CHAPTER 7

TRANSPORTATION & CIRCULATION

CHAPTER 7 TRANSPORTATION AND CIRCULATION

7.1 EXISTING SETTING

The Orchard at Penryn project would construct 150 multi-family residential units in the rural community of Penryn. Based on the project site location, shown in *Figure 3-1* in **CHAPTER 3 PROJECT DESCRIPTION**, project-generated traffic would primarily use Penryn Road, Taylor Road, and Interstate 80.

Study Area Roadways

Interstate 80 (I-80) is an east-west freeway located south of the project site. Generally, I-80 provides regional access to the City of Sacramento to the west, and the City of Auburn to the east. Primary access to the project site from I-80 is provided at the Penryn Road interchange. Within the general project area, I-80 currently serves approximately 83,300 vehicles per day (vpd) with three travel lanes in each direction.

Penryn Road is a north-south arterial roadway that provides a link between Taylor Road and King Road, connecting both with I-80. Freeway access to I-80 is provided at a two-quadrant, cloverleaf interchange. The I-80 eastbound ramps align with Boulder Creek Place while the I-80 westbound ramps align with Boyington Road. Penryn Road widens at the ramp intersections to provide short left turn bays in the north- and southbound directions. Immediately north of the project site, Penryn Road widens into a three-lane section with a center two-way left-turn lane. Penryn Road currently accommodates approximately 5,850 vpd through the I-80 interchange, and approximately 4,680 vpd between I-80 and Taylor Road to the north.

Taylor Road is an east-west arterial roadway that generally parallels I-80, linking the communities of Rocklin, Loomis, and Newcastle. North of the project site and Penryn Road, Taylor Road serves approximately 6,680 vpd with one travel lane in each direction. Taylor Road provides access to Del Oro High School, located in the Town of Loomis approximately one mile from the project site.

Level of Service

Analysis of significant environmental impacts for transportation facilities is based on the concept of Level of Service (LOS). The LOS of a facility is a qualitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and a facility that is operating at or near its functional capacity. Descriptions of traffic operations for each LOS are provided in *Table 7.1*. Intersection LOS for this analysis was determined using methods defined in the Highway Capacity Manual, 2000 (HCM) and appropriate traffic analysis software.

Table 7.1
Level Of Service Definitions

LOS	Signalized Intersection	Unsignalized Intersection	Roadway Segment
A	Uncongested operations, all queues clear in a single-signal cycle. Volume/capacity ratio (V/C) greater than 0.60	Little or no delay. Delay less than 10 seconds/vehicle (sec/veh)	Completely free flow.
B	Uncongested operations, all queues clear in a single cycle. V/C ranges between 0.60 and 0.70	Short traffic delays. Delays range between 10 sec/veh and 15 sec/veh	Free flow, presence of other vehicles noticeable.
C	Light congestion, occasional backups on critical approaches. V/C ranges between 0.70 and 0.80	Average traffic delays. Delays range between 15 sec/veh and 25 sec/veh	Ability to maneuver and select operating speed affected.
D	Significant congestions of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. V/C ranges between 0.80 and 0.90	Long traffic delays. Delays range between 25 sec/veh and 35 sec/veh	Unstable flow, speeds and ability to maneuver restricted.
E	Severe congestion with some long-standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). V/C ranges between 0.90 and 1.00	Very long traffic delays, failure, extreme congestion. Delays range between 35 sec/veh and 50 sec/veh	At or near capacity, flow quite unstable.
F	Total breakdown, stop-and-go operation. V/C greater than 1.00	Intersection often blocked by external causes. Delays are greater than 50 sec/veh	Forced flow, breakdown.

Intersections

The HCM includes procedures for analyzing two-way stop controlled (TWSC, which is where only two approaches to an intersection have a stop sign), all-way stop controlled (AWSC, which is where all four approaches to an intersection have a stop sign), and signalized intersections. The TWSC procedure defines LOS as a function of average control delay for the minor street approaches to and movements through the intersection. Conversely, the AWSC and signalized intersection procedures define LOS as a function of average control delay for the intersection as a whole.

Roadway Segments

Roadway segment LOS definitions are based on the *Placer County General Plan* Final Environmental Impact Report. *Table 7.2* identifies the maximum roadway segment volume for

each LOS for two-lane rural highways in various terrains. Roadways in the project area are constructed through level terrain.

