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1. INTRODUCTION

The purpose of this study is to analyze the impacts of the Hyatt Place hotel expansion and Old Davis Road extension project. This study evaluates the transportation impacts of the project and identifies the improvements needed to mitigate deficiencies caused by the project.

To account for all reasonably foreseeable projects, certain cumulative analysis scenarios account for the replacement of the University Park Inn & Suites in the City of Davis (referred to in this study as the “City of Davis hotel”). This purpose of this study is not to assess potential impacts of the City of Davis hotel.

PROJECT LOCATION AND DESCRIPTION

The proposed Hyatt Place expansion and Old Davis Road extension are located on the University of California, Davis (UC Davis) campus.

The existing Hyatt Place hotel has 75 rooms and is located on Old Davis Road east of Alumni Lane; the proposed expansion would add an additional 52 rooms and would occur on the same site.

The proposed Old Davis Road extension would connect Old Davis Road at its existing terminus east of Alumni Lane to its ultimate alignment through Parking Lot Five. The extension of Old Davis Road will close Arboretum Drive to vehicle traffic; thereby turning it into a facility exclusively for use by bicyclists and pedestrians. Service vehicles and emergency vehicles will also be allowed to use the facility.

ANALYSIS SCENARIOS

This study analyzes the following scenarios:

- Existing Conditions
- Existing Plus Hyatt Place Expansion
- Existing Plus Old Davis Road Extension
- Existing Plus Hyatt Place Expansion and Old Davis Road Extension
- Cumulative No Project Conditions
- Cumulative Plus City of Davis Hotel
- Cumulative Plus Hyatt Place Expansion
- Cumulative Plus Old Davis Road Extension
- Cumulative Plus City of Davis Hotel, Hyatt Place Expansion, and Old Davis Road Extension

STUDY FACILITIES

This study analyzes the following intersections:

1. Old Davis Road / I-80 Eastbound Ramps
2. Old Davis Road / I-80 Westbound Ramps
3. Old Davis Road / California Avenue
4. Old Davis Road / Hilgard Lane
5. Old Davis Road / Mrak Hall Drive
6. 1st Street / A Street
7. 1st Street / B Street
8. 1st Street / E Street / Richards Boulevard
9. Olive Drive / Richards Boulevard

This study also analyzes the roadway segment of Old Davis Road between the Old Davis Road / I-80 Westbound Ramps intersection and the Old Davis Road / California Avenue intersection.

DATA COLLECTION

Table 1 shows the dates on which vehicle, bicycle, and pedestrian counts were collected at study intersections. Counts were collected on different dates because some were recently available from other studies. Additionally, new counts were needed for additional study intersections based on comments received on the draft study.

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Count Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old Davis Road / I-80 Eastbound</td>
<td>January 11, 2011</td>
</tr>
<tr>
<td>Old Davis Road / I-80 Westbound</td>
<td>January 11, 2011</td>
</tr>
<tr>
<td>Old Davis Road / California Avenue</td>
<td>February 25, 2010</td>
</tr>
<tr>
<td>Old Davis Road / Hilgard Lane</td>
<td>February 25, 2010</td>
</tr>
<tr>
<td>Old Davis Road / Mrak Hall Drive</td>
<td>January 11, 2011</td>
</tr>
<tr>
<td>1st Street / A Street</td>
<td>January 11, 2011</td>
</tr>
<tr>
<td>1st Street / B Street</td>
<td>April 26, 2011</td>
</tr>
<tr>
<td>1st Street / Richards Boulevard</td>
<td>April 26, 2011</td>
</tr>
<tr>
<td>Olive Drive / Richards Boulevard</td>
<td>April 26, 2011</td>
</tr>
</tbody>
</table>

Source: Fehr & Peers, 2011

Counts were taken from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM. The counts show that the AM and PM vehicle peak hours occur from 8:00 AM to 9:00 AM and 4:30 PM to 5:30 PM, respectively.

TRAFFIC FORECASTS

Cumulative year turning movement forecasts were developed for the study intersections and roadway segments using an updated version of the Davis Travel Demand Model. The assumed cumulative land uses for UC Davis were consistent with those assumed for the UC Davis 2003 Long Range Development Plan Final Environmental Impact Report (2003 LRDP EIR). The horizon year for the 2003 LRDP EIR is the 2015/16 academic year; however, it is unlikely that full buildout of the 2003 LRDP EIR land uses will
occur by the 2015/16 academic year. The model included the most recent land use assumptions for the City of Davis based on the City of Davis General Plan. The difference method, which adds the difference between the base and future year model runs to existing counts, was used to develop the cumulative turning movement forecasts.

**ROADWAY NETWORK ASSUMPTIONS**

With the exception of the Old Davis Road / California Avenue intersection, all analysis scenarios assume that the existing lane configurations and traffic controls remain unchanged.

The University is currently finalizing plans to install a roundabout at the Old Davis Road / California Avenue intersection. Because this project is fully funded, this study's cumulative analysis scenarios assume that the roundabout will be in place.

**METHODOLOGY**

Fehr & Peers analyzed study intersections using the methodology presented in the *2000 Highway Capacity Manual* (Transportation Research Board, 2000) and roundabouts using the methodology presented in the *2010 Highway Capacity Manual* (Transportation Research Board, 2010). The *2010 Highway Capacity Manual* includes minor updates to the *2000 Highway Capacity Manual* methodologies for signalized and unsignalized intersections; however, these updates do not affect the results of analysis for intersections in this study. Additionally, “state-of-the-practice” calculation engines have not yet been developed for the *2010 Highway Capacity Manual* methodology. Therefore, at signalized and unsignalized intersections, Fehr & Peers used the *2000 Highway Capacity Manual* methodology.

**Signalized Intersection Analysis**

The *HCM 2000* methodology determines the Level of Service (LOS) at signalized intersections by comparing the average control delay (i.e. delay resulting from initial deceleration, queue move-up time, time actually stopped, and final acceleration) per vehicle at the intersection to the thresholds shown in Table 2.

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Control Delay (seconds per vehicle)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>≤10.0</td>
</tr>
<tr>
<td>B</td>
<td>10.1 – 20.0</td>
</tr>
<tr>
<td>C</td>
<td>20.1 – 35.0</td>
</tr>
<tr>
<td>D</td>
<td>35.1 – 55.0</td>
</tr>
<tr>
<td>E</td>
<td>55.1 – 80.0</td>
</tr>
<tr>
<td>F</td>
<td>&gt;80.0</td>
</tr>
</tbody>
</table>

**TABLE 2: LEVEL OF SERVICE DEFINITIONS – SIGNALIZED INTERSECTIONS**

Unsignalized Intersection Analysis

The HCM 2000 methodology for unsignalized intersections reports the LOS using the control delay thresholds shown in Table 3.

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Control Delay (seconds per vehicle)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>≤10.0</td>
</tr>
<tr>
<td>B</td>
<td>10.1 – 15.0</td>
</tr>
<tr>
<td>C</td>
<td>15.1 – 25.0</td>
</tr>
<tr>
<td>D</td>
<td>25.1 – 35.0</td>
</tr>
<tr>
<td>E</td>
<td>35.1 – 50.0</td>
</tr>
<tr>
<td>F</td>
<td>&gt;50.0</td>
</tr>
</tbody>
</table>


As described in the HCM 2000, average control delay for the entire intersection defines the LOS for all-way stop controlled intersections. Conversely, for side-street stop-controlled intersections, the LOS is evaluated separately for each individual movement. However, for side-street stop-controlled intersections, previous UC Davis traffic studies based the LOS at on-campus intersections on the average control delay for the intersection as a whole. To be consistent with both the HCM and recent UC Davis studies, this report documents the LOS for side-street stop-controlled intersections in two forms:

- Intersection LOS, based on the weighted average of the control delay experienced by each movement of the intersection
- Worst-Case LOS, based on the control delay experienced by the worst movement of the intersection
Roundabout Analysis

The *HCM 2010* methodology determines the Level of Service (LOS) at roundabouts by comparing the average control delay per vehicle and volume-to-capacity ratio to the thresholds shown in Table 4.

