4.14 TRANSPORTATION AND CIRCULATION

4.14.1 INTRODUCTION

This section of the EIR analyzes the potential impacts of the proposed project on the surrounding transportation system including roadways, bicycle/pedestrian facilities, and transit facilities/services. This section identifies the significant impacts of the proposed project and recommends mitigation measures to lessen their significance. All technical calculations can be found in Appendix J of the Draft EIR.

Note: in order to facilitate the readability of this section, the multi-page level of service tables for the various traffic analysis scenarios, as well as the figures referenced throughout the section text, have been included at the end of this section.

4.14.2 EXISTING ENVIRONMENTAL SETTING

Project Location

The proposed project is located immediately east of the City of Davis city limits, and is bordered on the south by County Road 32A, on the north by County Road 30B/104, and on the west by Mace Boulevard. The land located immediately to the east is currently undeveloped. Figure 4.14-1 displays the site and surrounding roadway network.

Study Area Roadways

Regional access to the proposed project site is provided by Interstate 80 and State Route 113. Mace Boulevard and County Road 32A provide direct access to the project site. Other key roadways in the project vicinity include East Covell Boulevard, Alhambra Drive, and 2nd Street. Freeway access to the site is provided primarily via the I-80/Mace Boulevard interchange to the south and the I-80/County Road 32 interchange to the east. These key area roadways are described below.

Interstate 80 (I-80) is an east-west interstate highway near the southern boundary of the project site. In the Project vicinity, I-80 provides three travel lanes per direction and carries approximately 120,000 vehicles per day, based on information provided by Caltrans. The speed limit on I-80 is 65 mph.

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

Mace Boulevard is a two- to four-lane north-south roadway that borders the southern section of the west edge of the Project site. The City of Davis General Plan Transportation Element (2013) classifies this street as a major arterial. The roadway provides four lanes south of Alhambra Drive and transitions to three lanes north of Alhambra Drive, where it becomes East Covell Boulevard. The speed limit is 40 miles per hour (mph). Bicycle lanes are provided on Mace Boulevard in the study area. Sidewalks are provided on the west side of the roadway from Alhambra Drive to 2nd Street, and on the east side of the roadway from 2nd Street across the freeway overcrossing to Chiles Road. Mace Boulevard carries approximately 17,500 vehicles per day according to the traffic counts collected by the City of Davis in April 2011.

East Covell Boulevard is a four-lane east-west major arterial roadway that connects Mace Boulevard at Alhambra Drive to State Route 113 and points west. West of the project site, Covell Boulevard has a posted speed limit of 40 mph from Mace Boulevard to Wright Boulevard, and carries approximately 19,000 vehicles per day according to traffic counts collected by the City of Davis in August 2011. Bicycle lanes are provided on both sides of the roadway, and sidewalks or off-street paths are provided along the majority of the street length.

County Road 32A is a two-lane east-west minor arterial roadway that borders the south side of the Project site. There is an advisory 35 mph speed signed along the curve adjacent to the Project site; on the rest of the roadway, the speed limit is 55 mph except for the curve near the railroad grade crossing. The roadway has soft shoulders and bike lanes. West of Mace Boulevard, County Road 32A becomes 2nd Street.

County Road 30B/104A is a two-lane roadway that connects East Covell Boulevard to Levee Road and County Road 32A, to the north and east of the Project site. This street is classified as a local roadway in the City of Davis General Plan Transportation Element (2013). There are no speed limit signs in the project vicinity, so the assumed prima facie speed limit is 55 mph. There is an advisory 15 mph sign at the curve located north of the Project site. The roadway has soft shoulders, and no sidewalks or bike lanes are provided.

Alhambra Drive is a two-lane minor arterial roadway that connects Mace Boulevard to East Covell Boulevard. The speed limit is 30 mph. Sidewalks and bike lanes are provided on both sides of Alhambra Drive.

2nd Street is a four lane east-west minor arterial roadway connecting Mace Boulevard to L Street and downtown Davis (2 lanes west of Faraday/Target). The speed limit in the Project vicinity is 35 mph. Bike lanes are provided on both sides of the street, and sidewalks are generally provided where there is adjacent development.

Study Area

Figure 4.14-2 shows the 45 study intersection locations. The intersections are also listed in Tables 4.14-1A, for intersections outside the Mace Boulevard interchange area, and in Table 4.14-1B for intersections within the Mace Boulevard interchange area. These intersections are listed separately because they are analyzed as a system (see the methodology section for more information).

Table 4.14-1A
Study Intersections Outside of Mace Boulevard Interchange Area

No.	Study Intersection	No.	Study Intersection
1	F Street/Covell Blvd	21	2nd Street/Faraday Avenue
2	J Street/Covell Blvd	23	Old Davis Road/I-80 EB Ramps
3	L Street/Covell Blvd	24	Old Davis Road/I-80 WB Ramps
4	Pole Line Road/Covell Blvd	25	Old Davis Road/California Avenue
5	Birch Lane/ Covell Blvd	26	Research Park Drive/Cowell Boulevard
6	Baywood Lane/Covell Blvd	27	Drew Avenue/Cowell Blvd
7	Manzanita Lane/Covell Blvd	28	Valdora Street/Cowell Blvd
8	Wright Blvd/Covell Blvd	29	Cowell Blvd/Pole Line Road/Lillard Drive
9	Monarch Lane/Covell Blvd	30	Cowell Blvd/Research Park Drive/Greene Terrace Driveway
10	Alhambra Drive/Covell Blvd	31	Drumond Avenue/Chiles Road/Cowell Blvd
11	Harper Jr. HS Access/Covell Blvd	32	Mace Boulevard/Cowell Boulevard
12	Pole Line Road/Claremont Drive	35	Mace Boulevard/El Macero Drive
13	L Street/Drexel Drive	36	Danbury Street/Lillard Drive
14	Pole Line Road/Loyola Drive	37	Drumond Avenue/Lillard Drive
16	L Street/E 5th Street	38	County Road 32A/County Road 105
17	Pole Line Road/E 5th Street	39	I-80 WB Ramps/County Road 32A
18	L Street/3rd Street	40	County Road 32B/I-80 EB Ramps
19	2nd Street/Cantrill Drive	43	Mace Ranch IC Access 1/Mace Blvd
20	2nd Street/Pena Drive	44	Mace Ranch IC Access 3/County Road 32A
		45	Mace Triangle Access 1/County Road 32A

Table 4.14-1B
Study Intersections Within The Mace Boulevard Interchange Area

No.	Study Intersection
34	Mace Boulevard/Chiles Road
42	Mace Boulevard/I-80 EB Ramps
33	Mace Boulevard/I-80 WB Ramps
22	Mace Boulevard/2nd Street/County Road 32A
15	Mace Boulevard/Alhambra Drive
41	Chiles Road/I-80 EB Ramp

Note that three of the study intersections (#43, 44 and 45) are new intersections that would provide access to the project site. The study intersections were selected based on the projected distribution of project traffic, with the intent to capture intersections that would serve substantial project traffic.

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

Table 4.14-2
Study Freeway Mainline Segments

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

This traffic analysis also includes an analysis of regional freeway and roadway segments for reasons discussed within the methodology section of this section. The regional study facilities are shown in Figure 4.14-4.

Common Traffic Analysis Terms

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

Table 4.14-3
Intersection LOS Criteria

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

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

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

Table 4.14-4 Freeway Mainline LOS Criteria		
Level of Service	**Description**	**Density (pcplpm)**
A	Represents free flow. Vehicles are almost completely unaffected in their ability to maneuver within the traffic stream.	≤ 11
B	Free-flow speeds are maintained. The ability to maneuver with the traffic stream is only slightly restricted.	> 11 to 18
C	Flow with speeds at or near free-flow speeds. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.	> 18 to 26
D	Speeds decline slightly with increasing flows. Freedom to maneuver with the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort.	> 26 to 35
E	Operation at capacity. Virtually no usable gaps within the traffic stream, leaving little room to maneuver. Any disruption can be expected to produce a breakdown with queuing.	> 35 to 45
F	Represents forced or breakdown flow.	> 45
Note: pcplpm = passenger cars per lane per mile *Source: Highway Capacity Manual* (Transportation Research Board 2010).		

Intersection Operations

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

Table 4.14-6 presents the existing service levels for the intersections within the Mace Boulevard interchange area. Currently, all intersections operate at LOS D or better, although certain queues spill back beyond the available storage length during the peak of the peak hour, most notably the northbound left-turn movement at Mace Boulevard/2nd Street/County Road 32A in the AM peak hour.

Figure 4.14-5 shows all of the intersection service levels on the study area map.

Freeway Mainline Operations

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

Pedestrian and Bicycle Facilities

Pedestrian Facilities

The City of Davis has an extensive system of off-street multi-use pathways, sidewalks, and crosswalks available for use by pedestrians. Sidewalk coverage on the key roadways in the Project vicinity is discussed in the Roadway Network section above. In addition, the following multi-use paths are located in the vicinity of the proposed project site:

- East-west path, between Interstate 80 and the Union Pacific main line, from the eastern terminus of Olive Drive to County Road 105
- East-west path on the south side of East Covell Boulevard to an eastern terminus point at the east boundary of Harper Junior High School, approximately 2,500 feet north of the Mace Boulevard/Alhambra Drive intersection
- The approximately 12-mile Davis Bike Loop path, which passes through Mace Ranch Park. The bike loop is a combination of bike path and bike lane
- Several internal paths in the Mace Ranch neighborhood

Pedestrian facilities do not exist along the proposed project site boundaries as the land is currently undeveloped. The signalized intersection of Mace Boulevard/2nd Street/County Road 32A, located at the southwest corner of the proposed project site, has crosswalks with pedestrian push buttons on all four legs, but there is no connecting sidewalk on the site frontages to the north and east. The signalized intersection of Mace Boulevard/Alhambra Drive, located on the proposed project's western edge, has a crosswalk only on the west leg (crossing Alhambra Drive). There are no pedestrian facilities on the access road to the Park-and-Ride lot southwest of the proposed project site.

Bicycle Facilities

The following types of bicycle facilities exist within the City of Davis:

- Multi-use paths (Class I) are paved trails that are separated from roadways, and allow for shared use by both cyclists and pedestrians.
- On-street bike lanes (Class II) are designated for use by bicycles by striping, pavement legends, and signs.
- On-street bike routes (Class III) are designated by signage for shared bicycle use with vehicles but do not include any additional pavement width.

Figure 4.14-6 displays existing bicycle facilities in the proposed project vicinity. In addition to the previously discussed multi-use paths, Class II bike lanes are located on the following roadways near the proposed project site:

- Mace Boulevard – Both directions from Covell Boulevard to Montgomery Avenue
- East Covell Boulevard from Mace Boulevard to the westerly city limits
- Alhambra Boulevard – Both directions from Mace Boulevard to East Covell Boulevard

- County Road 32A – From Mace Boulevard to County Road 32B
- 2nd Street from Mace Boulevard to L Street

Covell Boulevard, which becomes Mace Boulevard along the proposed project frontage, is the only continuous east-west arterial that traverses the entire City of Davis. To facilitate bicycle and pedestrian travel across this high volume facility, the City of Davis has required the construction of bicycle/pedestrian grade separations for new developments located on the north side of Covell Boulevard. Existing grade separations on Covell Boulevard are located west of F Street and east of Monarch Lane. The Cannery Project will be constructing a bicycle/pedestrian grade separation on East Covell Boulevard. A future facility is planned on West Covell east of Denali Drive, as shown in the General Plan.

Transit Service

Transit service in the City of Davis is provided by Unitrans (local), Yolobus (regional), and Davis Community Transit (paratransit).

Unitrans is a University of California Davis (UCD) student-run public transportation bus system that serves the City of Davis. According to the Unitrans website (http://unitrans.com), bus service is provided on weekdays from 7:00 AM to 11:00 PM, and on Saturdays from 9:00 AM to 6:00 PM. Buses run more frequently during the UCD academic year when ridership is higher, and less frequently during the summer and breaks. Unitrans charges a one-dollar cash fare, and many types of pre-paid discounted tickets and passes are available. One special fare category is UCD undergraduate students, who can show a valid ID instead of a cash fare, because they pay a portion of their quarterly ASUCD fee to Unitrans. Seniors (60+) may also ride free with an ID card available from the Senior Center.

Transit Routes Serving Study Area

According to the Unitrans and Yolobus websites (above, and http://www.yolobus.com/), the following transit routes serve the study area (refer also to Figure 4.14-7).

- Unitrans Route A (Downtown/5th St./Alhambra) – provides fixed-route service in the City of Davis. The A Line travels between Silo Terminal and El Cemonte Avenue & Cowell Boulevard via Hutchinson Drive, A Street, 1st Street, B Street, 2nd Street, 3rd Street, L Street, 5th Street, Alhambra Drive, Mace Boulevard, and Chiles Road. Weekday service hours are 7:00 AM until 11:10 PM with approximately 30-minute headways. Weekday (M-Th) evening service hours are 8:10 PM until 11:10 PM with 60-minute headways. The A Line does not operate on weekends.
- Unitrans "O" (Shopper's Shuttle/Downtown/Target) – provides fixed route service in the City of Davis. The O Line travels between Silo Terminal and Mace Boulevard/2nd Street via Hutchison Drive, Dairy Road, La Rue Road, CA-113, Russell Boulevard, B Street, 1st Street, 2nd Street, 3rd Street, L Street, 5th Street, East 8th Street, Pena Drive, Alhambra Drive and Mace Boulevard. Weekend service hours are 9:00 AM until 6:00 PM with approximately 60-minute headways. The O Line does not operate on weekdays.

- Unitrans Routes P&Q (Davis Perimeter) – provide fixed-route service in the City of Davis. The P and Q Lines operate as loop service originating from and terminating at Memorial Union Terminal. Busses travel on Lincoln Highway, Arlington Boulevard, Lake Boulevard, West Covell Boulevard, Anderson Road, Villanova Drive, 14th Street, F Street, Covell Boulevard, Mace Boulevard, Cowell Boulevard, Pole Line Road, and 5th Street. The P Line travels clockwise and the Q Line travels counter-clockwise. Weekday service hours are 7:00 AM until 9:00 PM with approximately 30-minute headways. Weekday (M-Th) evening service hours are 9:00 PM until 10:30 PM with 50-minute headways. Weekend service hours are 9:00 AM until 5:00 PM with 60-minute headways.
- Unitrans Route S (Holmes/Harper) – Similar to Route T, Unitrans Route S serves the Holmes and Harper Junior High School campuses. Operating hours are 7:00-9:00 AM and 2:30 – 4:30 PM, which are the pre- and post-high school start/end times. This route runs along F Street, Richards Boulevard, CowellBoulevard, Lillard Drive, Danbury Street, Montgomery Avenue, Schmeiser Avenue, Glide Drive, Chiles Road, Mace Boulevard, Covell Boulevard, Drexel Drive, J Street, Oak Avenue and 14th Street. The S Line does not operate on weekends.
- Unitrans Route T (Davis High School) – provides fixed-route service for North, East, and South Davis to Davis High School. Operating hours are 7:00 – 9:00 AM and 2:30 – 4:30 PM, which are the pre- and post-high school start/end times. The route runs along Covell Boulevard with a stop at J Street. The T Line does not operate on weekends.
- Yolobus Routes 42A & 42B (Intercity Loop) – provides fixed-route service to Davis, Woodland, the Sacramento International Airport, Sacramento, and West Sacramento. The two routes operate as loop service, travelling on Interstate 80, CA-113, and Interstate 5. Route 42A travels clockwise and Route 42B travels counter-clockwise. Weekday service hours are 5:50 AM until 11:00 PM with 60-minute headways. Weekend service hours are 6:05 AM until 11:01 PM with 60-minute headways.
- Yolobus Route 43 – provides five morning and four afternoon trips, Monday-Friday, between central and east Davis to downtown Sacramento. It operates on 50-minute headways during the morning commute (6:00 – 8:30 AM), and 30-minute headways during the evening commute (4:00 – 6:00 PM).
- Yolobus Route 232 (Davis / Sacramento Express) – provides a single route service to Davis and Sacramento. Route 232 travels on Interstate 80 and Covell Boulevard. Route 232 weekday service hours are 6:30 AM until 8:00 AM eastbound and 5:30 PM until 6:50 PM westbound. Route 232 does not operate on weekends.

Transit Routes Serving the Bus Stops along Mace Boulevard, west of the Proposed Project Site

Bus stops are located in both directions along Mace Boulevard, directly west of the project site. Both northbound and southbound bus stops include a bus turnout. The following bus routes stop at this location:

- Unitrans Route A. During peak periods, headways on route A are 30 minutes, and a trip from the project side to the Silo Terminal in UC Davis takes approximately 25 minutes.

- Unitrans Route O. Route O provides connections from UC Davis to multiple shopping centers, the Davis Amtrak Station, and recreational attractions in downtown Davis.
- Unitrans Routes P & Q. During peak periods, headways on routes P and Q range from 25 to 35 minutes, and a trip from the project site to the Memorial Union in UC Davis takes approximately 30 minutes due to the routing through west Davis. Routes P and Q provide access to a wide variety of land uses throughout Davis including multiple shopping centers, parks, pools, recreational attractions, schools, City Hall, DMV, Amtrak Station, Post Office, library, and hospitals/medical centers.
- Unitrans Route S. Arrives at Mace Boulevard/2nd Street in the southbound direction on a fixed schedule once in the morning and once in the afternoon.
- Unitrans Route T. Arrives at Mace Boulevard/2nd Street in the southbound direction on a fixed schedule once in the morning and once in the afternoon.
- Yolobus Routes 42A, 42B, 43, and 232. These routes provide connections to downtown Sacramento, Woodland, West Sacramento, and Sacramento International Airport. As such, these complement the Unitrans routes, which serve the City and UC Davis campus only.

