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TRAFFIC AND CIRCULATION STUDY FOR THE 80 NORTH PATTERSON AVENUE OFFICE PROJECT, COUNTY OF SANTA BARBARA

Associated Transportation Engineers has prepared the following traffic and circulation study for the 80 North Patterson Avenue Office Project ("the Project") proposed in the Goleta area of Santa Barbara County. The study evaluates the Project's potential traffic impacts at the adjacent intersections based on the County's traffic impact thresholds and reviews site access and circulation.

Project Description

The Project is proposing to develop a 7,005 SF office building on a currently vacant site located on the southeast corner of the Patterson Avenue/U.S. 101 Northbound Ramps intersection. Figure 1 (attached) shows the location of the Project site in the Goleta area of Santa Barbara County. Access to the site is proposed via one driveway on Patterson Avenue that would serve the surface parking lot containing 23 parking spaces. The Project site plan is presented on Figure 2.

Project Trip Generation Estimates

Trip generation estimates were calculated for the Project using rates for Single Tenant Office Buildings (Land-Use #715) presented in the Institute of Transportation Engineers (ITE) Trip Generation Manual.¹ Table 1 presents the results of the trip generation calculations for the Project.

¹ Trip Generation, Institute of Transportation Engineers, 9th Edition, 2012.

Table 1
Trip Generation Estimates

Land-Use	Size	ADT		A.M. Peak Hour		P.M. Peak Hour	
		Rate	Trips	Rate	Trips (In/Out)	Rate	Trips (In/Out)
Single Tenant Office Building	7,005	11.65	82	1.8	13 (12/1)	1.74	12 (2/10)

As shown in Table 1, the Project is forecast to generate 82 average daily trips, 13 A.M. peak hour trips, and 12 P.M. peak hour trips.

Trip Distribution

Table 2 presents the trip distribution percentages developed for the Project. The trip distribution percentages were established based on existing traffic flows as well as consideration of the adjacent street network and land uses. The distribution and assignment of the project-generated traffic is presented on Figure 3.

Table 2
Project Trip Distribution Percentages

Origin/Destination	Direction	Distribution %
Calle Real	West	10%
Patterson Avenue	North	5%
	South	15%
U.S. 101	North	25%
	South	45%
Total		100%

Thresholds of Significance

The Project's potential traffic impacts at the adjacent intersections in the Patterson Avenue corridor were evaluated using the County of Santa Barbara and City of Goleta traffic impact thresholds, which are summarized below:

Santa Barbara County/City of Goleta Traffic Impact Thresholds

- A. The project will result in a significant impact on transportation and circulation if proposed project traffic increases the volume to capacity (V/C) ratio at local intersections by the values provided in the following table:

Significant Changes in Levels of Service	
Intersection Level of Service (Including Project)	Increase in V/C or Trips Greater Than
LOS A	0.20
LOS B	0.15
LOS C	0.10
LOS D	15 Trips
LOS E	10 Trips
LOS F	5 Trips

- B. The project's access to a major road or arterial road would require access that would create an unsafe situation, a new traffic signal, or major revisions to an existing traffic signal.
- C. The project would add traffic to a roadway that has design features (e.g., narrow width, road-side ditches, sharp curves, poor sight distance, inadequate pavement structure) that would become a potential safety problem with the addition of project traffic.
- D. Project traffic would utilize a substantial portion of an intersection's capacity where the intersection is currently operating at acceptable levels of service, but with cumulative traffic would degrade to or approach LOS D (V/C 0.80) or lower. Substantial is defined as a minimum change of 0.03 for an intersection which would operate from 0.80 to 0.85, a change of 0.02 for an intersection which would operate from 0.86 to 0.90 and a change of 0.01 for an intersection which would operate greater than 0.90 (LOS E or worse).

Potential Impacts

In order to evaluate the Project's potential traffic impacts at the adjacent intersections, existing and future levels of service were obtained from several sources. Levels of service for the Patterson Avenue/Calle Real, Patterson Avenue/U.S. 101 Northbound Ramps, and Patterson Avenue/U.S. 101 Southbound Ramps intersections were obtained from the Goleta Hotel Project Revised Traffic Impact Analysis².