<table>
<thead>
<tr>
<th>Control Delay (seconds per vehicle)</th>
<th>LOS by Volume-to-Capacity Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>v/c ≤ 1.0</td>
</tr>
<tr>
<td>≤10.0</td>
<td>A</td>
</tr>
<tr>
<td>10.1 – 15.0</td>
<td>B</td>
</tr>
<tr>
<td>15.1 – 25.0</td>
<td>C</td>
</tr>
<tr>
<td>25.1 – 35.0</td>
<td>D</td>
</tr>
<tr>
<td>35.1 – 50.0</td>
<td>E</td>
</tr>
<tr>
<td>&gt;50.0</td>
<td>F</td>
</tr>
<tr>
<td></td>
<td>v/c &gt; 1.0</td>
</tr>
<tr>
<td></td>
<td>F</td>
</tr>
</tbody>
</table>


Roadway Segment Analysis

Roadway segment volumes were analyzed to determine if either of the proposed projects would cause volume to increase.

SIGNIFICANCE CRITERIA AND IMPACTS

The following significance criteria were used to identify operational deficiencies based on the intersection LOS analysis:

- Per the *2003 LRDP EIR*, LOS D is the minimum acceptable LOS for UC Davis
- 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); all City of Davis intersections analyzed in this study are Core Area intersections

For the purpose of this analysis, potentially significant traffic impacts at intersections are defined when the addition of project traffic causes any of the following:

- On the UC Davis campus:
  - For signalized intersections, cause peak hour intersection operations to deteriorate from an acceptable level (LOS D) to an unacceptable level (LOS E or worse)
  - For unsignalized intersections, cause the average of all movements to deteriorate from an acceptable level (LOS D) to an unacceptable level and meet the California Manual on Uniform Traffic Control Devices (MUTCD) peak hour signal warrant
  - For signalized and unsignalized intersections that operate unacceptably without the project, add 10 or more vehicles to the intersection’s volume.
In the City of Davis:

- For signalized intersections, exacerbate unacceptable (LOS F in the weekday AM or PM peak hour; LOS E or F in the Saturday peak hour) operations by increasing an intersection’s average delay by five seconds or more
- For Core Area intersections that operate at congested conditions (LOS F in the weekday AM or PM peak hour or the Saturday peak hour), exacerbate operations by increasing an intersection’s average delay by five seconds or more
- For unsignalized intersections that operate unacceptably (LOS F in the weekday AM or PM peak hour; LOS E or F in the Saturday 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
- 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 peak hour signal warrant

These significance criteria for City of Davis intersections are consistent with those applied in the Second Street Crossing (Target Store) Project Draft Environmental Impact Report (SCH# 2005062142) and the Covell Village Project Draft Program Level EIR (SCH# 2004062089).

REPORT ORGANIZATION

The remainder of this report contains the following chapters:

- Chapter 2 – Existing Conditions
- Chapter 3 – Existing Plus Project Conditions
- Chapter 4 – Cumulative Conditions
2. EXISTING CONDITIONS

This section describes the existing conditions of the roadway, bicycle, and pedestrian facilities in the study area.

INTERSECTIONS

Figure 1 shows the existing vehicular peak hour traffic volumes and lane configurations. Most of the intersections are stop-controlled, except for the Old Davis Road / Mrak Hall Drive, 1st Street / Richards Boulevard, and Olive Drive / Richards Boulevard intersections which are signalized. Table 5 shows the existing delay and level of service at the study intersections.

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Control</th>
<th>Peak Hour</th>
<th>Existing Delay / LOS¹</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Average / Worst-Delayed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Movement</td>
</tr>
<tr>
<td>UC Davis Campus Intersections</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Old Davis Road / I-80 Eastbound</td>
<td>Side Street Stop-Controlled</td>
<td>AM</td>
<td>10 / B 9 / A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>15 / B 29 / D</td>
</tr>
<tr>
<td>Old Davis Road / I-80 Westbound</td>
<td>Side Street Stop-Controlled</td>
<td>AM</td>
<td>10 / B 2 / A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>21 / C 13 / B</td>
</tr>
<tr>
<td>Old Davis Road / California Avenue</td>
<td>Side Street Stop-Controlled</td>
<td>AM</td>
<td>8 / A 10 / A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>38 / E 26 / D</td>
</tr>
<tr>
<td>Old Davis Road / Hilgard Lane</td>
<td>Side Street Stop-Controlled</td>
<td>AM</td>
<td>1 / A 11 / B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>17 / C 37 / E</td>
</tr>
<tr>
<td>Old Davis Road / Mrak Hall Drive</td>
<td>Signalized</td>
<td>AM</td>
<td>22 / C 32 / C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>--</td>
</tr>
<tr>
<td>City of Davis Intersections</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st Street / A Street</td>
<td>Side Street Stop-Controlled</td>
<td>AM</td>
<td>14 / B 13 / B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>77 / F 18 / C</td>
</tr>
<tr>
<td>1st Street / B Street</td>
<td>All Way Stop</td>
<td>AM</td>
<td>14 / B 16 / C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>--</td>
</tr>
<tr>
<td>1st Street / Richards Boulevard²</td>
<td>Signalized</td>
<td>AM</td>
<td>24 / C 27 / C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>--</td>
</tr>
<tr>
<td>Olive Drive / Richards Boulevard²</td>
<td>Signalized</td>
<td>AM</td>
<td>24 / C 15 / B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>--</td>
</tr>
</tbody>
</table>

Notes: ¹Intersection delay is reported in seconds per vehicle, and is based on the average of all approaches for all-way stop controlled intersections and signalized intersections per HCM methodology. For side-street stop controlled intersections, the delay and LOS is reported for both the average of all approaches and the worst-delayed movement.

²Unique conditions of Richards Boulevard discussed in text of this report.

Bold text indicates a congested condition (LOS F) at City of Davis Core Area intersections.

Source: Fehr & Peers, 2011
As shown in Table 5, the following intersections have side street movements that operate at LOS E or LOS F:

- Old Davis Road / California Avenue – AM peak hour, worst-case movement is LOS E
- Old Davis Road / Hilgard Lane – PM peak hour, worst-case movement is LOS E
- 1st Street / A Street – AM peak hour, worst-case movement is LOS F

Although the 1st Street / Richards Boulevard and Olive Drive / Richards Boulevard intersections are reported to operate at an acceptable LOS with the peak hour traffic volumes used in this analysis, field observations indicate that these intersections often operate unacceptably during the peak hours. The HCM 2000 methodology used to analyze these intersections does not consider the effects of queuing that extends into adjacent intersections. This situation frequently occurs during the peak hours along Richards Boulevard. Therefore, the reported LOS at these intersections may not accurately explain the conditions on the ground. The City of Davis has adopted a standard for these intersections of LOS F and has stated that the Richards Boulevard tunnel will not be widened in the future.
PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - EXISTING CONDITIONS

FIGURE 1

LEGEND

- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign

NOT TO SCALE
ROADWAY SEGMENTS

Traffic Volumes

Table 6 shows the existing peak hour and daily vehicular traffic volumes on Old Davis Road between I-80 and California Avenue.

<table>
<thead>
<tr>
<th>Location</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM Peak Hour - Old Davis Road b/t I-80 and California Avenue</td>
<td>943</td>
</tr>
<tr>
<td>PM Peak Hour - Old Davis Road b/t I-80 and California Avenue</td>
<td>815</td>
</tr>
<tr>
<td>Daily - Old Davis Road b/t I-80 and California Avenue</td>
<td>7,330</td>
</tr>
</tbody>
</table>

Source: Fehr & Peers, 2011

As shown in Table 6, the AM and PM peak hour roadway traffic volumes account for 13% and 11% of the daily traffic volume, respectively.

