
V. ENVIRONMENTAL IMPACT ANALYSIS

K. TRANSPORTATION AND CIRCULATION

ENVIRONMENTAL SETTING

The following section is based on the *Draft Traffic Circulation Study for the Malibu La Paz Project* (Traffic Study), prepared by Kaku Associates, December 2004. The Traffic Study is contained in Appendix D to this EIR. In response to comments received on the Draft EIR, supplemental traffic count data were taken and an analysis of potential traffic impacts from additional alternatives to the Proposed Project was prepared by Priority Engineering, Inc. These data and analyses are contained in Appendix J. The scope of analysis for these studies ~~y~~were developed in conjunction with the City of Malibu. The base assumptions, technical methodologies, and geographic coverage of the studies ~~y~~were all identified as part of the study approach.

The Traffic Study analyzes potential project-generated traffic impacts on the street system based on assumed completion of the Proposed Project in 2007. The study includes an analysis of the following traffic scenarios:

Existing Conditions (2004) - The analysis of existing traffic conditions intends to provide a basis for the remainder of the study. The existing conditions analysis includes an assessment of streets and highways, traffic volumes, and operating conditions.

Cumulative Base Conditions (2007) - Future traffic conditions without the Proposed Project are projected for the year 2007. This analysis forecasts future traffic growth and estimates operating conditions that would be expected without the addition of project traffic by the year 2007.

Cumulative Plus Project Conditions (2007) - Traffic expected to be generated by the Proposed Project is added to the Cumulative Base traffic forecasts. These traffic projections are used to identify potential impacts of the operating conditions in the year 2007.

Existing Street System

A comprehensive data collection effort was undertaken to develop a detailed description of existing conditions within the study area. The assessment of conditions relevant to this study includes an inventory of the street system, the traffic volumes on these facilities, operating conditions at key intersections, and the current transit services in the study area.

The City of Malibu identified the following intersections to be analyzed for each of the scenarios described above:

1. Kanan Dume Road & Pacific Coast Highway (PCH)
2. Malibu Canyon Road & PCH

3. Webb Way & PCH
4. Cross Creek Road & PCH
5. Las Flores Canyon Road & PCH
6. Topanga Canyon Boulevard & PCH
7. Malibu Canyon Road & Civic Center Way
8. Webb Way & Civic Center Way
9. Cross Creek Road & Civic Center Way

Figure V.K-1 illustrates the locations of the nine analyzed intersections. As shown, the major roadways intersecting PCH are included in the study area in addition to the intersections adjacent to the Project Site. The City also requested a weekday two-lane roadway analysis of Malibu Canyon Road, between the Hughes Research Lab and Piuma Road (north of the Civic Center area).

PCH provides the primary regional access to the Project Site. The following briefly describes the major streets serving the project study area:

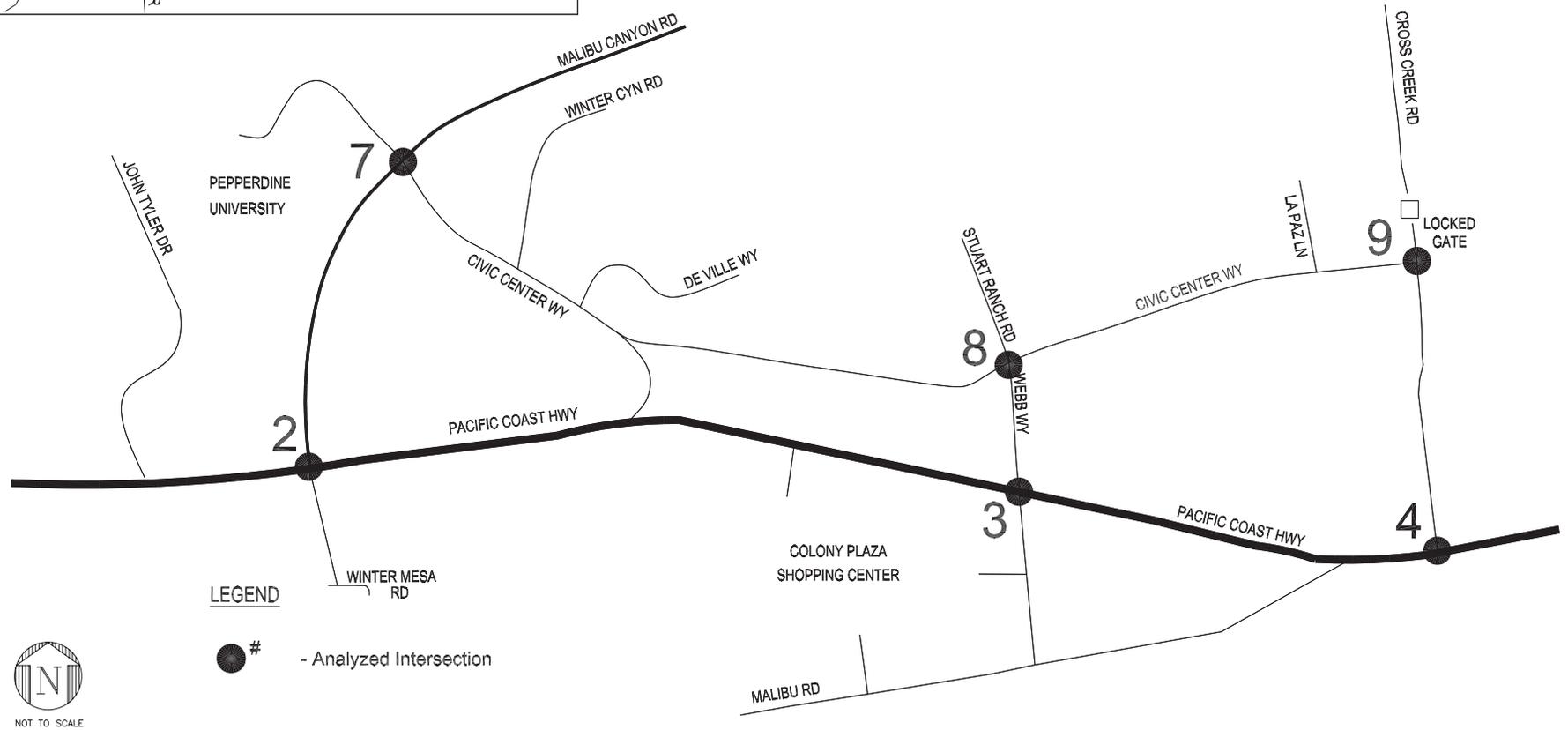
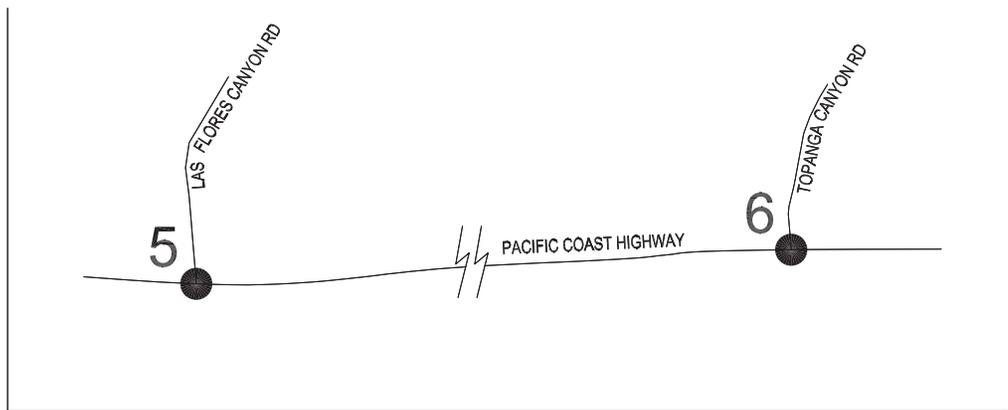
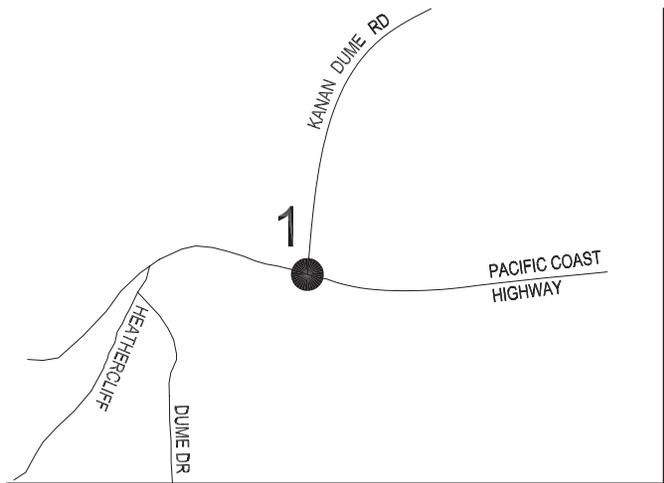
Pacific Coast Highway (PCH) - PCH is a state route (SR-1) that travels in an east-west direction adjacent to the Project Site. PCH provides four travel lanes in the vicinity of the Project Site. PCH, traveling east to Santa Monica, becomes the Santa Monica Freeway (I-10) and provides service to the Los Angeles area. The average daily traffic on PCH ranges from 68,000 vehicles at the junction east of Topanga Canyon to 27,500 vehicles at the junction west of Trancas Canyon Road, with 50,000 vehicles between Cross Creek Road and Webb Way.¹ The posted speed limit is between 45 and 55 miles per hour. PCH is a designated route in Los Angeles County's Congestion Management Plan (CMP).

Kanan Dume Road - Kanan Dume Road is a north-south road that provides two travel lanes within the City of Malibu and four travel lanes north of the City limits, up to the Ventura Freeway. Kanan Dume Road provides regional access from the Santa Monica Mountain area to the Malibu area. The speed limit is generally 50 miles per hour.

Malibu Canyon Road - Malibu Canyon Road is a north-south road that generally provides two travel lanes across the Santa Monica Mountains and becomes Las Virgenes Road near Mulholland Highway. Malibu Canyon Road provides four travel lanes between Civic Center Way and PCH. On the weekdays during the morning peak period from 6 a.m. to 9 a.m., southbound left-turns from Malibu Canyon Road to Civic Center Way are prohibited in order to limit "Z" traffic through the Civic Center area. The posted speed limit is 45 miles per hour.

Webb Way - Webb Way is a north-south road that provides two travel lanes between Civic Center Way and Malibu Road. Webb Way provides access to the Malibu Civic Center and the Malibu Colony area.

¹ Caltrans, 2003.



LEGEND
 ● # - Analyzed Intersection



NOT TO SCALE

Source: KAKU Associates, December 2004.

Civic Center Way - Civic Center Way is an east-west road that provides two travel lanes between the Pepperdine Campus and the Civic Center area. The posted speed limit is 40 miles per hour, except near the two schools at Winter Canyon Road where the speed limit is 25 miles per hour when children are present.

Cross Creek Road - Cross Creek Road is a north-south road that provides two travel lanes from Civic Center Way to PCH. Cross Creek Road serves the Malibu Civic Center area.

Las Flores Canyon Road - Las Flores Canyon Road is a north-south road that provides two travel lanes from the Santa Monica Mountain area to PCH. The posted speed limit is 25 miles per hour.

Topanga Canyon Boulevard - Topanga Canyon Boulevard is a state route (SR-27) that travels in a north-south direction. Topanga Canyon Boulevard provides two travel lanes from the San Fernando Valley to PCH. The posted speed limit is 35 mph. Topanga Canyon Boulevard is a designated route in Los Angeles County's Congestion Management Plan (CMP).