Table 7.2

Traffic Volumes For Roadway Segment Level Of Service

Roadway Capacity Class	Maximum Daily Traffic Volume Per Lane Level of Service				
	A	B	C	D	E
Arterial – Moderate Access Control	5,400	6,300	7,200	8,100	9,000
Rural 2-lane Highway – Level terrain	1,500	2,950	4,800	7,750	12,500
Rural 2-lane highway – Rolling terrain	800	2,100	3,800	5,700	10,500

Source: Placer County General Plan Final EIR, (Placer County 1994)

Existing Conditions

The existing conditions in the study area are documented in the *Traffic Impacts Analysis* prepared by Kimley-Horn & Associates (KHA) (2011), which is provided in Appendix E of this Draft EIR. KHA obtained weekday AM and PM peak-hour turning movement traffic counts and weekday roadway segment counts. The count data was collected during the weeks of May 24th and May 31st, 2010. The turning movement counts were conducted between 7:00 and 9:00 a.m. and between 4:00 and 6:00 p.m. Existing peak-hour turning movement volumes and daily roadway segment volumes are presented *Figure 7-1*. Data sheets and analysis worksheets are provided with the *Traffic Impacts Analysis* report in Appendix E.

Intersections

Table 7.3 presents the existing peak-hour operating conditions for the study intersections as reported by KHA. The Average Delay identifies the average number of seconds a single vehicle must wait at the intersection. As noted above, for intersections with a two-way stop control, the LOS is based on the worst minor approach to the intersection. As shown in *Table 7.3,* most of the intersections included in the impact analysis currently operate at acceptable LOS (LOS C or better or LOS D or better within one-half mile of I-80). The intersection of Penryn Road at Taylor Road operates with an unacceptable LOS (LOS D) in the AM peak hour. At the intersections controlled by stop signs, existing traffic volumes do not warrant installation of a traffic signal.

Table 7.3

Existing Intersection Levels of Service

Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
		LOS	Average Delay	LOS	Average Delay
Taylor Road @ English Colony Way/Rock Springs Road	AWSC	B	12.4	A	9.7
Penryn Road @ Taylor Road*	TWSC	**D**	**26.9 (NB)**	C	15.1 (SB)
Penryn Road @ 1-80 Westbound Ramps/Boyington Road	Signal	C	21.4	C	20.8

Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
		LOS	Average Delay	LOS	Average Delay
Penryn Road @ I-80 Eastbound Ramps/Boulder Creek Place	TWSC	B	14.8 (EB)	C	22.6 (EB)
Taylor Road @ King Road	Signal	C	28.0	C	22.4
Taylor Road @ Horseshoe Bar Road	Signal	C	25.2	C	28.6

* The worst movement is experienced traveling to and from Penryn Road and the private driveway facing Penryn Road, while traffic on Taylor Road flows more freely. The Kimley-Horn Traffic Impact Analysis describes the worst movement through this intersection as westbound (AM Peak Hour) and eastbound (PM Peak Hour), however, this Draft EIR describes this movement as northbound/southbound to more closely reflect the travel direction on Penryn Road.

Roadway Segments

Table 7.4 presents the existing operating conditions for the roadway segments evaluated in the *Traffic Impacts Analysis*. The study roadway segments operate at LOS B or LOS C in the existing condition.