Travel Times

PM peak period traffic congestion on eastbound I-80 regularly causes delays for motorists traveling on the freeway through Davis. This is especially true for eastbound traffic on Friday evenings, when recreational traffic traveling to destinations in the Sierra Nevada is most prevalent. To address cut-through traffic concerns through the University and downtown Davis because of I-80 traffic, Fehr & Peers conducted a travel time analysis, using a floating car technique, to compare the travel times on I-80 eastbound to the fastest route through downtown Davis. The westbound direction was not of concern because I-80 westbound traffic during the PM peak period is typically uncongested.

Specifically, the travel time analysis compares the following eastbound routes:

- I-80 eastbound between Old Davis Road and Mace Boulevard
- Local streets: Old Davis Road, Mrak Hall Drive, Arboretum Drive, A Street, 1st Street, B Street, 3rd Street, L Street, 2nd Street, Mace Boulevard

Travel time runs were completed on Friday, January 14, 2011 and Friday, January 21, 2011. Friday was chosen because it represents the worst-case for PM peak period traffic on I-80 eastbound; Bay Area traffic typically uses I-80 on Friday evenings to access Lake Tahoe.

On Friday, January 14, 2011, an accident on Chiles Road east of Mace Boulevard caused significant congestion on I-80 eastbound. The I-80 travel time runs from this day are not used in the analysis. However, traffic on local streets remained at normal levels; the local street travel time runs were used in the analysis. Very few vehicles were observed using the local streets to bypass I-80 through downtown Davis. However, several Davis residents (who did not reenter the freeway) were observed exiting I-80 at Old Davis Road; it is likely that several of these residents would exit the freeway further east (at Richard Boulevard or Mace Boulevard) when I-80 eastbound is not congested.
I-80 eastbound travel time runs were recollected on Friday, January 21, 2011. No local street travel time runs were collected on this day.

Table 7 shows the results of the travel time analysis.

```
TABLE 7:
TRAVEL TIME ANALYSIS

<table>
<thead>
<tr>
<th>Route</th>
<th>Date</th>
<th>Start Time hh:mm:ss</th>
<th>End Time hh:mm:ss</th>
<th>Travel Time hh:mm:ss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Streets</td>
<td>1/14/2011</td>
<td>17:44:41</td>
<td>17:58:36</td>
<td>00:13:55</td>
</tr>
<tr>
<td>Local Streets</td>
<td>1/14/2011</td>
<td>18:15:29</td>
<td>18:34:45</td>
<td>00:19:16</td>
</tr>
<tr>
<td>Local Streets</td>
<td>1/14/2011</td>
<td>18:53:51</td>
<td>19:11:33</td>
<td>00:17:42</td>
</tr>
<tr>
<td>I-80 Eastbound</td>
<td>1/21/2011</td>
<td>16:56:37</td>
<td>17:09:14</td>
<td>0:12:37</td>
</tr>
<tr>
<td>I-80 Eastbound</td>
<td>1/21/2011</td>
<td>17:34:35</td>
<td>17:46:33</td>
<td>0:11:58</td>
</tr>
</tbody>
</table>

Source: Fehr & Peers, 2011

Note: hh:mm:ss = time of day or travel time as represented in hours:minutes*seconds
```

Table 7 shows that, even when I-80 eastbound is congested, it is faster to take I-80 between Old Davis Road and Mace Boulevard than to use local streets.

**BICYCLE AND PEDESTRIAN FACILITIES**

Class II bicycle lanes exist on Old Davis Road between California Avenue and the terminus of Old Davis Road east of Alumni Lane. A shared-use path intersects A Street south of 1st Street, continues on the south side of 1st Street between B Street and Richards Boulevard, then crosses under the Union Pacific Railroad on the west side of Richards Boulevard. Another shared-use path is located on the east side of California Avenue.

The following roadways have sidewalks:

- Old Davis Road between California Avenue and the terminus of Old Davis Road east of Alumni Lane (both sides)
- Alumni Lane (both sides)
- Mrak Hall Drive (both sides)
- A Street (both sides)
- Arboretum Drive (south side only)
- 1st Street (north side only; south side has bike path)
- B Street (both sides)
- E Street (both sides)
- Olive Drive (both sides)

Crosswalks are located at most approaches to study intersections.
3. EXISTING PLUS PROJECT CONDITIONS

There are three existing plus project scenarios: Existing Plus Hyatt Place Expansion, Existing Plus Old Davis Road Extension, and Existing Plus Hyatt Place Expansion and Old Davis Road Extension.

EXISTING PLUS HYATT PLACE EXPANSION

To develop the Existing Plus Hyatt Place Expansion scenario, trips generated by the proposed Hyatt Place expansion were added to the existing traffic counts.

Hyatt Place Expansion Trip Generation

The proposed Hyatt Place expansion would add an additional 52 rooms and would occur on the same site as the existing Hyatt Place hotel. Fehr & Peers conducted traffic counts on Old Davis Road east of Alumni Lane on Tuesday, January 11, 2001 and Wednesday, January 12, 2001 to determine the trip generation rate of the existing Hyatt Place hotel. The results of these counts showed that the existing Hyatt Place hotel generates trips at a rate similar to the average trip rates for hotels in Trip Generation (Institute of Transportation Engineers, 2008). Therefore, this study assumes the rate from Trip Generation at 100% hotel occupancy; these assumptions are consistent with the transportation and circulation analysis performed for the Hyatt Place hotel in December 2001. Table 8 shows the peak hour and daily trip generation of the Hyatt Place expansion.

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Quantity</th>
<th>Trip Rate $</th>
<th>Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotel</td>
<td>52 rooms</td>
<td>8.92 AM</td>
<td>0.67 PM Peak</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hour Hour</td>
<td>0.70 Hour Hour</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Daily Daily</td>
<td>464 35 37</td>
</tr>
</tbody>
</table>

Notes: Based on average trip rate from Trip Generation (Institute of Transportation Engineers, 2008).
Source: Fehr & Peers, 2011

Hyatt Place Expansion Trip Distribution without Old Davis Road Extension

Figure 2 shows the trip distribution for Hyatt Place expansion trips without the Old Davis Road extension. This trip distribution was developed based on the existing traffic counts and knowledge of the study area. Trips to and from the Hyatt Place hotel originate from, and are bound for, downtown Davis via 1st Street, south Davis via Richards Boulevard, the UC Davis campus via California Avenue, the Bay Area via I-80 West, and Sacramento via I-80 East.

To develop the Existing Plus Hyatt Place Expansion scenario, trips generated by the proposed Hyatt Place expansion were added to the existing counts according to the trip distribution shown in Figure 2. Figure 3 shows the peak hour traffic volumes and lane configurations for the Existing Plus Hyatt Place Expansion scenario.

EXISTING PLUS OLD DAVIS ROAD EXTENSION

Analysis using the Davis Travel Demand Model showed that closing Arboretum Drive and adding the Old Davis Road extension resulted in the following:
• Trips previously using Arboretum Drive were rerouted onto the Old Davis Road extension

• Some South Entry Parking Structure trips to/from the I-80 / Old Davis Road interchange rerouted to downtown Davis and roadway facilities south of the Olive Drive / Richards Boulevard intersection via 1st Street

To develop traffic volumes for the Existing Plus Old Davis Road Extension scenario, existing traffic volumes were manually adjusted as follows:

• Traffic from Arboretum Drive was rerouted to the Old Davis Road extension

• Some South Entry Parking Structure traffic to/from the I-80 / Old Davis Road interchange was rerouted through downtown Davis and roadway facilities south of the Olive Drive / Richards Boulevard intersection.