Rail Transportation

Union Pacific Railroad Company (UP) operates a railroad line that runs east-west through the City of Davis. The railroad tracks border the western edge of the project site and are grade-separated with Mace Boulevard. At-grade crossings exist to the south within the study area at County Road 105. The rail crossing includes advanced warning signs, pavement markings, and highway stop signs. According to the Federal Railroad Administration (website at: http://safetydata.fra.dot.gov/officeofsafety/publicsite/crossing/xingqryloc.aspx), this line is used by an average of 42 trains per day, including freight trains and Amtrak passenger trains.

4.14.3 REGULATORY CONTEXT

Existing transportation policies, laws, and regulations that would apply to the proposed project are summarized below and provide a context for the impact discussion related to the proposed project's consistency with the applicable regulatory conditions.

Federal Regulations

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

State Regulations

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.

Regional and Local Regulations

Sacramento Area Council of Governments (SACOG)

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 (seven-year horizon) in more detail. The 2035 MTP/SCS was adopted by the SACOG board in 2012.

Davis General Plan

The City of Davis General Plan Transportation Element was updated in 2013. The policies and programs applicable to the Project are included, and evaluated, in Table 4.14-14 of this section.

Davis Trip Reduction Ordinance

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

4.14.4 IMPACTS AND MITIGATION MEASURES

Standards of Significance

This section describes the thresholds or criteria that determine whether the project causes a significant impact on the roadway, bicycle, pedestrian, or transit systems. These thresholds are based on policies from the City of Davis General Plan and recommended/example thresholds from the CEQA guidelines.

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

Standard of Significance #1. Intersections and Local Roadways

The following significance criteria are used to identify operational deficiencies based on the intersection or roadway Level of Service (LOS) analysis. Note that the criteria are categorized by the jurisdiction the intersection or local roadway falls within:

a) Per the *City of Davis General Plan*, LOS E is the minimum acceptable LOS for the City of Davis, LOS F is acceptable for the City for the Davis Core Area (LOS F is acceptable and considered a "congested condition" for Core Area intersections).
b) Per the *2003 Long Range Development Plan (LRDP)*, LOS D is the minimum acceptable LOS for UC Davis.
c) Per the 2009 *Yolo County General Plan*, LOS C is the minimum acceptable LOS in the unincorporated county, except as specified on designated roadways.

City of Davis

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

a) For signalized intersections outside the Core Area, causes overall intersection operations to deteriorate from an acceptable level (LOS E or better in the AM or PM peak hour) to an unacceptable level (LOS F in the AM or PM peak hour);
b) For signalized intersections outside the Core Area, exacerbate unacceptable (LOS F) operations by increasing an intersection's average delay by five seconds or more;
c) For unsignalized intersections outside the Core Area, causes the worst-case movement (or average of all movements for all-way stop-controlled intersections) to deteriorate from an acceptable level (LOS E or better in the AM or PM peak hour) to an unacceptable level (LOS F in the AM or PM peak hour) and meet the California Manual on Uniform Traffic Control Devices (MUTCD) peak hour signal warrant;
d) For unsignalized intersections outside the Core Area that operate unacceptably (LOS F in the AM or PM peak hour) and meet MUTCD's peak hour signal warrant without the project, exacerbate operations by increasing the overall intersection's volume by more than one percent; or
e) For unsignalized intersections that operate unacceptably, but do not meet MUTCD's peak hour signal warrant without the project, add sufficient volume to meet the MUTCD peak hour signal warrant.

UC Davis

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

a) For signalized intersections, cause peak hour intersection operations to deteriorate from an acceptable level (LOS D) to an unacceptable level (LOS E or worse);
b) For unsignalized intersections, cause the average of all movements to deteriorate from an acceptable level (LOS D) to an unacceptable level and meet the MUTCD peak hour signal warrant; or
c) For signalized and unsignalized intersections that operate unacceptably without the project, add 10 or more peak hour vehicles to the intersection's volume.

Yolo County

For the purposes of this traffic study analysis, significant traffic impacts at intersections or road segments within the jurisdiction of Yolo County are defined when the addition of proposed project traffic causes any of the following:

a) For intersections in the unincorporated county with the exceptions noted below, cause peak hour intersection operations to deteriorate from an acceptable level (LOS C) to an unacceptable level (LOS D or worse);

b) For intersections on County Road 32A, cause peak hour intersection operations to deteriorate from an acceptable level (LOS D) to an unacceptable level (LOS E or worse);

c) An intersection or roadway segment operates unacceptably under a no project scenario and the project adds 10 or more peak hour trips;

d) The project adds 100 daily passenger vehicle trips (or Truck Trip Equivalencies) to an existing roadway that does not meet current County design standards (e.g., structural section, horizontal and vertical curves, lane and shoulder width, etc.); or

e) The addition of project traffic causes an all-way stop-controlled or side street stop-controlled intersection to meet MUTCD signal warrant criteria.

<u>Standard of Significance #2. Freeways</u>

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

a) The operating level of a freeway segment to deteriorate from LOS E (or better) to LOS F; or
b) The traffic volume on a freeway segment already operating at LOS F, without the project, increases by more than five percent.

Standard of Significance #3. Regional Freeway and Roadway Thresholds

As part of the traffic analysis, Fehr & Peers conducted an analysis of selected regional facilities. Given that these facilities are within other jurisdictions, it is necessary to provide these jurisdictions' relevant thresholds.

For the freeway impact evaluation, the thresholds are the same as those presented in Section 2 of the thresholds. For the regional roadway segment evaluation, Fehr & Peers used the following thresholds, based on the local standards and thresholds for each jurisdiction:

a) Sacramento County: A project is considered to have a significant impact if it would result in a roadway operating at an acceptable LOS (LOS D for rural areas and LOS E for urban areas) to deteriorate to an unacceptable LOS. For roadways already operating at an unacceptable LOS, a project is considered to have a significant effect if it increases the volume-to-capacity ratio by more than 0.05.

b) Yolo County: A project is considered to have a significant impact if it would cause a roadway segment that operates acceptably to operate unacceptably, or would add 10 or more peak hour trips to a roadway already operating unacceptably without the Project. The LOS Standard is C for all segments analyzed except for the County Road 27 and County Road 102 segments, for which the standard is LOS D.

c) City of West Sacramento: A project is considered to have a significant impact if it would result in a roadway operating at an acceptable LOS (LOS D for the one segment analyzed for this EIR) to deteriorate to an unacceptable LOS E or F. For roadways already operating at an unacceptable LOS, a project is considered to have a significant effect if it increases the volume-to-capacity ratio by more than 0.05.

d) City of Dixon: A project is considered to have a significant impact if it would result in a roadway operating at an acceptable LOS (LOS C or better) to deteriorate to an unacceptable LOS. E or F.

Standard of Significance #4. Other Transportation Considerations

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

a) The project increases traffic on local residential streets due to direct connections provided by those streets between the project site and key arterials;
b) The project does not provide for adequate emergency vehicle access and on-site circulation;
c) Construction-related traffic causes significant intersection impacts as defined by the traffic system criteria described above;
d) The project does not minimize vehicle miles travelled growth in accordance with City goals; or
e) Conflict, or create an inconsistency, with any applicable plan, policy, or regulation adopted for the purpose of avoiding or mitigating environmental effects related to transportation/traffic.

Standard of Significance #5. Transit, Pedestrian and Bicycle Facilities

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

a) The project conflicts with existing, planned, or possible future transit, bicycle, and/or pedestrian facilities and services;
b) The project conflicts with public transit services or creates demand for public transit services above that which is provided, or planned; or
c) The project does not provide connections to bicycle and pedestrian circulation systems of the surrounding area.

Methods of Analysis

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

Analysis Scenarios

The following analysis scenarios are included in this section:

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

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

Intersections

AM and PM peak hour intersection operations are used to assess the impacts of the proposed project relative to existing conditions (i.e., Existing and Existing Plus Project operations are

assessed). Isolated intersection analysis is used for most study intersections, and multi-intersection simulation is used at intersections within the Mace Boulevard interchange area. [1]

For most of the study intersections, LOS is assessed using the Synchro 8.0 software, which applies the 2010 HCM methodology to isolated intersections. For the intersections in the Mace Boulevard interchange influence area, the Synchro/SimTraffic software was used to simulate operations. Use of the SimTraffic simulation model allows the analysis of the signalized intersections as an interconnected roadway network, which yields a more accurate assessment of the vehicle interactions and queuing issues. For intersections analyzed with SimTraffic, the LOS is reported for each intersection, and estimated queues are also reported. The queues are estimated by the traffic simulation, and are used to determine if spill-back to upstream intersections is expected. The queue information is not subject to impact criteria, and is presented for information only.

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

Freeway Mainline

Using the latest available peak hour traffic volumes obtained from the Caltrans PeMS database (www.pems.dot.ca.gov), the vehicle densities and service levels were calculated. AM and PM peak hour freeway volumes, vehicle densities and level of service are assessed for Existing and Existing Plus Project scenarios.[2]

Regional Roadways and Freeway Segment Evaluation

The regional analysis extends beyond the originally-scoped traffic study area to ensure that roadway and freeway segments that would be subject to substantial volume growth with the project are included in the analysis. The scope of the regional analysis was selected based on a comparison of the With Project and No Project traffic volumes in the cumulative case, using the SACMET Regional Travel Demand Model, which covers the counties of Sacramento, Sutter, Yolo and Yuba, as well as portions of Placer and El Dorado counties. For locations to the southwest in Solano County, outside the SACMET model area, volumes were estimated using the I-80 volume at the western gateway to the model area just west of Pedrick Road, and apportioning the project volumes to candidate roadways using the socioeconomic data regarding residences of Davis area employees in the BAE memo Economic Evaluation of Innovation Park Proposals (May 11, 2015). Representative segments of freeways and major arterials where the volume difference exceeded 50 were selected. While the scoping methodology does not ensure

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

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

that every arterial in the greater region that would see a volume increase of this level or higher would be studied, the methodology does address segments in other jurisdictions that would be affected to the greatest extent and captures a reasonably large commute shed.

Existing Plus Project Scenario

Project Description

As described in Chapter 3, Project Description, of this EIR, the proposed project is composed of two parts, the MRIC and the Mace Triangle. The MRIC includes construction of 2,654,000 square feet of development, including 1,510,000 square feet of research and development and office space; 884,000 square feet of manufacturing space; 100,000 square feet of supporting retail space; and a 160,000-square foot hotel/conference center providing 150 rooms. The Mace Triangle portion of the proposed project is anticipated to have a future development potential approximately 46,000 square feet of research and development/office space, and approximately 25,000 square feet of retail space.

As proposed, the proposed project would have four access points, listed below by intersection number per Figure 4.14-2:

15. Mace Boulevard/Alhambra Drive/Central Project Access Driveway – a fourth leg would be built at this existing signalized intersection, providing full access into the central part of the site from Mace Boulevard;

43. Mace Boulevard/ North Project Access Driveway – located to the north of Alhambra Drive, this driveway would be side-street stop-controlled and provide right-turn in/right-turn out access to the site.

44. County Road 32A/West Project Access Driveway – located east of the intersection of Mace Boulevard/County Road 32A and aligned with the park and ride lot access drive, this driveway would be side-street stop-controlled and provide full access to the site.

45. County Road 32A/Central Project Access Driveway – located east of intersection 44, this driveway would be side-street stop-controlled and provide full access to the site.

Chapter 3 contains a general description of the portion of the proposed project site's internal vehicle circulation network, which would connect the above access points, allowing circulation to any point within the site from any access point. Chapter 3 also describes the internal pedestrian and bicycle network and amenities, including a bike path around the site perimeter and also traversing the site; and an internal transit loop serving the central portion of the site via the two Mace Boulevard access points.

Travel Forecasting

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

Local Study Area

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

To develop Existing Plus Project traffic forecasts, the MRIC and Mace Triangle projects were incorporated into the base year of the City model. Because recent housing data indicates extremely low vacancy rates in the City of Davis, all of the employees in the projects were assumed to live outside the City of Davis for the Existing Plus Project scenario. Intersection and roadway volumes were developed using the difference method procedure, which adds the growth in traffic between the base year and the base year plus project forecasts to existing volumes.

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

The travel model assigns most of the external vehicle trips generated by proposed project to the I-80/Mace Boulevard interchange given the proximity of the interchange to the project and the fact that the interchanges (i.e., hook ramps) on CR 32A and CR 32B are located about 3 miles from the project site. The resulting congestion at the I-80/Mace Boulevard interchange causes a redistribution of many "non-project" trips in East Davis and South Davis to other less congested routes. This includes roadways such as Pole Line Road, Cowell Boulevard, and Richards Boulevard. For some roadway segments, volumes decrease with the "plus project" scenario as a result of this redistribution.

Regional Facilities Analysis

The regional analysis extends beyond the originally-scoped traffic study area to ensure that roadway and freeway segments that are subject to substantial volume growth with the proposed project are included in the analysis. Additional methodological description for this analysis is provided above.

Project Trip Generation

The trip generation of the proposed project is based on the following three-step process. As described below, this process considers internal trips and external trips made by all travel modes:

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

Step 1 – Estimate Gross Trip Generation

Table 4.14-8A shows the gross trip generation associated with build-out of the MRIC using trip rates from Trip Generation (Institute of Transportation Engineers, 2008), as well as the City of Davis Traffic Model (source: City of Davis Travel Demand Model Development Report, Fehr & Peers, 2003).

Table 4.14-8A
Proposed MRIC Trip Generation[1]

Land Use	Quantity	Units[2]	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
				In	Out	Total	In	Out	Total
R&D/Research Office	1,510	ksf	12,246	1,621	221	1,842	275	1,341	1,616
Manufacturing	884	ksf	3,377	568	77	645	110	536	645
Ancillary Retail	100	ksf	1,664	190	26	216	37	180	216
Hotel/ Conference	150	rooms	1,091	51	36	87	56	37	93
Gross Trips			18,378	2,431	360	2,791	477	2,093	2,570
Internal Trips[3]			1,286	170	25	195	33	147	180
New (External) Trips[4]			17,091	2,261	335	2,596	444	1,947	2,390

Notes:
1. Trip Rates based on data from City of Davis Travel Demand Model for Ancillary Retail and from Trip Generation (ITE) for all other uses. For Ancillary Retail uses, since these retail establishments are intended only for use by employees and will not be located on the periphery of the site, the trips shown are those made only by retail employees traveling to the project site.
2. ksf = 1,000 square feet.
3. Internal Trips estimated based on mixed-use trip generation model results, reflecting trips between R&D office, Manufacturing, and Hotel/Conference Center. The trip rate for ancillary retail is based on retail employee trips only and thus already accounts for internal trips to retail.
4. Includes external trips made by vehicle, walk, bike, and transit. Refer to following text and table for estimated split for each mode.

For the office and manufacturing employment uses, as well as the hotel uses, rates from Trip Generation (Institute of Transportation Engineers, 2008) are applied. For the ancillary retail uses, the "Home-Based-Work" trip rate was applied to represent vehicle trips made by employees of the retail uses. All other trips to the ancillary retail uses, given their location and design, are assumed to be internal to the MRIC Project.

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

The expected internalization of trips generated by complementary land uses within the project site was estimated based on the Mixed-Use (MXD) Trip Generation Model, which was developed by Fehr & Peers and several academic researchers.[3] Although an internal trip calculation methodology is contained in Trip Generation Handbook (ITE, 2004), it was not used in this instance because the MXD model is based on more extensive data.

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

As shown in Table 4.14-8A, the project would generate about 2,600 AM peak hour trips, 2,390 PM peak hour trips, and 17,100 daily trips before considering external trips made by non-auto travel modes.

Step 3 – Estimate External Trips by Travel Mode

As noted above, for the Existing Plus Project case, all trips are assumed to come from outside the City of Davis. Therefore, no bicycle or pedestrian trips are assumed, and negligible transit trips are assumed, and all external trips are assumed to be vehicle trips. (The cumulative forecasts in Chapter 5 have different assumptions, described separately in that chapter.)

Table 4.14-8B presents the same information for the Mace Triangle. The Mace Triangle is estimated to generate about 100 AM and PM peak hour vehicle trips.

[3] Ewing, Reid, Michael Greenwald, Ming Zhang, Jerry Walters, Robert Cervero, Lawrence Frank, and John Thomas. 2011. "Traffic Generated by Mixed-Use Developments — Six-Region Study Using Consistent Built Environmental Measures." *ASCE Journal of Urban Planning and Development* 137(3): 248–61. http://ascelibrary.org/action/showAbstract?page=248&volume=137&issue=3&journalCode=jupddm&isAuthorized=no.

Table 4.14-8B
Proposed Mace Triangle Site Project Trip Generation[1]

Land Use	Quantity	Units[2]	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
				In	Out	Total	In	Out	Total
R&D/Research Office	45.901	ksf	372	49	7	56	8	41	49
Ancillary Retail	25.155	ksf	419	48	7	54	9	45	54
Gross Trips			791	97	13	110	18	86	104
Internal Trips[3]			63	8	1	9	1	7	8
New (External) Trips[4]			728	89	12	102	16	79	95

Notes:
1. Trip Rates based on data from City of Davis Travel Demand Model for Ancillary Retail and from Trip Generation (ITE) for all other uses. For Ancillary Retail uses, since these retail establishments are intended only for use by employees and will not be located on the periphery of the site, the trips shown are those made only by retail employees traveling to the project site.
2. ksf = 1,000 square feet.
3. Internal vehicle trip adjustment estimated based on 8 percent walk and bike trips between the Mace Triangle and MRIC sites. The trip rate for ancillary retail is based on retail employee trips only and thus already accounts for internal trips to retail.
4. Includes external trips made by vehicle, walk, bike, and transit. Refer to following text and table for estimated split for each mode.

Project Phase 1 Description

For purposes of determining the timing of mitigation measures described below, a MRIC Phase 1 was defined, consisting of 400,000 square feet of manufacturing uses, 140,000 square feet of research and development uses, and up to 40,000 square feet of ancillary/retail uses. The MRIC Phase 1 would provide access via Mace Boulevard across from Alhambra Avenue, and at both County Road 32A driveway locations. The total external vehicle trip generation was estimated using the same process as described above for the proposed project. The net external trip generation for the MRIC Phase 1 is 380 AM peak hour trips and 367 PM peak hour trips. The MRIC Phase 1 trip generation table is included in Appendix J.