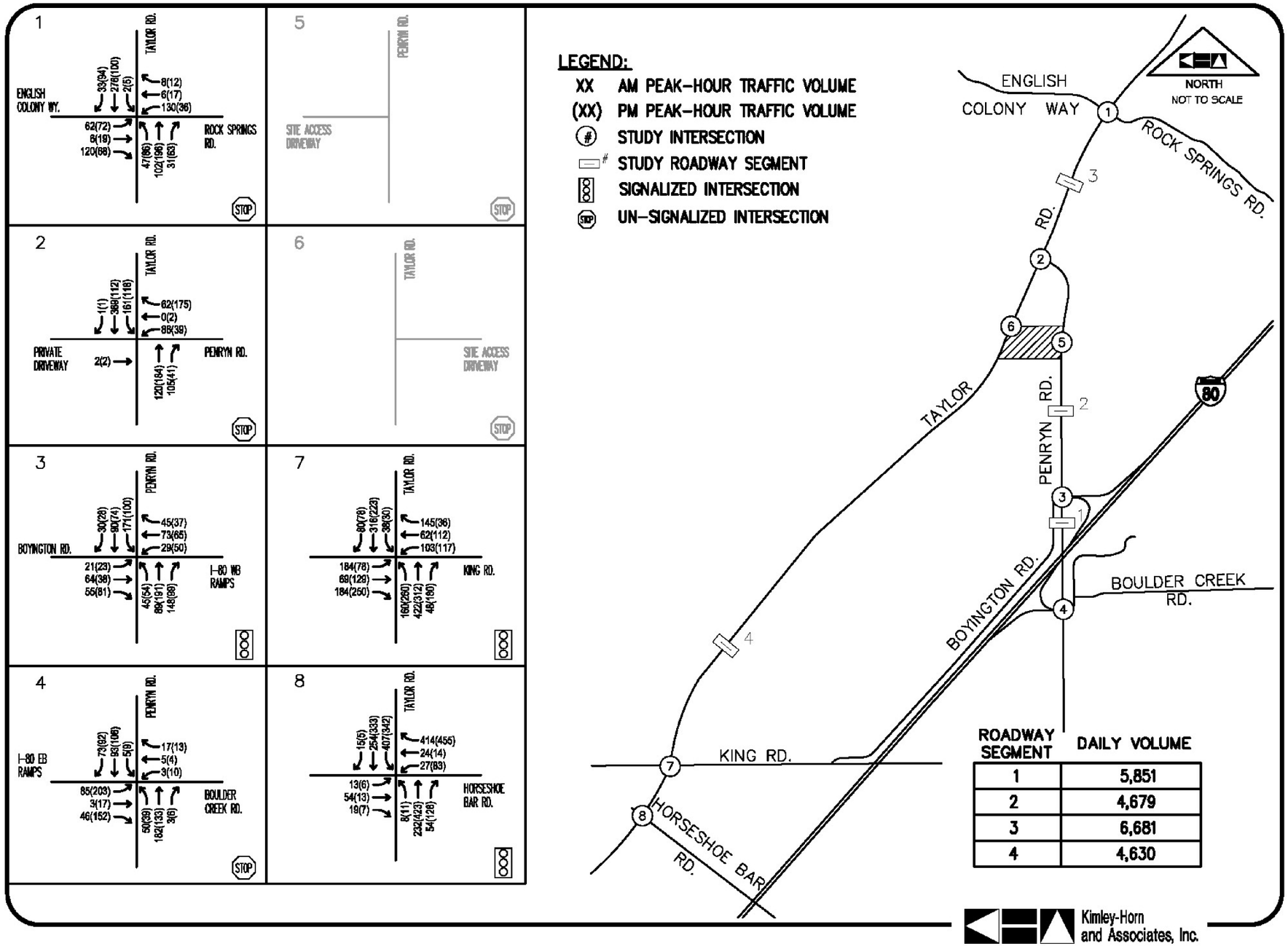
Table 7.4
Existing Roadway Segment Levels of Service

Roadway	Segment	Facility Type	# Lanes	Daily Volume	LOS
Penryn Road	between I-80 EB Ramps/Boulder Creek Rd and I-80 WB Ramps/Boyington Rd	Arterial – Moderate Access Control	2	5,851	B
	between I-80 WB Ramps/Boyington Rd and Taylor Rd		2	4,679	B
Taylor Road	between Penryn Rd and English Colony Way/Rock Springs Rd	Rural 2-lane Highway – Level Terrain	2	6,681	C
	between Penryn Rd and King Rd		2	4,630	B

Planned Improvements

Roadway improvements in the area are programmed under Placer County's Newcastle/Horseshoe Bar/Penryn Benefit District and the *Horseshoe Bar/Penryn Community Plan*. These planned improvements include:

- Signalization of the following intersections:
  - Penryn Road at Taylor Road,
  - Penryn Road at I-80 WB Ramps/Boulder Creek Place, and
  - Taylor Road at English Colony Way/Rock Springs Road; and
- Construct bike lanes and shoulders on Taylor Road from the Loomis Town limits to the Community Plan area boundary.



north fork associates

N

1 inch = 100 feet

Data Source: Kimley-Horn and Associates, Inc.

Figure 7-1

EXISTING TRAFFIC VOLUMES

Orchard at Penryn

Placer County, CA

In addition, if the proposed project is approved, Placer County requires that the project applicant construct frontage improvements on Penryn Road. The project applicant would be responsible for widening Penryn Road to provide one-half of the standard 88-foot road section. This road section includes two southbound travel lanes, a Class II (on-street) bike lane, curb, gutter, and sidewalk. The project applicant would also be required to provide one half of a two-way center left-turn lane.

Existing Bicycle, Pedestrian, and Transit Facilities

There are no sidewalks along Penryn Road or Taylor Road in the project vicinity. The *Horseshoe Bar/Penryn Community Plan* identifies a Class III bikeway (which indicates shared-use of the roadway with motorists) along Penryn Road between Taylor Road and King Road and a Class II bikeway (striped bike lane at the edge of the roadway pavement) along the project site frontage on Penryn Road. The Community Plan also identifies a north-south multiple-use trail in the vicinity of Penryn Road. The Placer County Department of Facility Services Parks Division has indicated that this trail is planned for the east side of Penryn Road.