Existing Traffic Volumes and Levels of Service

Existing Traffic Volumes

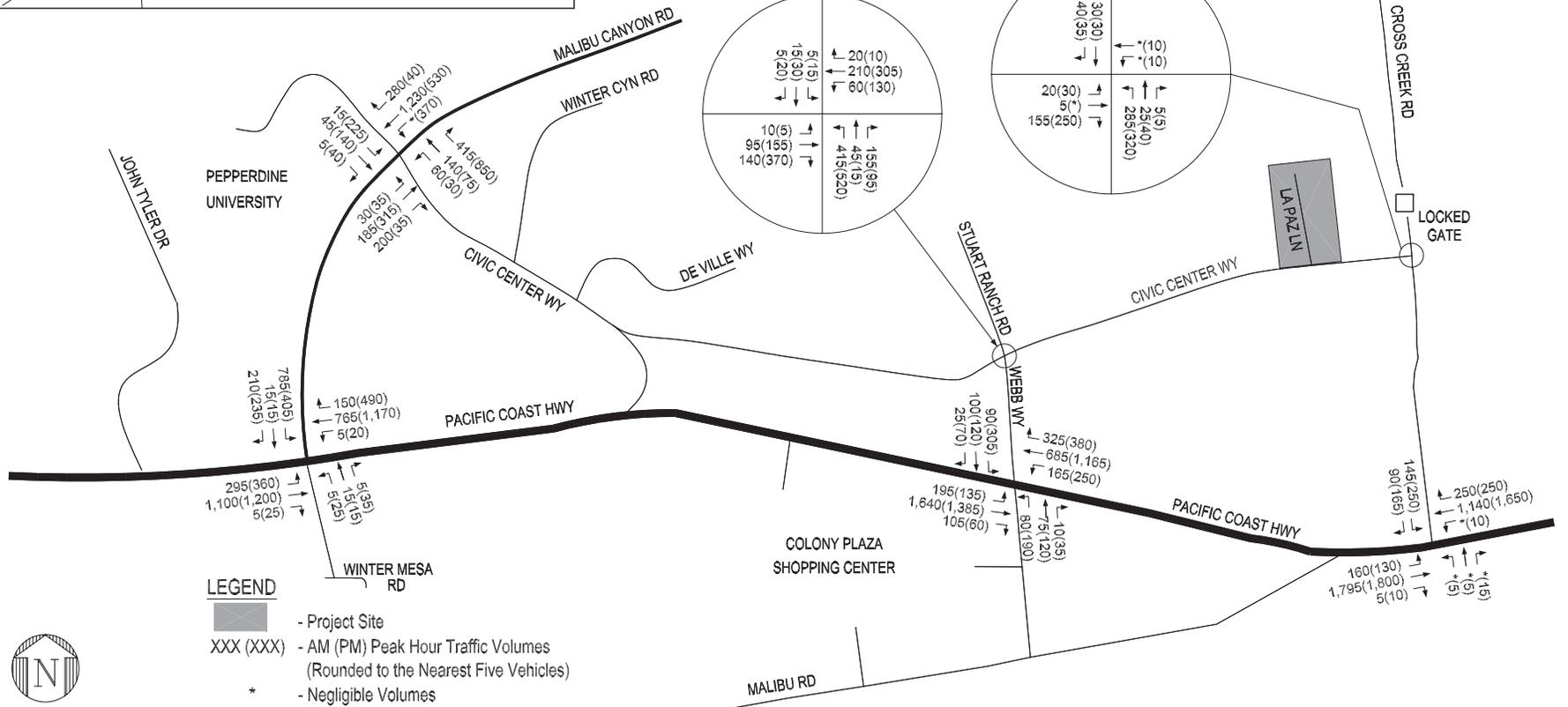
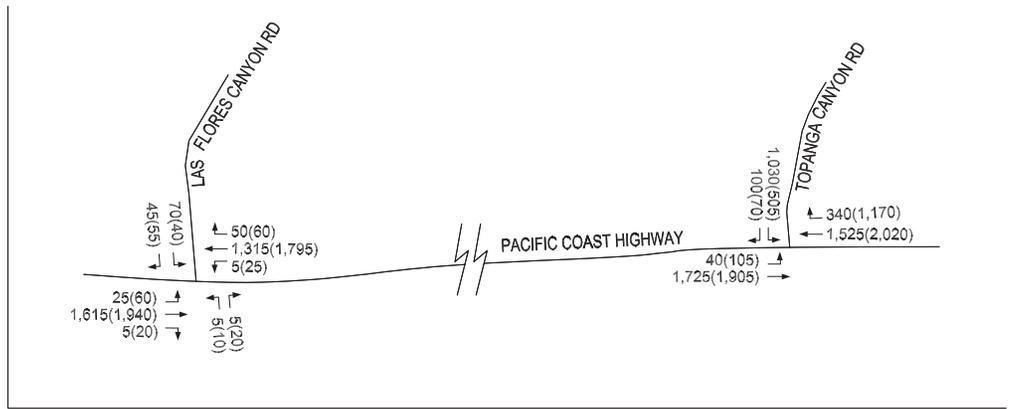
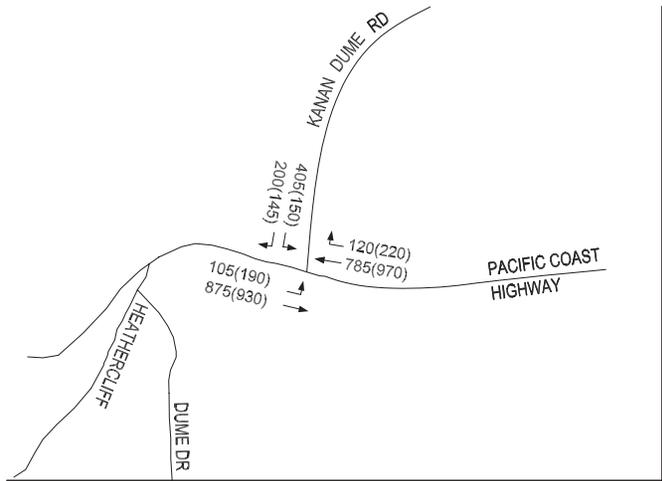
Peak period traffic counts were collected for the Proposed Project in April and May 2003 for the following periods: the weekday morning peak period (7:00 a.m. to 9:00 a.m.), the weekday afternoon peak period (4:00 p.m. to 6:00 p.m.), and the summer Saturday mid-day peak period (12 p.m. to 2:00 p.m.). The traffic volumes were adjusted to reflect 2004 levels by adding 1.5 percent to account for regional growth between the time of the counts and the present. Figure V.K-2 illustrates weekday morning and afternoon peak hour traffic volumes, and Figure V.K-3 illustrates the Saturday mid-day peak hour traffic volumes.

Weekday average daily traffic (ADT) data was collected on Malibu Canyon Road in May 2003. Approximately 21,200 vehicles travel along the Malibu Canyon Road segment between the Hughes Research Lab and Piuma Road.

Level of Service Methodology

Level of Service (LOS) is a qualitative measure used to describe the condition of traffic flow, ranging from excellent conditions at LOS A to overload conditions at LOS F. LOS definitions are provided in Tables V.K-1 and V.K-2 on page V.K-7.

Seven of the nine analyzed intersections are controlled by traffic signals. The "Intersection Capacity Utilization" (ICU) method of intersection analysis was used to determine the intersection volume to capacity (V/C) ratio and the corresponding level of service for the signalized intersections.



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- Project Site
- XXX (XXX) - AM (PM) Peak Hour Traffic Volumes (Rounded to the Nearest Five Vehicles)
- * - Negligible Volumes

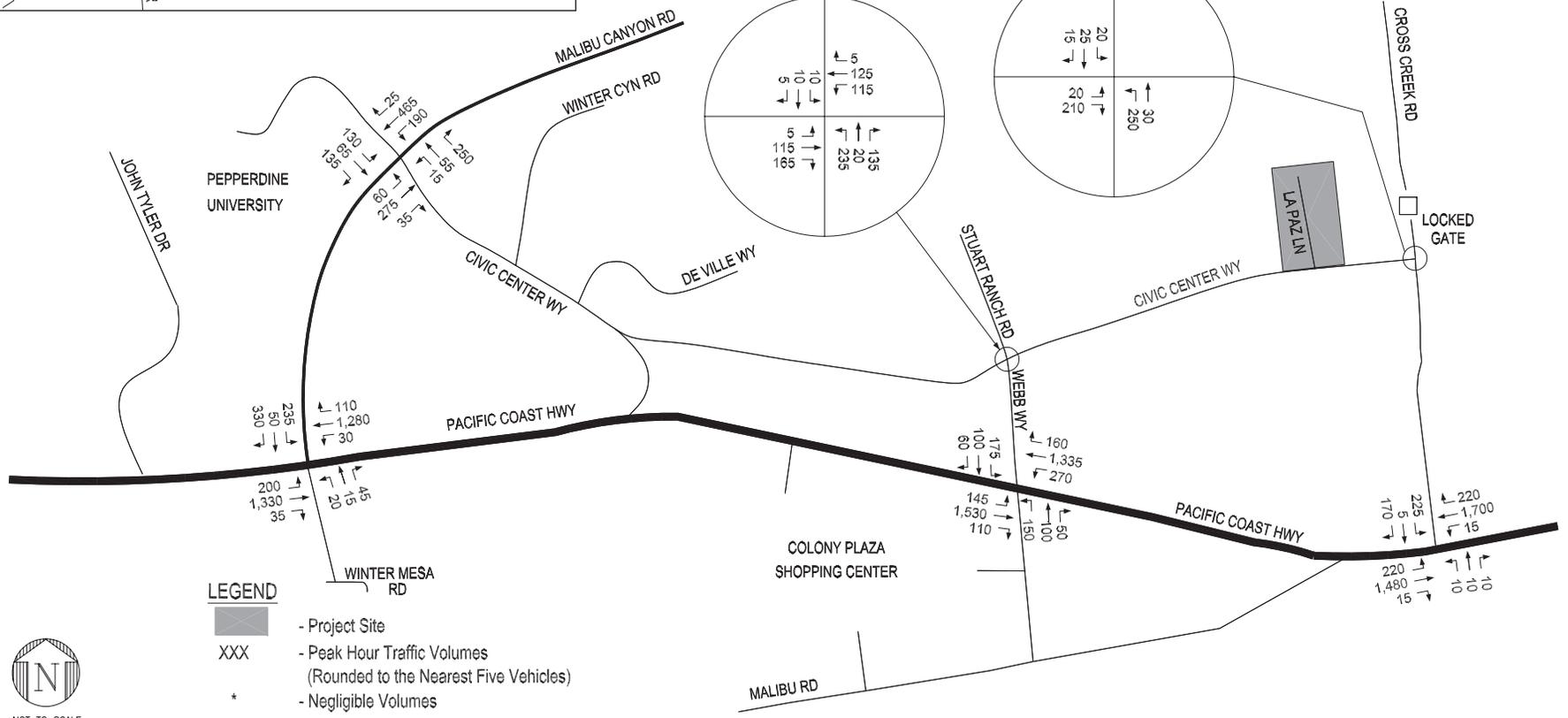
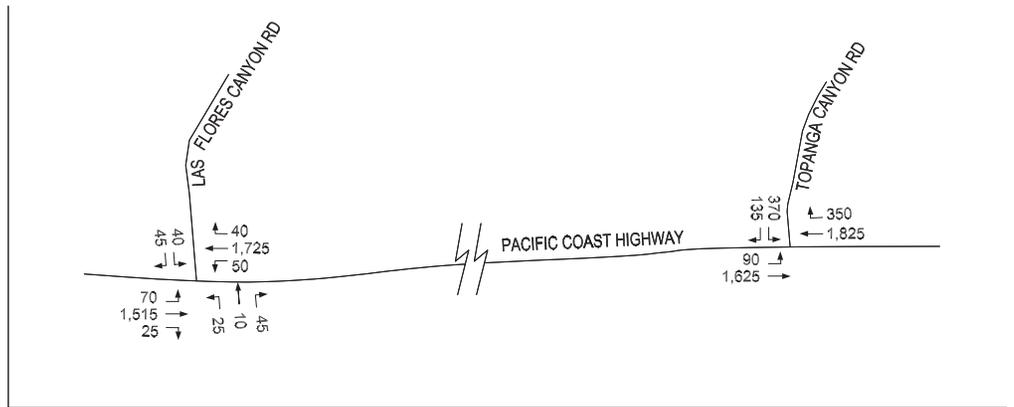
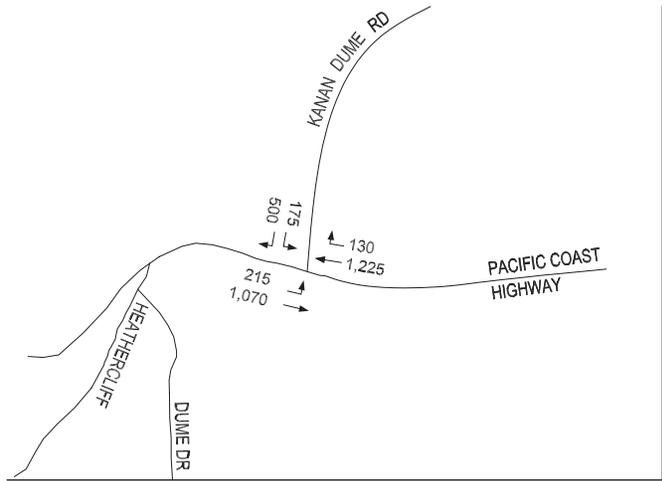


Source: KAKU Associates, December 2004.