Project Impacts and Mitigation Measures

The proposed project impacts on the transportation system are evaluated in this section based on the thresholds of significance and methodology described above. The discussions and mitigation measures presented below apply to both the MRIC and the Mace Triangle unless otherwise stated.

4.14-1 Impacts to Intersections Outside Freeway Interchange Areas. Based upon the analysis below and with implementation of mitigation, the Project would have a less-than-significant traffic impact to the intersection of Monarch Lane/Covell Boulevard, based on standard of significance #1.

Table 4.14-9A[4] shows the service levels for intersections outside the Mace Boulevard interchange area, with the addition of proposed roject traffic, including MRIC and Mace Triangle. The service levels for all intersections, including those within the interchanges areas, are also shown in Figures 4.14-8a and 4.14-8b**.**

According to Table 4.14-9A, for the non-Mace Boulevard interchange area intersections, all but one intersection, Covell Boulevard/Monarch Lane, is projected to operate at acceptable service levels with the addition of project traffic. The intersection of Monarch Lane/Covell Boulevard is projected to fall from LOS D for the Monarch Lane left turn, without project traffic, to LOS F with project traffic in the PM peak hour, as shown below.

No.	Study Intersection	Traffic Control	Jurisdiction	Existing No Project				Existing Plus Project			
				AM		PM		AM		PM	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
9	Monarch Lane/Covell Blvd	SSSC	City of Davis	1 (20)	A (C)	1 (26)	A (D)	3 (47)	A (E)	11 (134)	B ***(F)***

Existing Plus Project Phase 1

As shown in Table 4.14-9B, which addresses this intersection's operations under Existing Plus Project MRIC Phase 1 conditions, the Monarch Lane/Covell Boulevard intersection is projected to continue to operate acceptably. Thus, the impact is projected to occur after development of the MRIC Phase 1.

Conclusion

Proposed project traffic would trigger the relevant threshold of significance for the unsignalized intersection of Monarch Lane/Covell Boulevard under the Existing Plus Project scenario.[5] With implementation of the following mitigation measure, requiring installation of a traffic signal, the Monarch Lane/Covell Boulevard intersection would operate acceptably, resulting in a ***less-than-significant*** impact

[4] This table, as well as the other large LOS tables, are included at the back portion of this section, following the descriptive analysis.

[5] For unsignalized intersections outside the Core Area, the project causes the worst-case movement (or average of all movements for all-way stop-controlled intersections) to deteriorate from an acceptable level (LOS E or better in the AM or PM peak hour) to an unacceptable level (LOS F in the AM or PM peak hour) and meet MUTCD peak hour signal warrant.

with mitigation. The intersection would operate at LOS A/5.1 seconds of delay in the PM peak hour, with signalization.

Mitigation Measure(s)

MRIC and Mace Triangle

4.14-1 *As directed by the City, based on either a focused development phase traffic study as described in Mitigation Measure 4.14-2, or the monitoring carried out by the Master Owners' Association (MOA) as part of the Project Travel Demand Management Program described in Mitigation Measure 4.14-6, the project applicant shall fund, and the City shall supervise, the design and construction of a traffic signal at the intersection of Monarch Lane/Covell Boulevard. The signal design, timing plans, and coordination plan for adjacent Covell Boulevard signals shall be reviewed and approved by the Davis Public Works Department prior to issuance of a building permit for the traffic signal. Funding for the signal will be deposited at the time of the first final map. Responsibility for implementation of this mitigation measure shall be assigned to the MRIC and Mace Triangle on a fair share basis. Based on analysis already performed, this improvement is not triggered by phase one MRIC development; however, all MRIC development shall have a fair share funding obligation.*

4.14-2 Impacts to Intersections within the Mace Boulevard Interchange Area. Based upon the analysis below and with implementation of mitigation, the Project would have a significant and unavoidable traffic impact to the following three intersections: Mace Boulevard/I-80 Westbound Ramps, Mace Boulevard/2nd Street/CR 32A, and Mace Boulevard/Alhambra Drive, based on standard of significance #1.

Table 4.14-10A shows the traffic simulation LOS results for the Mace Boulevard interchange area under Existing Plus Project conditions. With the addition of proposed project traffic, service levels would deteriorate substantially, and peak queues would spill back in several locations to and beyond upstream intersections (queue results are included in Appendix J).

The following three intersections would fall to LOS F with the addition of proposed project traffic, as shown below:

1. Mace Boulevard/I-80 Westbound Ramps
2. Mace Boulevard/2nd Street/County Road 32A
3. Mace Boulevard/Alhambra Drive

Intersection	Control	Existing				Existing Plus Project			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Mace Blvd/I-80 WB Ramps	Signal	18	B	13	B	62	E	**113**	**F**
Mace Blvd/2nd Street/County Road 32A	Signal	38	D	24	C	75	E	**190**	**F**
Mace Blvd/Alhambra Drive	Signal	4	A	5	A	**92**	**F**	**93**	**F**

Existing Plus Project Phase 1

As shown in Table 4.14-10B, which addresses the Mace Boulevard interchange area's operations under Existing Plus Project MRIC Phase 1 conditions, the intersections are projected to continue to operate acceptably. Thus, the impact is projected to occur after development of the MRIC Phase 1.

Conclusion

Proposed project traffic would trigger the relevant threshold of significance (see Standards of Significance, City of Davis) for the three above-listed freeway interchange area intersections. Therefore, this impact would be considered ***significant***.

Mitigation Measure(s)

Focused Traffic Study Requirement to Verify Timing for Improvements

Due to the project scale and its extended buildout, and the uncertainty over the timing of each project phase, the establishment of an ongoing management and monitoring program is the best way to establish the need for implementation of individual mitigation measures. The following mitigation measure will require the Master Owners' Association for the MRIC to conduct focused traffic studies with each phase of development, submit the study to the City and, if standards are met, the project applicant or the City shall construct physical traffic improvements.

MRIC

4.14-2(a) In conjunction with submittal of a final planned development, or tentative map, whichever occurs first, for Phase 2 of development, as well as all subsequent phases, the Master Owners' Association (MOA) for the Project shall submit a focused traffic impact study to determine if any of the intersection, roadway, interchange, external roadway, or freeway mitigations are required based on the additional traffic generated by the development phase. The focused

traffic study shall address the impact of adding the individual phase of development to existing plus other approved/pending development projects. The traffic study shall use the current version of the SACOG travel demand forecasting model available at the time of the study, and the traffic operations analysis methods utilized in this EIR. If operations are found to have declined to unacceptable levels based on the relevant criteria under Standard of Significance #1, above, the project applicant shall construct physical improvements or pay its fair share as described prior to the issuance of the first certificate of occupancy for the first building in that phase.

Mace Triangle – none

Mitigation Options for Mace Boulevard/I-80 Westbound Ramps; Mace Boulevard/2nd Street/County Road 32A; and Mace Boulevard/Alhambra Drive

Three potential mitigation options are available for the mitigation of the impact to the three interchange area intersections. Each measure is described below, followed by an evaluation of its effectiveness:

1. ***Option 1 (Roadway and Intersection Widening Alternative):*** *Widen the roadways and intersections in the impacted area to provide LOS E or better operation;*

2. ***Option 2 (Widening Plus Project Access Change Alternative):*** *Modify the proposed new project access on Mace Boulevard, north of Alhambra Drive, to provide a traffic signal with full access (i.e., all movements allowed), as well as widen adjacent roadways and intersections to provide LOS E or better operation as needed, lessening the turning movement demand at the Project access driveway at the Alhambra Drive intersection; or*

3. ***Option 3 (Interchange Alternative):*** *Construct capacity improvements at the County Road 32A/32B interchange and on County Road 32A to accommodate more Project traffic to use this interchange, lessening the traffic on the Mace Boulevard interchange.*

Another approach would be to implement a reduced intensity alternative in order to reduce project traffic in the Mace Boulevard interchange area. This, coupled, with widening of adjacent roadways and intersections, would be expected to provide LOS E or better operations to the above-listed facilities. The reduced intensity/project alternative approach is considered in Chapter 7, Alternatives, of this EIR.

The following evaluates the effectiveness of each mitigation measure strategy.

MRIC and Mace Triangle

4.14-2(b) ***Roadway and Intersection Widening Alternative (Option 1):*** *Construct improvements to Mace Boulevard to provide sufficient capacity to serve the Existing Plus Project traffic. Responsibility for implementation of this mitigation measure shall be assigned to the MRIC and Mace Triangle on a fair share basis (see Appendix J for a detailed sketch of the improvements):*

- *Southbound Mace Boulevard: Add a third southbound lane from the westbound ramps intersection to the eastbound loop on-ramp, with two lanes feeding the on-ramp*

- *Northbound Mace Boulevard: Extend the third northbound lane from the westbound ramps to the 2nd Street intersection*

- *Westbound Ramps intersection: eliminate the westbound free right lane and build two right turn lanes*

- *Mace Boulevard/2nd Street/County Road 32A intersection: Widen approaches to add a new westbound left turn lane, and lengthen the westbound left turn lanes to 400 feet in length. Remove the eastbound free right turn channelizing island and replace with a non-channelized right turn lane.*

- *Mace Boulevard/Alhambra Drive/Central Project Driveway intersection: Widen the Project access driveway to provide three outbound lanes with two westbound left-turn lanes and one westbound through/right lane. Add a southbound left turn lane 400 feet in length. Provide a northbound through-right lane and an exclusive northbound right turn lane.*

With these mitigations, LOS E would be restored to the impacted intersections, and queues would be contained within the available storage. However, the improvements would result in Mace Boulevard exceeding the 4-lane maximum width allowed by the Davis General Plan (see Table 3 of the General Plan Mobility Element) for the transitional section within the interchange ramps area. Because the additional lane capacity would facilitate movements between the ramps and the City's arterial roadway system, the short section that would exceed four lanes is not considered to be inconsistent with the General Plan policy.

Widening the Mace Boulevard overpass of I-80, modifying the westbound off-ramp, and widening the southbound on-ramp at the I-80/Mace Boulevard interchange would require approval by Caltrans.

With implementation of Mitigation Measure 4.14-2(b), the impact would be reduced to a less-than-significant level. However, because the approval of interchange improvements by Caltrans cannot be assured, the impact remains *significant and unavoidable.*

MRIC and Mace Triangle

4.14-2(c) ***Widening Plus Project Access Change Alternative (Option 2):*** *Modify the proposed new project access on Mace Boulevard, north of Alhambra Drive, to provide a traffic signal with full access (i.e., all movements allowed), and widen adjacent roadways and intersections to provide LOS E or better operation, as described in Option 4.14-2(b). Responsibility for implementation of this mitigation measure shall be assigned to the MRIC and Mace Triangle on a fair share basis.*

With these mitigations, LOS E would be restored to the impacted intersections, and queues would be contained within the available storage. As in Option 4.14-2(b), the improvements would result in Mace Boulevard exceeding the 4-lane maximum width allowed by the Davis General Plan (see Table 3 of the General Plan Mobility Element) for the transitional section within the interchange ramps area. Because the additional lane capacity would facilitate movements between the ramps and the City's arterial roadway system, the short section that would exceed four lanes is not considered to be inconsistent with the General Plan policy.

Widening the Mace Boulevard overpass of I-80, modifying the westbound off-ramp, and widening the southbound on-ramp at the I-80/Mace Boulevard interchange would require approval by Caltrans.

With implementation of Mitigation Measure 4.14-2(c), the impact would be reduced to a less-than-significant level. However, because the approval of interchange improvements by Caltrans cannot be assured, the impact remains *significant and unavoidable.*

MRIC and Mace Triangle

4.14-2(d) ***Interchange Alternative (Option 3):*** *Construct capacity improvements at the County Road 32 interchange and along County Road 32A to allow this interchange to serve more project traffic and reduce project*

traffic using the Mace Boulevard interchange. Responsibility for implementation of this mitigation measure shall be assigned to the MRIC and Mace Triangle on a fair share basis. The improvements include:

- *Reconstruction, widening, and potential relocation to the west, of the eastbound and westbound on- and off-ramps to provide more storage capacity, and to provide traffic signals or roundabouts at the ramp terminal intersections. Provision of an auxiliary lane between the relocated eastbound on-ramp merge and the causeway structure.*
- *Provision of a grade separation of County Road 32A and the UPRR tracks, a near-term improvement prior to provision of the grade separation would consist of relocating the CR 32A/CR 105 intersection about 200 feet to the north and installing double gates on the south approach to the grade crossing in order to improve safety and traffic functionality at the grade crossing.*
- *Re-configuration of the County Road 32A/County Road 105 intersection to provide uninterrupted County Road 32A flow with County Road 105 under stop control.*

With these improvements and the associated project traffic shift (estimated to be about 600 trips in each peak hour), the Mace Boulevard mitigations would be reduced to the following:

- *Westbound Ramps intersection: eliminate the westbound free right lane and build two right turn lanes; eliminate dedicated westbound left turn lane and serve left turns and through movements from the single shared left-through lane.*

- *Mace Boulevard/2nd Street/County Road 32A intersection: Add a second westbound left-turn lane and lengthen left turn lanes to 325 feet. Remove the eastbound free right turn channelizing island and replace with a non-channelized right turn lane.*

- *Mace Boulevard/Alhambra Drive/Central Project Driveway intersection: Provide a northbound left turn, through, and right-turn lane.*

Relocation of the eastbound hook on-ramp from its present location along Chiles Road, to a point further west, would allow for the provision of an auxiliary lane on eastbound I-80 between the on-ramp and the causeway structure to facilitate merge activities with the increased on-ramp volumes. This would require the acquisition of

additional right-of-way on the south side of Chiles Road that is currently used for agricultural activities and may have a secondary impact.

With these mitigations, all affected intersections would operate at LOS E or better. The operations of County Road 32A and 32B ramp intersections would operate at LOS A in both peak hours, once signalized, with the volume shift, and the County Road 32A/County Road 105 intersection would operate at LOS C in both peak hours with the re-alignment and relocation of the stop sign to the County Road 105 approach.

The addition of 600 peak hour vehicle trips to County Road 32A has the potential to negatively impact bicycle flow along CR 32A between CR 105 and the access to the causeway bicycle path. The following mitigation measure would reduce this potential impact to a less-than-significant level.

- *County Road 32A – from County Road 105 to Causeway Bicycle Path Access: widen CR 32A to meet Yolo County standards for a 2-lane arterial (14 foot travel lanes and 6 foot shoulder/on-street bike lanes).*

It is noted that Union Pacific Railroad has discussed the potential closure of the County Road 32A grade crossing, due to safety concerns. While the future closure of the crossing is not confirmed, the potential for the closure means that the grade separation in Mitigation Measure 14.4-2(d) would need to be constructed in order to achieve the intended benefits of the mitigation. That is, a near-term reconfiguration of the grade crossing as described above may not be feasible.

Because the interchange improvements at the Mace Boulevard interchange and the County Road 32A/32B interchange would require Caltrans and Yolo County review and approval, respectively, and due to the uncertainty about UPRR's plans for the railroad grade crossing at County Road 32A, the impact remains *significant and unavoidable*.

4.14-3 Impacts to Regional Roadways. Based on the analysis below, the Project would have a less-than-significant impact on regional roadways, based on standard of significance #3.

Table 4.14-11 presents the Existing Plus Project analysis for arterial roadway segments within the regional study area. No significant impacts are identified for any of the regional roadway segments. All but one segment operates at LOS C or better with the proposed project, and one segment, Elkhorn East of SR 70/99 operates at

LOS E with and without the project. Using the rural LOS standard of LOS D, this segment operates below the standard. However, the proposed project does not increase the v/c ratio by more than 0.05, so the project's impact is ***less than significant***.

Mitigation Measure(s)
None required.

4.14-4 Impacts to Freeways. Based upon the analysis below, the Project would have a less-than-significant impact on freeway segments, based on standard of significance #2.

Table 4.14-12 presents the freeway operations within the local study area with the addition of project traffic. All freeway segments would operate at LOS D or better with addition of proposed project traffic. Per threshold of significance #2, an impact to a freeway facility would be considered significant if the operating level of a freeway segment deteriorates from LOS E (or better) to LOS F. Because proposed project traffic would not trigger this threshold, the proposed project would have a less-than-significant impact to freeways in the local study area.

Table 4.14-13 presents the freeway operations within the regional study area with the addition of project traffic. All segments but one operate at LOS D or better with and without the project; one segment, Westbound I-80 Business, between Exposition Boulevard and E Street, operates at LOS E with and without the project, in the PM peak hour. However, because the proposed project does not cause any segment to fall to LOS F, the project would have a ***less-than-significant*** impact to regional freeways.

Mitigation Measure(s)
None required.

4.14-5 Impacts to Local Neighborhood Street Traffic. Based upon the below analysis, and even with implementation of mitigation, the project would result in a *significant and unavoidable* impact associated with adding vehicle trips on East Davis neighborhood streets and causing existing vehicle trips to divert to other routes to avoid congestion created by the project on Mace Boulevard.

MRIC

The Davis General Plan includes policy direction (Policy TRANS 2.7) to minimize impacts of vehicle traffic on local streets to maintain or enhance livability of the neighborhoods. The proposed project is forecast to add 100 to 130 peak hour trips to Alhambra Drive, although the actual choice of drivers to choose Alhambra Drive instead of the Covell/Mace curve to approach and depart the site is somewhat difficult to predict. Korematsu Elementary School is located at the junction of Alhambra Drive and Loyola Drive. The current volume of traffic along this segment of Alhambra Drive is about 480-520 peak hour vehicles.

In order to address increased traffic in residential neighborhoods, the General Plan recommends that traffic calming measures be considered along collector and minor arterial streets, where appropriate and feasible, to slow speeds. While the following mitigation measure would require the applicant to prepare a neighborhood traffic calming plan, and implement traffic calming measures within the residential areas, west of the project site, successful implementation of such a plan cannot be guaranteed. Therefore, this is considered a ***significant*** impact.