Placer County Transit provides bus service in the Penryn area but not along Penryn Road. The nearest local service is the Taylor Road Shuttle which has a stop in Penryn and provides connections to other local and regional transit routes in Colfax and Roseville. Transit service Taylor Road operates on a two-hour frequency. There is a Park and Ride lots at the Penryn Road/I-80 interchange south of the project site.

7.2 REGULATORY SETTING

Federal Regulations

There are no federal regulations applicable to evaluation of the impacts of the Orchard at Penryn project on transportation facilities in the project vicinity.

State Regulations

California Department of Transportation

The California Department of Transportation (Caltrans) is responsible for the design, construction, maintenance, and operation of the California State Highway System, as well as the Interstate Highway System within the State boundaries. Facilities in the project vicinity that are under Caltrans' jurisdiction include I-80 and State Route 193. The Caltrans document *Guide for the Preparation of Traffic Impact Studies* (Caltrans 2002) provides overall statewide guidance on procedures and standards to be used in preparing traffic studies.

Local Regulations

Placer County General Plan

The goals listed below summarize the priorities of the *Placer County General Plan* Transportation and Circulation Element. Policies that support these goals establish minimum right-of-way criteria, LOS standards, parking requirements, and mechanisms for payment of "fair share" contributions to fund construction of needed improvements. Appendix B of this Draft EIR provides an evaluation of the project's consistency with applicable General Plan policies. LOS standards established by General Plan Policy 3.A.7 require a minimum of LOS C at most intersections, while LOS D is permitted within one-half mile of a state highway.

Goal 3.A To provide for the long-range planning and development of the county's roadway system to ensure the safe and efficient movement of people and goods.

Goal 3.B To promote a safe and efficient mass transit system, including both rail and bus, to reduce congestion, improve the environment, and provide viable non-automotive means of transportation in and through Placer County.

Goal 3.C To maximize the efficient use of transportation facilities so as to: 1) reduce travel demand on the County's roadway system; 2) reduce the amount of investment required in new or expanded facilities; 3) reduce the quantity of emissions of pollutants from automobiles; and 4) increase the energy-efficiency of the transportation system.

Goal 3.D To provide a safe, comprehensive, and integrated system of facilities for non-motorized transportation.

Goal 5.C To develop a system of interconnected hiking, riding, and bicycling trails and paths suitable for active recreation and transportation and circulation.

Horseshoe Bar/Penryn Community Plan

The *Horseshoe Bar/Penryn Community Plan* provides 19 General Community Goals which are applicable to the entire Plan area. The General Community Goals relevant to the analysis of impacts related to transportation and circulation include:

- Provide for a transportation system that supports the social and economic well-being of the people while maintaining the area's natural rural environment to the greatest extent possible.
- Encourage and enable the use of public and private transit as well as other alternative modes of transportation. Expand public transportation opportunities to meet the needs of the plan area's residents, reduce traffic congestion, and improve air quality.
- Develop a comprehensive trail system for equestrians, pedestrians, and bicyclists that is safe, functional, and efficient, and which minimizes any adverse impact on private property.

The Community Plan establishes several goals for transportation and circulation in the community plan area, as listed below. Appendix B of this EIR provides an evaluation of the project's consistency with applicable Community Plan policies. LOS standards established by Community Plan Policy VI.C.6 require a minimum of LOS C at most intersections, while LOS D is permitted within one-half mile of a state highway.

Goal B.1 A system of naturally scenic roads, paths, and trails shall be established and maintained. Existing residential routes in the Community Plan area shall be preserved and enhanced as safe, scenic routes.

Goal B.2 Transportation facilities shall be sufficient to allow safe, pleasant, and reasonably convenient travel among all areas within the Horseshoe Bar/Penryn Community Plan.

Goal B.3 Safe access shall be provided for all properties within the Community Plan area.

Goal B.6 The Capital Improvement Program (CIP), sufficient to ensure Level of Service (LOS) C, shall be implemented as development occurs in the Community Plan Area.

Goal B.7 Sufficient funding shall be made available to fund projects in the CIP.

Goal B.8 A Community trails system shall be constructed and maintained to:

- Foster safe, pleasant, and convenient travel by foot, horseback, or bicycle within the community;
- Provide recreational opportunities to residents of the community; and
- Connect local trails to regional trail systems.

Land Development Manual

Roadway improvements within Placer County must conform to a set of standard plans contained in the County's Land Development Manual, which details County standards for pavement width, lighting, drainage, sewer, and other roadside facilities. Design standards are based on a specific design speed for each roadway. The Land Development Manual also establishes minimum sight-distance standards for County road intersections. These standards generally conform to Caltrans requirements for corner sight distance and are summarized in Plate R-17 of the Placer County Design Standards section of the Land Development Manual. The Placer County minimum design speed for Penryn Road between Taylor Road and I-80 is 35 mph, which corresponds to a required sight distance of 385 feet. The minimum design speed for Taylor Road between Penryn Road and King Road is 55 mph, which requires a sight distance of 605 feet.