² Goleta Hotel Project Revised Traffic Impact Analysis, Pinnacle Traffic Engineering, June 2017.

The existing and future levels of service for the Patterson Avenue corridor intersections are presented in Tables 3 and 4, along with the project-added traffic. It is noted that the County of Santa Barbara and Caltrans recently implemented improvements at the Patterson Avenue/U.S. 101 SB Ramps intersection (dual southbound left-turn lanes). The LOS values presented in Tables 3 and 4 therefore assume the improvements.

Table 3
Existing and Future A.M. Peak Hour Levels of Service

Intersection	Existing LOS	Future LOS	Project Trips	Impact?
U.S. 101 NB Ramps/ Patterson Avenue	0.74/LOS C	0.76/LOS C	15	NO
U.S. 101 SB Ramps/ Patterson Avenue	0.55/LOS A	0.57/LOS A	8	NO
Patterson Avenue/ Calle Real	0.66/LOS B	0.68/LOS B	3	NO

Table 4
Existing and Future P.M. Peak Hour Levels of Service

Intersection	Existing LOS	Future LOS	Project Trips	Impact?
U.S. 101 NB Ramps/ Patterson Avenue	0.78/LOS C	0.80/LOS C	11	NO
U.S. 101 SB Ramps/ Patterson Avenue	0.78/LOS C	0.81/LOS D	7	NO
Patterson Avenue/ Calle Real	0.67/LOS B	0.69/LOS B	10	NO

The data presented in Tables 3 and 4 show that the study-area intersections currently operate at LOS C or better under Existing conditions. The Project's traffic additions would not generate significant impacts at these locations based on City and County thresholds.

The data presented in Table 4 show that the Patterson Avenue/U.S. 101 Southbound Ramps intersection is forecast to operate at LOS D during the P.M. peak hour with future volumes. Based on the County/City impact thresholds, the Project would not generate significant impacts at this location as it would not increase the V/C ratio by 0.03 or more.

Site Access and Circulation

Access to Project site is proposed via one driveway connection to Patterson Avenue. As shown in the Project site plan (Figure 2), the driveway would be located on the northwest corner of the Project site and is accessible from the northbound lanes on Patterson Avenue. The existing raised median on Patterson Avenue would limit the driveway to right-turn in and out movements. Vehicles exiting the site that wish to travel southbound on Patterson Avenue would make a U-Turn at the Patterson Avenue/Calle Real intersection.

Figure 3 shows the projected driveway volumes for the A.M. and P.M. peak hour periods. As shown on the figure, the entering and exiting volumes would be relatively low (1 to 12 trips per hour) and would be accommodated by the proposed site access design.

This concludes ATE's traffic and circulation study for the 80 North Patterson Avenue Office Project.

Associated Transportation Engineers

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SAS/DLD

Attachments

Associated Transportation Engineers
 Trip Generation Worksheet - With In/Out Splits

80 N. PATTERSON AVENUE (#16107)																
Land-Use	Size	Multi-Trip	ADT		A.M.				P.M.							
			Rate	Trips	Rate	Trips	In %	Trips	Out %	Trips	Rate	Trips	In %	Trips	Out %	Trips
SINGLE TENANT OFFICE BUILDING	7,005	1.00	11.65	82	1.800	13	89%	12	11%	1	1.74	12	15%	2	85%	10