Mace Triangle

The development potential for the Mace Triangle will generate a relatively small number of external peak hour trips as compared to the MRIC (100 vph, compared to approximately 2,500 vph for MRIC). In addition, the Mace Triangle has its sole access onto CR 32A; and project trips are most likely to travel to/from the I-80 freeway, to the west along 2nd Street, or to the north via Mace Boulevard. This is in contrast to the MRIC, whose main access is at the Mace Boulevard/Alhambra Drive intersection, where MRIC project traffic can more easily travel westbound onto Alhambra Drive through the neighborhood. As a result of these factors, the Mace Triangle would have a ***less-than-significant*** impact related to local neighborhood street traffic.

Mitigation Measure(s)

MRIC

4.14-5 *Prior to final map approval, the project applicant shall fund the development of a neighborhood traffic calming plan, the City shall adopt the plan, and the applicant shall fund implementation of the plan. The traffic calming plan will address Alhambra Drive, Loyola Drive, Fifth Street, and Monarch Lane. Existing weekday daily traffic counts and 85th percentile speeds shall be collected on the above neighborhood streets as part of the traffic calming plan development process. The purpose of the plan will be to maintain both the volume and speed of vehicle traffic on these streets, through the use measures proven in other neighborhoods and jurisdictions to achieve these goals, such as narrow points, neighborhood traffic circles, speed humps, stop signs (where warranted), narrow lane striping, and others. Implementation of a comprehensive traffic calming plan will incentivize traffic to use major routes such as I-80, East Covell Boulevard, Mace Boulevard, and 2nd Street, and avoiding using residential streets as cut-through routes.*

With implementation of Mitigation Measure 4-14-5, the impact would be reduced. However, successful implementation of the neighborhood traffic calming plan cannot be assured due to uncertainties regarding what measures will ultimately be included in the plan, whether the plan will be approved, and whether the plan will be effective

at completely eliminating the use of the affected roadways by project traffic. Therefore, this impact is considered *significant and unavoidable*.

Mace Triangle – none

4.14-6 Increase in Vehicle Miles Traveled. Based upon the below analysis and implementation of mitigation, the project would have a *less-than-significant* impact to increases in VMT.

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

The Metropolitan Transportation Plan/Sustainability Community Strategy 2035 adopted by SACOG in 2012 estimated that the total weekday VMT on roadways in the SACOG region was approximately 57.2 million in 2008 and is projected to be 74.3 million by 2035. While the overall regional VMT is projected to increase, the VMT per Capita is projected to decrease from 25.8 to 24.1 between 2008 and 2035. The VMT figures cited in the MTP/SCS is based on the VMT that is forecast to occur on roadways in the six-county region. The MTP/SCS also estimates that the VMT on roadways located in Yolo County was approximately 5.7 million in 2008 and would be 7.4 million by 2035, or about 10 percent of the regional total. The VMT on roadways located in the City of Davis, using the same methodology and applying the SACOG regional model, was approximately 1.7 million in 2008 and is projected to be 2.1 million by 2035.

The methodology described above for the MTP/SCS is based on a tally of VMT on roadways in the six-county region. It does not account for VMT on roadways located outside the SACOG region (i.e., to the Bay Area, Stockton, Modesto, etc.). An alternative methodology was used to estimate proposed project VMT so that a full accounting of the number and length of project trips could be provided. This methodology accounts for trips made to and from locations outside the six-county SACOG region. Project VMT forecasts were developed using forecast employee housing locations in the BAE memo Economic Evaluation of Innovation Park Proposals (May 11, 2015), data from the SACOG regional model, and data from the California Household Travel Survey.

The proposed project will generate substantial new travel demand related to commuting and other trip purposes associated with the industrial and retail uses on-site. The proposed project is estimated to generate 195,000 VMT at build-out. As such, it would increase City-generated VMT and GHG, not reduce them. However, as a concentrated employment center, the project applicant and future tenants have a unique ability to implement programs that promote travel alternatives to the single-occupant vehicle, control the fuel types and efficiencies of vehicles accessing the site, and collectively contribute to the goal of minimizing VMT and GHG growth. With implementation of mitigation measure 4.14-6 below, the proposed project could reduce its VMT (although not reduce it to zero), and result in a ***less-than-significant*** impact.

Mitigation Measure(s)

MRIC

4.14-6(a) *Prior to issuance of the first building permit in the first phase of development, the applicant shall develop a TDM program for the entire proposed* project, *including any anticipated phasing, and shall submit the TDM program to the City Department of Public Works for review and approval. The TDM program must be designed to achieve the following:*

1. *Reduce trips to achieve one and five-tenths (1.5) Average Vehicle Ridership (AVR) in accordance with Davis Municipal Code Section 22.15.060; and*
2. *Reduce daily and peak hour vehicle trips, as forecast for the project in this transportation impact assessment, by 10 percent for every project phase.*

The Master Owners' Association (MOA) shall be responsible for implementing the TDM Program.

(a) The MOA shall be responsible for funding and overseeing the delivery of trip reduction/TDM proposed programs and strategies to achieve the AVR objectives, which may include, but are not limited to, the following:

(1) Establishment of carpool, buspool, or vanpool programs;
(2) Vanpool purchase incentives;
(3) Cash allowances, passes or other public transit subsidies and purchase incentives;
(4) Low emission vehicle purchase incentives/subsidies;
(5) Parking fees set at levels sufficient to incentivize alternative modes;

(6) Full or partial parking subsidies for ridesharing vehicles;
(7) Preferential parking locations for ridesharing vehicles;
(8) Computerized commuter rideshare matching service;
(9) Guaranteed ride-home program for ridesharing;
(10) Alternative workweek and flex-time schedules;
(11) Telecommuting or work-at-home programs;
(12) On-site lunch rooms/cafeterias;
(13) On-site commercial services such as banks, restaurants and small retail;
(14) On-site day care facilities;
(15) Bicycle programs including bike purchase incentives, storage, maintenance programs, and on-site education program;
(16) On-site car share and bike share service;
(17) Enhancements to Unitrans or Yolobus bus service;
(18) Enhancements to Capitol Corridor or future Regional Rail service;
(19) Enhancements to the citywide bicycle network;
(20) Dedicated employee housing located either on-site or elsewhere in the City of Davis;
(21) Designation of an on-site transportation coordinator for the project.

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

(c) In conjunction with final map approval, recorded codes, covenants and restrictions (CC&Rs) shall include provisions to guarantee adherence to the TDM objectives and perpetual operation of the TDM program regardless of property ownership, inform all subsequent property owners of the requirements imposed herein, and identify potential consequences of nonperformance.

Each space use agreement (i.e., lease document) shall also include TDM provisions for the site as a means to inform and commit tenants to, and participate in, helping specific applicable developments meet TDM performance requirements.

(d) The MOA shall allow Mace Triangle businesses to participate within the MRIC TDM.

(e) Ongoing reporting:
(1) <u>Annual TDM Report</u>. The MOA for the Project shall submit an annual status report on the TDM program to the City Department of Public Works beginning a year after the issuance of any certificate of occupancy and

continuing until full project buildout. Data shall be collected in October of each year and the Annual Report submitted by December 31st of each year. The report shall be prepared in the form and format designated by the City, which must either approve or disapprove the program within sixty (60) days.

i. The TDM performance reports shall focus on the trip reduction incentives offered by the project, their effectiveness, the estimated greenhouse gas (GHG) emissions generated by the project, and the methods by which a continued trajectory towards carbon neutrality in 2050 can be achieved consistent with Mitigation Measure 4.7-2. The report shall:

- *Report the AVR levels attained;*
- *Verify the TDM plan incentives that have been offered;*
- *Describe the use of those incentives offered by employers;*
- *Evaluate why the plan did or did not work to achieve the AVR targets and explain why the revised plan is more likely to achieve the AVR target levels;*
- *List additional incentives which can be reasonably expected to correct deficiencies;*
- *Evaluate the feasibility and effectiveness of trip reduction/TDM program and strategies, as implemented;*
- *Estimate the greenhouse gas emissions generated by Project transportation operations; and*
- *Identify off-setting GHG credits to be secured by the Project to achieve carbon neutrality.*

ii. The MOA shall conduct employee travel surveys annually to determine TDM program participation, AVR levels, and estimated mode shares, and monitor weekday AM and PM peak hour traffic operations every three years at all impact locations identified in this EIR, comparing the operating LOS with the relevant standards in this EIR. The survey instrument and LOS

monitoring plan will be reviewed and approved by the City prior to implementation.

iii. *The MOA shall also develop and implement a program to monitor daily and peak hour traffic volumes entering and exiting the site, to be conducted annually. The monitoring shall demonstrate that the external vehicle trip generation remains below the EIR projection of 2,453 AM peak hour trips and 2,262 PM peak hour trips. The monitoring program may include statistical considerations to ensure that non-statistically significant increases do not constitute violation of the trip ceiling.*

iv. *If the trip ceiling is exceeded for any two consecutive years, the applicant or current owner of the site will contribute funding to be determined in a separate study toward the provision of additional or more intensive travel demand management programs, such as enhanced regional transit service to the site, employee shuttles, and other potential measures.*

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

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

Should the TDM objectives not be satisfied by the end of the one-hundred-eighty-day period, the MOA shall pay a TDM penalty fee to the City in an amount determined by resolution of the City Council. Said penalty fee may be used to provide new transit service and/or subsidize existing transit service, construct bicycle facilities, and/or improve street capacity through construction of physical improvements to be selected by the City of Davis from the list of area-wide improvements identified in the City's CIP.

Mace Triangle

4.14-6(b) Prior to issuance of a building permit for development within the Mace Triangle site, each applicant shall develop a TDM program coordinated with, and compliant with, the requirements of the MRIC TDM program and any pre-existing TDM programs on the Mace Triangle site. The program shall be submitted to the City Department of Public Works for review and approval. This includes achievement of the same trip reduction requirements, GHG-reducing transportation strategies, and monitoring and reporting requirements as the MRIC. This may be satisfied by joining the MRIC TDM program as a participating member.

4.14-7 Impacts to Emergency Vehicle Access. Based upon the below analysis, the project would have a *less-than-significant* impact with respect to resulting in inadequate emergency access.

The proposed project would provide multiple emergency vehicle access (EVA) points, two along Mace Boulevard and two along County Road 32A. As such, emergency vehicles can access the site from multiple directions. Furthermore, the design of the on-site roadways and intersections will be subject to City of Davis code and Public Works Department staff review and approval. Therefore, adequate emergency vehicle access is proposed and this is considered a less than significant impact.

Mitigation Measure(s)
None required.

4.14-8 Impacts associated with Construction Vehicle Traffic. Based upon the below analysis and implementation of mitigation, temporary construction vehicle traffic would have a *less-than-significant* impact on existing roadways.

Construction of the proposed project, including site preparation and construction, and delivery activities, would generate employee trips and a variety of construction-related vehicles. Construction activities would include disruptions to the transportation network near the project site, including the possibility of temporary lane closures, street closures, sidewalk closures, and bikeway closures. Bicycle and transit access may also be disrupted. These activities could result in degraded roadway conditions. With implementation of the following mitigation measure, construction activities associated with the proposed project would result in a ***less-than-significant*** temporary traffic impact.

Mitigation Measure(s)

MRIC and Mace Triangle

4.14-8 *Prior to any construction activities for the proposed project, the 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 prior to 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*
- *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.

4.14-9 Impacts to Pedestrian and Bicycle Facilities. Based upon the analysis below, and with implementation of mitigation, the project would have a less-than-significant impact with respect to conflicting with existing, planned or possible future bicycle and pedestrian facilities, based on standard of significance #3.

The proposed project may interfere with existing, planned, or possible future pedestrian/bicycle facilities. Existing facilities that are adjacent to the project include on-street bike lanes on Mace Boulevard and Alhambra Drive, and a shared use path on Alhambra Drive. Proposed bicycle enhancements in the Beyond Platinum Bicycle

Action Plan (2012) include enhanced facilities along 2nd Street, between Mace Boulevard and L Street, as well as bike lane conflict markings on Mace Boulevard at the I-80 interchange ramps.

The project will provide a bike path, within the 50-foot transition zone of the agricultural buffer, which would connect to the existing Class II bike lane on CR 32A, at the project's southeastern corner. The project will provide bicycle parking near entrances to buildings, and a bike storage and repair area near the transit center to allow for safe storage of bikes and to facilitate any bike repairs that may be needed.

In addition, as shown in Figure 3-14, Alternative Transportation Connectivity, of the Project Description Chapter of this EIR, the proposed project includes a proposed off-site bike path on the west side of Mace Boulevard, just north of Alhambra Drive, to the existing path along the frontage of Harper Junior High School. This bicycle/pedestrian path improvement, along the inside of the Mace "curve", will provide an important link in the trail network in the project vicinity. Not only will this link facilitate safe bicycle and pedestrian travel to/from the proposed project, but school children biking/walking to/from Harper Junior High School will also be able to travel more safely along this stretch of Mace Boulevard.

The addition of 100 peak hour vehicle trips to County Road 32A has the potential to negatively impact bicycle flow along CR 32A between CR 105 and the access to the causeway bicycle path. This is particularly true for westbound bicycle traffic on County Road 32A that is continuing onto the path west of County Road 105. These cyclists must cross vehicle traffic on County Road 32A just southeast of the at-grade rail crossing where CR 32A has a sharp curve. The addition of 100 peak hour vehicle trips to County Road 32A has the potential to negatively impact cyclists making this uncontrolled movement.

As Covell Boulevard is the only continuous roadway that traverses the entire City of Davis, and is primarily a four-lane facility, the City of Davis has required the construction of bicycle/pedestrian grade separations – by new developments located on the north side of the street – to facilitate safe crossings of this high speed, high volume facility. The General Plan Open Space element shows four existing or planned grade separations of Covell Boulevard. Along Covell Boulevard, this includes an existing overpass west of F Street and an existing underpass west of Alhambra Drive. The Cannery Project will be constructing a bicycle/pedestrian grade separation of East Covell Boulevard and a future facility is planned on West Covell east of Denali Drive.

Upon build-out of the proposed project, approximately 22% of project employees that live in Davis households are projected to commute by bicycle. If 54.6 percent of project employees live in Davis (i.e., the current share of Davis employees who also live in Davis), approximately 700 project employees would commute to and from the project site by bicycle. Most of these cyclists would access the project site via the at-grade intersection of Mace Boulevard/Alhambra Boulevard. This would not

adequately serve the level of projected bicycle traffic, and the project would thus not provide an adequate connection to the surrounding bicycle circulation system. This is a significant cumulative impact.

With implementation of the following mitigation measures, project impacts to bicycle facilities would be ***less-than-significant***.

Mitigation Measure(s)

MRIC and Mace Triangle

4.14-9(a) The project applicant shall fund and construct the following bicycle and pedestrian improvements.

- *Prior to issuance of the first certificate of occupancy in Phase 1 of the MRIC, the applicant shall construct the multi-use path on west side of Mace Boulevard from just north of Alhambra Drive to existing path along frontage of Harper Junior High School, as shown on the Project site plan.*
- *Prior to the issuance of the first certificate of occupancy in Phase 1 of the MRIC, the applicant shall construct a crossing for westbound cyclists on County Road 32A, southeast of the existing at-grade railroad crossing at County Road 32A and County Road 105. The crossing shall be a marked crossing, with advanced warning devices for vehicle traffic, for westbound cyclists on CR 32A that are continuing west onto the off-street path located between the Union Pacific Railroad and I-80 (e.g., to the west of County Road 105). As noted earlier, Union Pacific has discussed the potential closure of the at-grade rail crossing. If that occurs, this mitigation measure will not be required.*
- *Prior to the issuance of the first certificate of occupancy in Phase 1 of the MRIC, the access road from the Park-and-Ride Lot to County Road 32A shall be improved with sidewalks, per the project description.*
- *Responsibility for implementation of this mitigation measure shall be assigned to the MRIC and Mace Triangle on a fair share basis.*

4.14-9(b) Prior to the issuance of the first certificate of occupancy in Phase 1 of the MRIC, the project applicant shall fund a study for a bicycle/pedestrian grade-separated crossing of Mace Boulevard to supplement the City of Davis' Bicycle Action Plan/Bike Plan.

- *The study shall evaluate the preferred location, design, funding, and construction timing of the crossing. Identification of a preferred location shall take into consideration several factors, including but not limited to, connectivity to other existing and planned bicycle facilities, environmental constraints, and construction costs.*
- *At or prior to commencement of construction of any building in Phase 2, the project applicant shall: 1) submit design-level drawings of the grade-separated crossing to the City for review and approval; and 2) provide the project's fair share funding to the City for this improvement (or alternatively construct the improvement) subject to agreement with the City.*
- *Responsibility for implementation of this mitigation measure shall be assigned to the MRIC and Mace Triangle on a fair share basis.*

4.14-10 Impacts to Transit Services. Based on the analysis below, and with implementation of mitigation, the project would have a less-than-significant regarding conflicts with existing, planned or possible transit services, based on standard of significance #3.

MRIC

The MRIC would introduce new office, manufacturing, and retail land uses that are situated in close proximity to the current transit stops (at Mace Boulevard/2nd Street) for the P, Q, and A bus routes operated by Unitrans. These routes serve a variety of retail, employment, medical, institutional, and recreational destinations throughout the City, and operate with 30 minute headways, and long service hours. On-board surveys conducted over the past three years indicated that 91-95% of all riders are UC Davis undergraduate students and 3-6% of riders are UCD graduate students. The 2012 on-board survey indicated that 5.3% of riders are non-UCD patrons.

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

The City of Davis Short Range Transit Plan (Fiscal Years 2014/15-2020/21) indicates that Route A has the fourth highest ridership of the 18 Unitrans routes, with 1,559 average daily boardings and approximately 325,000 annual one-way passenger trips in FY 2012/13. Ridership on Route A increased by 12% between FY 2010/11 and 2012/13. Routes P and Q experience average daily boardings of 1,385 and 1,511, respectively. The average number of one-way trips per revenue service hour for these three routes in FY 2012/13 is as follows:

- Route A – 37
- Route P – 27
- Route Q - 30

Unitrans policy is to increase daily headways from 30 minutes to 15 minutes on routes with more than 60 passengers per hour. The highest ridership levels occur on Unitrans Routes G, J, V and W. All of these routes average more than 60 passengers per hour.