Placer County Regional Bikeway Plan

The Placer County Regional Bikeway Plan (PCTPA 2002) contains a system of existing and planned bikeway facilities to provide for transportation and recreational bicycle travel. Twelve individual goals were identified in this plan, each with separate policies. The overall goal for the Placer County Regional Bikeway Plan is:

- To promote safe, convenient, and enjoyable cycling by establishing a comprehensive system of regional bikeways that links the communities of Placer County.

Placer County Capital Improvement Program

Placer County's Capital Improvement Program (CIP) prescribes the phasing of roadway improvements needed to meet the County's LOS standards over a 20-year period. The County has established eleven benefit districts, each of which has a separate CIP and associated traffic impact fee. The CIP for each district identifies roadway improvements and facilities needed as a result of future development and provides details on funding sources for each project, including amounts to be collected through the Traffic Impact Fee Program. Traffic impact fees are based on Dwelling Unit Equivalents (DUE) and are calculated pursuant to the requirements expressed in Sections 15.28.030 and 15.28.040 of the *Placer County Code*. Fees are charged on all new development within a district, regardless of type or location, and the amount of each fee is indexed to construction costs and adjusted annually. The CIP and fees are periodically updated

as conditions change to account for approvals of major land use projects and reflect completed roadway improvements or updates to local community plans. The project site is located in the Newcastle/Horseshoe Bar/Penryn benefit district. As of 2011, the current fee per DUE is $**6,069**.

7.3 IMPACTS

Significance Criteria

The analysis in the Initial Study found that the project would have no impact related to the following criterion:

- Insufficient parking.

The analysis below evaluates the potential for the project to result in significant transportation and circulation impacts based on consideration of the following criteria:

- Substantial increase in traffic;
- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system;
- Conflict with an applicable congestion management program, including level of service standards and travel demand measures;
- Impacts to vehicle safety;
- Inadequate emergency access;
- Hazards or barriers for pedestrians or bicyclists;
- Conflict with policies supporting alternative transportation; and
- Result in a change in air traffic patterns.

Impacts

IMPACT 7.1: Substantially Increase Traffic or Conflict with Level of Service Standards in the Existing Plus Project Condition

SIGNIFICANCE BEFORE MITIGATION: ***SIGNIFICANT***

Mitigation Measures

Proposed: None

Significance with Proposed Mitigation: Significant

Recommended: Mitigation Measure 7.1a

SIGNIFICANCE AFTER MITIGATION: ***LESS THAN SIGNIFICANT***

The project's effect on traffic patterns in the study area was determined by comparing conditions with the proposed project to those without the project. Based on the standards established by the *Placer County General Plan* and the *Horseshoe Bar/Penryn Community Plan,* the increase in traffic caused by the proposed project would be considered substantial if the LOS for an intersection or roadway segment falls below LOS C, or if the LOS for an intersection within one-half mile of a state highway falls below LOS D. The *Traffic Impacts Analysis* evaluates impacts at two intersections and one roadway segment located in the Town of Loomis. For

those facilities, the Town of Loomis' standards are applied. The *Town of Loomis General Plan* also establishes LOS C as the minimum acceptable LOS, except at the intersections of Taylor Road at King Road, Taylor Road at Horseshoe Bar Road and three other intersections. At these locations, if traffic is considered pass-through or is associated with a temporary (less than three year) condition, the *Town of Loomis General Plan* allows LOS D.

Proposed Project Trip Generation

The number of trips anticipated to be generated by the proposed project was derived using data included in Trip Generation, 7th Edition, published by the Institute of Transportation Engineers (ITE). The anticipated trip generation for this project is shown in *Table 7.5*.

Table 7.5
Trip Generation Rates

Land Use	Size (units)	Trip Generation										
		Total Daily Trips	A.M. Peak Hour					P.M. Peak Hour				
			Inbound		Outbound		Total	Inbound		Outbound		Total
			%	Trips	%	Trips		%	Trips	%	Trips	
Low Rise Apartments	150	989	21%	14	79%	55	69	65%	57	35%	30	87

Source: Traffic Impact Analysis for The Orchard at Penryn (Kimley-Horn and Associates, Inc., 2011)

Trip Distribution

The distribution of project traffic was based on the proposed land use, the project location, existing traffic volumes, and professional judgment. It is expected that traffic patterns associated with the proposed project would generally include:

- 50 percent of project traffic traveling westbound on I-80,
- 35 percent of project traffic traveling eastbound on I-80,
- 10 percent of project traffic traveling westbound on Taylor Road,
- 3 percent of project traffic traveling eastbound on Taylor Road, and
- 2 percent of project traffic traveling southbound on Penryn Road.

