350	<u>1550</u>	350
I-80 Eastbound Off-Ramp at Richards Boulevard	1,250	<u>1700</u>	<u>1700</u>	<u>1700</u>	<u>1700</u>

Bold and underline indicates a significant impact
Source: Fehr & Peers, 2017

The project-generated traffic that is added at the Richards Boulevard/Olive Drive intersection would indirectly cause the Westbound I-80 off-ramp vehicle queue to increase and extend back onto the westbound I-80 freeway mainline by 100 feet (four vehicles). Therefore, the project’s incremental contribution of traffic would be considered ***cumulatively considerable*** at the westbound I-80 off-ramp at Richards Boulevard.

During both morning and evening peak hours, the queue for the eastbound I-80 off-ramp onto Richards Boulevard in the AM and PM peak hours is projected to extend beyond the available storage under the Cumulative No Project condition by 450 feet (1,700 versus 1,250). Although the proposed project is projected to add two AM peak hour trips and three PM peak hour vehicle trips to this off-ramp, the queue is not anticipated to increase under Cumulative Plus Project conditions. Therefore, the project would have a ***less-than-cumulatively considerable*** impact to the eastbound I-80 off-ramp at Richards Boulevard.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the ramp terminal vehicle queue impact to a ***less-than-significant*** level.

4.11-9 Implement Mitigation Measure 4.11-8.

Implementation of the mitigation measure identified for the Richards Boulevard/Olive Drive signalized intersection would improve the traffic operations for the study intersections, as well as the off-ramp queuing (see Table 4.11-25) speed differential for both I-80 off-ramps during AM and PM peak hour conditions.

The westbound off-ramp queuing would decrease from 1,550 (see Table 4.11-24) to 550 feet during the morning peak hour, representing a 65 percent decrease in vehicle queue length as compared to Cumulative Plus Project without the mitigation measure,

and would also significantly decrease as compared to the Cumulative No Project scenario from 1,300 to 550 feet during the morning peak hour.

Table 4.11-25					
Cumulative No Project and Plus Project With Mitigation Measure 4.11-9					
Off-Ramp Maximum Queue Length					
Off-Ramp	Storage (feet)	Maximum Queue (feet)			
		Cumulative No Project		Cumulative Plus Project With Mitigation	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
I-80 Westbound Off-Ramp at Richards Boulevard	1,450	1300	350	550	350
I-80 Eastbound Off-Ramp at Richards Boulevard	1,250	<u>1700</u>	<u>1700</u>	1,100	1,200

Underline indicates maximum queue length extends beyond storage length.
Bold and underline indicates a significant impact.
 Source: Fehr & Peers, 2017

During the morning peak hour, the eastbound off-ramp queue would decrease from 1,700 (see Table 4.11-24) to 1,100 feet, representing a 35 percent decrease in vehicle queue length as compared to both the Cumulative No Project and Cumulative Plus Project without the mitigation measure scenarios (see Table 4.11-25). During the evening peak hour, the eastbound off-ramp queue would decrease from 1,700 (see Table 4.11-24) to 1,200 feet, representing a 29 percent decrease in vehicle queue length as compared to both the Cumulative No Project and Cumulative Plus Project without the mitigation measure scenarios (see Table 4.11-25).

Table 4.11-25 shows that the implementation of Mitigation Measure 4.11-9 would improve conditions as compared to the Cumulative No Project scenario for the westbound off-ramp during the morning peak hour and, therefore, would avoid the proposed project’s cumulatively considerable impact. In addition, although the proposed project does not result in a cumulatively considerable impact at the eastbound off-ramp during either the morning or evening peak hours, Mitigation Measure 4.11-9 would have the added benefit of reducing the peak hour queue lengths at that ramp from 1,700 to 1,100 feet (AM) and 1,200 feet (PM), as compared to the Cumulative No Project and Plus Project scenarios. Therefore, the project would have a *less-than-cumulatively considerable* impact to the freeway off-ramp queuing after mitigation.

CEQA Cumulative Scenarios

This portion of the Transportation and Circulation section of the EIR evaluates the second scenario, “CEQA Cumulative Condition”. The CEQA Cumulative Condition includes City General Plan buildout, the original Embassy Suites Hotel/Conference Center project, and additional traffic generated by the Mace Ranch Innovation Center (MRIC) project and the Nishi project.

Within the CEQA Cumulative Condition scenario, several sub-scenarios are also evaluated that include different combinations of roadway improvements currently being evaluated by the City of Davis. The CEQA Cumulative transportation analysis conservatively incorporates full build-out of the MRIC and Nishi land use projects.

On February 16, 2016, Davis City Council authorized staff to initiate a circulation study and capital improvement feasibility analysis for the Richards Boulevard/Olive Drive area. The purpose of the study was to evaluate the Richards Boulevard/Olive Drive area holistically by cross-analyzing combinations of potential future growth with possible infrastructure improvements to understand the effects on transportation circulation.

Mark Thomas & Co. (MTCO.) was tasked to conduct the infrastructure feasibility study with Fehr & Peers performing the traffic circulation analysis as a sub-consultant. MTCO and Fehr & Peers have completed their reports (October 2016), which staff presented to the Bicycling, Transportation, and Street Safety Commission on November 10, 2016 for review and discussion purposes.

The following proposed transportation projects are being evaluated by the City of Davis, but are currently neither approved nor funded:

- I-80/Richards Boulevard Interchange Reconfiguration
- Olive Drive to L Street Roadway Connection
- I-80/Olive Drive Off-Ramp Closure

Based on recent information from the City of Davis, the East Olive Drive extension/connection to L Street been eliminated as a possible cumulative roadway infrastructure scenario. Therefore, the CEQA Cumulative analysis is based on the following scenarios:

- CEQA Cumulative Scenario 1 – Nishi + MRIC and Existing I-80 Richards Boulevard Interchange;
- CEQA Cumulative Scenario 2 – Nishi + MRIC + Improved I-80 Richards Boulevard Interchange; and
- CEQA Cumulative Scenario 3 – Nishi + MRIC + Improved I-80 Richards Boulevard Interchange and Closed Westbound I-80 off-ramp to East Olive Avenue

Additional bicycle/pedestrian projects are also being evaluated by the City of Davis. These prioritized multi-modal projects of greater community importance require more resources to deliver than provided with the City’s current transportation program. Therefore, similar to the transportation projects described above, these projects are currently neither approved nor funded:

- Gateway Arch – Multi-modal improvements on Richards Boulevard⁴
- Olive Drive to Davis Train Station – Bicycle/pedestrian connection over the UPRR
- Olive Drive to Pole Line Road – Bicycle/pedestrian connection to Pole Line Road overcrossing

This section of the EIR evaluated the transportation impacts that could result from the cumulative land use and transportation project combinations identified in Table 4.11-26. This EIR transportation section includes analysis of CEQA Cumulative Scenario 1, and presents the findings of CEQA Cumulative Scenarios 2 and 3 analyzed concurrently in the *Richards Boulevard - Olive Drive Corridor Transportation Analysis Report*.⁵

Scenario	Possible Land Use Projects		Possible Roadway Infrastructure Projects	
	Nishi	MRIC	I-80/Richards Blvd	I-80/Olive Off-Ramp Closure
CEQA Cumulative Scenario 1	✓	✓		
CEQA Cumulative Scenario 2	✓	✓	✓	
CEQA Cumulative Scenario 3	✓	✓	✓	✓

Source: Fehr & Peers, 2017

Travel Demand Forecasting

Travel forecasts under CEQA Cumulative Conditions for each scenario were developed using the same methodology described under Cumulative Conditions. The Davis Travel Demand Model was updated for each scenario to incorporate the possible land use and transportation projects identified in Table 4.11-26. The peak hour intersection traffic forecasts without the proposed project are presented in Figure 4.11-20 through Figure 4.11-22 for CEQA Cumulative Scenarios 1, 2, and 3.