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Figure V.K-2
Existing Weekday Peak Hour Traffic Volumes



LEGEND

- Project Site
- XXX - Peak Hour Traffic Volumes (Rounded to the Nearest Five Vehicles)
- *



Source: KAKU Associates, December 2004.

**Table V.K-1
Level of Service Definitions for Signalized Intersections**

Level of Service	Volume/Capacity Ratio	Definition
A	0.000 – 0.600	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	>0.600 – 0.700	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel some-what <u>somewhat</u> restricted within groups of vehicles.
C	>0.700 – 0.800	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	>0.800 – 0.900	FAIR. Delays may be substantial during por-tions <u>portions</u> of the rush hours, but enough lower volume peri-ods <u>periods</u> occur to permit clearing of developing lines, preventing excessive backups.
E	>0.900 – 1.000	POOR. Represents the most vehicles inter-sec-tion <u>intersection</u> approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	>1.000	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.

Source: Kaku Associates, 2004.

**Table V.K-2
Level of Service Definitions for Stop-Controlled Intersections**

Level of Service	Average Vehicle Delay (seconds)
A	Less than or equal to 10.0
B	Greater than 10.0 and less than or equal to 15.0
C	Greater than 15.0 and less than or equal to 25.0
D	Greater than 25.0 and less than or equal to 35.0
E	Greater than 35.0 and less than or equal to 50.0
F	Greater than 50.0

Source: Transportation Research Board, Highway Capacity Manual, Special Report 209, Third Edition, 2000.

The two remaining intersections, Webb Way & Civic Center Way, and Cross Creek Road & Civic Center Way, are controlled by stop signs on some or all approaches. These two intersections were analyzed using the unsignalized method from the Transportation Research Board's Highway Capacity Manual (HCM), which calculates the average vehicle delay and level of service using the relationships indicated in Table V.K-2. The calculations to estimate the average vehicle delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

**Table V.K-3
Existing Weekday Intersection Peak Hour Levels of Service**

Intersection	Peak Hour	Existing	
		V/C or Delay	LOS
1. Kanan Dume Road & PCH	AM	0.568	A
	PM	0.580	A
2. Malibu Canyon Road & PCH	AM	0.783	C
	PM	0.813	D
3. Webb Way & PCH	AM	0.660	B
	PM	0.831	D
4. Cross Creek Road & PCH	AM	0.721	C
	PM	0.881	D
5. Las Flores Canyon Road & PCH	AM	0.688	B
	PM	0.795	C
6. Topanga Canyon Boulevard & PCH	AM	1.042	F
	PM	0.937	E
7. Malibu Canyon Road & Civic Center Way	AM	0.656	B
	PM	0.735	C
8. Webb Way & Civic Center Way ^a	AM	20.3	C
	PM	51.1	F
Webb Way & Civic Center Way ^c	AM	0.540	A
	PM	0.664	B
9. Cross Creek Road & Civic Center Way ^b	AM	9.5	A
	PM	10.9	B
Cross Creek Road & Civic Center Way ^c	AM	0.433	A
	PM	0.524	A
^a Intersection is controlled by stop signs on all approaches; value shown represents average vehicle delay (seconds) for the intersection. ^b Intersection is controlled by stop signs on the minor approaches; value shown represents average vehicle delay (seconds) for the most constrained approach. ^c Intersection is analyzed as signalized to determine project impacts. Source: Kaku Associates, December 2004.			

Existing Levels of Service

Table V.K-3 summarizes the peak hour V/C ratio and/or vehicle delay, along with the corresponding level of service at each of the study intersections under existing conditions on weekdays. The two intersections controlled by stop signs (i.e., Webb Way & Civic Center Way and Cross Creek Road & Civic Center Way) are analyzed both for vehicle delay, and then for V/C ratio (assuming each intersection was signalized). Eight of the nine intersections during the weekday morning peak hour and four of the nine intersections during the weekday afternoon peak hour currently operate at LOS C or better. The intersections that operate at LOS D or worse during either the weekday morning and/or afternoon peak hour are:

- Malibu Canyon Road & PCH (afternoon peak hour only)

- Webb Way & PCH (afternoon peak hour only)
- Cross Creek Road & PCH (afternoon peak hour only)
- Topanga Canyon Boulevard & PCH (morning and afternoon peak hour)
- Webb Way & Civic Center Way (afternoon peak hour)

Table V.K-4 shows the existing summer Saturday mid-day peak hour V/C ratio and/or vehicle delay and the corresponding level of service at each of the study intersections. As explained above, the two intersections controlled by stop signs (i.e., Webb Way & Civic Center Way and Cross Creek Road & Civic Center Way) are analyzed both for vehicle delay, and then for V/C ratio (assuming each intersection was signalized). Seven of the nine intersections currently operate at LOS C or better during the summer Saturday mid-day peak hour.

**Table V.K-4
Existing Saturday Intersection Peak Hour Levels of Service**

Intersection	Peak Hour	Existing	
		V/C or Delay	LOS
1. Kanan Dume Road & PCH	MID	0.797	C
2. Malibu Canyon Road & PCH	MID	0.770	C
3. Webb Way & PCH	MID	0.811	D
4. Cross Creek Road & PCH	MID	0.938	E
5. Las Flores Canyon Road & PCH	MID	0.755	C
6. Topanga Canyon Boulevard & PCH	MID	0.752	C
7. Malibu Canyon Road & Civic Center Way	MID	0.517	A
8. Webb Way & Civic Center Way ^a	MID	11.1	B
Webb Way & Civic Center Way ^c	MID	0.412	A
9. Cross Creek Road & Civic Center Way ^a	MID	9.3	A
Cross Creek Road & Civic Center Way ^c	MID	0.436	A
^a Intersection is controlled by stop signs on all approaches; value shown represents average vehicle delay (seconds) for the intersection.			
^b Intersection is controlled by stop signs on the minor approaches; value shown represents average vehicle delay (seconds) for the most constrained approaches.			
^c Intersection is analyzed as Signalized location to determine project impacts.			
Source: Kaku Associates, December 2004.			

The intersections that operate at LOS D or worse during the summer Saturday mid-day peak hour are:

- Webb Way & PCH
- Cross Creek Road & PCH

Existing Transit Service

One bus line operated by Los Angeles County Metropolitan Transportation Authority (LACMTA) serves the study area. The LACMTA Line 434 is an express east/west line from Downtown Los Angeles to the

Trancas area. LACMTA Line 434 travels on PCH, Cross Creek Road, Civic Center Way, and Malibu Canyon Road through the study area.

Cumulative Base Traffic Conditions

To evaluate potential impacts of the Proposed Project on the local street system, it is necessary to develop estimates of future traffic conditions both with and without the Proposed Project. Forecasts of future traffic conditions without the Proposed Project, referred to as the “Cumulative Base” condition, reflect traffic increases due to general regional growth, or “ambient growth,” as well as traffic increases generated by other specific development projects in the vicinity of the Project Site, or “related projects.”

Ambient Growth in Traffic

The ambient regional growth in traffic is estimated by adjusting the existing traffic volumes along the regional corridors upward by a growth factor. These corridors include PCH, Kanan Dume Road, Malibu Canyon Road, and Topanga Canyon Boulevard. The files from the California Department of Transportation (Caltrans) indicate that traffic in the study area has historically increased by approximately 1.5 percent per year in this decade. Using this growth rate, the 2004 existing traffic volumes were adjusted upward by 4.5 percent to reflect the three years of regional growth expected from 2004 to 2007.

Traffic Generated by Related Projects

Traffic expected from other specific development projects within the study area was also considered. Information regarding potential future projects that are either under construction, planned, or proposed for development was obtained from several sources, including recently conducted traffic studies and City of Malibu files. A list of related projects is provided in Table IV-C.1 in Section IV.C, Cumulative Projects. A map of related project locations is provided in Figure IV-2 in Section IV-C.

Although most of the related projects are in the planning stages, the Cumulative Base conditions conservatively assume that all of the related projects would be fully built by 2007. Trip generation estimates for these projects were prepared for the related projects using rates and equations contained in Institute of Transportation Engineers’ *Trip Generation, 6th Edition*. The related projects are projected to generate a total of 10,967 weekday daily trips, 714 weekday morning peak hour trips, and 1,249 weekday afternoon peak hour trips. For Saturday, the related projects are expected to generate a total of 8,202 daily trips and 1,083 mid-day peak hour trips.

The geographic distribution of the traffic generated by the future development projects depends on several factors. These factors include the type and density of the proposed land use, the geographic distribution of population from which the patrons and employees of the proposed development are drawn, and the location of the related projects in relation to the surrounding street system. Because land uses for the related projects would serve the immediate areas rather than the outlying/regional area, the traffic distribution patterns are generally local in nature, based on the population within the City of Malibu and adjacent areas.

The traffic from the list of related projects was assigned to the local streets system and used to reflect the cumulative growth in the area.