Existing Plus Project Condition

Using the data prepared to characterize the trip generation and distribution associated with the project, the traffic generated by the proposed project is added to existing traffic volumes. This is defined as the "existing plus project" condition. For each intersection included in the *Traffic Impacts Analysis, Table 7.6* compares the existing LOS to the LOS expected when traffic generated by the proposed project is added to the existing conditions. *Table 7.7* provides a similar comparison for roadway segments. As reflected in *Table 7.6* and described below, there is a significant impact at one intersection under the existing plus project conditions. *Table 7.7* demonstrates that impacts to roadway segments in the existing plus project condition are less than significant.

In the existing condition, the intersection of Penryn Road at Taylor Road operates at LOS D during the AM peak-hour. The project would contribute traffic to this intersection, which would exacerbate the existing deficiency increase average delay at this intersection. This is considered a significant impact of the project.

Table 7.6

Existing and Existing Plus Project Intersection Levels of Service

Intersection	Analysis Scenario*	Traffic Control	AM Peak-Hour		PM Peak-Hour	
			Delay (seconds)	LOS	Delay (seconds)	LOS
Taylor Road @ English Colony Way/Rock Springs Road	Existing	AWSC	12.4	B	9.7	A
	Ex + PP		12.4	B	9.8	A
Penryn Road @ Taylor Road	Existing	TWSC**	**26.9 (NB)**	D	15.1 (SB)	C
	Ex + PP		**27.2 (NB)**	D	15.3 (SB)	C
Penryn Road @ I-80 Westbound Ramps/Boyington Road	Existing	Signal	21.4	C	20.8	C
	Ex + PP		21.8	C	22.1	C
Penryn Road @ 1-80 Eastbound Ramps/Boulder Creek Place	Existing	TWSC**	14.8 (EB)	B	22.6 (EB)	C
	Ex + PP		15.5 (EB)	C	26.9 (EB)	D
Penryn Road @ Project Site Access Driveway	Existing	n/a				
	Ex + PP	TWSC**	10.2 (EB)	B	9.3 (EB)	A
Taylor Road @ Project Site Access Driveway (Exit Only)	Existing	n/a				
	Ex + PP	TWSC**	13.8 (NB)	B	10.7 (NB)	B
Taylor Road @ King Road	Existing	Signal	28.0	C	22.4	C
	Ex + PP		28.0	C	22.5	C
Taylor Road @ Horseshoe Bar Road	Existing	Signal	25.2	C	28.6	C
	Ex + PP		25.1	C	28.9	C

Bold = Below LOS Standard

* Existing = 2010, Ex + PP = Existing (2010) Plus Proposed Project

** Control delay for worst minor approach (worst minor movement) for TWSC

Source: Traffic Impact Analysis for The Orchard at Penryn (Kimley-Horn and Associates, Inc., 2011)

Table 7.7

Existing and Existing Plus Project Roadway Segment Levels of Service

Roadway Segment	Number of Lanes	Analysis Scenario*	Daily Volume	LOS
Penryn Rd between I-80 EB Ramps/Boulder Creek Rd and I-80 WB Ramps/Boyington Rd	2	Existing	5,851	B
		Ex + PP	6,292	C
Penryn Rd between I-80 WB Ramps/Boyington Rd and Taylor Rd	2	Existing	4,679	B
		Ex + PP	5,541	B

Roadway Segment	Number of Lanes	Analysis Scenario*	Daily Volume	LOS
Taylor Rd between Penryn Rd and English Colony Way/Rock Springs Rd	2	Existing	6,681	C
		Ex + PP	6,717	C
Taylor Rd between Penryn Rd and King Rd	2	Existing	4,630	B
		Ex + PP	4,728	B

* Existing = 2010, Ex + PP = Existing (2010) plus Proposed Project
Source: Traffic Impact Analysis for The Orchard at Penryn (Kimley-Horn and Associates, Inc., 2011)

Mitigation Measure 7.1a requires that the project applicant contribute a fair-share payment toward construction of planned roadway improvements in the area, as required under the County's CIP and Traffic Impact Fee program. The project is located within the Newcastle/Horseshoe Bar/Penryn benefit district. The CIP improvements for this area include signalizing the intersection of Penryn Road at Taylor Road. As discussed below, the existing and existing plus project traffic volumes are not sufficiently high to warrant signalization of the intersection. The County would install all way stop control at this intersection when warranted. As shown in *Table 7.8*, this improvement would provide acceptable traffic operations and LOS at this intersection under the existing plus project conditions. With implementation of *Mitigation Measure 7.1a*, the project would have a less than significant impact on traffic volumes and LOS in the existing plus project condition.