⁴ The Downtown Gateway Arch is a proposed bicycle/pedestrian bridge located on Richards Boulevard between the Union Pacific Railroad and Olive Drive. The bridge would provide an alternative to crossing Richards Boulevard at the Olive Drive intersection. The improvements at this location include a separate bicycle/pedestrian pathway and tunnel on the east side of Richards Boulevard to match the existing pathway and tunnel on the west side.

⁵ Fehr & Peers. *Richards Boulevard – Olive Drive Corridor Transportation Analysis Report*. October 2016.

Please note that numbering of Scenarios 1, 2, and 3 analyzed in the Lincoln40 EIR are different than the numbering of the Scenarios analyzed in the *Richards Boulevard/Olive Drive Circulation Study* (December 2016).

Trip Distribution Under CEQA Cumulative Conditions Plus Project Scenarios

The CEQA Cumulative Conditions Plus Project scenarios manually add project trips to the CEQA Cumulative No Project traffic forecasts according to the project trip distribution developed using the Davis Travel Demand Model for each scenario. The project trip distribution is only presented for CEQA Cumulative Scenario 1 (see Figure 4.11-23), and would be identical for CEQA Cumulative Scenario 2.

For CEQA Cumulative Scenario 3, the inbound project trip distribution (13 percent) would shift from the closed Olive drive off-ramp to the westbound Richards Boulevard off-ramp. The outbound project trip distribution would also be the same as CEQA Cumulative Scenario 1.

The inclusion of Nishi changes the travel pattern compared to Cumulative Conditions and would reduce the proposed project traffic passing through the UPRR tunnel on Richards Boulevard from 57 percent to 52 percent.

4.11-10 Impacts to study intersections under the CEQA Cumulative scenarios. Based on the analysis below, the impact is *less than significant*.

CEQA Cumulative Scenario 1

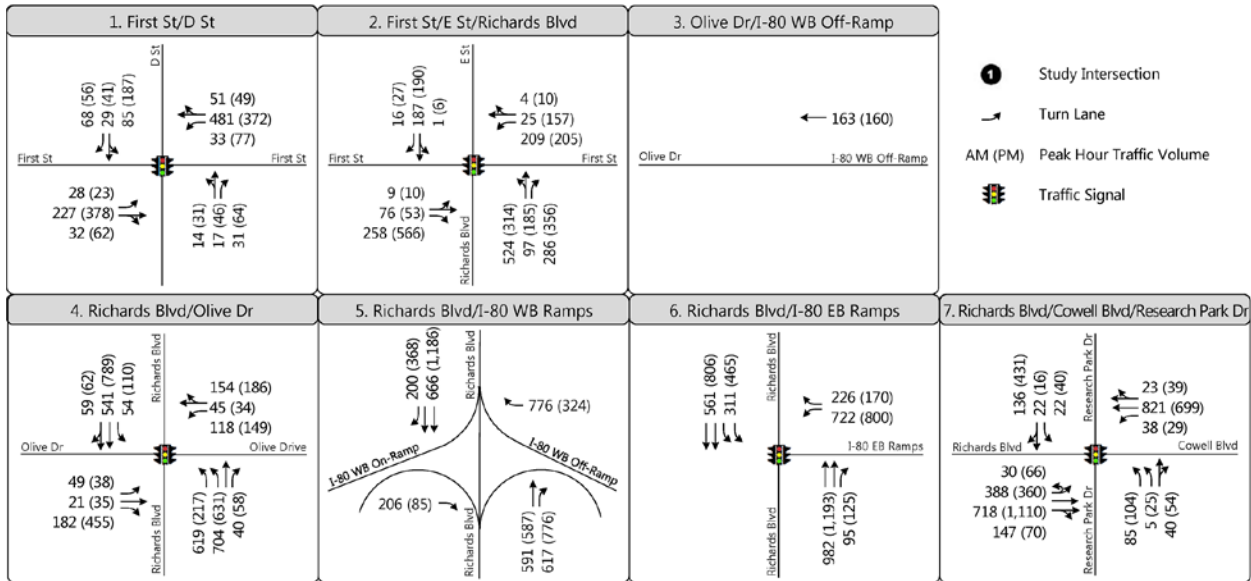
CEQA Cumulative Scenario 1 Plus Project peak hour intersection traffic volumes are presented in Figure 4.11-24. CEQA Cumulative Scenario 1 Plus Project intersection traffic operations are presented in Table 4.11-27, below. All study intersections are projected to operate at acceptable Level of Service (LOS) conditions under the CEQA Cumulative Scenario 1 Plus Project condition. Therefore, the project in combination with other cumulative development would have a *less-than-cumulatively considerable* impact to intersections under CEQA Cumulative Scenario 1.

The addition of project generated traffic would not degrade intersection operations to unacceptable conditions or cause an increase in average delay by greater than five seconds at an intersection operating at LOS F.

Mitigation Measure(s)

