3.8 TRANSPORTATION, CIRCULATION AND PARKING

This section provides an overview of traffic, circulation and parking impacts and evaluates the construction and operational impacts associated with the Proposed Project. Since the Project is the construction of parking with a rooftop athletic field to be used by the existing school use, it would not generate new trips, except for the temporary trips generated during the construction of the Project. Rather it would change turning movements. The Project includes removing Harvard-Westlake associated parking from Coldwater Canyon Avenue and providing roadway improvements to facilitate movement through the area. The analysis below is summarized from the following report – provided in **Appendix G.**

- Traffic and Parking Impact Study, Harvard-Westlake School Parking Improvement Plan, Linscott, Law and Greenspan, October 2012.

EXISTING CONDITIONS

Region

The general location of the Project in relation to the study locations and surrounding street system is presented in **Figure 2–1**. Regional access to the Project Site is provided by the U.S. 101 (Ventura) Freeway.

U.S. 101 (Ventura) Freeway is a major north-south freeway that extends across northern and southern California. In the Project vicinity, five main travel lanes are provided in each direction on the U.S. 101 Freeway. Both northbound and southbound ramps are provided on the U.S. 101 Freeway at Coldwater Canyon Avenue, which are located approximately one mile north of the Project Site.

Local Intersections and Roadways

Immediate access to the Project Site is provided by Coldwater Canyon Avenue. The following intersections were selected for analysis (the jurisdiction in which each study intersection is located is identified in parentheses):

1. Coldwater Canyon Avenue/US-101 Freeway Northbound Ramps (City of Los Angeles/Caltrans)
2. Coldwater Canyon Avenue/US-101 Freeway Southbound Ramps (City of Los Angeles/Caltrans)
3. Coldwater Canyon Avenue/Moorpark Street (City of Los Angeles)
4. Coldwater Canyon Avenue/Ventura Boulevard (City of Los Angeles)
5. Coldwater Canyon Avenue/Harvard-Westlake Driveway (City of Los Angeles)

These locations have the greatest potential to experience significant traffic impacts due to the Project because they are:

- Immediately adjacent or in close proximity to the Project Site;
- In the vicinity of the Project Site that are documented to have current or projected future adverse operational issues; and
- In the vicinity of the Project Site that are forecast to experience a relatively greater percentage of Project-related vehicular turning movements (e.g., at freeway ramp intersections).

The locations selected for analysis were based on the above criteria, existing Harvard-Westlake peak hour vehicle trip generation, the anticipated distribution of Project and construction vehicular trips and existing intersection/corridor operations.

All five study intersections selected for analysis are presently controlled by traffic signals. The existing lane configurations at the study intersections are shown in **Appendix G.** Manual traffic counts of vehicular turning movements were conducted at each of the study intersections during the weekday morning and afternoon commuter periods to determine the peak hour traffic volumes. The manual traffic counts at the study intersections were conducted from 7:00 a.m. to 10:00 a.m. to determine the AM peak commuter hour and from 3:00 p.m. to 6:00 p.m. to determine the PM peak commuter hours. Traffic volumes at the study intersections show the typical peak periods between 7:00 a.m. to 10:00 a.m. and 3:00 p.m. to 6:00 p.m. generally associated with the peak morning and afternoon commuter time periods.

Manual traffic counts of vehicular turning movements were also conducted at the existing Harvard-Westlake Campus driveways during the weekday morning and afternoon commuter periods, as well as for an additional hour from 2:00 p.m. to 3:00 p.m. in conjunction with typical p.m. peak departure patterns at the Harvard-Westlake Campus to determine the school peak hour traffic volumes. It should be noted that while school-related traffic volumes at the existing driveways showed the a.m. peak hour to be similar for both the commuter and school peak hours, school-related traffic volumes during the afternoon peak hour did not directly coincide with the highest peak of commuter afternoon traffic volumes along Coldwater Canyon Avenue. Rather, traffic volumes at the existing driveways show the typical school peak periods between 7:00 a.m. to 9:00 a.m. and 2:00 p.m. to 4:00 p.m. generally associated with the peak arrival and departure patterns of the school.