• Intersection turning movement counts from the 2003 Long Range Development Plan Traffic Impact Study at the Arboretum Drive / Mrak Hall Drive intersection were used to maintain appropriate levels of traffic on Mrak Hall Drive.

Figure 4 shows the peak hour traffic volumes and lane configurations for the Existing Plus Old Davis Road Extension scenario.

EXISTING PLUS HYATT PLACE EXPANSION AND OLD DAVIS ROAD EXTENSION

To develop the Existing Plus Hyatt Place Expansion and Old Davis Road Extension scenario traffic volumes, the trips generated by the proposed Hyatt Place expansion were added to the Existing Plus Old Davis Road Extension scenario traffic volumes.

Figure 5 shows the trip distribution for Hyatt Place expansion trips with the Old Davis Road extension. This trip distribution was developed based on the existing traffic counts and knowledge of the study area and reflects increased Hyatt Place expansion trips using the Old Davis Road extension. Trips to and from the Hyatt Place hotel originate from, and are bound for, downtown Davis via 1st Street, south Davis via Richards Boulevard, the UC Davis campus via California Avenue, the Bay Area via I-80 West, and Sacramento via I-80 East.

Figure 6 shows the peak hour traffic volumes and lane configurations for the Existing Plus Hyatt Place Expansion and Old Davis Road Extension scenario.
PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - EXISTING PLUS HYATT PLACE EXPANSION

FIGURE 3

Legend:
- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign
- Hyatt Place Expansion Site

Not to Scale
FIGURE 4

PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - EXISTING PLUS OLD DAVIS ROAD EXTENSION

1. Old Davis Rd./I-80 EB Ramps
2. Old Davis Rd./I-80 WB Ramps
3. Old Davis Rd./California Ave.
4. Old Davis Rd./Hilgard Ln.
5. Old Davis Rd./Mrak Hall Rd.
6. 1st St./A St.
7. 1st St./B St.
8. 1st St./Richards Blvd.
9. Olive Dr./Richards Blvd.

LEGEND
- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign

NOT TO SCALE
HYATT PLACE EXPANSION TRIP DISTRIBUTION - WITH OLD DAVIS ROAD EXTENSION

FIGURE 5
**PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - EXISTING PLUS HYATT PLACE EXPANSION AND OLD DAVIS ROAD EXTENSION**

**FIGURE 6**
INTERSECTIONS

Intersection operations were analyzed using the peak hour traffic volumes and lane configurations shown in Figures 3, 4, and 6; Table 9 shows the existing plus project delay and level of service at the study intersections.

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Control</th>
<th>Peak Hour</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Existing</td>
<td>Existing Plus Hyatt Place Expansion</td>
<td>Existing Plus Old Davis Road Extension</td>
<td>Existing Plus Hyatt Place Expansion and Old Davis Road Extension</td>
<td></td>
<td></td>
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<tr>
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<td></td>
<td></td>
<td>Average</td>
<td>Average</td>
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<td>Average</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Worst-Delayed Movement</td>
<td>Worst-Delayed Movement</td>
<td>Worst-Delayed Movement</td>
<td>Worst-Delayed Movement</td>
<td>Worst-Delayed Movement</td>
<td>Worst-Delayed Movement</td>
</tr>
<tr>
<td>Old Davis Road / I-80 Eastbound</td>
<td>Side Street Stop-Controlled</td>
<td>AM PM</td>
<td>10 / B 9 / A</td>
<td>15 / B 29 / D</td>
<td>11 / B 10 / A</td>
<td>15 / C 31 / D</td>
<td>10 / A 8 / A</td>
<td>14 / B 24 / C</td>
</tr>
<tr>
<td>Old Davis Road / I-80 Westbound</td>
<td>Side Street Stop-Controlled</td>
<td>AM PM</td>
<td>10 / B 2 / A</td>
<td>21 / C 13 / B</td>
<td>11 / B 2 / A</td>
<td>22 / C 13 / B</td>
<td>9 / A 2 / A</td>
<td>14 / B 13 / B</td>
</tr>
<tr>
<td>Old Davis Road / California Avenue</td>
<td>Side Street Stop-Controlled</td>
<td>AM PM</td>
<td>8 / A 10 / A</td>
<td>38 / E 26 / D</td>
<td>8 / A 10 / B</td>
<td>43 / E 28 / D</td>
<td>7 / A 9 / A</td>
<td>32 / D 8 / A</td>
</tr>
<tr>
<td>Old Davis Road / Hilgard Lane</td>
<td>Side Street Stop-Controlled</td>
<td>AM PM</td>
<td>1 / A 11 / B</td>
<td>17 / C 37 / E</td>
<td>1 / A 12 / B</td>
<td>17 / C 41 / E</td>
<td>2 / A 6 / A</td>
<td>19 / C 6 / A</td>
</tr>
<tr>
<td>Old Davis Road / Mrak Hall Drive</td>
<td>Signalized</td>
<td>AM PM</td>
<td>22 / C 32 / C</td>
<td>--</td>
<td>25 / C 36 / D</td>
<td>--</td>
<td>19 / B 16 / B</td>
<td>--</td>
</tr>
</tbody>
</table>

UC Davis Campus Intersections

City of Davis Intersections

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Control</th>
<th>Peak Hour</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Street / A Street</td>
<td>Side Street Stop-Controlled</td>
<td>AM PM</td>
<td>14 / B 13 / B</td>
<td>77 / F³ 18 / C</td>
<td>14 / B 13 / B</td>
<td>80 / F³ 19 / C</td>
<td>20 / C 15 / C</td>
<td>&gt;80 / F³ 21 / C</td>
</tr>
<tr>
<td>1st Street / B Street</td>
<td>All Way Stop</td>
<td>AM PM</td>
<td>14 / B 16 / C</td>
<td>--</td>
<td>14 / B 16 / C</td>
<td>--</td>
<td>16 / C 17 / C</td>
<td>--</td>
</tr>
<tr>
<td>1st Street / Richards Boulevard²</td>
<td>Signalized</td>
<td>AM PM</td>
<td>24 / C 27 / C</td>
<td>--</td>
<td>24 / C 27 / C</td>
<td>--</td>
<td>24 / C 27 / C</td>
<td>--</td>
</tr>
<tr>
<td>Olive Drive / Richards Boulevard²</td>
<td>Signalized</td>
<td>AM PM</td>
<td>24 / C 15 / B</td>
<td>--</td>
<td>24 / C 15 / B</td>
<td>--</td>
<td>22 / C 15 / B</td>
<td>--</td>
</tr>
</tbody>
</table>

Notes:
1 Intersection delay is reported in seconds per vehicle, and is based on the average of all approaches for all-way stop controlled intersections and signalized intersections per HCM methodology. For side-street stop controlled intersections, the delay and LOS is reported for both the average of all approaches and the worst-delayed movement.

²Unique conditions of Richards Boulevard discussed in Existing Conditions chapter of this report.

³Does not meet MUTCD peak hour signal warrant

Bold text indicates a congested condition (LOS F) at City of Davis Core Area intersections.

Source: Fehr & Peers, 2011
As shown in Table 9, the addition of traffic from the Old Davis Road extension and/or Hyatt Place expansion does not cause any intersections operating acceptably in the Existing Conditions scenario to operate unacceptably.

In the Existing Plus Hyatt Place Expansion scenario, delay for the worst-case movements operating at LOS E or worse increases because of the addition of project traffic at the following intersections:

- Old Davis Road / California Avenue – AM peak hour, worst-case movement is LOS E
- Old Davis Road / Hilgard Lane – PM peak hour, worst-case movement is LOS E
- 1st Street / A Street – AM peak hour, worst-case movement is LOS F

In the Existing Plus Old Davis Road Extension and Existing Plus Hyatt Place Expansion and Old Davis Road Extension scenarios, delay for the worst-case movement increases because of the addition of project traffic at the 1st Street / A Street intersection (AM peak hour, worst-case movement is LOS F).