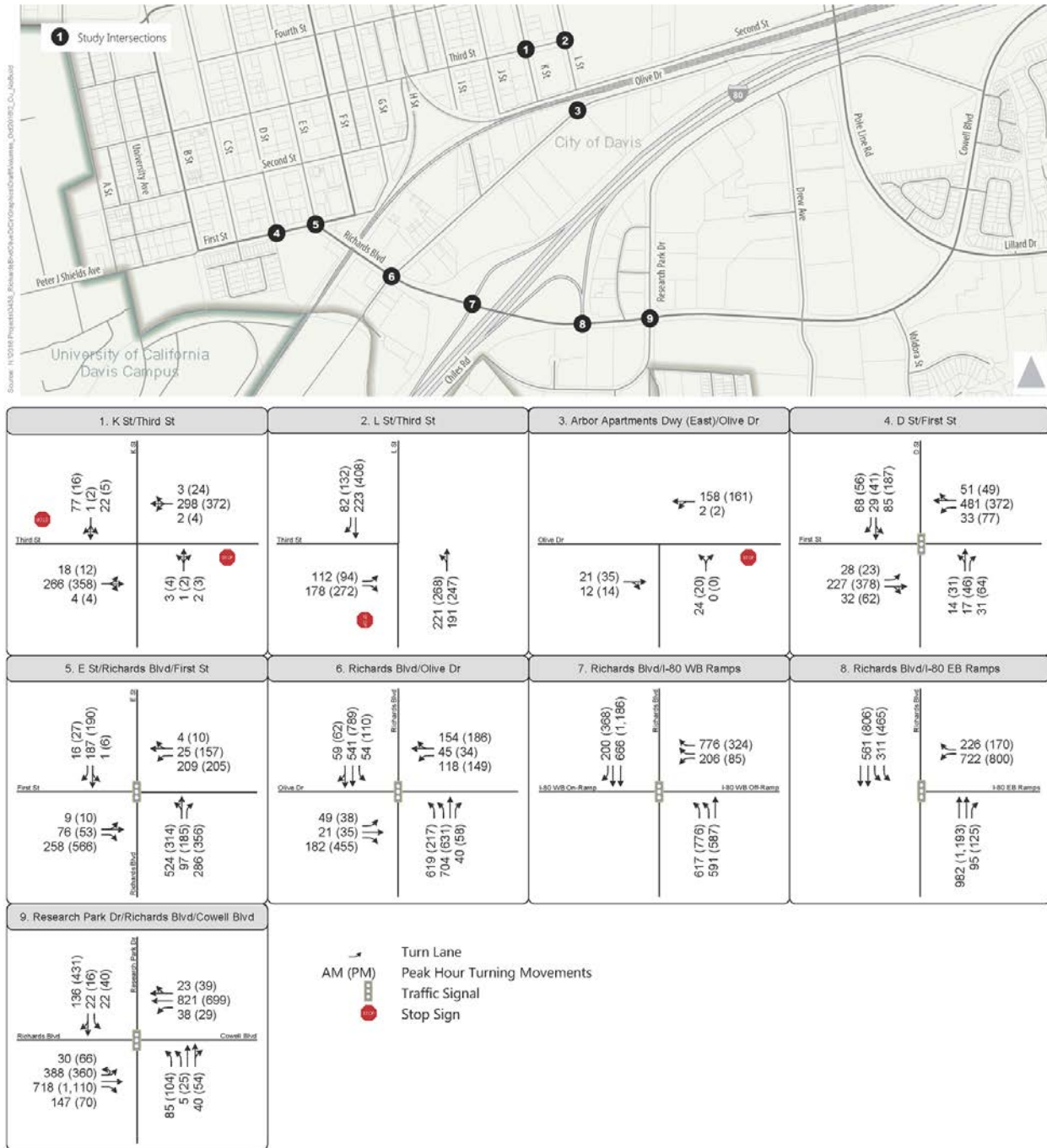
None required.