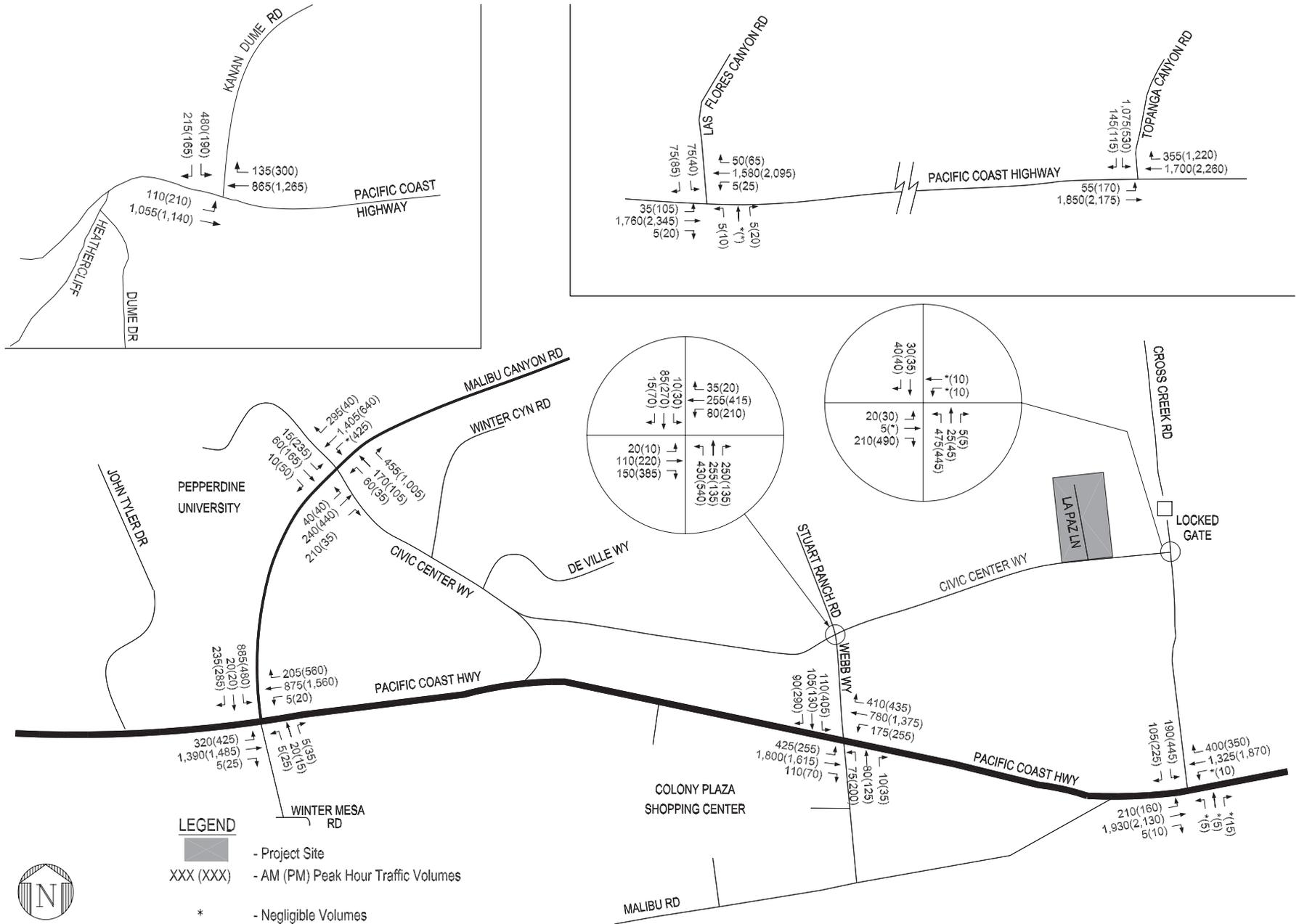
Cumulative Base Traffic Volumes

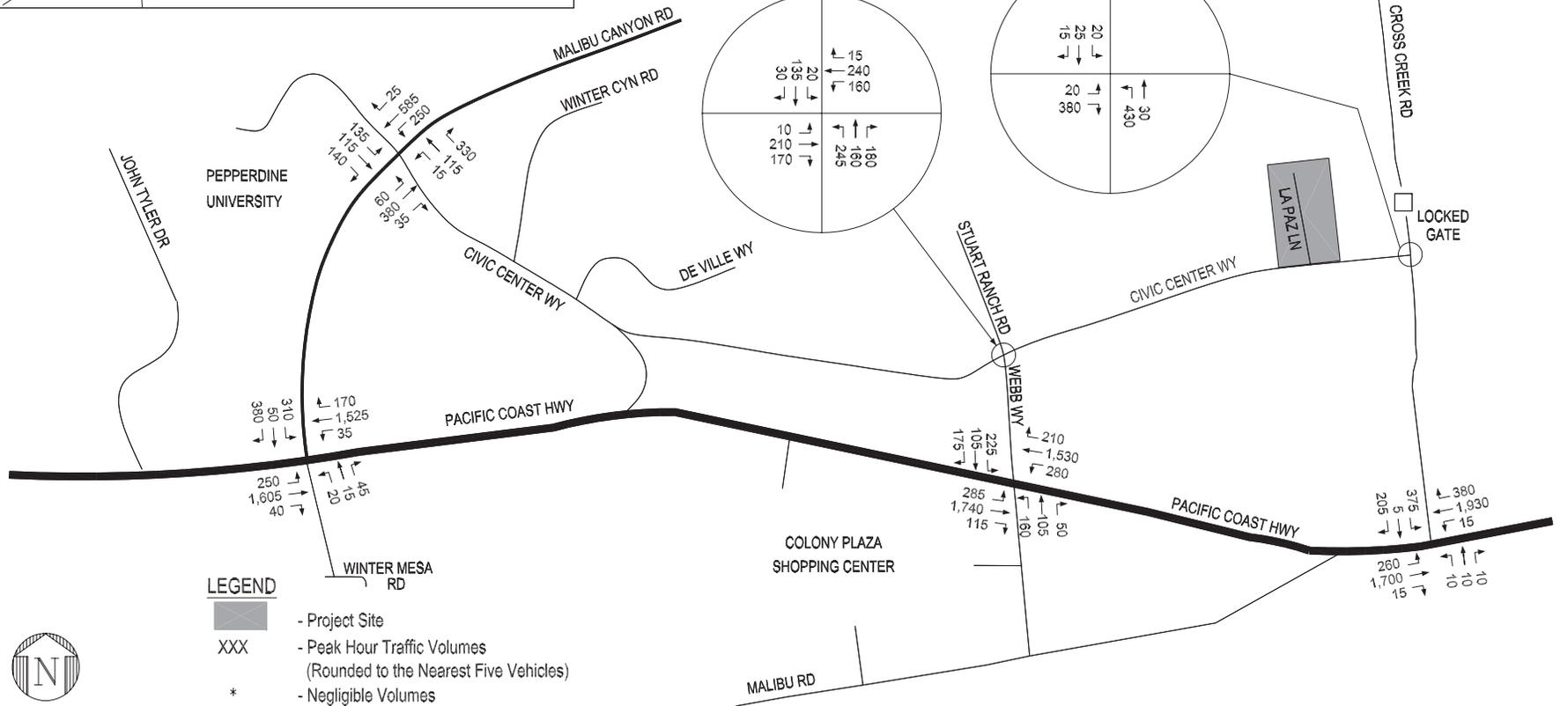
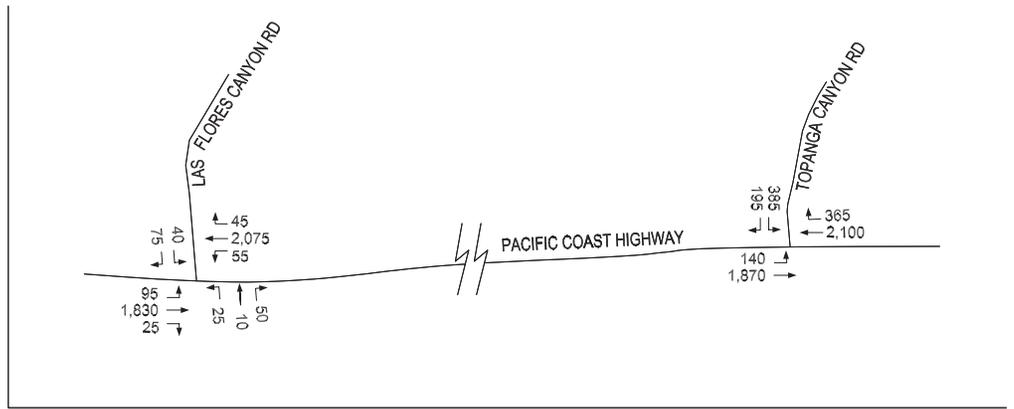
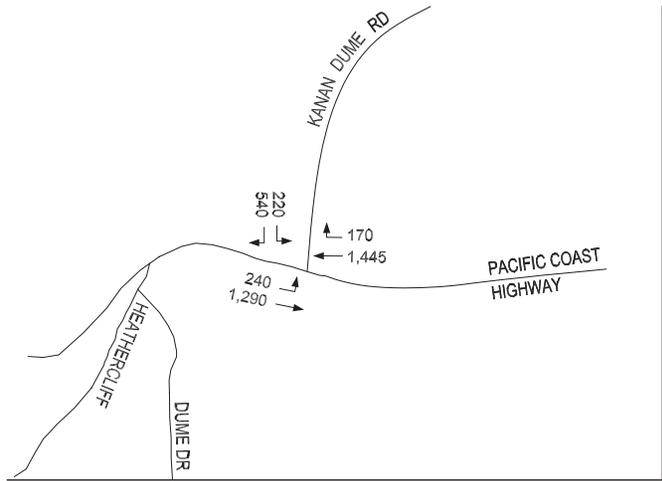
The Cumulative Base traffic volumes, future conditions without the Proposed Project, were developed by adding the traffic expected from the related projects to the existing weekday and Saturday volumes, which had been increased by 4.5 percent to reflect ambient growth. Figures V.K-4 and V.K-5 display the resulting weekday and Saturday peak hour traffic volumes at each of the nine analyzed intersections. These volumes represent the Cumulative Base conditions for 2007.

The same process was also applied to the existing ADT volume; expected traffic from related projects and an increase of 4.5 percent was added to account for future conditions within the study area. The projected cumulative base volumes would be 2,207 vehicles during the weekday morning peak hour and 2,492 vehicles during the weekday afternoon peak hour traveling on the Malibu Canyon corridor. Figure V.K-4 depicts the Cumulative Base condition ADT volume.

PCH Corridor Improvements

The County of Los Angeles, Caltrans, and the municipalities along PCH from the McClure Tunnel in Santa Monica to Trancas Canyon Road have agreed to participate in the implementation of a multi-jurisdictional advanced traffic management system. This system would involve traffic signals system monitoring, control, and synchronization capabilities; real-time database management of traffic information; incident response capabilities; and inter-jurisdictional data exchange among the affected agencies' engineering and maintenance staff. ~~The proposed multi-jurisdiction traffic management system is expected to be fully operational by 2005.~~ The City of Los Angeles has implemented a traffic management system, the Automated Traffic Surveillance and Control (ATSAC) system that is already operational. The City feels that this system increases capacity by 7 percent at each intersection included in the system. Similar to the ATSAC system, the proposed advanced traffic management system along PCH is expected to increase capacity at the intersections. For the purposes of this study, capacity increases of 7 percent were applied to the analyzed intersections along PCH for the Cumulative Base conditions to reflect this improvement.





NOT TO SCALE

Source: KAKU Associates, December 2004.



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Figure V.K-5
Cumulative Base Saturday Mid-Day Traffic Volumes

ENVIRONMENTAL IMPACTS

Thresholds of Significance

The City of Malibu standard indicates that a project impact would be considered significant if the condition presented in Table V.K-5, below is met. Using this criteria, a project would not have a significant impact at an intersection if it is projected to operate at LOS A, B, or C after the addition of project traffic, regardless of the magnitude of the increase in the V/C ratio. However, if the intersection is operating at a LOS D, E, or F after the addition of project traffic and if the incremental change in the V/C ratio is 0.020 or greater, the project would be considered to have a significant impact.

**Table V.K-5
Significant Project Traffic Impact, City of Malibu**

LOS	Final V/C Ratio	Project-Related Increase in V/C
D, E, or F	>0.800	Equal to or greater than 0.020

The County of Los Angeles Department of Public Works indicates that a project impact would be considered significant if the conditions indicated in Table V.K-6 are met. Using these criteria, a project would not have a significant impact at an intersection if it is projected to operate at LOS A, B, or C after the addition of project traffic and if the incremental change in the V/C ratio is less than 0.040. The project would have a significant impact at an intersection if it is projected to operate at a LOS D after the addition of project traffic and if the incremental change in the V/C ratio is 0.020 or greater, or if it operates at LOS E or F and the incremental increase in V/C is 0.010 or greater.

**Table V.K-6
Significant Project Traffic Impact, County of Los Angeles Department of Public Works**

LOS	Final V/C Ratio	Project-Related Increase in V/C
C	>0.701 – 0.800	Equal to or greater than 0.040
D	>0.801 – 0.900	Equal to or greater than 0.020
E, F	>0.900	Equal to or greater than 0.010

Furthermore, the County of Los Angeles Department of Public Works indicates that a project impact would be considered significant on two-lane roadways if the conditions indicated in Table V.K-7 are met.

Table V.K-7
Significant Project Two-Lane Roadway Impact, County of LA Department of Public Works

Roadway Condition Passenger Car Per Hour (PCPH)		Increase in PCPH With Project if No Project LOS is C, D, or E/F		
Directional Split	Total Capacity	C	D	E/F
50/50	2,800	0.04	0.02	0.01
60/40	2,650	0.04	0.02	0.01
70/30	2,500	0.04	0.02	0.01
80/20	2,300	0.04	0.02	0.01
90/10	2,100	0.04	0.02	0.01
100/0	2,000	0.04	0.02	0.01

Using these criteria, a project would not have a significant impact on a two-lane roadway if the incremental increase in traffic were less than the percentages listed above. A project would have a significant impact on a two-lane roadway if it would operate at a LOS D after the addition of project traffic and if the incremental change in the passenger car per hour (PCPH) is 0.02 or greater, or if it operates at LOS E or F and the incremental increase in PCPH is 0.01 or greater.