The three routes that serve the project site – routes A, P and Q – have ridership levels that are well under the 60 passenger per hour threshold and the project will not result in an increase above that threshold. While the project is expected to increase transit ridership on Unitrans, given the expected number of project transit riders and existing transit patronage, the project would not cause a demand above that which is provided or planned.

Yolobus currently operates both intercity and express bus service in the City of Davis. Routes 42A and 42B are intercity routes that provide hourly service between downtown Sacramento, West Sacramento, Davis, Woodland and the Sacramento International Airport. The routes have a scheduled bus stop at the intersection of Mace Boulevard and 2nd Street. The express bus routes operated by Yolobus in Davis are currently programmed to serve inbound commute trips to Sacramento in the morning peak period and the return trip to Davis in the evening commute peak period. Since the project is an employment center expected to serve trips in the reverse direction, project employees are not expected to use the existing express bus routes. The Route 42 Intercity loop routes are the most significant trunk lines for Yolobus, serving approximately 650,000 annual riders in 2009. Routes 42A and 42B currently experience high ridership volumes, with Route 42A reporting standing room on two morning trips and Route 43 reporting standing room only on three of the five morning trips and two of the four evening trips. While the project is expected to result in a small increase in transit ridership on Yolobus, given the expected number of project transit riders and existing transit patronage, the MRIC would not cause a demand above that which is provided or planned.

The MRIC includes provision of a transit plaza within the site that is access via the new project access located on the east leg of the existing Mace Boulevard/Alhambra Drive intersection. This would require that Unitrans and Yolobus buses divert from Mace Boulevard into the project site to serve the transit plaza. This would result in additional travel time that would impact scheduling for the individual routes. Unitrans has indicated that they do not wish to divert buses given the added travel time. Implementation of the following mitigation measure would reduce the potential impact to a ***less-than-significant*** level.

Mace Triangle

The Mace Triangle development would have minor transit impacts, given the proximate location of the Park-and-Ride facility within the site and existing nearby bus stops on Mace Boulevard. The Mace Triangle properties would be responsible for their fair share proportion of transit improvements set forth in Mitigation Measure 4.14-10. This would ensure a ***less-than-significant*** impact to transit service.

Mitigation Measure(s)
The improvements can be constructed within the existing right-of-way and can be implemented by the proposed project. Therefore, the mitigation is feasible, and the impact would be reduced to a *less than significant* level after mitigation.

MRIC and Mace Triangle

4.14-10 Prior to the issuance of the first certificate of occupancy of the first MRIC project phase, the project applicant shall fund and construct new bus stops with turnouts on both sides of Mace Boulevard at the new primary project access point at Alhambra Drive. The project applicant shall prepare design plans, to be reviewed and approved by the City Public Works Department, and construct bus stops with shelters, paved pedestrian waiting areas, lighting, real time transit information signage, and pedestrian connections between the new bus stops and all buildings on the project site. Responsibility for implementation of this mitigation measure shall be assigned to the MRIC and Mace Triangle on a fair share basis.

4.14-11 Conflict, or create an inconsistency, with any applicable plan, policy, or regulation adopted for the purpose of avoiding or mitigating environmental effects related to transportation/traffic. Based on the analysis below, the impact is *less than* ***significant***.

In order to further demonstrate the project's consistency with any applicable plan, policy, or regulation adopted for the purpose of avoiding or mitigating environmental effects related to transportation/traffic, Table 4.14-14 includes a list of the relevant policies and a corresponding discussion of how the project is consistent with each policy. As demonstrated in the table, the proposed project is generally consistent with most of the applicable plans, policies, and regulations adopted for the purpose of avoiding or mitigating environmental effects related to transportation/traffic.

Conclusion

The proposed project is generally consistent with the relevant General Plan policies and Municipal Code requirements, discussed in the below table. In order to ensure compatibility with City policy and ordinance regulations, a transportation demand management plan shall be prepared and implemented for the proposed project. With implementation of Mitigation Measure 4.14-6 above, requiring the ongoing

implementation of a TDM plan, the project would result in a ***less-than-significant*** impact.

Mitigation Measure(s)

None required.

Table 4.14-14
Transportation/Traffic Policy Discussion

Plan, Policy, or Regulation		Project Consistency
City of Davis General Plan Transportation Element (Adopted December 10, 2013)		
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% [sic] by 2035. • ***Performance Objective #2.2:*** Reduce vehicle miles traveled (VMT) 39% by 2035. • ***Performance Objective #2.3:*** Annually increase funding for maintenance and operation needs of the transportation system, until fully funded.	<u>Performance Objective #2.1</u> Objective #2.1 is addressed in Section 4.7, Greenhouse Gas Emissions and Energy, of this EIR. <u>Performance Objective #2.2</u> The intended purpose of this objective, as stated in the City's Transportation Element [footnote 9, p. 16], is to reduce carbon emissions from transportation. The percentage reduction was derived from the Davis Climate Action and Adaption Plan for transportation to achieve carbon neutrality by 2050. This VMT objective is City-wide, and not intended to be applied on a project-by-project basis. The GHG emissions resulting from the proposed project's transportation sector, and the project's consistency with Davis' CAAP, are evaluated in Section 4.7. <u>Performance Objective #2.3</u> This Objective does not apply to the proposed project.
Policy TRANS 1.6	Reduce carbon emissions from the transportation system in Davis by encouraging the use of non-motorized and low carbon transportation modes.	This policy is addressed in Section 4.7, Greenhouse Gas Emissions and Energy, of this EIR.
Policy TRANS 1.7	Promote the use of electric vehicles and other low-polluting vehicles, including Neighborhood Electric Vehicles (NEV).	This policy is addressed in Section 4.7, Greenhouse Gas Emissions and Energy, of this EIR.
Policy TRANS 1.8	Develop and maintain a work trip-reduction program designed to reduce carbon emissions, criteria pollutants, and local traffic congestion.	This policy is addressed by Mitigation Measure 4.14-6.
Policy TRANS 2.1	Provide Complete Streets to meet the needs of drivers, public transportation	

(Continued on next page)

Table 4.14-14
Transportation/Traffic Policy Discussion

Plan, Policy, or Regulation	Project Consistency
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. **Standards** d. The following Levels of Service (LOS) are acceptable for automobiles for major intersections (see Glossary for definition of "Major Intersections"): • 'D' during non-peak traffic hours. • 'E' during peak traffic hours. • 'F' during peak traffic hours in the Core Area and Richards Boulevard/Olive Drive area. • 'F' during peak traffic hours in other areas if approved by City Council. e. In each direction, Davis streets shall have no more than two through automobile lanes plus a single left-hand turning lane, even if this requirement reduces level of service. Additional turning lanes may be added for safety or design considerations. f. Existing bike lanes shall not be removed to add through traffic lanes. g. Class I bike paths and II bicycle lanes shall be provided along all collector and arterial streets except where physically infeasible. h. The City shall require right-of-way necessary for the number of lanes projected for each existing and planned arterial street shown in Table 3 (Planned Lane Configurations of Selected Street Segments) as a	Certain proposed project impacts would require roadway segments to exceed 4 lanes in certain locations (e.g., see Mitigation Measure 4.14-2(b)). However, because the additional lane capacity would facilitate movements between the ramps and the City's arterial roadway system, the short sections that would exceed four lanes are not considered to be inconsistent with this General Plan policy.

(Continued on next page)

Table 4.14-14
Transportation/Traffic Policy Discussion

Plan, Policy, or Regulation	Project Consistency
condition of development approval for new developments and substantial changes to existing structures. Prior to implementing the planned street widenings shown in Table 3 and Map 1 in response to a development proposal, the City shall first consider the feasibility and effectiveness of other measures to improve the Level of Service (LOS) to City standards. Such measures could include but would not be limited to Transportation Demand Management (TDM) measures such as requiring businesses to: stagger their hours of operation or employees to a non-peak time; charge for parking; and encourage carpools. The City would implement the street widening only when the aforementioned measures are determined by City Council to be infeasible and ineffective to improve the LOS to City standards.	

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Table 4.14-14
Transportation/Traffic Policy Discussion

Plan, Policy, or Regulation	Project Consistency

Table 3: Planned Lane Configurations of Selected Street Segments

Roadway	Segment	Existing Lanes in 2011	Planned Lanes in 2015
1. Covell Blvd	Baywood to Alhambra	4+	4+
2. Mace Blvd	Alhambra to Chiles	4+	4+
3. F Street	First to Seventh	2	2
4. Pole Line Rd	Overcrossing	2+	2+
5. Pole Line Rd	Covell to N City Limits	2+	4+[3,6]
6. B Street	First to Fifth	2+	2+
7. Cowell Blvd	I-80 eastbound ramp to Drummond	2+	4+
8. Cowell Blvd	Pole Line to Drummond	2	2+
9. Second Street	L to Fermi	2	2
10. Covell Blvd	Sycamore to Shasta	2[1]	4+
11. Covell Blvd	Shasta to West City Limits	4+	4+
12. Pole Line Rd	Fifth to Covell	2+	2+[3,4,6]
13. Chiles Rd	Ensenada to Mace	2+	4
14. Fifth Street	Cantrill to Pena	2+	2+
15. Eighth Street	F Street to J Street	2	2
16. Second Street	Fermi to Mace	4	4+
17. Covell/Mace	Alhambra to Alhambra	3+	3+
18. Fifth Street	B Street to L Street	4	2+[7]
19. Anderson Rd	Villanova to Covell	4	2+[8]

Notes in table (see 2001 General Plan for original footnotes):

1. With short turn lanes only at selected intersections.
2. Corridor plan and mitigations apply. It is the clear intent of this plan not to re-stripe Pole Line Road to four lanes, although re-striping could be evaluated in the future.
3. With Corridor Plan and mitigations.
4. Four lanes north of Claremont acceptable for intersection capacity and operations.
5. With traffic control at 2nd and B Streets
6. Use Corridor Plan process to identify location of turn lanes for increased capacity at intersections. The final configurations for the segment of Pole Line Road from Covell Boulevard to North City Limits shown in this table as segment #5 and in Map 4, 2015 Land Configuration, shall be influenced by planning decisions regarding the 386-acre land site northwest of the Covell Boulevard / Pole Line Road intersection (known as the "Covell Center" project site) and by County Road 102 configurations. The lane configuration of 4+ shown in this table and in

(Continued on next page)

Table 4.14-14
Transportation/Traffic Policy Discussion

Plan, Policy, or Regulation		Project Consistency
	Map 4may need to be only 2+ lanes. 7. Subject to Fifth Street reconfiguration plan and improvements. 8. Four lanes south of Covell Boulevard acceptable for intersection capacity and operations. General notes: • "2" and "4" indicate the planned number of through lanes and "+" indicates additional turn lanes at intersections. • The City shall give strong consideration to the factors of existing trees and bicycle / pedestrian access prior to street widenings.	
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	These policy directives will be addressed in the final planned developments submitted for the project and reviewed and approved by the City, at the next stage of entitlements.
Policy TRANS 2.4	As part of the initial project review for any new project, a project-specific traffic study may be required. Studies shall identify impacted transportation modes and recommend mitigation measures designed to reduce these impacts to acceptable levels.	A project-specific traffic study has been prepared for the MRIC and discussed in detail within this Section of this EIR.
Policy TRANS 2.7	Minimize impacts of vehicle traffic on local streets to maintain or enhance livability of the neighborhoods. Consider traffic calming measures along collector and minor arterial streets, where appropriate and feasible, to slow speeds. Examples of assorted traffic calming measures are shown in Figure 3.	Due to the amount of traffic that the proposed project will add to neighborhood streets, such as Alhambra Drive (estimated at 100 to 130 peak hours trips), Mitigation Measure 4.14-5 requires the applicant to fund, and seek to implement, a neighborhood traffic calming plan to address Alhambra Drive, Loyola Drive, Fifth Street, and Monarch Lane. The purpose of the plan will be to maintain both the volume and speed of

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Table 4.14-14
Transportation/Traffic Policy Discussion

Plan, Policy, or Regulation		Project Consistency
		vehicle traffic on these streets, through the use measures proven in other neighborhoods and jurisdictions to achieve these goals, such as narrow points, neighborhood traffic circles, speed humps, stop signs (where warranted), narrow lane striping, and others.
Policy TRANS 2.8	Improve the function, safety, and appearance of selected corridors as illustrated. Corridor plan improvement concepts are shown in Figure 4. **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 deviations 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 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. Eighth Street – B Street to Pole Line Road	Corridor Plans are not necessary as a result of the proposed project because the select roadway segments that would require widening beyond 4 lanes, as mitigation, are transitional segments that, if widened, would facilitate movements between the ramps and the City's arterial roadway system, thereby enhancing safety.

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Table 4.14-14
Transportation/Traffic Policy Discussion

Plan, Policy, or Regulation		Project Consistency
	8. E Street – First Street to Third Street 9. F Street – Fifth Street to Covell Boulevard 10. Fifth Street - B Street to L Street and Russell Boulevard – A Street to B Street 11. Fifth Street – L Street to Cantrill Drive 12. First Street and B Street – Richards Boulevard to Russell Boulevard 13. L Street – 2nd Street to Covell Boulevard 14. Lillard Drive – Cowell Boulevard to Drummond Avenue 15. Loyola Drive – Pole Line Road to Mace Ranch 16. Mace Boulevard – Harper Junior High to I-80 17. Mace Boulevard – I-80 to south city limit 18. Olive Drive – West end to east end 19. Pole Line Road – Covell Boulevard to north city limit 20. Pole Line Road – I-80 to Covell Boulevard (upgrades) 21. Richards Boulevard – First Street to I-80 22. Russell Boulevard – A Street to State Route 113 23. Russell Boulevard – State Route 113 to west city limit	
Policy TRANS 2.10	Prohibit through truck traffic on streets other than identified truck routes shown in Map 6.	Mace Boulevard is identified as a truck route on Map 6. The proposed project would be consistent with Map 6 because truck deliveries to/from the MRIC would occur along Mace Boulevard.
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.	This policy is addressed in Mitigation Measures 4.14-6 and 4.14-10 of this Section.
Policy TRANS 3.3	Require new development to be designed to maximize transit potential.	This policy is addressed in Mitigation Measure 4.14-10 of this Section.
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	Mitigation Measures 4.14-9(a) and (b) require the project to construct bike/pedestrian facilities along the inside curve of Mace Boulevard, which would facilitate safe modes of alternative travel to nearby

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Table 4.14-14
Transportation/Traffic Policy Discussion

Plan, Policy, or Regulation		Project Consistency
	minimize impacts on wildlife. Greenbelts and separated bike paths on arterials should serve as the backbone of much of this network.	neighborhoods, schools, etc.
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.	The proposed project includes a trail along the edge of the City within the 50-foot transitional portion of the required 150-foot agricultural buffer along the MRIC site's northern and eastern borders.
Policy TRANS 5.1	Use parking management techniques to efficiently manage motor vehicle parking supply and promote sustainability.	This is addressed in Mitigation Measure 4.14-6.
Policy TRANS 5.2	Existing and future off-street parking lots in development should contribute to the quality of the urban environment and support the goals of this chapter to the greatest extent possible.	The off-street parking lots proposed for the project are intended to meet the goals of this section.
Davis Municipal Code, Article 22.15, Transportation Systems Management Requirements		
Section 22.15.040	All major employers within the city shall obtain a transportation management certificate (TMC) as described in Section 22.15.050. Complexes with a total of one hundred or more employees shall be treated under this article as a major employer.	Major employers at the MRIC will obtain a TMC, consistent with this section of the City's Code.
Section 22.15.060	Employers shall prepare and implement a transportation management plan (TMP).	This is addressed in Mitigation Measure 4.14-6.