Figure 4.11-20
CEQA Cumulative 1 No Project Peak Hour Intersection Volumes



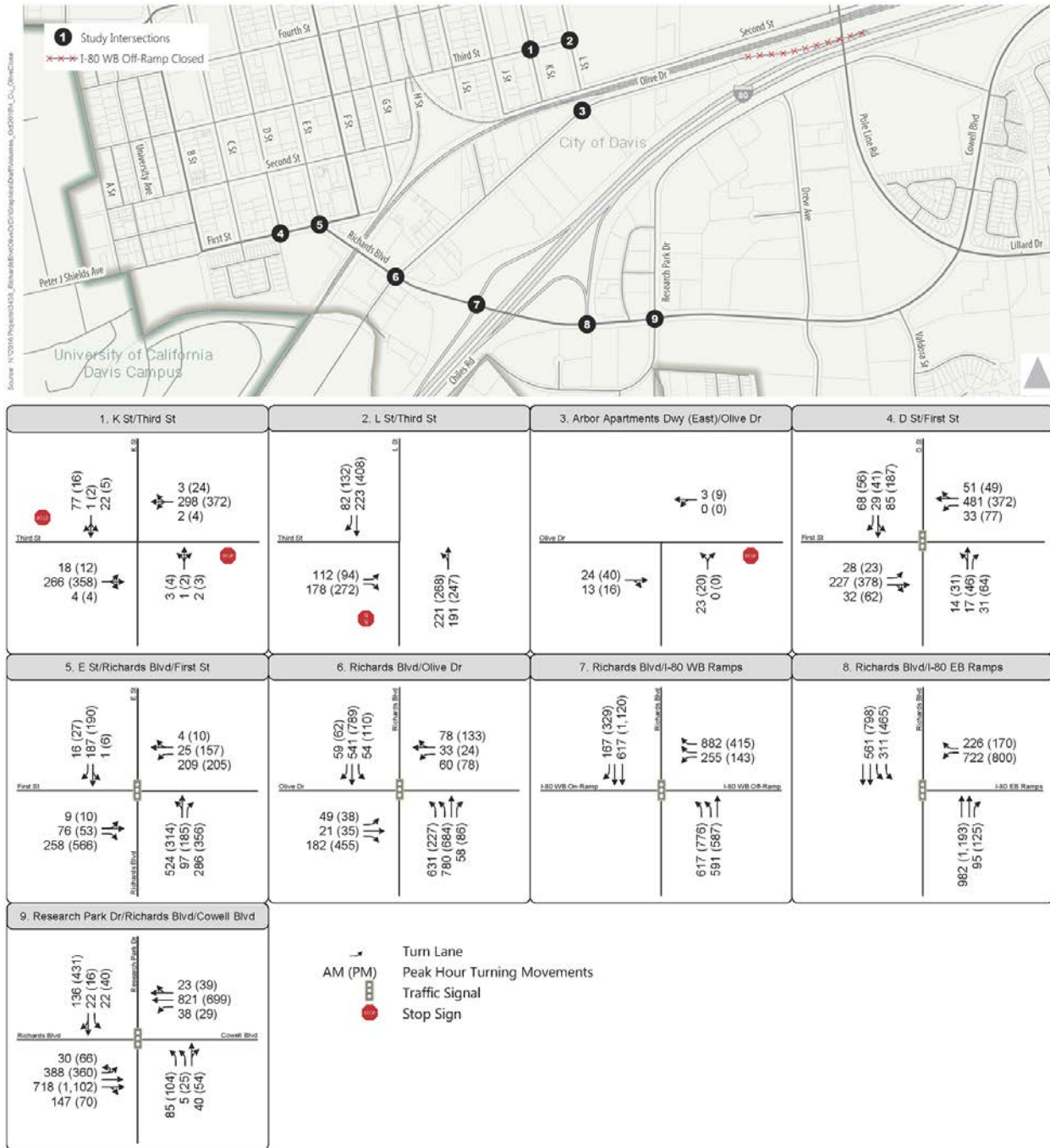
Source: Fehr & Peers, 2017

Figure 4.11-21
CEQA Cumulative 2 No Project Peak Hour Intersection Volumes



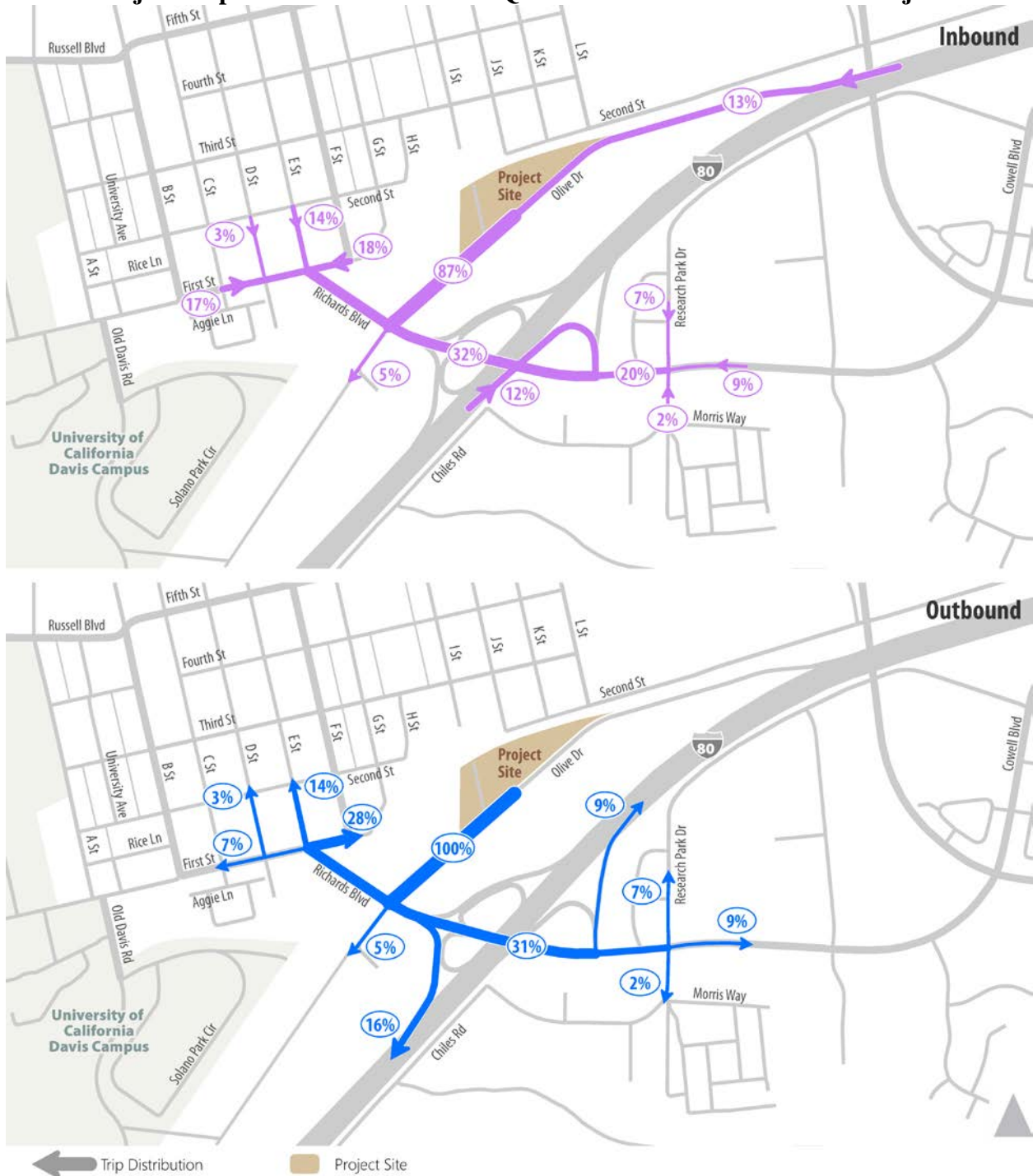
Source: Fehr & Peers, 2017

Figure 4.11-22
CEQA Cumulative 3 No Project Peak Hour Intersection Volumes



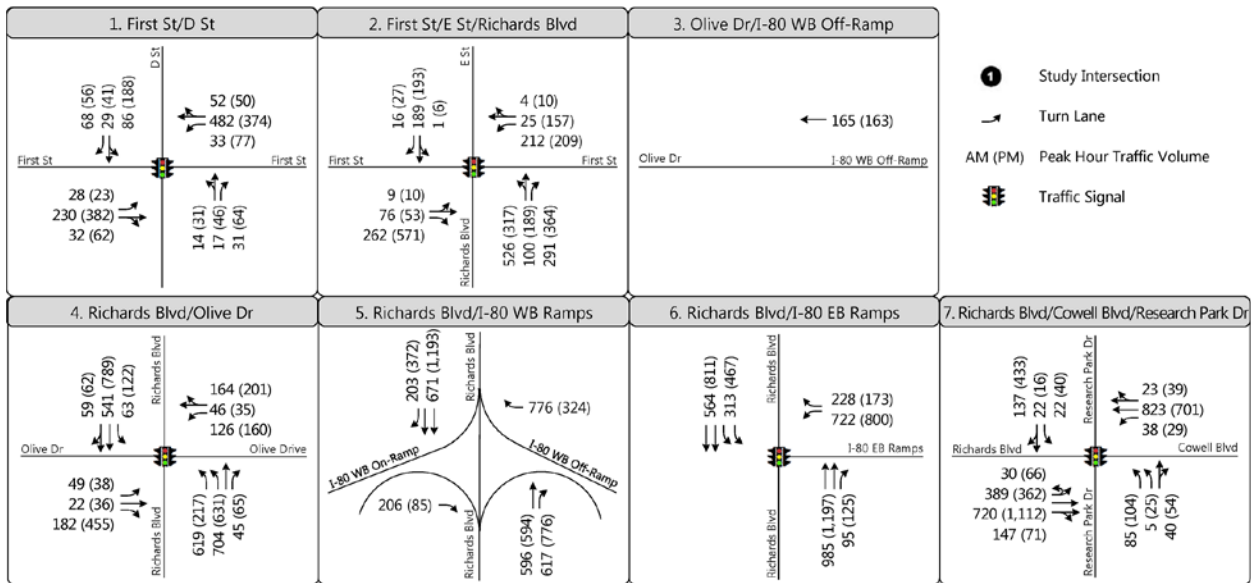
Source: Fehr & Peers, 2017

Figure 4.11-23
Project Trip Distribution Under CEQA Cumulative Scenario 1 Plus Project