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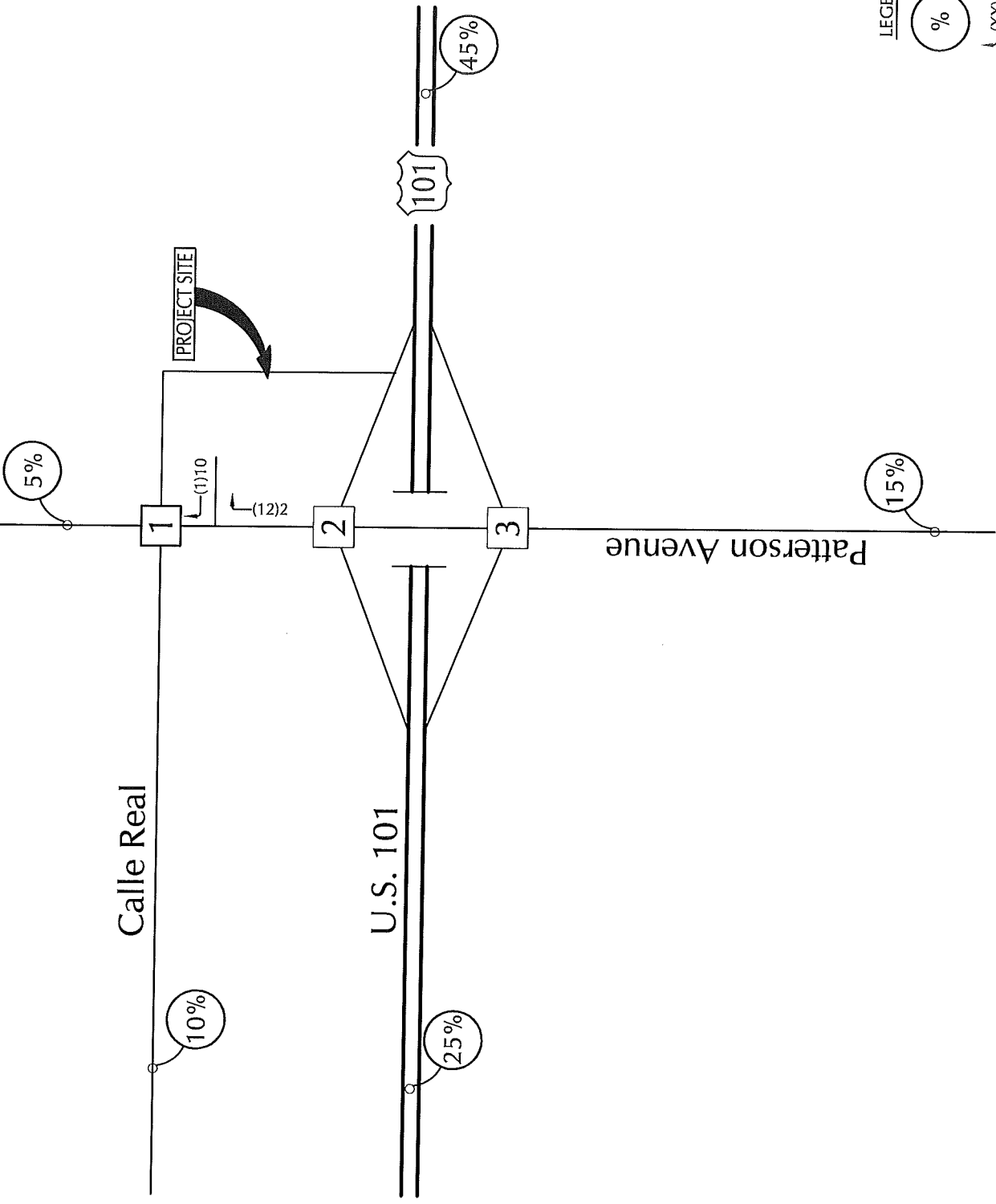
PROJECT SITE PLAN

FIGURE 1

NOT TO SCALE

EKM - ATE#16107

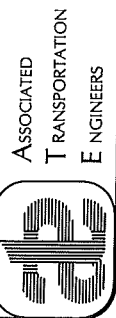




1	0(1)	0(1)	0(1)	0(1)
2	6(3)	3(0)	6(3)	3(0)
3	0(2)	5(1)	1(0)	1(0)

LEGEND
 % - Distribution Percentage

(XXX)XX - (A.M.)P.M. Peak Hour Volume



PROJECT TRIP DISTRIBUTION AND ASSIGNMENT