**ROADWAY SEGMENTS**

Table 10 shows the existing plus project peak hour and daily vehicular traffic volumes on Old Davis Road between I-80 and California Avenue.

<table>
<thead>
<tr>
<th>Location</th>
<th>AM Peak Hour</th>
<th>PM Peak Hour</th>
<th>Daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old Davis Road b/t I-80 and California Avenue</td>
<td>943</td>
<td>815</td>
<td>7,330</td>
</tr>
<tr>
<td>Old Davis Road b/t I-80 and California Avenue</td>
<td>965</td>
<td>838</td>
<td>7,632</td>
</tr>
<tr>
<td>Old Davis Road b/t I-80 and California Avenue</td>
<td>875</td>
<td>740</td>
<td>6,740</td>
</tr>
<tr>
<td>Old Davis Road b/t I-80 and California Avenue</td>
<td>895</td>
<td>758</td>
<td>6,995</td>
</tr>
</tbody>
</table>

As shown in Table 10, the daily volume on Old Davis Road would increase as a result of the proposed Hyatt Place expansion. The daily volume on Old Davis Road between I-80 and California Avenue would decrease as a result of the proposed Old Davis Road extension; some South Entry Parking Structure traffic to-from the I-80 / Old Davis Road interchange reroutes through downtown Davis and to roadway facilities south of the Olive Drive / Richard Boulevard intersection with the construction of the Old Davis Road extension.
BICYCLE AND PEDESTRIAN FACILITIES

The proposed Hyatt Place expansion will increase traffic on roadways. Where bicyclists share the road with vehicles, increased traffic will impact conditions for bicyclists. Added roadway traffic will impact conditions for pedestrians, especially at uncontrolled crossings. However, because the amount of traffic added by the project is small, the impact is considered less-than-significant.

The proposed Old Davis Road extension will decrease volumes on Old Davis Road west of the South Entry Parking Structure; however, the extension will increase volumes on Old Davis Road east of the South Entry Parking Structure, on 1st Street, and on Richards Boulevard. The proposed Old Davis Road extension will improve conditions for bicyclists and pedestrians by providing a continuous on-street bike lane and sidewalks. The extension of Old Davis Road will also close Arboretum Drive to vehicle traffic; thereby turning it into a facility exclusively for use by bicyclists and pedestrians. Service vehicles and emergency vehicles will also be allowed to use the facility. The University should ensure that Arboretum Drive and the Arboretum Drive / Mrak Hall Drive and Arboretum Drive / A Street intersections meet all California Manual on Uniform Traffic Control Devices (MUTCD) criteria for bicyclist and pedestrian circulation.

IMPACT SUMMARY

Chapter 1 outlines the significance criteria used to identify impacts at intersections on the UC Davis campus and in the City of Davis. Chapter 3 analyzes the existing plus project scenarios and, as shown in Table 9, the average delay and level of service of all movements is acceptable at all of the study intersections with the addition of project trips. Accordingly, the project-specific impacts of the Hyatt Place hotel expansion and Old Davis Road extension to on- and off-campus intersections would be less-than-significant.

UC Davis Campus Intersections

In some scenarios, the addition of project trips at study intersections increases delay for worst-case movements operating at LOS E or worse. For these intersections, a significant traffic impact is defined when the addition of project traffic causes the average of all movements to deteriorate from an acceptable level (LOS D) to an unacceptable level.

Although unacceptable operations for the worst-case movement at unsignalized intersections are not significant project impacts, improvements are identified to improve operations for the worst-case movement for use by UC Davis in future planning. Traffic operations for the worst-case movement could be improved by implementing the measures discussed below.

- **Old Davis Road / California Avenue** – The 2003 LRDP EIR identified the following mitigation measures for impacts to this intersection:
  
  Install a traffic signal at the Old Davis Road / California Avenue intersection or construct the new roadway proposed in the 2003 LRDP between Old Davis Road and La Rue Road.

  Since the completion of the 2003 LRDP EIR, the University has elected to construct a roundabout at the Old Davis Road / California Avenue intersection instead of a traffic signal.

- **Old Davis Road / Hilgard Lane** – The installation of a roundabout or traffic signal would improve operations for the worst-case movement and operations for the overall intersection would remain acceptable. This intersection does not meet the Caltrans’ Peak Hour Traffic Signal Warrant in the Existing Plus Hyatt Place Expansion and Old Davis Road Extension scenario.
City of Davis Intersections

The addition of project trips exacerbates the congested condition (LOS F) of the 1st Street / A Street intersection. For this intersection, a significant traffic impact is defined when the addition of project traffic exacerbates a congested condition (LOS F in the Core Area and meets the MUTCD peak hour signal warrant without the project) by increasing the overall intersections volume by more than one percent. Further analysis of the intersection showed that peak hour signal warrants are not met at the 1st Street / A Street intersection in any of the Existing Plus Project scenarios; therefore the impact to this intersection is less-than-significant. The 2003 LRDP EIR identified the following mitigation measures for impacts to the study intersections of this study:

1st Street / A Street: Construct a roundabout or install a traffic signal at the 1st Street / A Street intersection

This mitigation measure would be triggered when the intersection meets the MUTCD peak hour signal warrant without the project.
4. CUMULATIVE CONDITIONS

There are five cumulative scenarios:

1. Cumulative No Project
2. Cumulative Plus Davis Hotel
3. Cumulative Plus Hyatt Place Expansion
4. Cumulative Plus Old Davis Road Extension
5. Cumulative Plus Davis Hotel, Hyatt Place Expansion, and Old Davis Road Extension

CUMULATIVE NO PROJECT

Traffic Forecasts

Traffic forecasts for the Cumulative No Project scenario were prepared using the Davis Travel Demand Model via the difference method, which adds the difference between the base and future year model runs to existing counts. Figure 7 shows the Cumulative No Project peak hour traffic volumes and lane configurations.

Roadway Network

With the exception of the Old Davis Road / California Avenue intersection, all cumulative scenarios assume that the existing lane configurations and traffic controls remain unchanged.

The University is currently finalizing plans to install a roundabout at the Old Davis Road / California Avenue intersection. Because this project is fully funded, this study’s cumulative analysis scenarios assume that the roundabout will be in place.

CUMULATIVE PLUS DAVIS HOTEL

To account for all reasonably foreseeable projects, this scenario accounts for the replacement of the University Park Inn & Suites in the City of Davis (referred to in this study as the “City of Davis hotel”). Assumptions for the City of Davis hotel were based on the best information available during the preparation of this study; this purpose of this study is not to assess potential impacts of the City of Davis hotel.

To develop the Cumulative Plus Davis Hotel scenario, new trips generated by the proposed City of Davis hotel (beyond the trips already generated by the University Park Inn & Suites and Caffé Italia) were added to the Cumulative No Project forecasts.
PEAK HOUR TRAFFIC VOLUMES
AND LANE CONFIGURATIONS -
CUMULATIVE NO PROJECT

1. Old Davis Rd./I-80 EB Ramps
   2. Old Davis Rd./I-80 WB Ramps
   3. Old Davis Rd./California Ave.
   4. Old Davis Rd./Hilgard Ln.
   5. Old Davis Rd./Mrak Hall Rd.
   6. 1st St./A St.
   7. 1st St./B St.
   8. 1st St./Richards Blvd.
   9. Olive Dr./Richards Blvd.

LEGEND

- Turn Lane
- AM (PM) Peak Hour Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign
- Roundabout

NOT TO SCALE
**Davis Hotel Trip Generation**

The existing University Park Inn & Suites in the City of Davis has 45 hotel rooms and a 4,600 square foot restaurant. The proposed City of Davis hotel would replace the existing University Park Inn & Suites and would have 125 hotel rooms, a 17,200 square foot conference center, and a 6,800 square foot restaurant. Table 11 shows the net peak hour trip generation of the City of Davis hotel.