Source: Fehr & Peers, 2017

Figure 4.11-24
CEQA Cumulative 1 Plus Project Peak Hour Intersection Volumes



Source: Fehr & Peers, 2017

Intersection	Traffic Control	Delay/LOS			
		CEQA Cumulative 1 No Project		CEQA Cumulative 1 Plus Project	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1. 1 st Street/D Street	Signal	26 C	69 E	26 C	75 E
2. 1 st Street/E Street/Richards Boulevard	Signal	33 C	38 D	33 C	40 D
3. Olive Drive/I-80 Westbound Off-Ramp	Uncontrolled	N/A	N/A	N/A	N/A
4. Richards Boulevard/Olive Drive	Signal	29 C	32 C	30 C	34 C
5. Richards Boulevard/I-80 Westbound Ramps	Uncontrolled	N/A	N/A	N/A	N/A
6. Richards Boulevard/I-80 Eastbound Ramps	Signal	34 C	76 E	34 C	76 E
7. Richards Boulevard/Cowell Boulevard/Research Park Drive	Signal	43 D	49 D	43 D	50 D

*Note: LOS and average control delay is reported in seconds per vehicle.
Source: Fehr & Peers, 2017*

CEQA Cumulative Scenario 2

CEQA Cumulative Scenario 2 Plus Project peak hour intersection traffic volumes are presented in Figure 4.11-25. This CEQA Cumulative scenario includes improvements to the I-80 Richards Boulevard interchange. CEQA Cumulative Scenario 2 Plus Project intersection traffic operations are presented in Table 4.11-28.

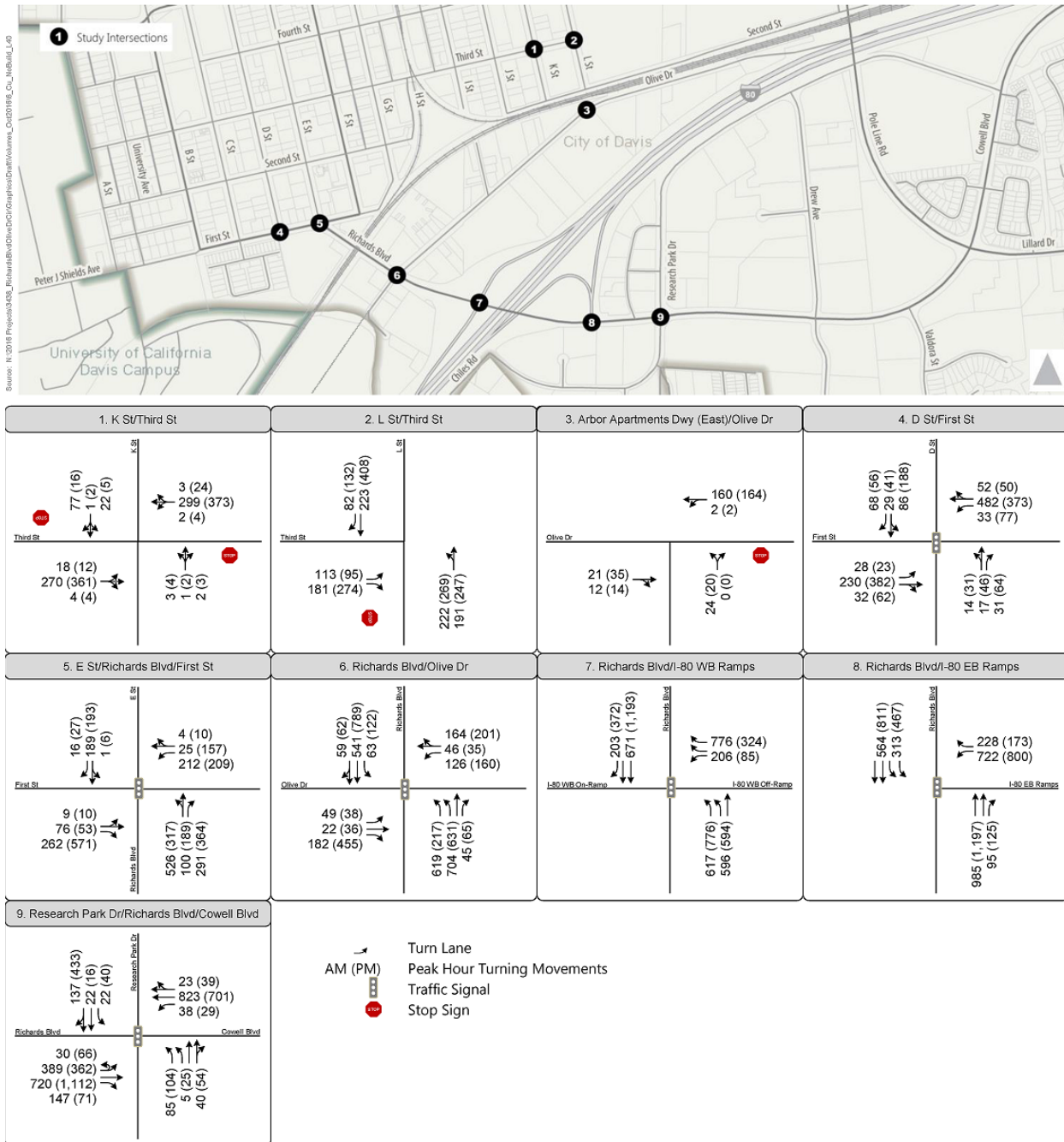
All study intersections are projected to operate at acceptable Level of Service (LOS) conditions under the CEQA Cumulative Scenario 2 Plus Project condition. Therefore, the project in combination with other cumulative development would have a *less-than-cumulatively considerable* impact to intersections under CEQA Cumulative Scenario 2.

The addition of project generated traffic would not degrade intersection operations to unacceptable conditions or cause an increase in average delay by greater than five seconds at an intersection operating at LOS F.

Mitigation Measure(s)

None required.

Figure 4.11-25
CEQA Cumulative 2 Plus Project Peak Hour Intersection Volumes



Source: Fehr & Peers, 2017

Intersection	Traffic Control	Delay/LOS			
		CEQA Cumulative 2 No Project		CEQA Cumulative 2 Plus Project	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1. 1 st Street/D Street	Signal	26 C	69 E	26 C	75 E
2. 1 st Street/E Street/Richards Boulevard	Signal	33 C	38 D	33 C	40 D
3. Olive Drive/I-80 Westbound Off-Ramp	Uncontrolled	N/A	N/A	N/A	N/A
4. Richards Boulevard/Olive Drive	Signal	28 C	31 C	29 C	33 C
5. Richards Boulevard/I-80 Westbound Ramps	Signal	60 E	19 B	60 E	19 B
6. Richards Boulevard/I-80 Eastbound Ramps	Signal	35 C	75 E	35 C	75 E
7. Richards Boulevard/Cowell Boulevard/Research Park Drive	Signal	43 D	49 D	43 D	49 D

*Note: LOS and average control delay is reported in seconds per vehicle.
Source: Fehr & Peers, 2017*