Table 7.8
Mitigated Intersection Levels of Service

Intersection	Analysis Scenario	Traffic Control	AM Peak-Hour		PM Peak-Hour	
			Delay (seconds)	LOS	Delay (seconds)	LOS
Penryn Road @ Taylor Road	Existing	TWSC*	**26.9 (NB)**	**D**	15.1 (SB)	C
	Exist+PP		**27.2 (NB)**	**D**	15.3 (SB)	C
	Exist+PP (Mit)	AWSC	11.8	B	9.7	A

Bold = Substandard per County
Note: Existing = 2010, Exist+PP = Existing (2010) plus Proposed Project, Mit. = Mitigated
* Control delay for worst minor approach (worst minor movement) for TWSC
Source: Traffic Impact Analysis for The Orchard at Penryn (Kimley-Horn and Associates, Inc., 2011)

Peak-Hour Traffic Signal Warrant Evaluation

As described in the *Traffic Impacts Analysis* provided in Appendix D, a planning level assessment of the need for traffic signalization was performed for the unsignalized study intersections. Using the methodologies noted in Section 4C of the California Manual on Uniform Traffic Control Devices, KHA determined that traffic operations in the existing plus project condition would not satisfy MUTCD traffic signal warrants for peak hours at any of the study intersections.

Del Oro High School Traffic

Del Oro High School is located on Taylor Road between Penryn Road and King Road. The LOS analysis for this segment provides data necessary to qualitatively assess the potential effects the proposed project would have on traffic operations in the vicinity of Del Oro High School. As

shown in *Table 7.7*, this segment of Taylor Road operates acceptably under existing and existing plus project conditions.

The proposed project is anticipated to generate new trips associated with Del Oro High School as well as new trips using Taylor Road. These trips would be expected to exit the project site's Taylor Road driveway to reach the school site to the south. The reverse component of these trips would travel north on Taylor Road to Penryn Road and enter the site at the main site access driveway along Penryn Road. This traffic pattern is captured in the overall trip distribution assumptions applied in the *Traffic Impacts Analysis*.

The maximum number of peak-hour trips attributed to the proposed project along Taylor Road at Del Oro High School is nine. Although the school likely experiences peak-hour congestion primarily due to the peaking nature of high school traffic, the addition of the proposed project is not anticipated to noticeably affect traffic operations at the school site.

IMPACT 7.2: Conflict with Transportation and Circulation Plans and Policies in the Existing Plus Project Condition

SIGNIFICANCE BEFORE MITIGATION: ***SIGNIFICANT***

Mitigation Measures

Proposed: None

Significance with Proposed Mitigation: Significant

Recommended: Mitigation Measure 7.2a

SIGNIFICANCE AFTER MITIGATION: ***LESS THAN SIGNIFICANT***

An analysis of the project's consistency with General Plan and Community Plan policies is provided in Appendix B to this Draft EIR. As discussed in Impact 7.1, the traffic generated by the project would increase delay at one intersection in the project area. This intersection would operate at LOS D in the existing and existing plus project conditions, which would conflict with the LOS standards established in the General Plan and Community Plan. *Mitigation Measure 7.2a* requires the project applicant to make a fair share contribution to improvements that would provide acceptable LOS at this intersection, as shown in *Table 7.8*.

IMPACT 7.3: Adversely Affect Roadway Safety and Emergency Access

SIGNIFICANCE BEFORE MITIGATION: ***LESS THAN SIGNIFICANT***

Mitigation Measures: No mitigation measures are proposed or recommended.

SIGNIFICANCE AFTER MITIGATION: ***LESS THAN SIGNIFICANT***

Access to the Project Site

Vehicular access to the proposed project would be from Penryn Road. There would be a second, exit-only, access on to Taylor Road. The project would generate 71 trips in the AM peak hour and 84 trips in the PM peak hour, and a daily total of 916 trips. Most of these trips would use Penryn Road. Approximately 50 northbound left-turn trips are anticipated to enter the project site during the PM peak-hour. The *Placer County Code* requires the project applicant to dedicate right-of-way and improve Penryn Road to one-half of an 88-foot road section, and to demonstrate that adequate sight distance is maintained at each encroachment onto a public

roadway. This will ensure that Penryn Road can safely accommodate the traffic volumes and turning movements associated with the proposed project. The required frontage improvements on Penryn Road include a sidewalk and Class II (striped on-street) bike lane. This will ensure the project does not adversely affect safety for pedestrians and bicyclists.