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Quantity</th>
<th>Trip Rate</th>
<th>Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>AM Peak Hour</td>
<td>PM Peak Hour</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AM Peak Hour</td>
<td>PM Peak Hour</td>
</tr>
<tr>
<td><strong>Existing University Park Inn &amp; Suites</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hotel</td>
<td>45 rooms</td>
<td>0.67 / room</td>
<td>0.70 / room</td>
</tr>
<tr>
<td>Restaurant</td>
<td>4.6 ksf</td>
<td>11.52 / ksf</td>
<td>11.15 / ksf</td>
</tr>
<tr>
<td><strong>Existing Subtotal</strong></td>
<td></td>
<td>83</td>
<td>83</td>
</tr>
<tr>
<td><strong>Proposed City of Davis Hotel</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Hotel</td>
<td>125 rooms</td>
<td>0.67 / room</td>
<td>0.70 / room</td>
</tr>
<tr>
<td>Conference Center³</td>
<td>17.2 ksf</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>Restaurant</td>
<td>6.8 ksf</td>
<td>11.52 / ksf</td>
<td>11.15 / ksf</td>
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<td></td>
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<td><strong>Proposed Subtotal</strong></td>
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<td>269</td>
<td>272</td>
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<tr>
<td><strong>Net Trip Generation ( = Proposed Subtotal – Existing Subtotal)</strong></td>
<td>186</td>
<td>189</td>
<td></td>
</tr>
</tbody>
</table>

Notes:  
1 Based on average trip rate for hotel from *Trip Generation* (Institute of Transportation Engineers, 2008).  
2 Based on average trip rate for high-turnover restaurant from *Trip Generation* (Institute of Transportation Engineers, 2008).  
3 The City of Davis hotel project applicant estimates that, on average, 200 conference attendees will be coming from outside the hotel; the assumed vehicle occupancy for a conference center is 1.5 persons/vehicle.  
4 The City of Davis hotel project applicant estimates that 1/3 of restaurant patrons will be hotel guests.

Source: Fehr & Peers, 2011

**Davis Hotel Trip Distribution**

Figure 8 shows the trip distribution for the City of Davis hotel trips. This trip distribution was developed based on existing traffic counts and knowledge of the study area. Trips to and from the City of Davis hotel originate from, and are bound for, the UC Davis campus via 1st Street, downtown Davis via Richards Boulevard, I-80 via Richards Boulevard, and south Davis via Richards Boulevard.

To develop the Cumulative Plus Davis Hotel scenario, trips generated by the proposed City of Davis hotel were added to the Cumulative No Project forecasts according to the trip distribution shown in Figure 8. Figure 9 shows the peak hour traffic volumes and lane configurations for the Cumulative Plus Davis Hotel scenario.
CITY OF DAVIS HOTEL TRIP DISTRIBUTION

FIGURE 8

NOT TO SCALE

LEGEND

Trip Distribution

City of Davis Hotel Site

Path: N:\2008Projects\2602H_HyattPlaceUCDavis\Graphics\Draft\GIS\MXD\fig08_trip_distPU2.mxd
FIGURE 9

PEAK HOUR TRAFFIC VOLUMES
AND LANE CONFIGURATIONS -
CUMULATIVE PLUS DAVIS HOTEL
CUMULATIVE PLUS HYATT PLACE EXPANSION

To develop the Cumulative Plus Hyatt Place Expansion scenario, trips generated by the proposed Hyatt Place expansion were added to the Cumulative No Project traffic forecasts. The Cumulative Plus Hyatt Place Expansion scenario trip generation and distribution are consistent with those from the Existing Plus Hyatt Expansion scenario, shown in Table 8 and Figure 2, respectively. Figure 10 shows the Cumulative Plus Hyatt Place Expansion scenario traffic volumes.

CUMULATIVE PLUS OLD DAVIS ROAD EXTENSION

Analysis using the Davis Travel Demand Model showed that closing Arboretum Drive and adding the Old Davis Road extension resulted in the following:

- Trips previously using Arboretum Drive were rerouted onto the Old Davis Road extension
- Some South Entry Parking Structure trips to/from the I-80 / Old Davis Road interchange rerouted to downtown Davis and roadway facilities south of the Olive Drive / Richards Boulevard intersection

To develop traffic forecasts for the Cumulative Plus Old Davis Road Extension scenario, Cumulative No Project traffic forecasts were manually adjusted as follows:

- Traffic from Arboretum Drive was rerouted to the Old Davis Road extension
- Some south Entry Parking Structure traffic to/from the I-80 / Old Davis Road interchange was rerouted through downtown Davis and roadway facilities south of the Olive Drive / Richards Boulevard intersection.

Intersection turning movement counts from the 2003 Long Range Development Plan Traffic Impact Study at the Arboretum Drive / Mrak Hall Drive intersection were used to establish appropriate levels of traffic on Mrak Hall Drive.

Figure 11 shows the Cumulative Plus Old Davis Road Extension traffic volumes.

CUMULATIVE PLUS DAVIS HOTEL, HYATT PLACE EXPANSION, AND OLD DAVIS ROAD EXTENSION

To develop the Cumulative Plus Davis Hotel, Hyatt Place Expansion, and Old Davis Road Extension scenario traffic forecasts, the trips generated by the proposed City of Davis hotel and Hyatt Place expansion were added to the Cumulative Plus Old Davis Road Extension scenario traffic forecasts.

The trip distribution for the City of Davis hotel and Hyatt Place expansion are consistent with those shown in Figure 8 and Figure 5, respectively.

Figure 12 shows the peak hour traffic volumes and lane configurations for the Cumulative Plus Davis Hotel, Hyatt Place Expansion, and Old Davis Road Extension scenario.
PEAK HOUR TRAFFIC VOLUMES
AND LANE CONFIGURATIONS -
CUMULATIVE PLUS OLD DAVIS ROAD EXTENSION

FIGURE 11
PEAK HOUR TRAFFIC VOLUMES
AND LANE CONFIGURATIONS -
CUMULATIVE PLUS DAVIS HOTEL, HYATT PLACE
EXPANSION AND OLD DAVIS ROAD EXTENSION

FIGURE 12
INTERSECTIONS

Figures 7 and 9-12 show the peak hour traffic volumes and lane configurations for each cumulative scenario. Intersection operations were analyzed using these traffic volumes and lane configurations; Table 12 shows the cumulative delay and level of service at the study intersections.

The Cumulative Plus Davis Hotel scenario is the one which includes all reasonably foreseeable projects. Therefore, it is the scenario against which the Cumulative Plus Davis Hotel, Hyatt Place Expansion, and Old Davis Road Extension scenario is compared to assess the impacts of the Hyatt Place expansion and the Old Davis Road extension.
## Table 12: Intersection Delay / Level of Service – Cumulative Conditions