Project Traffic Volumes

The process used to develop traffic forecasts for the Proposed Project involved the use of a three-step process, similar to that described above for the related projects. This process includes trip generation, trip distribution, and traffic assignment.

The proposed development includes commercial office/retail uses and a City Hall. Trip generation rates and equations from the Institute of Transportation Engineers' (ITE) *Trip Generation, 6th Edition* were applied to the various land uses and activities of the Proposed Project to estimate the magnitude of the trips associated with the development.

The rates and equations for the various land uses and activities were used to prepare the trip generation estimates for the Proposed Project summarized in Table V.K-8. The trip generation estimates for the Proposed Project includes an adjustment to the volumes based on the pass-by trip reduction:

- Pass-By Adjustment - Pass-by reductions represent those trips on the roadway system that are expected to be attracted to the site once the Proposed Projects are implemented. While these are new to the site itself, they are not new to the roadway system and should be eliminated from the calculations to ensure that double counting of these trips does not occur. These are trips that were not necessarily attracted to the area by the retail facility but were in the vicinity and were diverted to the Project Site for a service. These trips would not be considered new to the area and would

not be considered trips generated by the Proposed Project. Pass-by reductions for the Proposed Project were determined through average trip reductions from the *ITE Trip Generation Manual, 5th Edition*.

Table V.K-5 summarizes the trip generation estimate for the Proposed Project. The Proposed Project would generate a net increase in traffic to the area of ~~2,863~~2,850 weekday daily trips, 151 weekday morning peak hour trips, and 248 weekday afternoon peak hour trips. For Saturday, the Proposed Project would generate a total of ~~2,250~~2,241 new daily trips and 197 mid-day peak hour trips.

Project Traffic Distribution/Assignment

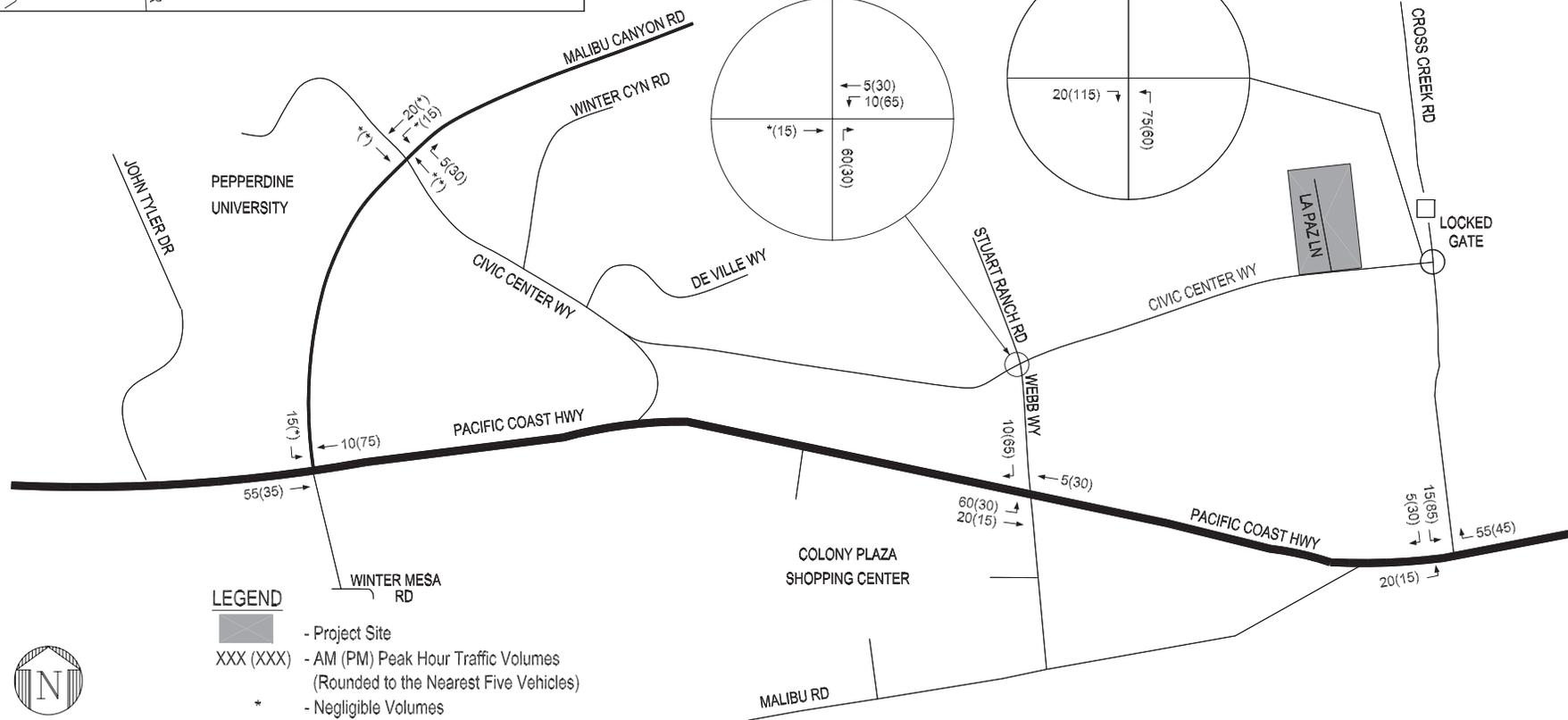
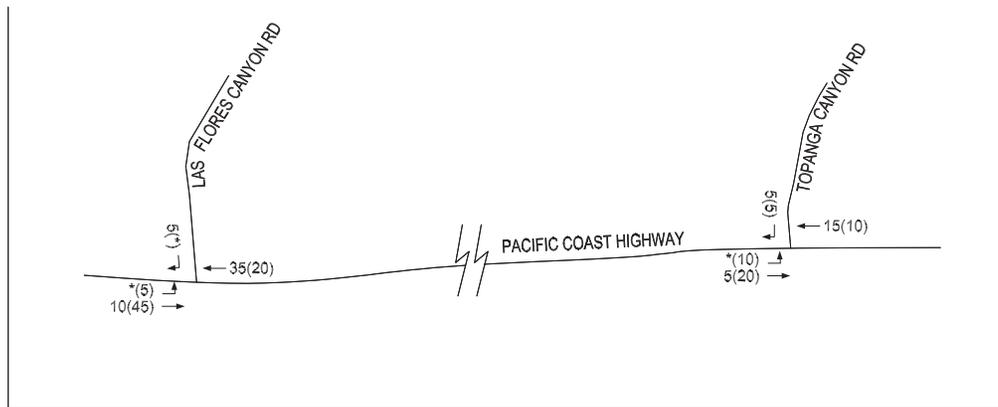
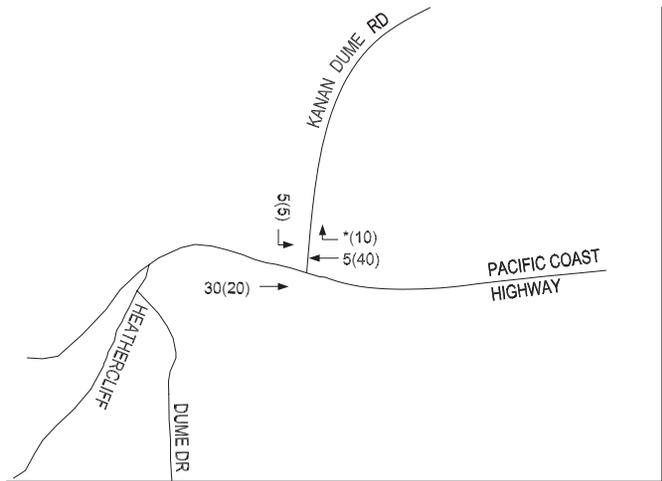
Similar to the related projects, the geographic distribution of the traffic generated by the Proposed Project depends on several factors. These factors include the type and density of the proposed land use, the geographic distribution of population from which the patrons and employees of the proposed development are drawn, and the location of the Proposed Project in relation to the surrounding street system.

The trips generated by the Proposed Project and summarized in Table V.K-8 were assigned to the street system. Figure V.K-6 illustrates the traffic generated by the Proposed Project only during the weekday morning and afternoon peak hour at the nine analyzed intersections. Figure V.K-7 illustrates the traffic generated by the Proposed Project only during the Saturday mid-day peak hour at the nine analyzed intersections.

**Table V.K-8
Project Trip Generation Estimates**

Land Use	Size (sf)	Weekday							Saturday			
		Daily Total	AM Peak Hour Trips			PM Peak Hour Trips			Daily Total	Mid-day Peak Hour Trips		
			In	Out	Peak Hour Total	In	Out	Peak Hour Total		In	Out	Total
General Office	53,825	825	100	14	114	20	98	118	133	13	10	23
Specialty Retail	77,110	3,316	34	22	56	86	114	200	3,242	139	129	268
35% Retail Pass By		(1,098)	(12)	(8)	(19)	(30)	(40)	(70)	(1,135)	(49)	(45)	(94)
TOTAL		2,863	122	28	151	76	172	248	2,241	103	94	197

Source: Kaku Associates, December 2004.