CEQA Cumulative Scenario 3

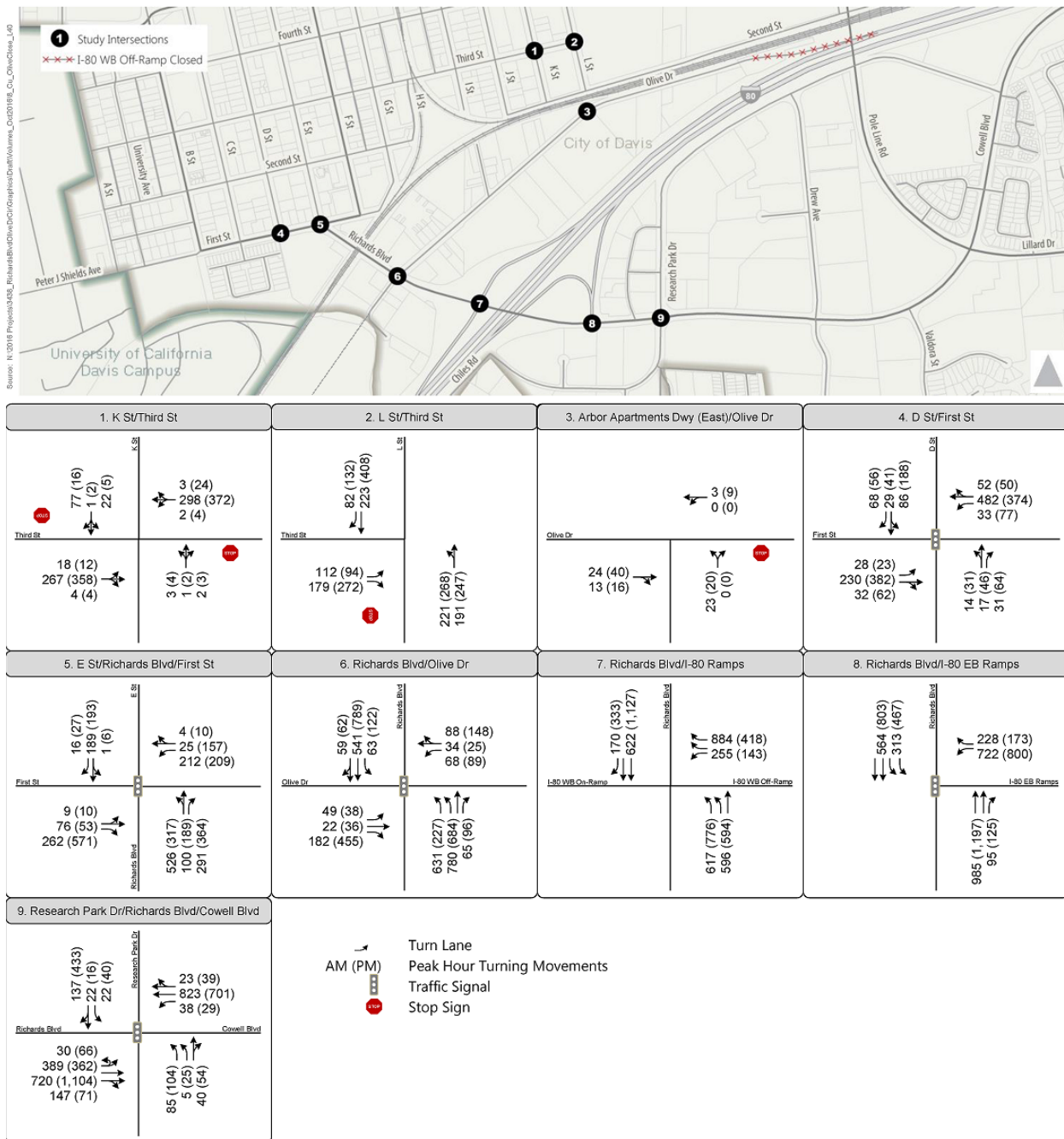
CEQA Cumulative Scenario 3 Plus Project peak hour intersection traffic volumes are presented in Figure 4.11-26 and include both improvements to the I-80/Richards Boulevard interchange and closure of the westbound I-80 Olive Drive off-ramp. CEQA Cumulative Scenario 3 Plus Project intersection traffic operations are presented in Table 4.11-29. All study intersections are projected to operate at acceptable Level of Service (LOS) conditions under the CEQA Cumulative Scenario 3 Plus Project condition. Therefore, the project in combination with other cumulative development would have a *less-than-cumulatively considerable* impact to intersections under CEQA Cumulative Scenario 3.

The addition of project generated traffic would not degrade intersection operations to unacceptable conditions or cause an increase in average delay by greater than five seconds at an intersection operating at LOS F.

Mitigation Measure(s)

None required.

Figure 4.11-26
CEQA Cumulative 3 Plus Project Peak Hour Intersection Volumes



Source: Fehr & Peers, 2017

Table 4.11-29 CEQA Cumulative Scenario 3 No Project and Plus Project Intersection Operations					
Intersection	Traffic Control	Delay/LOS			
		CEQA Cumulative 3 No Project		CEQA Cumulative 3 Plus Project	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1. 1 st Street/D Street	Signal	26 C	59 E	27 C	61 E
2. 1 st Street/E Street/Richards Boulevard	Signal	41 D	33 C	42 D	34 C
3. Olive Drive/I-80 Westbound Off-Ramp	Removed/Closed	N/A	N/A	N/A	N/A
4. Richards Boulevard/Olive Drive	Signal	28 C	22 C	29 C	23 C
5. Richards Boulevard/I-80 Westbound Ramps	Signal	50 D	21 C	50 D	22 C
6. Richards Boulevard/I-80 Eastbound Ramps	Signal	22 C	25 C	22 C	26 C
7. Richards Boulevard/Cowell Boulevard/Research Park Drive	Signal	52 D	49 D	52 D	49 D
<i>Note: LOS and average control delay is reported in seconds per vehicle. Source: Fehr & Peers, 2017</i>					

4.11-11 Impacts to study freeway segments under CEQA Cumulative scenarios. Based on the analysis below, the impact is *less than significant*.

Mainline

Table 4.11-30 presents the freeway mainline operations under CEQA Cumulative No Project and CEQA Cumulative Plus Project Scenarios 1, 2, and 3 conditions. As shown in Table 4.11-26 above, Scenarios 1 and 2 include the existing westbound I-80 off-ramp to East Olive Drive.

Table 4.11-30 CEQA Cumulative No Project and Plus Project Scenarios 1 and 2 Freeway Mainline Operations					
Freeway	Segment	Density/LOS			
		CEQA Cumulative No Project		CEQA Cumulative Plus Project	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
I-80 Westbound	1. Mace Boulevard to Olive Drive	43/E	35/E	43/E	35/E
	2. Olive Drive to Richards Boulevard	40/E	34/D	40/E	34/D
	3. Richards Boulevard to Old Davis Road	25/C	27/D	25/C	27/D
I-80 Eastbound	1. Old Davis Road to Richards Boulevard	41/E	39/E	41/E	39/E
	2. Richards Boulevard to Mace Boulevard	34/D	35/D	34/D	35/D

Source: Fehr & Peers, 2017

The highest traffic forecast for both directions occur in the AM peak hour with approximately 6,300 vehicles before the Richards Boulevard off-ramp in the westbound direction, and 5,900 vehicles before the Richards Boulevard off-ramp in eastbound direction. Though several freeway segments in the study area operate at LOS E, the project only adds five or fewer trips on each freeway segment during the AM and PM peak hours and does not degrade any segments to LOS F.