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Control</th>
<th>Peak Hour</th>
<th>Cumulative No Project</th>
<th>Cumulative Plus Davis Hotel</th>
<th>Cumulative Plus Hyatt Place Expansion</th>
<th>Cumulative Plus Old Davis Road Extension</th>
<th>Cumulative Plus Davis Hotel, Hyatt Place Expansion, and Old Davis Road Extension</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
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<td></td>
<td>Average</td>
<td>Worst-Delayed Movement</td>
<td>Average</td>
<td>Worst-Delayed Movement</td>
<td>Average</td>
</tr>
<tr>
<td>UC Davis Campus Intersections</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Old Davis Road / I-80 Eastbound</td>
<td>Side Street Stop-Controlled</td>
<td>AM PM</td>
<td>&gt;80 / F</td>
<td>&gt;80 / F</td>
<td>&gt;80 / F</td>
<td>&gt;80 / F</td>
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<td>17 / C</td>
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<td>17 / C</td>
<td>40 / E</td>
<td>18 / C</td>
</tr>
<tr>
<td>Old Davis Road / I-80 Westbound</td>
<td>Side Street Stop-Controlled</td>
<td>AM PM</td>
<td>4 / A</td>
<td>46 / E</td>
<td>4 / A</td>
<td>46 / E</td>
<td>5 / A</td>
</tr>
<tr>
<td>Old Davis Road / California Avenue</td>
<td>Roundabout</td>
<td>AM PM</td>
<td>10 / B</td>
<td>--</td>
<td>10 / B</td>
<td>--</td>
<td>11 / B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>8 / A</td>
<td>--</td>
<td>8 / A</td>
<td>--</td>
<td>8 / A</td>
</tr>
<tr>
<td>Old Davis Road / Hilgard Lane</td>
<td>Side Street Stop-Controlled</td>
<td>AM PM</td>
<td>3 / A</td>
<td>21 / C</td>
<td>3 / A</td>
<td>21 / C</td>
<td>4 / A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>17 / C</td>
<td>66 / F</td>
<td>18 / C</td>
<td>71 / F</td>
<td>8 / A</td>
</tr>
<tr>
<td>Old Davis Road / Mrak Hall Drive</td>
<td>Signalized</td>
<td>AM PM</td>
<td>26 / C</td>
<td>--</td>
<td>29 / C</td>
<td>--</td>
<td>25 / C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>29 / C</td>
<td>--</td>
<td>30 / C</td>
<td>--</td>
<td>29 / C</td>
</tr>
<tr>
<td>City of Davis Intersections</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st Street / A Street</td>
<td>Side Street Stop-Controlled</td>
<td>AM PM</td>
<td>24 / C</td>
<td>&gt;80 / F</td>
<td>24 / C</td>
<td>&gt;80 / F</td>
<td>38 / E</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>23 / C</td>
<td>61 / F</td>
<td>23 / C</td>
<td>68 / F</td>
<td>29 / D</td>
</tr>
<tr>
<td>1st Street / B Street</td>
<td>All Way Stop</td>
<td>AM PM</td>
<td>27 / D</td>
<td>--</td>
<td>29 / D</td>
<td>--</td>
<td>28 / D</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>21 / C</td>
<td>--</td>
<td>21 / C</td>
<td>--</td>
<td>21 / C</td>
</tr>
<tr>
<td>1st Street / Richards Boulevard</td>
<td>Signalized</td>
<td>AM PM</td>
<td>38 / D</td>
<td>&gt;80 / F</td>
<td>39 / D</td>
<td>&gt;80 / F</td>
<td>44 / D</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&gt;80 / F</td>
<td>--</td>
<td>&gt;80 / F</td>
<td>--</td>
<td>&gt;80 / F</td>
</tr>
<tr>
<td>Olive Drive / Richards Boulevard</td>
<td>Signalized</td>
<td>AM PM</td>
<td>14 / B</td>
<td>--</td>
<td>16 / B</td>
<td>--</td>
<td>14 / B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>19 / B</td>
<td>--</td>
<td>21 / C</td>
<td>--</td>
<td>19 / B</td>
</tr>
</tbody>
</table>

Notes:
1. Intersection delay is reported in seconds per vehicle, and is based on the average of all approaches for all-way stop controlled intersections and signalized intersections per HCM methodology. For side-street stop controlled intersections, the delay and LOS is reported for both the average of all approaches and the most delayed movement.
2. This analysis assumes the construction of the Old Davis Road / California Avenue roundabout.
3. Unique conditions of Richards Boulevard discussed in Existing Conditions chapter of this report.

Purple text indicates unacceptable operations (intersection average LOS of E or F) at UC Davis Campus intersections.
Bold text indicates a congested condition (LOS F) at City of Davis Core Area intersections.

Source: Fehr & Peers, 2011
As shown in Table 12, five of the study intersections have overall intersection conditions or worst-delayed movements of LOS E or F in the Cumulative Plus Davis Hotel scenario.

- Old Davis Road / I-80 Eastbound – AM and PM peak hours, average delay for all approaches is LOS F and worst-delayed movement is LOS F
- Old Davis Road / I-80 Westbound – AM and PM peak hours, worst-delayed movement is LOS E
- Old Davis Road / Hilgard Lane – PM peak hour, worst-delayed movement is LOS F
- 1st Street / A Street – AM and PM peak hours, worst-delayed movement is LOS F
- 1st Street / Richards Boulevard – PM peak hour, average delay for all approaches is LOS F

The addition of traffic from the Hyatt Place expansion and Old Davis Road extension (the Cumulative Plus Davis Hotel, Hyatt Place Expansion, and Old Davis Road Extension scenario) deteriorates the level of service at the following intersections:

- Old Davis Road / Hilgard Lane – AM peak hour, LOS for worst-delayed movement changes from LOS C to LOS D
- 1st Street / B Street – AM peak hour, average delay for all approaches increases from 29 seconds to 40 seconds; LOS for all approaches changes from LOS D to LOS E
ROADWAY SEGMENTS

Table 13 shows the cumulative peak hour and daily vehicular traffic volumes on Old Davis Road between I-80 and California Avenue.

<table>
<thead>
<tr>
<th>Location</th>
<th>Cumulative No Project</th>
<th>Cumulative Plus Davis Hotel, Hyatt Place Expansion, and Old Davis Road Extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM Peak Hour</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Old Davis Road b/t I-80 and California Avenue</td>
<td>1,475</td>
<td>1,390</td>
</tr>
<tr>
<td>PM Peak Hour</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Old Davis Road b/t I-80 and California Avenue</td>
<td>1,410</td>
<td>1,314</td>
</tr>
<tr>
<td>Daily</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Old Davis Road b/t I-80 and California Avenue</td>
<td>16,300</td>
<td>15,280</td>
</tr>
</tbody>
</table>

Source: Fehr & Peers, 2011

As shown in Table 13, the daily volume on Old Davis Road between I-80 and California Avenue would decrease as a result of the proposed Old Davis Road extension; some South Entry Parking Structure traffic to-from the I-80 / Old Davis Road interchange reroutes through downtown Davis and to roadway facilities south of the Olive Drive / Richard Boulevard intersection with the construction of the Old Davis Road extension.

BICYCLE AND PEDESTRIAN FACILITIES

The proposed Hyatt Place expansion will increase traffic on roadways. Where bicyclists share the road with vehicles, increased traffic will impact conditions for bicyclists. Added roadway traffic will impact conditions for pedestrians, especially at uncontrolled crossings. However, because the amount of traffic added by the project is small, the impact is considered less-than-significant.

The proposed Old Davis Road extension will decrease volumes on Old Davis Road west of the South Entry Parking Structure; however, the extension will increase volumes on Old Davis Road east of the South Entry Parking Structure, on 1st Street, and on Richards Boulevard. The proposed Old Davis Road extension will improve conditions for bicyclists and pedestrians by providing a continuous on-street bike lane and sidewalks. The extension of Old Davis Road will also close Arboretum Drive to vehicle traffic; thereby turning it into a facility exclusively for use by bicyclists and pedestrians. Service vehicles and emergency vehicles will also be allowed to use the facility. The University should ensure that Arboretum Drive and the Arboretum Drive / Mrak Hall Drive and Arboretum Drive / A Street intersections meet all California Manual on Uniform Traffic Control Devices (MUTCD) criteria for bicyclist and pedestrian circulation.

FREEWAY DIVERSION ASSESSMENT

The Old Davis Road extension is not expected to induce traffic from I-80 eastbound. The travel time analysis showed that it is faster to take I-80 between Old Davis Road and Mace Boulevard than to use
local streets. Additionally, the number and type of traffic controls encountered is similar with the Old Davis Road extension: a traffic signal at the Old Davis Road / Mrak Hall Drive intersection, an all-way stop at the Old Davis Road / Alumni Lane intersection (versus the Mrak Hall Drive / Arboreum Drive intersection), and an all-way stop at the Arboretum Drive / A Street intersection. Because the travel distance and traffic controls for the proposed Old Davis Road extension are similar to the existing travel distance and traffic controls via Arboreum Drive, the proposed Old Davis Road extension is not expected to induce freeway traffic through campus.