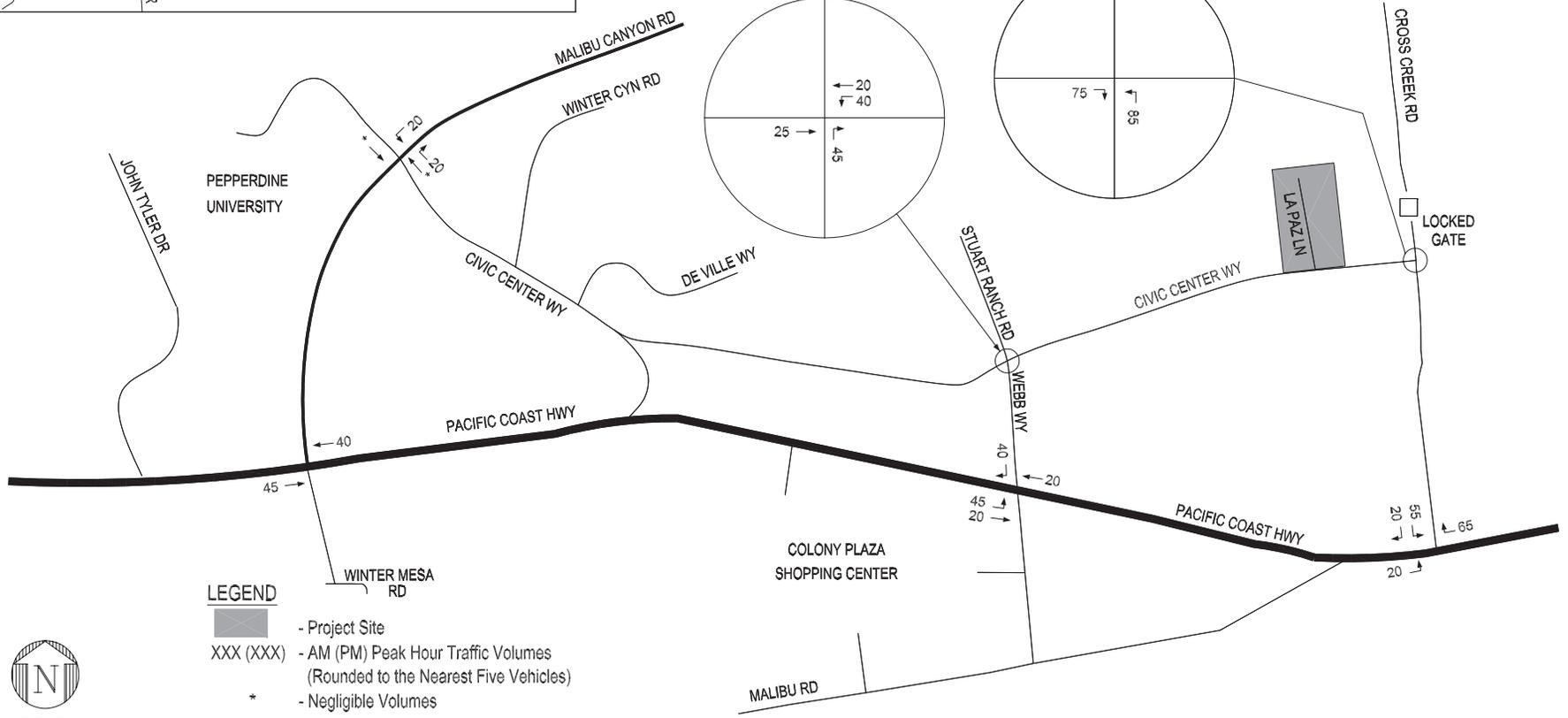
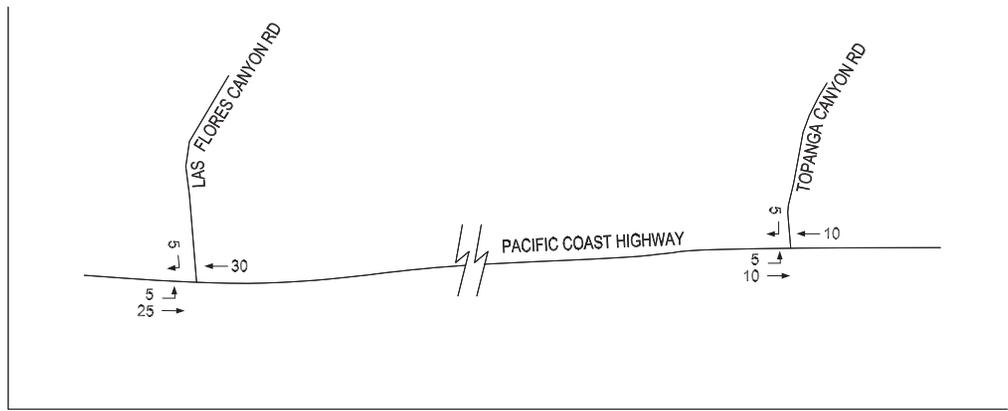
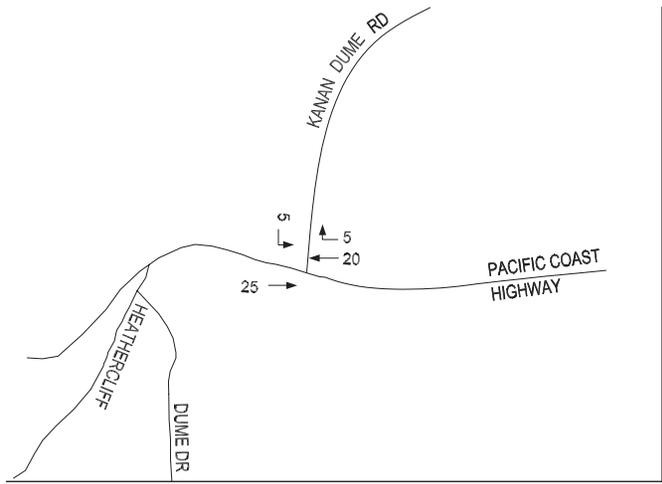


Source: KAKU Associates, December 2004.



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Figure V.K-6
Project Only Weekday Peak Hour Traffic Volumes



LEGEND

- Project Site
- XXX (XXX) - AM (PM) Peak Hour Traffic Volumes (Rounded to the Nearest Five Vehicles)
- * - Negligible Volumes



Source: KAKU Associates, December 2004.

Cumulative Plus Project Traffic Projections

The traffic volumes generated by the Proposed Project were added to the Cumulative Base traffic projections to develop the Cumulative Plus Project traffic forecasts. Figure V.K-8 illustrates the resultant traffic volumes that represent future conditions in year 2007 with the addition of project traffic for the weekday morning and afternoon peak hour traffic. Figure V.K-9 illustrates the resultant traffic volumes that represent future conditions with the addition of project traffic for the Saturday midday peak hour volumes.

The Cumulative Plus Project forecast for the Malibu Canyon Road segment is estimated to be 2,231 vehicles during the weekday morning peak hour and 2,537 vehicles during the weekday afternoon peak hour.

Cumulative Base Traffic Conditions

The first step in the impact analysis was to analyze the projected operating conditions at each of the intersections under future conditions without the Proposed Project (i.e., the Cumulative Base scenario). The Cumulative Base traffic volumes for weekday and Saturday peak hours (see Figures V.K-4 and V.K-5) were analyzed to determine the V/C ratio and corresponding LOS for each location under these base conditions. Table V.K-9 summarizes the results of the analysis for the weekday peak hours under

Cumulative Base conditions and shows that eight of the nine analyzed intersections are projected to operate at LOS D or worse during the weekday morning or afternoon peak hour, or both. Figure V.K-8 illustrates these volumes. These intersections are:

- Malibu Canyon Road & PCH (both peak hours)
- Webb Way & PCH (afternoon peak hour only)
- Cross Creek Road & PCH (morning peak hour only)
- Las Flores Canyon Road & PCH (afternoon peak hour only)
- Topanga Canyon Boulevard & PCH (both peak hours)
- Malibu Canyon Road & Civic Center Way (afternoon peak hour only)
- Webb Way & Civic Center Way (both peak hours)
- Cross Creek Road & Civic Center Way (afternoon peak hour only)

During the Saturday mid-day hour, Table V.K-9 indicates that five of the nine analyzed intersections are projected to operate at LOS D or worse. Figure V.K-9 illustrates these traffic volumes. They are:

- Kanan Dume Road & PCH
- Malibu Canyon Road & PCH
- Webb Way & PCH
- Cross Creek Road & PCH
- Las Flores Canyon Road & PCH

Cumulative Plus Project Traffic Conditions

The next step in the analysis was to assess future conditions with the addition of project traffic. The results of the analysis summarized in Table V.K-9 indicate the same number of intersections operate at LOS D or worse with the addition of project traffic during the weekday peak hours. As indicated in Table V.K-10, the addition of project traffic would result in the same number of intersections as under the Cumulative Base scenario operating at LOS D or worse during the Saturday mid-day peak hours in Cumulative Plus Project scenario.

Potential Project Impacts

Temporary Impacts

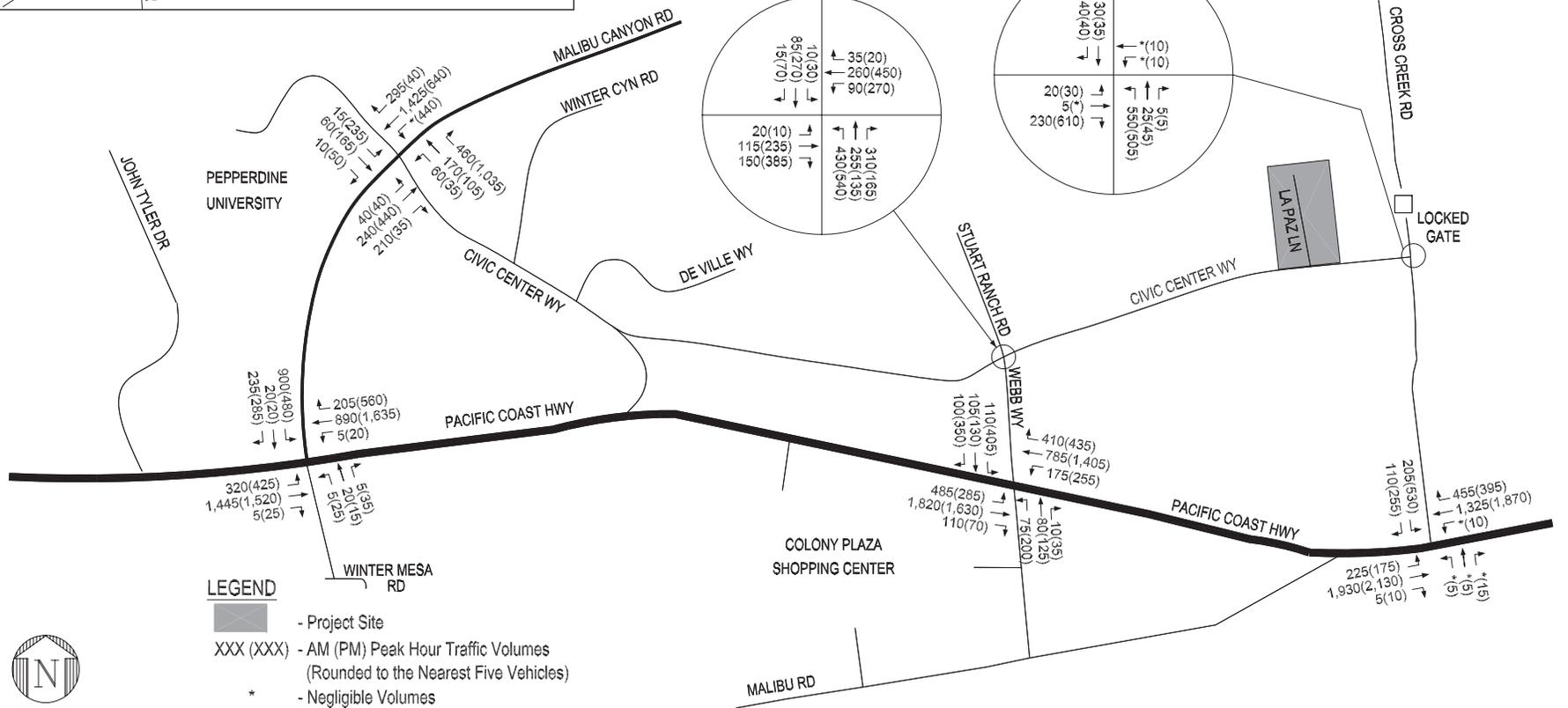
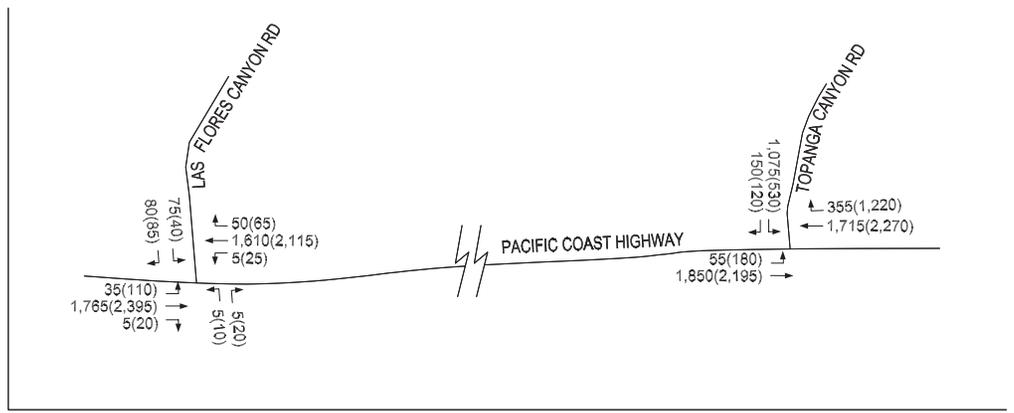
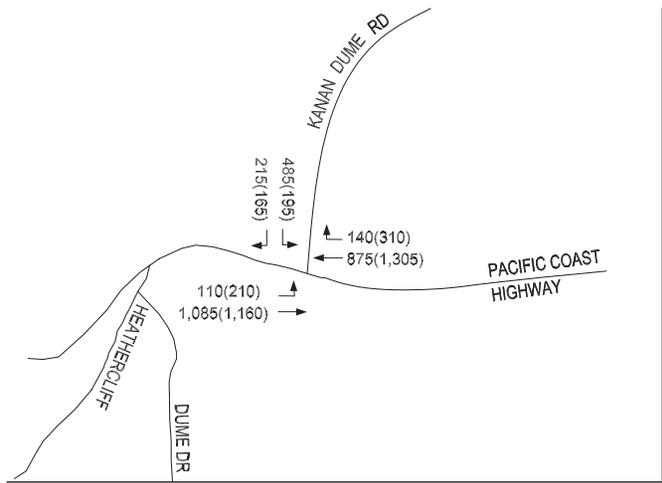
Construction of the Proposed Project may require temporary lane closures and/or detours in the immediate vicinity along Civic Center Way as necessary for lane improvements or improvements to underground utility infrastructure. Impacts however, would be short term and temporary and would be conducted in accordance with the City's Department of Public Works policies to ensure fire and emergency access is provided at all times. Therefore, temporary access impacts would be less than significant.