Figure 4.14-1: Project Locations and Surrounding Roadway Network

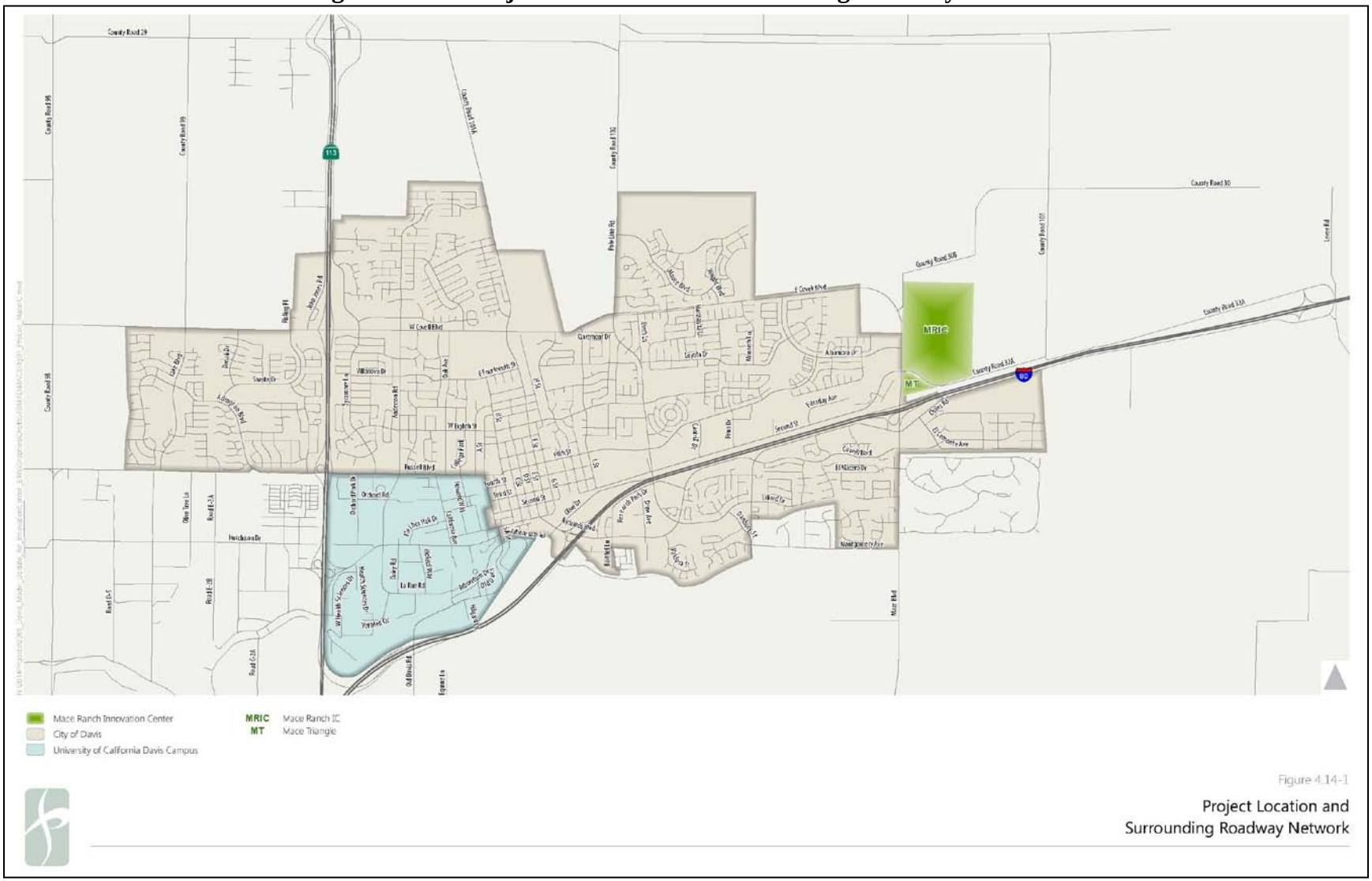

Figure 4.14-2: Study Intersections for Project Impact Analysis

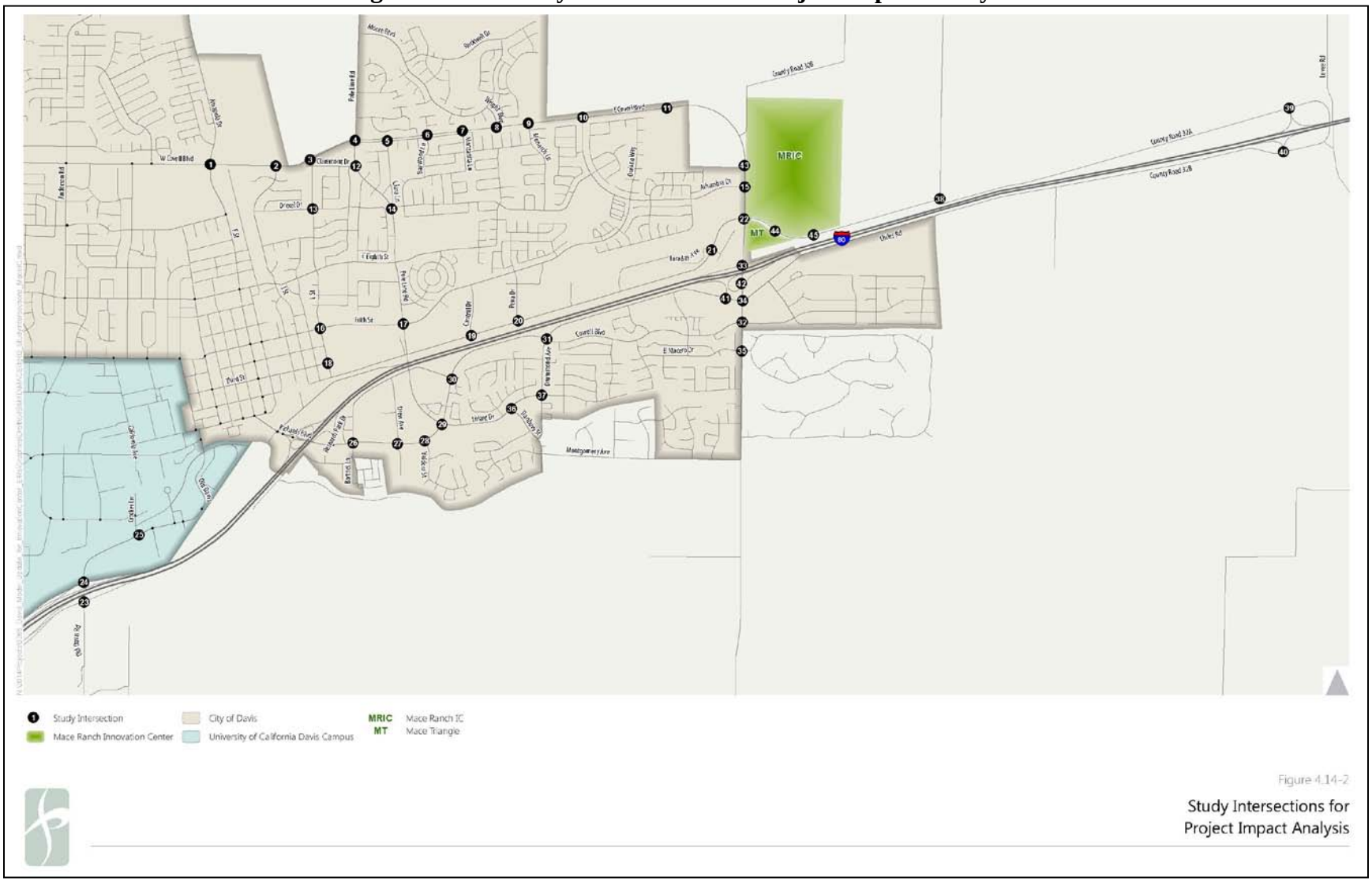

Figure 4.14-3: Study Roadway and Freeway Segments

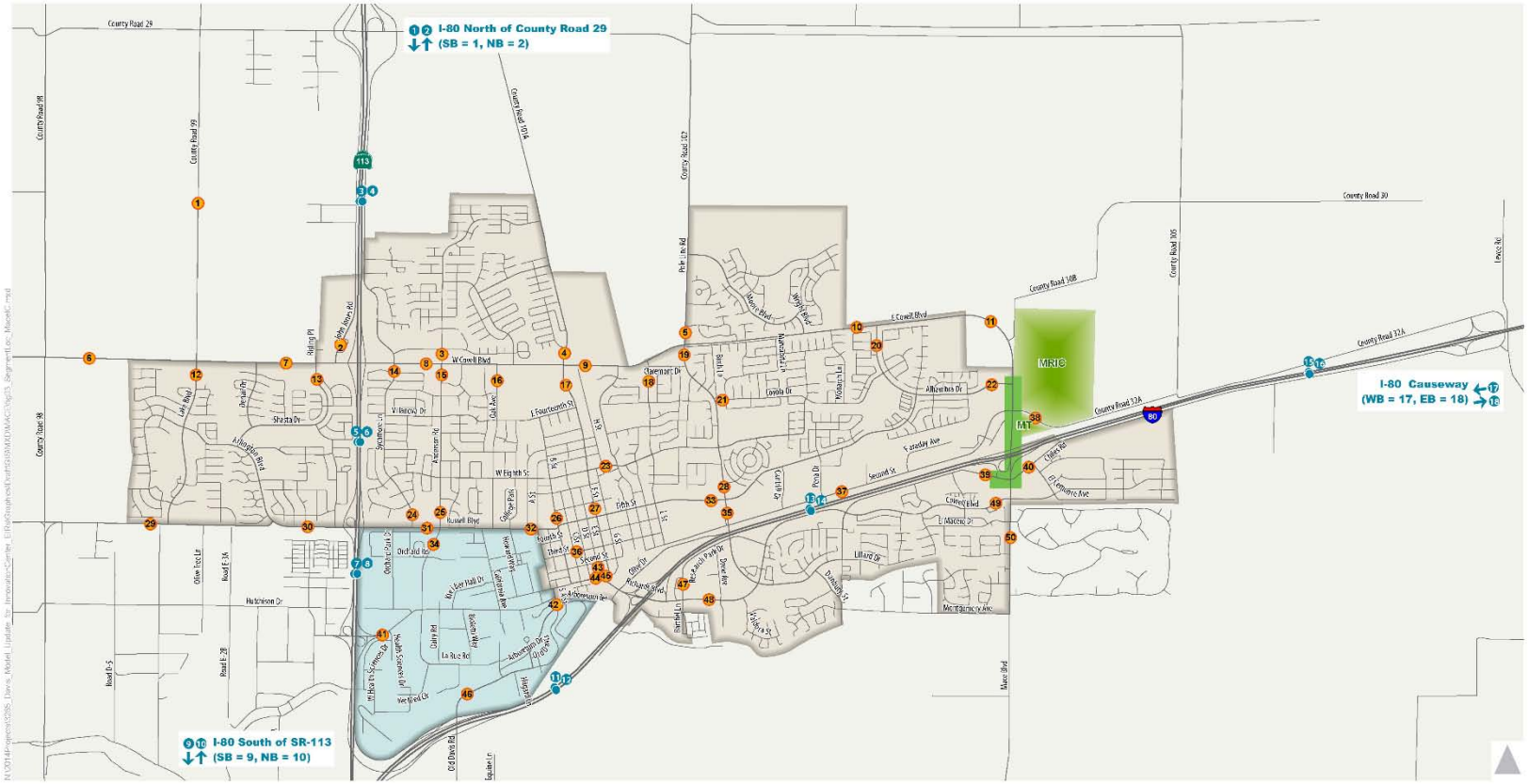

Figure 4.14-3

Study Roadway Segments for Cumulative Impact Analysis

Figure 4.14-4: Regional Freeway and Roadway Study Facilities

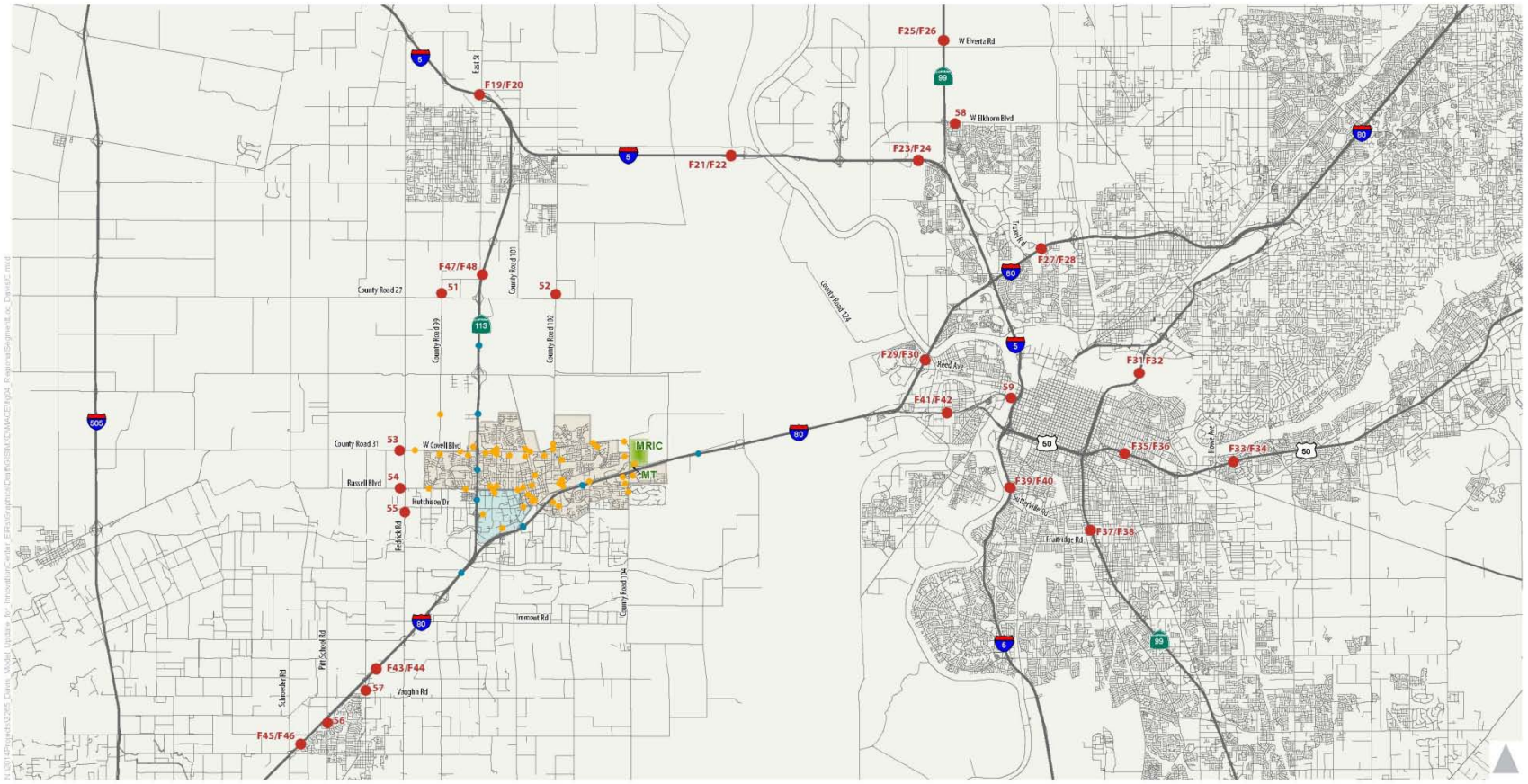

Figure 4.14-4
Regional Roadway and
Freeway Analysis Segments

Figure 4.14-5: Existing Peak Hour Intersection LOS

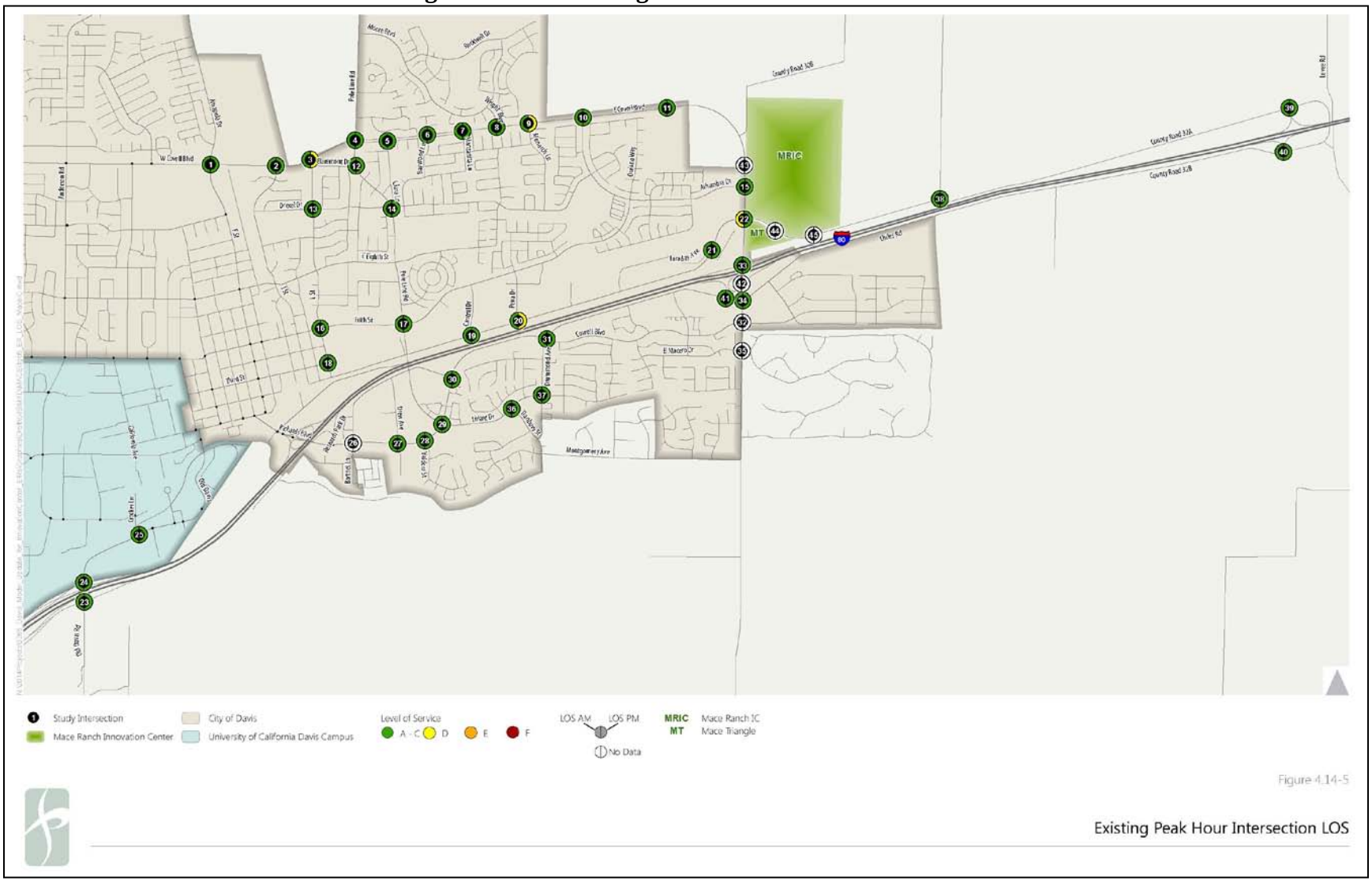

Figure 4.14-6: Existing Bicycle Facilities

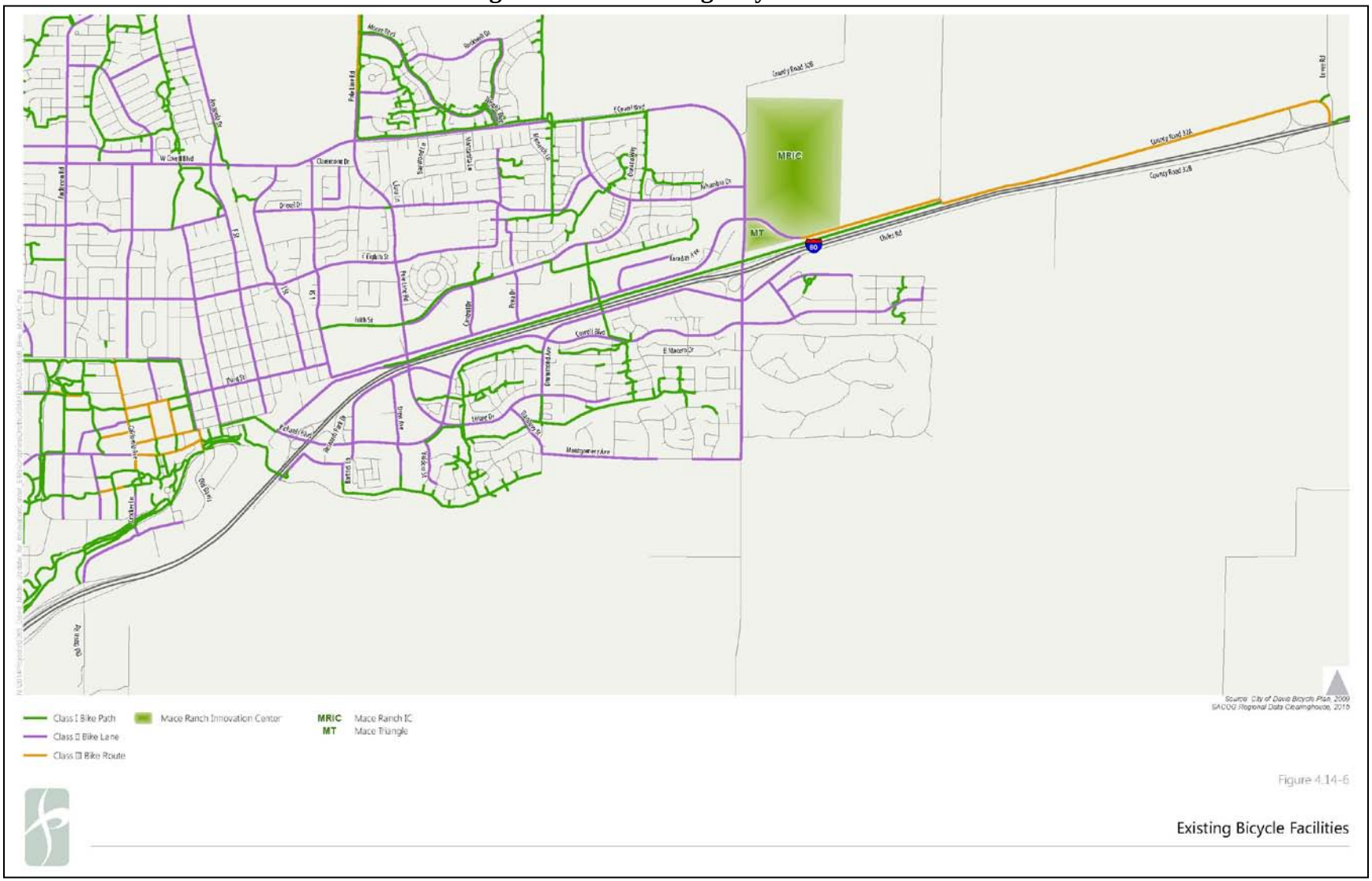

Figure 4.14-7: Existing Transit Facilities

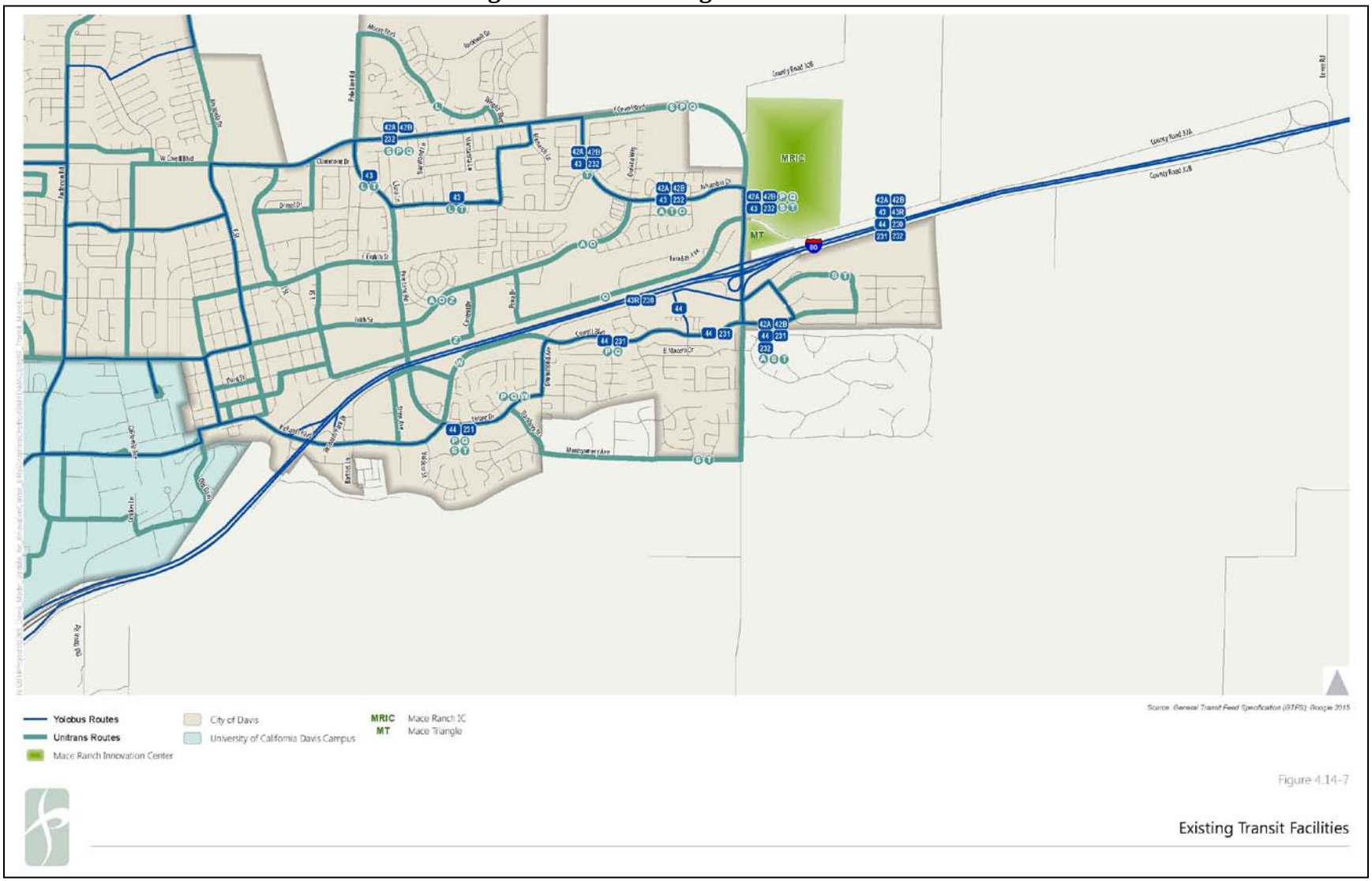

Figure 4.14-8a: Existing and Existing Plus Project AM Peak Hour LOS

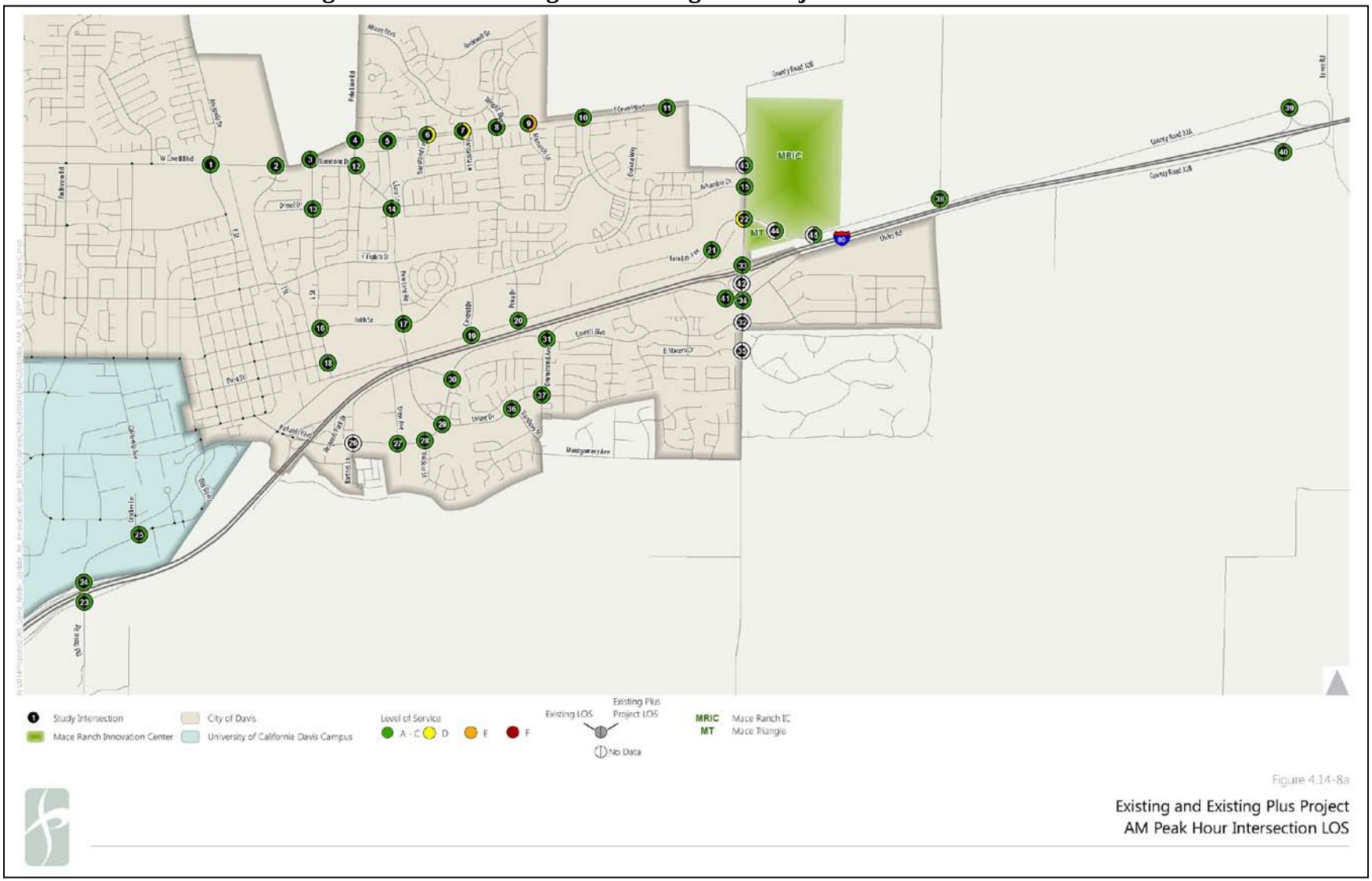

Figure 4.14-8b: Existing and Existing Plus Project PM Peak Hour LOS

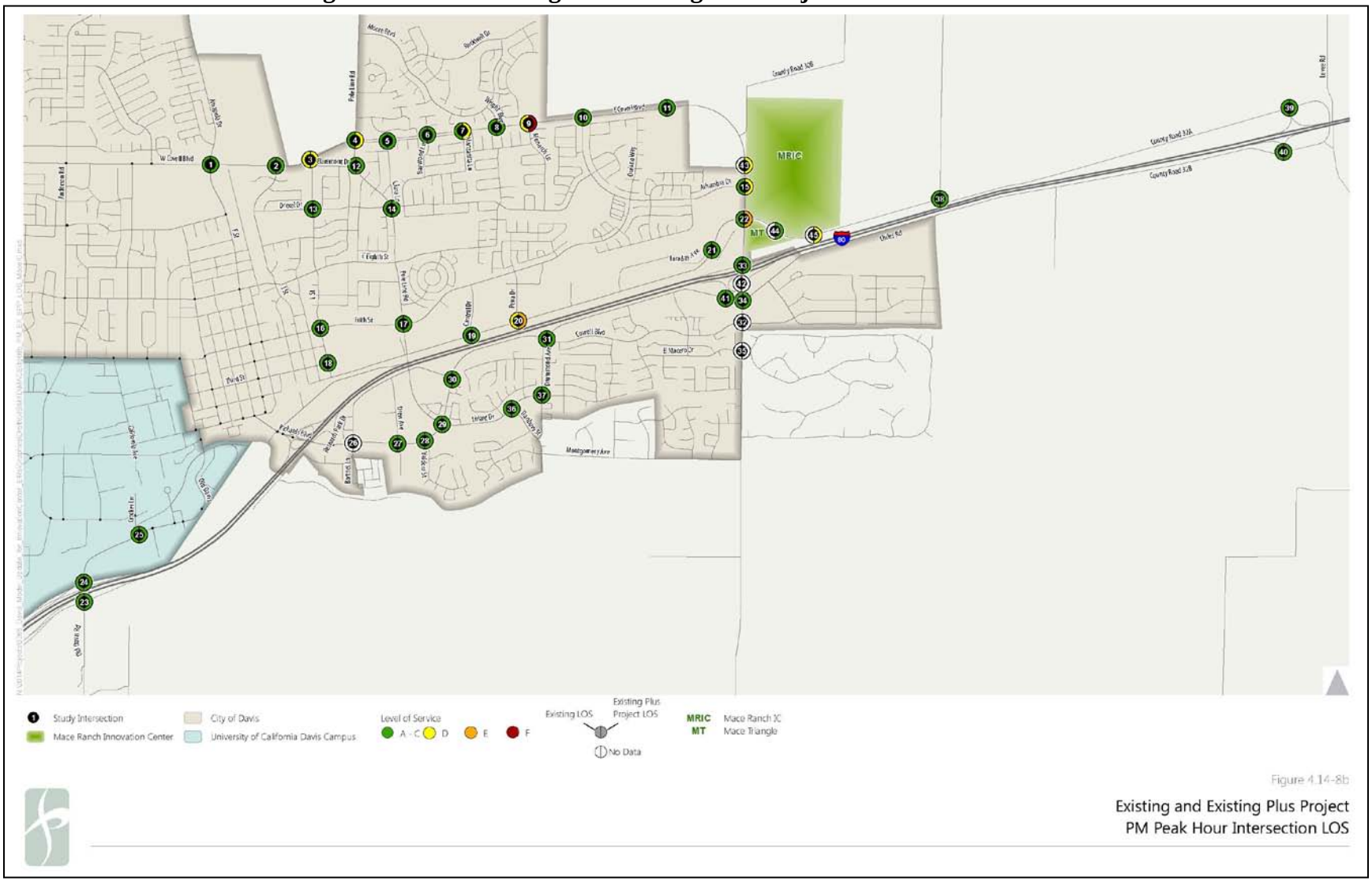

Table 4.14-5
Existing Peak Hour Levels Of Service
Outside Mace Boulevard Interchange Area

No.	Study Intersection	Traffic Control	Jurisdiction	Existing			
				AM		PM	
				Delay	LOS	Delay	LOS
1	F Street/Covell Blvd	Signal	City of Davis	17	B	18	B
2	J Street/Covell Blvd	Signal	City of Davis	10	A	8	A
3	L Street/Covell Blvd	SSSC	City of Davis	2 (20)	A (C)	3 (28)	A (D)
4	Pole Line Road/Covell Blvd	Signal	City of Davis	27	C	32	C
5	Birch Lane/ Covell Blvd	Signal	City of Davis	5	A	4	A
6	Baywood Lane/Covell Blvd	SSSC	City of Davis	1 (19)	A (C)	1 (23)	A (C)
7	Manzanita Lane/Covell Blvd	SSSC	City of Davis	1 (17)	A (C)	1 (21)	A (C)
8	Wright Blvd/Covell Blvd	Signal	City of Davis	5	A	6	A
9	Monarch Lane/Covell Blvd	SSSC	City of Davis	1 (20)	A (C)	1 (26)	A (D)
10	Alhambra Drive/Covell Blvd	Signal	City of Davis	8	A	8	A
11	Harper Jr. HS Access/Covell Blvd	Signal	City of Davis	4	A	5	A
12	Pole Line Road/Claremont Drive	SSSC	City of Davis	1 (12)	A (B)	1 (14)	A (B)
13	L Street/Drexel Drive	AWSC	City of Davis	8	A	9	A
14	Pole Line Road/Loyola Drive	Signal	City of Davis	7	A	7	A
16	L Street/E 5th Street	Signal	City of Davis	13	B	17	B
17	Pole Line Road/E 5th Street	Signal	City of Davis	11	B	13	B
18	L Street/3rd Street	SSSC	City of Davis	3 (13)	A (B)	6 (24)	A (C)