Table 4.11-31 below, presents the freeway mainline operations under CEQA Cumulative No Project and CEQA Cumulative Plus Project Scenario 3, which includes closure of the westbound I-80 Olive Drive off-ramp. The mainline operations of the I-80 Westbound segment from Mace Boulevard to Richards Boulevard would have the same result as the Mace Boulevard to Olive Drive segment.

Table 4.11-31 CEQA Cumulative No Project and Plus Project Scenario 3 Freeway Mainline Operations					
Freeway	Segment	Density/LOS			
		CEQA Cumulative No Project		CEQA Cumulative Plus Project	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
I-80 Westbound	1. Mace Boulevard to Richards Boulevard	43/E	35/E	43/E	35/E
	2. Richards Boulevard to Old Davis Road	25/C	27/D	25/C	27/D
I-80 Eastbound	1. Old Davis Road to Richards Boulevard	41/E	39/E	41/E	39/E
	2. Richards Boulevard to Mace Boulevard	34/D	35/D	34/D	35/D

Source: Fehr & Peers, 2017

The highest traffic forecast for both directions occurs in the AM peak hour with approximately 6,300 vehicles before the Richards Boulevard off-ramp in the westbound direction, and 5,900 vehicles before the Richards Boulevard off-ramp in eastbound direction. Though several freeway segments in the study area operate at LOS E, the project only adds five or fewer trips on each freeway segment during the AM and PM peak hours and does not degrade any segments to LOS F.

The project in combination with other cumulative development would have a *less-than-significant* cumulative impact to the study freeway mainline segments.

Mitigation Measure(s)

None required.

Ramp Terminal Vehicle Queues

CEQA Cumulative Scenario 1

Table 4.11-32 displays the queue lengths of the Richards Boulevard off-ramps for CEQA Cumulative Scenario 1 No Project and Plus Project. Under No Project Conditions, the Westbound I-80 Off-Ramp maximum queue is projected to extend past the available storage length during the AM peak hour. In addition, under No Project Conditions, the Eastbound I-80 Off-Ramp maximum queue is also projected to extend past the available storage length during both the PM peak hour. Therefore, a significant cumulative impact exists under the CEQA Cumulative Scenario 1 No Project scenario for the following locations:

- I-80 Westbound Off-Ramp at Richards Boulevard – AM Peak Hour; and
- I-80 Eastbound Off-Ramp at Richards Boulevard – PM Peak Hour.

Table 4.11-32 CEQA Cumulative Scenario 1 No Project and Plus Project Off-Ramp Maximum Queue Length					
Off-Ramp	Storage (feet)	Maximum Queue (feet)			
		CEQA Cumulative 1 No Project		CEQA Cumulative 1 Plus Project	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
I-80 Westbound Off-Ramp at Richards Boulevard	1,450	<u>1700</u>	250	<u>1700</u>	250
I-80 Eastbound Off-Ramp at Richards Boulevard	1,250	1175	<u>1700</u>	1150	<u>1700</u>
<i>Note: Queue lengths calculated with an average of 10 Vissim runs. Source: Fehr & Peers, 2017</i>					

The addition of the project does not add any trips to the Westbound I-80 Off-Ramp onto Richards Boulevard compared to CEQA Cumulative Scenario 1 No project; the queue also would not increase with the project. During the PM peak hour, the queue for the Eastbound I-80 off-ramp onto Richards Boulevard is projected to extend beyond the available storage under CEQA Cumulative Scenario 1 No Project by 450 feet (1,700 versus 1,250). The proposed project is projected to add only three PM peak hour vehicle trips to this off-ramp; however, the queue would not increase under CEQA Cumulative Scenario 1 Plus Project conditions. Therefore, the project would have a *less-than-cumulatively considerable* impact to the study freeway off-ramps queue lengths and speed differential under CEQA Cumulative 1 Plus Project conditions.

Mitigation Measure(s)

None required.

CEQA Cumulative Scenario 2

As shown in Table 4.11-33, under CEQA Cumulative Scenario 2, the maximum queue lengths at both Richards Boulevard Off-Ramps would not extend passed the available storage length for both No Project and Plus Project conditions. Therefore, the project in combination with other cumulative development would have a *less-than-significant* cumulative impact on off-ramp queue lengths and speed differential.

Mitigation Measure(s)

None required.

Table 4.11-33 CEQA Cumulative Scenario 2 No Project and Plus Project Off-Ramp Maximum Queue Length					
Off-Ramp	Storage (feet)	Maximum Queue (feet)			
		CEQA Cumulative 2 No Project		CEQA Cumulative 2 Plus Project	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
I-80 Westbound Off-Ramp at Richards Boulevard	1,150	275	150	800	150
I-80 Eastbound Off-Ramp at Richards Boulevard	1,250	525	325	750	300
<i>Note: Queue lengths calculated with an average of 10 Vissim runs. Source: Fehr & Peers, 2026</i>					

CEQA Cumulative Scenario 3

Table 4.11-34 displays the maximum queue lengths under CEQA Cumulative Scenario 3 for the Richards Boulevard/I-80 Off-Ramps. During both peak hours, the maximum queue lengths of the off-ramps do not extend past the available storage length and spill back to the freeway mainline, so the project, in combination with other cumulative development, has a *less-than-significant* cumulative impact on off-ramp queue lengths and speed differential.

Mitigation Measure(s)

None required.

Table 4.11-34 CEQA Cumulative Scenario 3 No Project and Plus Project Off-Ramp Maximum Queue Length					
Off-Ramp	Storage (feet)	Maximum Queue (feet)			
		CEQA Cumulative 3 No Project		CEQA Cumulative 3 Plus Project	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
I-80 Westbound Off-Ramp at Richards Boulevard	1,150	275	200	850	200
I-80 Eastbound Off-Ramp at Richards Boulevard	1,250	250	300	250	275
<i>Note: Queue lengths calculated with an average of 10 Vissim runs. Source: Fehr & Peers, 2017</i>					

4.11-12 The project's Regional Vehicle Miles of Travel (VMT) would exceed regional per capita averages. Based on the analysis below, the impact is *less than significant*.

This section discusses the cumulative effect of the project on VMT for the City of Davis/UC Davis area and for the project influence area of Yolo County, and includes full buildout of both the City of Davis and Yolo County. The conclusion of the VMT analysis for CEQA Cumulative Scenarios 1 through 3 would be similar, as verified quantitatively by Fehr and Peers, due to the relatively minor changes in the local/regional transportation network when compared to the City of Davis/UC Davis and Yolo County.