Intersections/Roadway Segments

The next step in the impact analysis for roadway intersections was the application of the significance criteria from the City of Malibu at the eight intersections located in the City and the application of the County of Los Angeles criteria for the one intersection located in the county. The results of the analysis indicate that the Proposed Project is expected to have significant impacts at five of the nine analyzed intersections. The five impacted intersections, all of which are located in the City of Malibu, include the following:

- Malibu Canyon Road & PCH (both weekday peak hours)
- Webb Way & PCH (weekday afternoon peak hour and Saturday peak hour)
- Cross Creek Road & PCH (both weekday peak hours and Saturday peak hour)
- Webb Way & Civic Center Way (weekday afternoon peak hour only)

Cross Creek Road & Civic Center Way (weekday afternoon peak hour only)



LEGEND

- Project Site
- XXX (XXX) - AM (PM) Peak Hour Traffic Volumes (Rounded to the Nearest Five Vehicles)
- * - Negligible Volumes

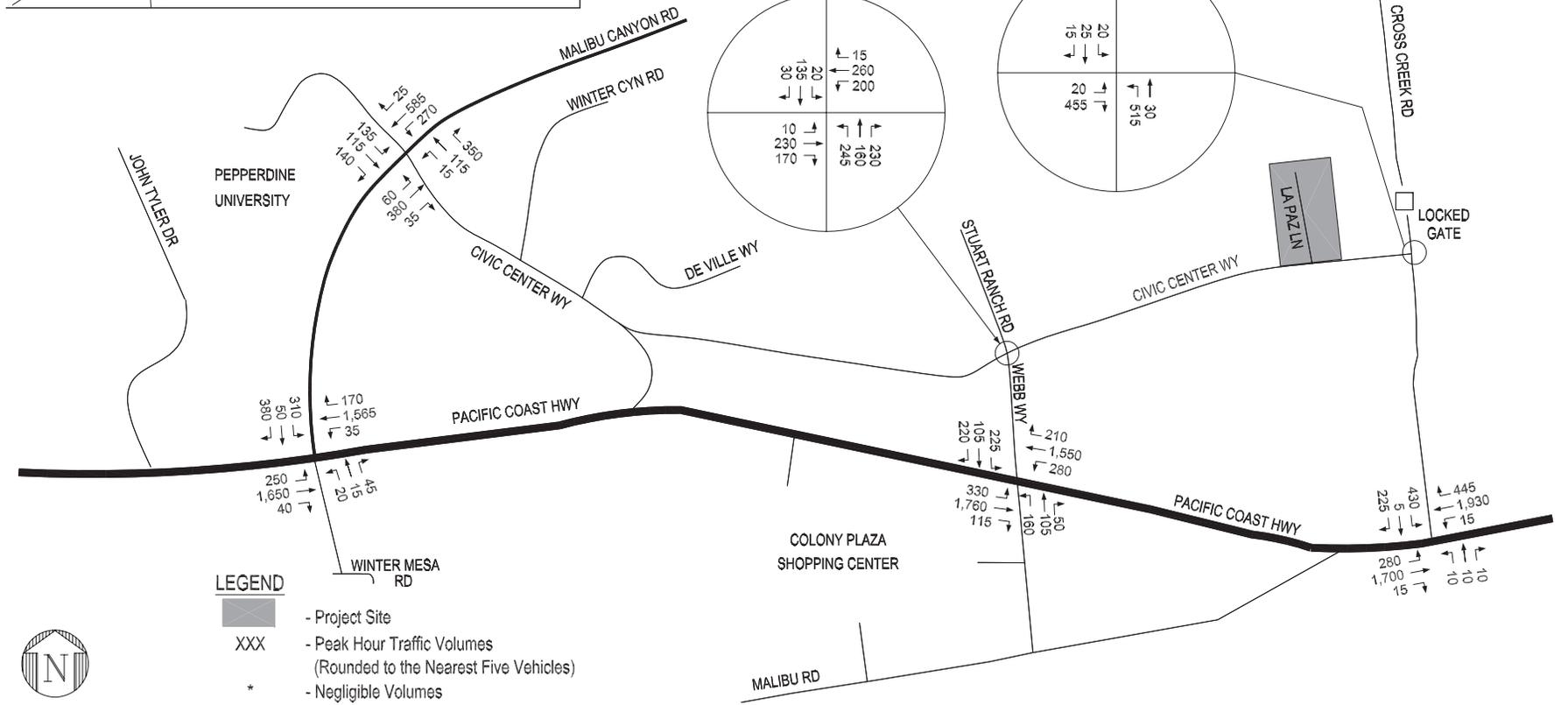
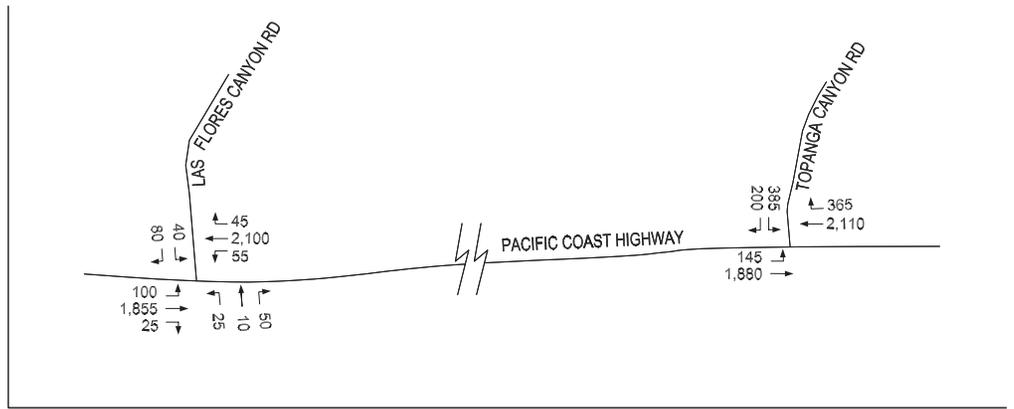
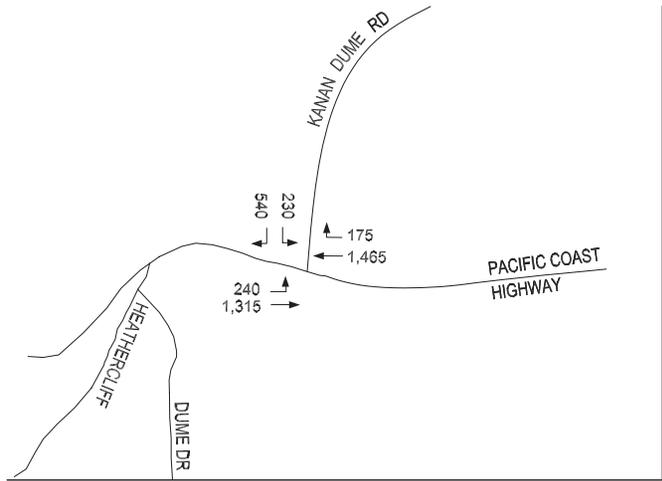


Source: KAKU Associates, December 2004.



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Figure V.K-8
Cumulative Plus Project Weekday Peak Hour Traffic Volumes



LEGEND

-  - Project Site
- XXX - Peak Hour Traffic Volumes (Rounded to the Nearest Five Vehicles)
- * - Negligible Volumes



Source: KAKU Associates, December 2004.



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Figure V.K-9
Cumulative Plus Project Saturday Mid-Day Traffic Volumes

The Proposed Project would also have a significant impact on the segment of Malibu Canyon Road between the Hughes Research Lab and Piuma Road during both weekday peak hours, as the project-related traffic increase would exceed the identified one percent threshold.

Congestion Management Program

Intersection analyses complying with Los Angeles County 2004 Congestion Management Program (CMP) requirements were also completed. The Transportation Impact Analysis (TIA) section of the CMP requirements describes the threshold criteria used to identify potential CMP monitoring locations that needed to be included in the traffic analysis. Based on the CMP criteria, the following locations need analysis:

- All CMP arterial monitoring intersections, including monitored freeway on- or off-ramp intersections, where the Proposed Project will add 50 or more trips to adjacent street traffic during either the weekday morning or afternoon peak hours.
- All mainline freeway monitoring locations where the project will add 150 or more trips, in either direction, during either the weekday morning or afternoon peak hours.

Based on the threshold criteria of the CMP, it was determined that the following CMP monitoring locations need analysis in the TIA: Kanan Dume Road & PCH, Malibu Canyon Road & PCH, Las Flores Canyon Road & PCH, and Topanga Canyon Boulevard & PCH. None of the freeway monitoring locations satisfied the CMP criteria.

**Table V.K-9
Future Conditions Weekday Intersection Peak Hour Levels of Service**

Intersection	Peak Hour	Cumulative Base		Cumulative Plus Proposed Project				Cumulative Plus Project with Mitigation			
		V/C or Delay	LOS	V/C or Delay	LOS	Project Increase in V/C or Delay	Significant Project Impact	V/C or Delay	LOS	Project Increase in V/C or Delay	Significant Project Impact
1. Kanan Dume Road & PCH	AM	0.557	A	0.561	A	0.004	NO	--	--	--	--
	PM	0.632	B	0.646	B	0.014	NO	--	--	--	--
2. Malibu Canyon Road & PCH	AM	0.841	D	0.864	D	0.023	YES	^d	--	--	-YES
	PM	0.929	E	0.953	E	0.024	YES	^d	--	--	-YES
3. Webb Way & PCH	AM	0.680	B	0.718	C	0.038	NO	0.653	B	-0.027	NO
	PM	0.951	E	0.981	E	0.030	YES	0.902	E	-0.049	NO
4. Cross Creek Road & PCH	AM	0.774	C	0.808	D	0.034	YES	0.716	C	-0.058	NO
	PM	1.002	F	1.058	F	0.056	YES	0.935	E	-0.067	NO
5. Las Flores Canyon Road & PCH	AM	0.685	B	0.689	B	0.004	NO	--	--	--	--
	PM	0.873	D	0.890	D	0.017	NO	--	--	--	--
6. Topanga Canyon Blvd & PCH	AM	1.029	F	1.030	F	0.001	NO	--	--	--	--
	PM	0.942	E	0.948	E	0.006	NO	--	--	--	--
7. Malibu Canyon Rd & Civic Center Way	AM	0.748	C	0.755	C	0.007	NO	--	--	--	--
	PM	0.874	D	0.886	D	0.012	NO	--	--	--	--
8. Webb Way & Civic Center Way ^a	AM	85.1	F	84.5	F	--	--	--	--	--	--
	PM	159.0	F	159.0	F	--	--	--	--	--	--
Webb Way & Civic Center Way ^c	AM	0.730	C	0.733	C	0.003	NO	0.559	A	-0.171	NO
	PM	0.947	E	0.991	E	0.044	YES	0.896	D	-0.051	NO
9. Cross Creek Rd & Civic Center Way ^b	AM	--	--	18.0	C	--	--	--	--	--	--
	PM	--	--	39.8	E	--	--	--	--	--	--
Cross Creek Rd & Civic Center Way ^c	AM	0.589	A	0.648	B	0.059	NO	^d	--	--	--
	PM	0.755	C	0.864	D	0.109	YES	^d	--	--	-YES

^a Intersection is controlled by stop signs on all approaches. Value shown represents average vehicle delay (seconds) for the intersection.
^b Intersection is controlled by stop signs on all minor approaches Value shown represents average vehicle delay (seconds) for the most constrained approach.
^c Intersection was analyzed as a Signalized intersection to determine project impacts.
^d No feasible mitigation measures are possible.