**IMPACT SUMMARY AND MITIGATION MEASURE**

Chapter 1 outlines the significance criteria used to identify impacts at intersections on the UC Davis campus and in the City of Davis. Chapter 4 analyzes the cumulative plus project scenarios and, as shown in Table 12, determined that the following impact would occur.

<table>
<thead>
<tr>
<th>Impact 1</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementation of the proposed project would exacerbate congested</td>
<td>conditions at the 1st Street / A Street intersection. For the 1st</td>
</tr>
<tr>
<td>intersection, a significant traffic impact is defined when the addition</td>
<td>Street / A Street intersection, since it is significant and</td>
</tr>
<tr>
<td>of project traffic exacerbates a congested condition (LOS F in the Core</td>
<td>unavoidable. The 2003 LRDP EIR identified the following mitigation</td>
</tr>
<tr>
<td>Area and meets the MUTCD peak hour signal warrant without the project)</td>
<td>measure for impacts to the 1st Street / A Street intersection:</td>
</tr>
<tr>
<td>by increasing the overall intersection’s volume by more than one percent</td>
<td>Construct a roundabout or install a traffic signal at the 1st</td>
</tr>
<tr>
<td></td>
<td>Street / A Street intersection. This impact was previously</td>
</tr>
<tr>
<td></td>
<td>identified as a significant and unavoidable impact in the</td>
</tr>
<tr>
<td></td>
<td>certification of the 2003 LRDP EIR. UC Davis adopted LRDP</td>
</tr>
<tr>
<td></td>
<td>Mitigation Measure 4.14-2(a-c) to assist the City of Davis in</td>
</tr>
<tr>
<td></td>
<td>mitigating the identified impact. UC Davis continues to</td>
</tr>
<tr>
<td></td>
<td>implement the LRDP Mitigation Measure 4.14-2(a-c) but cannot</td>
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<tr>
<td></td>
<td>guarantee implementation of off-campus intersection improvements</td>
</tr>
<tr>
<td></td>
<td>that are the responsibility of the City of Davis. While the</td>
</tr>
<tr>
<td></td>
<td>identified impact remains significant and unavoidable, with a</td>
</tr>
<tr>
<td></td>
<td>traffic signal or roundabout in place at this intersection, the</td>
</tr>
<tr>
<td></td>
<td>intersection would operate at LOS C and LOS B in the AM and PM</td>
</tr>
<tr>
<td></td>
<td>peak hours, respectively.</td>
</tr>
</tbody>
</table>

**Significance**

Significant and Unavoidable

**Mitigation Measure**

The 2003 LRDP EIR identified the following mitigation measure for impacts to the 1st Street / A Street intersection: Construct a roundabout or install a traffic signal at the 1st Street / A Street intersection. This impact was previously identified as a significant and unavoidable impact in the certification of the 2003 LRDP EIR. UC Davis adopted LRDP Mitigation Measure 4.14-2(a-c) to assist the City of Davis in mitigating the identified impact. UC Davis continues to implement the LRDP Mitigation Measure 4.14-2(a-c) but cannot guarantee implementation of off-campus intersection improvements that are the responsibility of the City of Davis. While the identified impact remains significant and unavoidable, with a traffic signal or roundabout in place at this intersection, the intersection would operate at LOS C and LOS B in the AM and PM peak hours, respectively.
Additional Considerations

UC Davis Campus Intersections

At the Old Davis Road / I-80 Eastbound intersection, the level of service for the average of all movements is LOS F in the Cumulative No Project scenario. At this intersection, a significant impact is defined when the project adds 10 or more vehicle’s to the intersection’s volume. The Hyatt Place hotel expansion would add 11 vehicles to this intersection in both the AM and PM peak hours. However, the traffic volume at this intersection decreases as a result of the proposed Old Davis Road extension by 35 and 50 vehicles in the AM and PM peak hours, respectively. The combined effect of both projects is a net decrease in volume at this intersection. Therefore, there is not a significant impact in the Cumulative Plus Davis Hotel, Hyatt Place Expansion, and Old Davis Road Extension scenario. If the Hyatt Place hotel expansion project moves forward without the Old Davis Road extension, this impact would be significant. The 2003 LRDP EIR identified the following mitigation measures for impacts to this intersection:

*Install a traffic signal at the EB I-80 Ramps / Old Davis Road intersection.*

This intersection does not meet the Caltrans’ Peak Hour Traffic Signal Warrant in the Cumulative Plus Davis Hotel, Hyatt Place Expansion, and Old Davis Road Extension scenario.

This intersection is part of the University’s Long Range Development Plan Traffic and Circulation Mitigation Monitoring Program; improvements to this intersection would be triggered when the Traffic and Circulation Mitigation Monitoring Program identifies unacceptable intersection operations.

In some scenarios, the addition of project trips at study intersections increases delay for worst-case movements operating at LOS E or worse. For these intersections, a significant traffic impact is defined when the addition of project traffic causes the average of all movements to deteriorate from an acceptable level (LOS D) to an unacceptable level. At these intersections, the average delay and level of service of all movements is acceptable with the addition of project trips.

Although unacceptable operations for the worst-case movement at unsignalized intersections are not significant project impacts, improvements are identified to improve operations for the worst-delayed movement for use by UC Davis in future planning. Traffic operations for the worst-case movement could be improved by implementing the measures discussed below.

- **Old Davis Road / I-80 Westbound** – The 2003 LRDP EIR identified the following mitigation measures for impacts to this intersection:

  *Install a traffic signal at the WB I-80 Ramps / Old Davis Road intersection.*

  This intersection meets the Caltrans’ Peak Hour Traffic Signal Warrant in the Cumulative Plus Davis Hotel, Hyatt Place Expansion, and Old Davis Road Extension scenario.

  This intersection is part of the University’s Long Range Development Plan Traffic and Circulation Mitigation Monitoring Program; improvements to this intersection would be triggered when the Traffic and Circulation Mitigation Monitoring Program identifies unacceptable intersection operations.
Old Davis Road / Hilgard Lane - The installation of a roundabout or traffic signal would improve operations for the worst-case movement and operations for the overall intersection would remain acceptable. This intersection does not meet the Caltrans’ Peak Hour Traffic Signal Warrant in the Existing Plus Hyatt Expansion scenario.

This intersection is part of the University’s Long Range Development Plan Traffic and Circulation Mitigation Monitoring Program; improvements to this intersection would be triggered when the Traffic and Circulation Mitigation Monitoring Program identifies unacceptable intersection operations.

City of Davis Intersections

At the 1st Street / B Street intersection, the average delay for all approaches increases from 29 seconds to 40 seconds and the LOS for all approaches changes from LOS D to LOS E. For this intersection, a significant traffic impact is defined when the addition of project traffic exacerbates a congested condition (LOS F and meets the MUTCD peak hour signal warrant without the project). Because this intersection operates better than LOS F, this change of LOS would be a less-than-significant impact.

For the 1st Street / Richards Boulevard intersection, a significant traffic impact is defined when the addition of project traffic exacerbates a congested condition (LOS F in the Core Area) by increasing the intersection’s average delay by five seconds or more. The intersection’s average delay is 94 seconds both with and without the added trips from the Hyatt Place expansion and the Old Davis Road extension. Therefore, the impact to the 1st Street / Richards Boulevard intersection would be a less-than-significant impact.
APPENDIX A:
TRAFFIC COUNTS
APPENDIX B:
TECHNICAL CALCULATIONS