It should be noted that the proposed project has been identified as being consistent with the SACOG MTP/SCS for the region and the corresponding MTIP. In addition, the project is also located within the Yolo Transit Priority Area. Transit Priority Areas are areas of the region within one-half mile of a major transit stop (existing or planned light rail, street car, train station, or the intersection of two or more major bus routes) or an existing or planned high-quality transit corridor included in the MTP/SCS. The project is entirely within one-half mile of two streets identified as high-quality transit corridors in the MTP/SCS (Richards Boulevard and 1st Street) and is within a ½ mile of the Davis Amtrak Station.

These two major factors are included within the SACMET regional travel model in terms of the project, type of land use and proximity to destinations for residents. The SACMET regional travel model was used to estimate VMT under CEQA Cumulative No Project and CEQA Cumulative Plus Project Scenarios 1 through 3, as described above.

The project's VMT per capita was compared to the City of Davis, Yolo County, and the SACOG Region. Table 4.11-35 shows that the proposed Lincoln40 project would result in 14.9 VMT Per Capita on a daily basis, under the CEQA Cumulative scenario. The primary conclusions of the VMT Per Capita analysis are:

- Compared to the City of Davis, this represents a 43 percent reduction;
- Compared to Yolo County, this represents a 68 percent reduction; and
- Compared to the entire six county SACOG Region, this represents a 14 percent reduction.

Table 4.11-35 Project VMT Per Capita Comparison			
Project Generated VMT Per Capita	City of Davis Generated VMT Per Capita	Yolo County VMT Per Capita	SACOG Region VMT Per Capita
14.9	26.0	47.0	17.3
<i>Source: Fehr & Peers, 2017</i>			

The project’s effect on VMT for the Davis area was determined by capturing all VMT generated by the City of Davis and UC Davis (i.e. having an origin or destination within the Davis area) and comparing the difference between No Project and Plus Project conditions (see Table 4.11-35 above).

Conclusion

The results in Cumulative Plus Project VMT per capita analysis shows that the proposed Lincoln40 Project’s 14.9 VMT per capita is lower than the City Davis/UC Davis Area-generated 26.0 VMT per capita. This represents a 43 percent reduction in VMT per capita. Compared to Yolo County, VMT per capita represents a 68 percent reduction; and compared to the entire six county SACOG Region, VMT per capita represents a 14 percent reduction.

Therefore, the proposed project would not result in an increase per capita VMT relative to the City Davis/UC Davis Area, and a *less-than-significant* cumulative impact would result.

Mitigation Measure(s)

None required.

4.11-13 Cumulative Impacts to Bicycle and Pedestrian Facilities. Based on the analysis below, the impact is *less than significant*.

During the morning peak hour (8 to 9 AM), the number of pedestrians using the signalized Richards Boulevard/Olive Drive intersection would increase under Cumulative Conditions when compared to the 350 existing pedestrians. As shown in Figure 4.11-8, the Level of Traffic Street (LTS) for pedestrians is high (4) for the Richards Boulevard/Olive Drive intersection, even though crosswalks are provided on all four legs of the signalized intersection. Similarly, the number of bicyclists using the bike lane on Olive Drive would increase under Cumulative Conditions when compared to the 150 existing bicyclists. As shown in Figure 4.11-5, the LTS for bicyclists ranges from low stress (1) for westbound to high stress (3 to 4) for both eastbound Olive Drive and northbound Richards Boulevard. On southbound Richards

Boulevard, the multi-use path provides a barrier separated path for pedestrians and bicyclists leaving downtown Davis.

Under Existing Conditions, the westbound pedestrian/bicycle phase occurs during approximately 90 percent of the cycles during the morning peak hour. A cycle is defined as a complete set of green indications serving all directions of traffic (automobiles, pedestrians, and bicyclist). Under Cumulative Conditions, the projected increase in future development would result in the westbound pedestrian/bicycle phase occurring during 100 percent of the cycles to serve pedestrians and bicyclists crossing Richards Boulevard. It is also noted that bicycle and pedestrian access would be improved with the reconfiguration of bicycle lanes, sidewalks, and crossings with the Richards/I-80 interchange project assumed under CEQA Cumulative Scenarios 2 and 3.

With respect to the project's incremental contribution, as discussed in Impact 4.11-3, the project would contribute approximately one additional pedestrian and two additional bicyclists during each cycle at the signalized Richards Boulevard/Olive Drive intersection during the morning peak hour (8 to 9 AM). During the evening peak hour (5 to 6 PM), the project would contribute approximately one additional pedestrian and one additional bicyclist during each cycle at the signalized Richards Boulevard/Olive Drive intersection.

The project's incremental contribution of multi-modal trips to the existing bicycle and pedestrian transportation facilities in the vicinity would not decrease the performance or safety of the facilities, resulting in an incremental contribution that is *less-than-cumulatively considerable*.

Mitigation Measure(s)

None required.

4.11-14 Cumulative Impacts to Transit Service. Based on the analysis below, the impact is less than significant.

Based on the historical growth of student enrollment at UC Davis, and the associated funding toward Unitrans facilities through their UC Davis registration fees, Unitrans has improved service by either capital improvements (vehicles) or operations (reduced headways). Therefore, as the student population continues to increase and UC Davis' long range transportation plan to reduce their students and employees' reliance on single occupancy vehicles is implemented, the need for improved transit service are foreseeable for Unitrans. The same may not be an accurate statement for Yolobus and/or Amtrak as the increasing cost for operations may outpace fare box returns.

Therefore, the combination of future City of Davis buildout in both residential and non-residential development and UC Davis growth in students and employees has the potential to decrease the performance of the transit service (Unitrans, Yolobus, and

Amtrak) under Cumulative Conditions. The addition of the proposed Lincoln40 project-related transit trips has the potential to decrease the performance of the transit service, resulting in a significant cumulative impact.

With respect to the project's incremental contribution, however, project-related transit trips are estimated to be only 14 residents during the morning peak hour (8 to 9 AM), and 11 residents during evening peak hour (5 to 6 PM). In addition, the proposed project is a student-oriented project, and while the project would not be restricted to student occupants, the majority of the project is reasonably anticipated to be occupied by students, all of whom pay fees toward Unitrans facilities through their UC Davis registration fees. This, coupled with future growth in registration fees due to the projected growth in UC Davis enrollment, should be used to fund future enhancements to Unitrans system in terms of reduced headways to the M and W Unitrans Lines that stop at the Richards Boulevard/Olive Drive intersection, and the Z and A Unitrans Lines that stop at the H Street/2nd Street intersection.

Therefore, the project's incremental contribution of transit trips would not decrease the performance or safety of the transit facilities, resulting in an incremental contribution that is *less-than-cumulatively considerable*.

Mitigation Measure(s)

None required.