Source: Kaku Associates, April 2005.

**Table V.K-10
Future Conditions Saturday Intersection Peak Hour Levels of Service**

Intersection	Peak Hour	Cumulative Base		Cumulative Plus Proposed Project				Cumulative Plus Project with Mitigation			
		V/C or Delay	LOS	V/C or Delay	LOS	Project Increase in V/C or Delay	Significant Project Impact	V/C or Delay	LOS	Project Increase in V/C or Delay	Significant Project Impact
1. Kanan Dume Road & PCH	MID	0.817	D	0.824	D	0.007	NO	--	--	--	--
2. Malibu Canyon Road & PCH	MID	0.815	D	0.827	D	0.012	NO	--	--	--	--
3. Webb Way & PCH	MID	0.914	E	0.949	E	0.035	YES	0.871	D	-0.043	NO
4. Cross Creek Road & PCH	MID	1.069	F	1.126	F	0.057	YES	0.988	E	-0.081	NO
5. Las Flores Canyon Road & PCH	MID	0.829	D	0.842	D	0.013	NO	--	--	--	--
6. Topanga Canyon Blvd & PCH	MID	0.765	C	0.769	C	0.004	NO	--	--	--	--
7. Malibu Canyon Rd & Civic Center Way	MID	0.649	B	0.664	B	0.015	NO	--	--	--	--
8. Webb Way & Civic Center Way ^a	MID	22.2	C	24.4	C	--	--	--	--	--	--
Webb Way & Civic Center Way ^c	MID	0.604	B	0.643	B	0.039	NO	0.554	A	-0.050	NO
9. Cross Creek Rd & Civic Center Way ^b	MID	--		22.3	C	--	--	--	--	--	--
Cross Creek Rd & Civic Center Way ^c	MID	0.660	B	0.761	C	0.101	NO	--	--	--	--

^a Intersection is controlled by stop signs on all approaches. Value shown represents average vehicle delay (seconds) for the intersection.

^b Intersection is controlled by stop signs on all minor approaches Value shown represents average vehicle delay (seconds) for the most constrained approach.

^c Intersection was analyzed as a Signalized intersection to determine project impacts.

Source: Kaku Associates, April 2005.

CMP Significant Traffic Impact Criteria

The LACMTA has established CMP TIA significance criteria indicating that a significant impact occurs when the Proposed Project's traffic increases demand at a CMP freeway facility or arterial monitoring location by two percent of capacity (i.e., V/C increase ≥ 0.02), causing the location to operate at LOS F (V/C > 1.00). Under this criterion, a project would not be considered to have a significant impact if the analyzed facility is operating at LOS E or better after the addition of project traffic. If the facility is operating at LOS F with project traffic, however, and the incremental change in the V/C ratio caused by the project is 0.02 or greater, the project would be considered to have a significant impact.

The arterial intersection levels of service (LOS) were determined using standards established by the LACMTA indicating that the volume-to-capacity (V/C) ratio should be computed using a capacity of 1,600 per intersection plus 0.10 for vehicle clearance as well as the LOS definitions provided in Table V.K-1.

CMP Arterial Intersection Analysis

The Cumulative Plus Project weekday scenario was used to conduct the CMP arterial analysis. The results of the CMP impact analysis summarized in Table V.K-11 indicate that the Proposed Project would not have a significant impact at any of the CMP arterial intersections analyzed.

**Table V.K-11
CMP Arterial Intersection Analysis**

Intersection	Peak Hour	Cumulative Base		Cumulative Plus Proposed Project			
		V/C or Delay	LOS	V/C or Delay	LOS	Project Increase in V/C or Delay	Significant Project Impact
1. Kanan Dume Rd & PCH	AM	0.557	A	0.561	A	0.004	NO
	PM	0.632	B	0.646	B	0.014	NO
2. Malibu Cny Rd & PCH	AM	0.841	D	0.864	D	0.023	NO
	PM	0.929	E	0.953	E	0.024	NO
5. Las Flores Cny Rd & PCH	AM	0.685	B	0.689	B	0.004	NO
	PM	0.873	D	0.890	D	0.017	NO
6. Topanga Cny Blvd. & PCH	AM	1.029	F	1.030	F	0.001	NO
	PM	0.942	E	0.948	E	0.006	NO

Source: Kaku Associates, December 2004.

Parking

The Proposed Project would include approximately 609 parking spaces, which includes 346 spaces within Parcel A, 197 spaces on Parcel B, and 66 spaces on Parcel C. The number of parking spaces proposed is consistent with the minimum number of parking spaces required by the zoning code. Therefore, the

Proposed Project would satisfy the zoning code and parking impacts would be less than significant. (For a detailed discussion of the zoning code parking requirements, see Section V.G, Land Use).

CUMULATIVE IMPACTS

The analysis of traffic impacts considers the effects of both background growth in the region as well as the project growth with respect to related projects in the area. Consequently, impacts of cumulative growth are already incorporated into the traffic model. In the absence of the Proposed Project, conditions at study intersections would decline in the level of service. The morning peak period would result in an LOS D or worse at two of the nine intersections during the morning peak hour (Malibu Canyon Road & PCH and Topanga Canyon Boulevard & PCH). One of these intersections is already operating at LOS D or worse during the morning peak period (Topanga Canyon Boulevard & PCH). The afternoon peak period would result in an LOS D or worse at seven of the nine analyzed intersections (Malibu Canyon Road & PCH, Webb Way & PCH, Cross Creek Road & PCH, Las Flores Canyon Road & PCH, Topanga Canyon Boulevard & PCH, Malibu Canyon Road & Civic Center Way, and Webb Way & Civic Center Way). Four of these intersections are already operating at LOS D or worse conditions during the afternoon peak period (Malibu Canyon Road & PCH, Webb Way & PCH, Cross Creek Road & PCH, and Topanga Canyon Boulevard & PCH).

Cumulative impacts to traffic around the project area, including both the Proposed Project and related projects, are expected to be significant at five of the nine intersections analyzed prior to mitigation measure implementation. Mitigation measures for future projects which contribute to cumulative traffic growth at the study intersections shall be implemented by all related projects in coordination with the appropriate agency.

MITIGATION MEASURES

Mitigation measures have been identified for each of the intersections potentially impacted by the addition of project traffic from the Proposed Project. The development of mitigation measures was limited to those that were considered physically feasible, and could be implemented without the acquisition of additional right-of-way. The following improvements satisfy these criteria and are proposed as measures to mitigate the potential project impacts identified above:

1. Webb Way & PCH - Mitigating project impacts at the intersection of Webb Way & PCH would entail re-striping/widening Webb Way between PCH and Civic Center Way to provide a six-lane cross-section with three lanes in each direction. The northbound departure currently provides two travel lanes and widening along the east side of Webb Way north of PCH would be necessary to accommodate the additional northbound lane. The widening of Webb Way to provide a six-lane cross-section would increase the storage capacity on Webb Way in an effort to minimize the potential for overflow conditions.

The addition of dual left turn lanes to the eastbound approach on PCH is also recommended; this would entail narrowing the raised center median. The existing travel lanes on PCH at this

intersection are substandard (i.e., less than 12 feet wide). This mitigation can fit within the existing traveled way with substandard lane widths (less than 12 feet); the resulting lane configuration would consist of a raised median, an 11- and 10-foot left turn lane, one 11-foot through lane, two 10-foot through lanes, and one 11-foot right-turn lane. Shifting the east and west legs of the intersection (approach and departure) several feet to the north would allow the standard width lanes with this mitigation.

Additionally, a guide sign shall be posted facing the eastbound dual left turns from PCH onto Webb Way, so that motorists who wish to make a subsequent right turn onto east bound Civic Center Way would be directed to the “Number 2” left turn lane. The sign may have to be mounted overhead.

2. Cross Creek Road & PCH - The impact of project traffic on the intersection of Cross Creek Road & PCH could be mitigated by the addition of a right-turn lane westbound on PCH. This mitigation would improve the traffic movement along westbound PCH.

Sufficient right-of-way exists on PCH to accommodate the proposed westbound right-turn lane at Cross Creek Road. The existing roadway, however, is not centered within the existing right-of-way. In order to implement a new westbound right-turn lane at this location, the roadway centerline must be shifted to the south as PCH passes through the Cross Creek Road intersection. The mitigation would result in the loss of approximately 12 on-street parking spaces on the shoulder of the south side of PCH west of Cross Creek Road. It would also result in a substandard 11-foot left-turn lane on PCH east of Cross Creek Road, which would require Caltrans approval. If Caltrans does not approve of non-standard narrower lane widths, then roadway widening on the south side of PCH on the approach and departure legs would allow the standard width lanes for this mitigation measure.

3. Webb Way & Civic Center Way – Mitigating the project impact would entail installing a new traffic signal and widening Webb Way to a six-lane cross section south of the intersection of Civic Center Way. The northbound approach and the eastbound approach would each be re-striped to include one left-turn lane, one through lane, and one right-turn lane. The southbound approach would be widened to provide one left-turn lane and one shared through/right lane. Widening the east side of Webb Way between PCH and Civic Center Way would be necessary for the proposed six-lane cross section. Results of this signal warrant are provided in the project traffic study (see Appendix G).

No feasible mitigation measures have been identified for the following intersections and road segments:

Intersections

- Malibu Canyon Road & PCH - No feasible mitigation has been identified for this intersection. Because PCH is currently built-out, no physical improvements can be implemented without acquiring additional right-of-way. Due to physical constraints, no feasible mitigation measures

were identified for Malibu Canyon Road. For these reasons, no mitigation measures have been identified as feasible.

- Cross Creek Road & Civic Center Way – No feasible mitigation was identified for this intersection. While a physically feasible mitigation is possible for this intersection, there are overriding considerations preventing physical mitigations. The Malibu City Council adopted the Cross Creek Road Improvement Project in September 2004, under which the intersection of Cross Creek Road will be stop-controlled and narrowed to a single lane on all approaches. Providing additional traffic capacity at this intersection is considered to be undesirable by the City Council.

Roadway Segments

- Malibu Canyon Road between the Hughes Research Lab and Piuma Road – No feasible mitigation has been identified for this roadway. This two-lane segment of Malibu Canyon Road is designated as a major highway on the Los Angeles County Master Plan of Highways, with a standard 100-foot right-of-way. The actual right-of-way on this segment of Malibu Canyon Road is predominantly 80 feet. Because the roadway is located on the wall of a steep canyon between Malibu Creek and the adjacent mountainside, physical conditions in this area limit the potential for capacity enhancements (i.e., widening to four lanes). For these reasons, no feasible mitigation measures have been identified.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

The results of the analysis presented in Table V.K-9 indicates that the identified feasible mitigation improvements would mitigate project impacts at three of the five intersection locations identified in the analysis for the weekday cumulative plus project conditions. These intersections include: Webb Way and PCH, Cross Creek Road and PCH, and Webb Way and Civic Center Way. Significant and unavoidable traffic impacts would still remain at the following two intersection locations: (1) Malibu Canyon Road & PCH during the weekday a.m. and p.m. periods, and (2) Cross Creek Road and Civic Center Way during the weekday p.m. period.

As indicated in Table V.K-10, the proposed mitigation measures would also be effective in mitigating the significant impacts at the intersections of Webb Way at PCH and Cross Creek Road at PCH during the Saturday midday cumulative plus project conditions.

No feasible mitigation measures are available for the roadway segment of Malibu Canyon Road between the Hughes Research Lab and Piuma Road. Therefore, the impacts to this roadway segment would remain significant and unavoidable.

In the event the project is approved despite the significant and unavoidable traffic impacts identified above, a statement of overriding considerations will be required to be adopted by the decision makers.