Due to the relatively low number of southbound right-turn movements into the main Penryn Road project site access driveway, this movement is anticipated to be adequately accommodated from the southbound through-lane and existing/proposed shoulder. The anticipated movements at the exit-only access to Taylor Road are anticipated to be accommodated by the existing Taylor Road cross-section.

According to Plate R-17, Roadway Connections published by the County of Placer Department of Public Works, 385 feet of corner sight distance is required at the Penryn Road driveway and 605 feet of corner sight distance is required at the Taylor Road driveway. Sight distance exhibits confirm that ample corner sight distance is available. Roadside vegetation should be maintained to preserve the required corner sight distance.

Traffic Accidents

To evaluate the potential for project-related traffic to affect safety at the Penryn Road intersections with the I-80 Ramps, KHA reviewed traffic accident data for a six-year period from 2004 – 2009 from The California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS). A total of 13 accidents were recorded during the study period, the majority of which were reported as broadside, daytime incidents.

The Westbound Ramp intersection was signalized during the reporting period so a portion of the accidents for this location have likely been remedied with the addition of traffic signal control. The two-way stop control at the Eastbound Ramp intersection likely contributes to the predominant, broadside accident type due to the absence of stop control along Penryn Road. The addition of the proposed project is not anticipated to have a noticeable effect on the frequency or severity of accidents at the study facilities.

Emergency Response

The Penryn Fire Protection District identified minimum physical requirements to ensure adequate emergency access to the proposed project. The proposed site plan shown in *Figure 3-3* in **CHAPTER 3 PROJECT DESCRIPTION** meets these requirements, which include a minimum driveway width of 20 feet on each side of the median and a minimum 25-foot width for all interior roadways. The proposed exit-only access to Taylor Road meets the requirement for an emergency access with a minimum 20-foot width. The project would not create any physical impairment to implementation of emergency response plans in the project area and would not create congestion that would interfere with emergency response. The project impacts related to emergency access are less than significant.

IMPACT 7.4: Adversely Affect Alternative Transit

SIGNIFICANCE BEFORE MITIGATION: ***LESS THAN SIGNIFICANT***

Mitigation Measures: No mitigation measures are proposed or recommended.

SIGNIFICANCE AFTER MITIGATION: ***LESS THAN SIGNIFICANT***

Based on its size and location, the project is expected to generate minimal demands for public transit, bicycle, and pedestrian facilities. The proposed project is not anticipated to have a noticeable effect on transit service. The *Horseshoe Bar/Penryn Community Plan* requires provision of sidewalks and a Class II bike lane on Penryn Road. With construction of the required improvements, the project would have a less than significant impact related to alternative forms of transportation.

IMPACT 7.5: Adversely Affect Air Traffic Patterns

SIGNIFICANCE BEFORE MITIGATION: ***NO IMPACT***

Mitigation Measures: No mitigation measures are proposed or recommended.

SIGNIFICANCE AFTER MITIGATION: ***NO IMPACT***

The project site is not located within two miles of any public or private airport or airstrip. The proposed project is anticipated to have no impact related to air traffic patterns.

7.4 MITIGATION MEASURES

Substantially Increase Traffic or Conflict with Level of Service Standards in the Existing Plus Project Condition

Proposed Mitigation

No mitigation measures are proposed.

Recommended Mitigation

Mitigation Measure 7.1a: This project will be subject to the payment of traffic impact fees that are in effect in this area (Newcastle/Horseshoe Bar/Penryn), pursuant to applicable Ordinances and Resolutions. The applicant is notified that the following traffic mitigation fee(s) will be required and shall be paid to Placer County Department of Public Works prior to issuance of Building Permits for the project:

A) County Wide Traffic Limitation Zone: Article 15.28.010, Placer County Code

B) South Placer Regional Transportation Authority (SPRTA)

C) Placer County/City of Roseville JPA (PC/CR)

The current total combined estimated fee is $702,790.20. The fees were calculated using the information supplied. If either the use or the square footage changes, then the fees will change. The actual fees paid will be those in effect at the time payment occurs.

Conflict with Transportation and Circulation Plans and Policies in the Existing Plus Project Condition

Proposed Mitigation

No mitigation measures are proposed.

Recommended Mitigation

Mitigation Measure 7.2a: The project applicant shall implement *Mitigation Measure 7.1a,* which requires payment of traffic impact fees.

Adversely Affect Roadway Safety and Emergency Access

This impact is determined to be Less than Significant. No mitigation measures are required.

Adversely Affect Alternative Transit

This impact is determined to be Less than Significant. No mitigation measures are required.

Adversely Affect Air Traffic Patterns

The proposed project is anticipated to have no impact related to air traffic patterns. No mitigation measures are required.

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