19	2nd Street/Cantrill Drive	SSSC	City of Davis	2 (12)	A (B)	3 (22)	A (C)
20	2nd Street/Pena Drive	SSSC	City of Davis	2 (15)	A (B)	4 (30)	A (D)
21	2nd Street/Faraday Avenue	Signal	City of Davis	11	B	22	C
23	Old Davis Road/I-80 EB Ramps	SSSC	UC Davis	9 (12)	A (B)	2 (14)	A (B)
24	Old Davis Road/I-80 WB Ramps	SSSC	UC Davis	7 (13)	A (B)	2 (9)	A (B)
25	Old Davis Road/California Avenue	RAB	UC Davis	16	C	11	B
26	Research Park Drive/Cowell Boulevard	Signal	City of Davis	25	C	23	C
27	Drew Avenue/Cowell Blvd	Signal	City of Davis	15	B	16	B
28	Valdora Street/Cowell Blvd	Signal	City of Davis	14	B	14	B
29	Cowell Blvd/Pole Line Road/Lillard Drive	Signal	City of Davis	24	C	16	B
30	Cowell Blvd/Research Park Drive/Greene Terrace Driveway	SSSC	City of Davis	1 (13)	A (B)	4 (19)	A (C)

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31	Drumond Avenue/Chiles Rod/Cowell Blvd	AWSC	City of Davis	10	B	12	B
32	Mace Boulevard/Cowell Boulevard	Signal	City of Davis	15	B	16	B
35	Mace Boulevard/El Macero Drive	AWSC	City of Davis	10	A	9	A
36	Danbury Street/Lillard Drive	AWSC	City of Davis	9	A	10	A
37	Drumond Avenue/Lillard Drive	AWSC	City of Davis	9	A	8	A
38	County Road 32A/County Road 105	SSSC	Yolo County	3 (9)	A (A)	7 (10)	A (A)
39	I-80 WB Ramps/County Road 32A	SSSC	Yolo County	6 (10)	A (A)	4 (12)	A (B)
40	County Road 32B/I-80 EB Ramps	SSSC	Yolo County	4 (9)	A (A)	4 (11)	A (B)
43	Mace Ranch IC Access 1/Mace Blvd	SSSC	City of Davis	--	--	--	--
44	Mace Ranch IC Access 3/County Road 32A	SSSC	Yolo County	--	--	--	--
45	Mace Triangle Access 1/County Road 32A	SSSC	Yolo County	--	--	--	--

Notes:

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

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

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

No.	Intersection	Control	Jurisdiction	Existing			
				AM Peak		PM Peak	
				Delay	LOS	Delay	LOS
15	Mace Blvd/Alhambra Drive	Signal	City of Davis	4	A	5	A
22	Mace Blvd/2nd Street/County Road 32A	Signal	City of Davis	38	D	24	C
33	Mace Blvd/I-80 WB Ramps	Signal	City of Davis	18	B	13	B
34	Mace Blvd/Chiles Road	Signal	City of Davis	19	B	18	B
41	I-80 EB Off-Ramp/Chiles Road	Signal	City of Davis	7	A	8	A
42	Mace Blvd/I-80 EB Ramps	Uncontrolled	City of Davis	4	A	4	A

Note: Delay is reported in seconds per vehicle for the overall intersection for signalized intersections and uncontrolled intersections.

Table 4.14-7
Existing Midweek Peak Hour Freeway Operations

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

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

Table 4.14-9a
Existing Plus Project Peak Hour Levels of Service
Outside Mace Boulevard Interchange Area

No.	Study Intersection	Traffic Control	Jurisdiction	Existing No Project				Existing Plus Project			
				AM		PM		AM		PM	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	F Street/Covell Blvd	Signal	City of Davis	17	B	18	B	19	B	18	B
2	J Street/Covell Blvd	Signal	City of Davis	10	A	8	A	10	A	8	A
3	L Street/Covell Blvd	SSSC	City of Davis	2 (20)	A (C)	3 (28)	A (D)	2 (19)	A (C)	3 (27)	A (D)
4	Pole Line Road/Covell Blvd	Signal	City of Davis	27	C	32	C	30	C	41	D
5	Birch Lane/ Covell Blvd	Signal	City of Davis	5	A	4	A	6	A	3	A
6	Baywood Lane/Covell Blvd	SSSC	City of Davis	1 (19)	A (C)	1 (23)	A (C)	2 (29)	A (D)	1 (22)	A (C)
7	Manzanita Lane/Covell Blvd	SSSC	City of Davis	1 (17)	A (C)	1 (21)	A (C)	1 (29)	A (D)	1 (29)	A (D)
8	Wright Blvd/Covell Blvd	Signal	City of Davis	5	A	6	A	5	A	7	A
9	Monarch Lane/Covell Blvd	SSSC	City of Davis	1 (20)	A (C)	1 (26)	A (D)	3 (47)	A (E)	**11 (134)**	**B (F)**
10	Alhambra Drive/Covell Blvd	Signal	City of Davis	8	A	8	A	14	B	16	B
11	Harper Jr. HS Access/Covell Blvd	Signal	City of Davis	4	A	5	A	12	B	14	B
12	Pole Line Road/Claremont Drive	SSSC	City of Davis	1 (12)	A (B)	1 (14)	A (B)	4 (13)	A (B)	6 (25)	A (C)
13	L Street/Drexel Drive	AWSC	City of Davis	8	A	9	A	3 (15)	A (C)	3 (21)	A (C)
14	Pole Line Road/Loyola Drive	Signal	City of Davis	7	A	7	A	4 (21)	A (C)	5 (35)	A (E)
16	L Street/E 5th Street	Signal	City of Davis	13	B	17	B	12	B	21	C
17	Pole Line Road/E 5th Street	Signal	City of Davis	11	B	13	B	14	B	16	B
18	L Street/3rd Street	SSSC	City of Davis	3 (13)	A (B)	6 (24)	A (C)	12	B	14	B
19	2nd Street/Cantrill Drive	SSSC	City of Davis	2 (12)	A (B)	3 (22)	A (C)	4 (13)	A (B)	6 (25)	A (C)
20	2nd Street/Pena Drive	SSSC	City of Davis	2 (15)	A (B)	4 (30)	A (D)	3 (15)	A (C)	3 (21)	A (C)

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Table 4.14-9a
Existing Plus Project Peak Hour Levels of Service
Outside Mace Boulevard Interchange Area

No.	Study Intersection	Traffic Control	Jurisdiction	Existing No Project				Existing Plus Project			
				AM		PM		AM		PM	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
21	2nd Street/Faraday Avenue	Signal	City of Davis	11	B	22	C	4 (21)	A (C)	5 (35)	A (E)
23	Old Davis Road/I-80 EB Ramps	AWSC	UC Davis	9 (12)	A (B)	2 (14)	A (B)	8 (12)	A (B)	3 (16)	A (C)
24	Old Davis Road/I-80 WB Ramps	AWSC	UC Davis	7 (13)	A (B)	2 (9)	A (B)	6 (12)	A (B)	2 (9)	A (A)
25	Old Davis Road/California Avenue	RAB	UC Davis	16	C	11	B	13	B	12	B
26	Research Park Drive/Cowell Boulevard	Signal	City of Davis	25	C	23	C	27	C	23	C
27	Drew Avenue/Cowell Blvd	Signal	City of Davis	15	B	16	B	16	B	20	B
28	Valdora Street/Cowell Blvd	Signal	City of Davis	14	B	14	B	14	B	13	B
29	Cowell Blvd/Pole Line Road/Lillard Drive	Signal	City of Davis	24	C	16	B	27	C	20	B
30	Cowell Blvd/Research Park Drive/Greene Terrace	SSSC	City of Davis	1 (13)	A (B)	4 (19)	A (C)	1 (15)	A (C)	3 (17)	A (C)
31	Drumond Avenue/Chiles Rod/Cowell Blvd	AWSC	City of Davis	10	B	12	B	10	B	11	B
32	Mace Boulevard/Cowell Boulevard	Signal	City of Davis	15	B	16	B	15	B	15	B
35	Mace Boulevard/El Macero Drive	AWSC	City of Davis	10	A	9	A	9	A	9	A
36	Danbury Street/Lillard Drive	AWSC	City of Davis	9	A	10	A	10	A	11	B
37	Drumond Avenue/Lillard Drive	AWSC	City of Davis	9	A	8	A	9	A	9	A
38	County Road 32A/County Road 105	SSSC	Yolo County	3 (9)	A (A)	7 (10)	A (A)	3 (9)	A (A)	7 (10)	A (A)
39	I-80 WB Ramps/County Road 32A	SSSC	Yolo County	6 (10)	A (A)	4 (12)	A (B)	6 (10)	A (A)	4 (12)	A (B)

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Table 4.14-9a
Existing Plus Project Peak Hour Levels of Service
Outside Mace Boulevard Interchange Area

No.	Study Intersection	Traffic Control	Jurisdiction	Existing No Project				Existing Plus Project			
				AM		PM		AM		PM	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
40	County Road 32B/I-80 EB Ramps	SSSC	Yolo County	4 (9)	A (A)	4 (11)	A (B)	4 (9)	A (A)	4 (11)	A (B)
43	Mace Ranch IC Access 1/Mace Blvd	SSSC	City of Davis	--	--	--	--	1 (11)	A (B)	5 (30)	A (D)
44	Mace Ranch IC Access 3/County Road 32A	SSSC	City of Davis	--	--	--	--	3 (11)	A (B)	3 (11)	A (B)
45	Mace Triangle Access 1/County Road 32A	SSSC	City of Davis	--	--	--	--	3 (19)	A (C)	6 (28)	A (D)

Notes:
1. Traffic Control: AWSC = all-way stop control; SSSC = side street stop control; Signal = traffic signal
2. Signals and all-way stops: LOS based on average control delay in seconds. Side street stop controlled intersections: LOS given for the average intersection followed by the worst side-street movement in parentheses.
3. Sub-standard LOS shown in **bold**; significant impact indicated by shading. If signal warrant is met, the entry is *italicized.*

Table 4.14-9B
Existing Plus Project Phase 1
Peak Hour Intersection Operations
Outside Mace Boulevard Interchange Area

No.	Intersection	Control	Jurisdiction	Existing			
				AM Peak		PM Peak	
				Delay	LOS	Delay	LOS
9	Monarch Lane/Covell Blvd	SSSC	City of Davis	2 (26)	A (D)	2 (27)	A (D)

Note: For side street stop controlled intersections, LOS and delay are given for the average intersection followed by the worst side-street movement in parentheses.

Table 4.14-10A
Existing Plus Project Peak Hour Intersection Operations
Mace Boulevard/I-80 Interchange Area

No.	Intersection	Control	Jurisdiction	Existing				Existing Plus Project			
				AM Peak		PM Peak		AM Peak		PM Peak	
				Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS
15	Mace Blvd/Alhambra Drive	Signal	City of Davis	4	A	5	A	**92**	**F**	**93**	**F**
22	Mace Blvd/2nd Street/County Road 32A	Signal	City of Davis	38	D	24	C	75	E	**190**	**F**
33	Mace Blvd/I-80 WB Ramps	Signal	City of Davis	18	B	13	B	62	E	**113**	**F**
34	Mace Blvd/Chiles Road	Signal	City of Davis	19	B	18	B	27	C	34	C
41	I-80 EB Off-Ramp/Chiles Road	Signal	City of Davis	7	A	8	A	8	A	31	C
42	Mace Blvd/I-80 EB Ramps	Uncontrolled	City of Davis	3	A	2	A	2	A	13	B

Notes:
1. Delay is reported in seconds per vehicle for the overall intersection for signalized and uncontrolled intersections.
2. **Bold** – LOS below standard. Shading indicates significant impact.

Table 4.14-10B
Existing Plus Project Phase 1
Peak Hour Intersection Operations
Mace Boulevard/I-80 Interchange Area

No.	Intersection	Control	Jurisdiction	Existing			
				AM Peak		PM Peak	
				Delay	LOS	Delay	LOS
15	Mace Blvd/Alhambra Drive	Signal	City of Davis	13	B	20	B
22	Mace Blvd/2nd Street/County Road 32A	Signal	City of Davis	18	B	21	C
33	Mace Blvd/I-80 WB Ramps	Signal	City of Davis	24	C	23	C
34	Mace Blvd/Chiles Road	Signal	City of Davis	22	C	21	C
41	I-80 EB Off-Ramp/Chiles Road	Signal	City of Davis	7	A	8	A
42	Mace Blvd/I-80 EB Ramps	Uncontrolled	City of Davis	3	A	3	A

Note: Delay is reported in seconds per vehicle for the overall intersection for signalized and uncontrolled intersections.

Table4.14-11
Existing Plus Project Peak Hour Roadway Operations – Regional Analysis

Roadway Name	Segment ID	Jurisdiction	Capacity	AM				PM			
				Existing		Existing With Project		Existing		Existing With Project	
				Total	LOS	Total	LOS	Total	LOS	Total	LOS
CR 99 N of CR 27	51	Yolo	1,750	340	C	340	C	310	C	310	C
CR 102 N of CR 27	52	Yolo	1,780	540	C	580	C	730	C	760	C
Covell W of Pedrick	53	Yolo	1,780	500	C	590	C	570	C	650	C
Russell W of Pedrick	54	Yolo	1,750	250	C	260	C	200	C	210	C
Pedrick S of Hutchison	55	Yolo	1,780	330	C	330	C	380	C	380	C
Pitt School S of Stratford	56	Dixon	4,770	910	C	910	C	850	C	850	C
SR 113 N of Dorset	57	Dixon	4,770	1,160	C	1,160	C	1,340	C	1,340	C
Elkhorn E of SR 70/99	58	Sacramento	1,780	1,680	E	1,690	E	1,690	E	1,690	E
Tower Bridge Gateway E of 3rd	59	West Sacramento	4,770	1,170	C	1,190	C	1,680	C	1,710	C

Table 4.14-12
Existing Plus Project Peak Hour Freeway Operations (Local Study Area)

Route	Direction	Segment	Existing				Existing Plus Project			
			AM Peak		PM Peak		AM Peak		PM Peak	
			Density	LOS	Density	LOS	Density	LOS	Density	LOS
I-80	Eastbound	Kidwell Road to SR-113 Junction	11	A	11	A	12	B	11	A
		Old Davis Road to Richards Boulevard	17	B	18	B	18	B	19	C
		Richards Boulevard to Mace Boulevard	20	C	22	C	21	C	23	A
		Mace Boulevard to Chiles Road	25	C	26	C	26	C	34	D
		Chiles Road to Enterprise Boulevard	19	C	24	C	20	C	31	D
	Westbound	Enterprise Boulevard to Chiles Road	18	B	20	C	24	C	24	C
		Chiles Road to Mace Boulevard	17	B	21	C	23	C	22	C
		Mace Boulevard to Olive Drive	25	C	22	C	27	C	24	C
		Richards Boulevard to Old Davis Road	17	B	25	C	20	C	29	D
		SR-113 Junction to Kidwell Road	14	B	17	B	18	B	18	B
SR-113	Northbound	Hutchison Drive to Russell Boulevard	8	A	12	B	9	A	12	B

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Table 4.14-12
Existing Plus Project Peak Hour Freeway Operations (Local Study Area)

Route	Direction	Segment	Existing				Existing Plus Project			
			AM Peak		PM Peak		AM Peak		PM Peak	
			Density	LOS	Density	LOS	Density	LOS	Density	LOS
		Russell Boulevard to Covell Boulevard	9	A	15	B	10	A	15	B
		Covell Boulevard to County Road 29	6	A	13	B	7	A	16	B
		County Road 29 to County Road 27	7	A	12	B	8	A	15	B
	Southbound	County Road 27 to County Road 29	17	B	15	B	20	C	16	B
		County Road 29 to Covell Boulevard	16	B	16	B	19	C	16	B
		Covell Boulevard to Russell Boulevard	18	B	9	A	27	D	12	B
		Russell Boulevard to Hutchison Drive	18	B	7	A	27	D	10	A

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

Table 4.14-13
Existing Plus Project Peak Hour Freeway Operations -- Regional Analysis

			Existing				Existing Plus Project			
Route	Direction	Segment	AM Peak		PM Peak		AM Peak		PM Peak	
			Density	LOS	Density	LOS	Density	LOS	Density	LOS
I-80	Eastbound	Schroeder Road to Pitt School Road	17	B	22	C	17	B	22	C
		N 1st (SR-113) to Pedrick Road	20	C	23	C	20	C	23	C
		Reed Avenue to El Camino Ave	12	B	23	C	12	B	24	C
		Truxel Road to Northgate Boulevard	14	B	14	B	14	B	14	B
	Westbound	Pitt School Road to Schroeder Road	18	B	21	C	18	B	21	C
		Pedrick Road to N 1st (SR-113)	19	C	23	C	19	C	23	C
		El Camino Ave to Reed Ave	24	C	15	B	25	C	15	B
		Northgate Boulevard to Truxel Road	19	C	21	C	20	C	20	C
I-80 Business	Eastbound	American River Crossing to Exposition Boulevard	29	D	24	C	29	D	24	C
	Westbound	Exposition Boulevard to E St	34	D	38	E	34	D	36	E
SR-113	Northbound	County Road 27 to County Road 25A	7	A	15	B	7	A	15	B
	Southbound	County Road 25 A to County Road 27	12	B	7	A	13	B	6	A
I-5	Northbound	Sutterville Road to Broadway	35	D	17	B	35	D	17	B
		SR-99 Split to Powerline Road	19	C	18	B	19	C	18	B
		Old River Road to County Road 102	14	B	13	B	15	B	13	B
		N East Street (SR-113) to County Road 99	9	A	8	A	9	A	8	A

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Table 4.14-13
Existing Plus Project Peak Hour Freeway Operations -- Regional Analysis

			Existing				Existing Plus Project			
Route	Direction	Segment	AM Peak		PM Peak		AM Peak		PM Peak	
			Density	LOS	Density	LOS	Density	LOS	Density	LOS
	Southbound	Broadway to Sutterville Road	11	A	27	D	11	A	27	D
		Powerline Road to SR-99	16	B	25	C	15	B	26	C
		County Road 102 to Old River Road	13	B	22	C	12	B	23	C
		County Road 99 to N East St (SR-113)	8	A	11	A	8	A	11	A
I-50	Eastbound	Harbor Boulevard to Jefferson Boulevard	17	B	17	B	17	B	18	B
		Stockton Boulevard to 59th Street	26	C	28	D	26	C	28	D
		Howe Avenue to Watt Avenue	28	D	34	D	28	D	34	D
	Westbound	Jefferson Boulevard to Harbor Boulevard	15	B	15	B	15	B	15	B
		59 th Street to Stockton Boulevard	29	D	24	C	30	D	24	C
		Watt Ave to Howe Ave	28	D	23	C	29	D	23	C
SR-99	Northbound	Fruitridge Road to Sutterville Road	27	D	22	C	28	D	22	C
		W Elverta Road to Riego Road	6	A	19	C	6	A	19	C
	Southbound	Sutterville Road to Fruitridge Road	20	C	25	C	20	C	25	C
		Riego Road to W Elverta Road	19	C	9	A	19	C	9	A