The weekday commuter AM and PM peak period manual counts of vehicle movements at the study intersections are summarized in **Table 3.8-1**. The traffic counts were conducted in January 2011, which was prior to the current City Trunk Line construction Project on Coldwater Canyon Avenue by the Department of Water and Power (thus, there were no travel lane constrictions on Coldwater Canyon Avenue at the time of the intersection traffic counts). In addition, for purposes of this analysis, the existing traffic volumes were increased by a factor of 2% in order to reflect 2012 conditions. The existing traffic volumes at the study intersections during the weekday commuter AM and PM peak hours are shown in **Appendix G**. The weekday school AM and PM peak period manual counts of vehicle movements are summarized in **Table 3.8-2.** The existing traffic volumes at the study intersections during the weekday school AM and PM peak hours are shown in **Appendix G**. Summary data worksheets of the manual traffic counts at the study intersections are contained in **Appendix G**.

TABLE 3.8-1: EXISTING TRAFFIC VOLUMES (Commuter Peak Hours)

No.	Intersection	Date	Dir.	AM Peak Hour		PM Peak Hour	
				Began	Volume	Began	Volume
1	Coldwater Canyon Avenue/ US-101 Freeway NB Ramps	01/27/2011	NB	7:30	714	5:00	1,641
			SB		1,283		888
			EB		0		0
			WB		534		588
2	Coldwater Canyon Avenue/ US-101 Freeway SB Ramps	01/27/2011	NB	7:45	1,037	5:00	1,719
			SB		1,105		1,000
			EB		300		689
			WB		0		0
3	Coldwater Canyon Avenue/Moorpark	01/27/2011	NB	8:00	700	5:00	1,469
			SB		1,005		1,010

TABLE 3.8-1: EXISTING TRAFFIC VOLUMES (Commuter Peak Hours)							
No.	**Intersection**	**Date**	**Dir.**	**AM Peak Hour**		**PM Peak Hour**	
				Began	**Volume**	**Began**	**Volume**
	Street		EB		837		712
			WB		623		804
	Coldwater Canyon Avenue/ Ventura Boulevard	01/27/2011	NB	7:45	558	4:45	1,393
			SB		963		878
			EB		1,468		1,483
			WB		957		1,560
5	Coldwater Canyon Avenue/ Harvard-Westlake Driveway	01/27/2011	NB	7:15	474	5:00	1,311
			SB		1,307		767
			EB		0		0
			WB		45		117
SOURCE: Counts Conducted by The Traffic Solution							

TABLE 3.8-2: EXISTING TRAFFIC VOLUMES (School Peak Hours)							
No.	**Intersection**	**Date**	**Dir.**	**AM Peak Hour**		**PM Peak Hour**	
				Began	**Volume**	**Began**	**Volume**
5	Coldwater Canyon Avenue/ Harvard-Westlake Driveway	01/27/2011	NB	7:15	474	2:45	1,244
			SB		1,306		742
			EB		0		0
			WB		45		131
SOURCE: Counts Conducted by The Traffic Solution							

Brief descriptions of the important roadways in the vicinity of the Development Site are as follows:

Coldwater Canyon Avenue is a north-south roadway that borders the Project Site to the east and the existing Harvard-Westlake Campus to the west. Coldwater Canyon Avenue is classified as a Secondary Highway in the City of Los Angeles General Plan Transportation Element. Two through travel lanes are provided in each direction on Coldwater Canyon Avenue north of Ventura Boulevard. One travel lane is provided in each direction on Coldwater Canyon Avenue south of Dickens Street. Separate exclusive left-turn lanes are provided on Coldwater Canyon Avenue at major intersections in the Project study area. Coldwater Canyon Avenue is posted for 35 miles per hour speed limit north of Hacienda Drive and a 30 miles per hour speed limit south of Hacienda Drive, except adjacent to Harvard-Westlake Campus where a School Zone 25 miles per hour speed limit is posted.

Halkirk Street is an east-west roadway that is located north of the Project Site. Halkirk Street is designated as a Local Street in the local Community Plan. One through travel lane is generally provided in each direction on Halkirk Street. Street intersections on Halkirk Street are currently stop-controlled in the Project area. There is no posted speed limit on Halkirk Street, thus it is assumed to be a prima-facie speed limit of 25 miles per hour.

Hacienda Drive is an east-west roadway that is located immediately south of the Project Site. Hacienda Drive has been vacated and is designated as a Private Street east of Coldwater Avenue. One through travel lane is generally provided in each direction. Street intersections on Hacienda Drive are currently stop-controlled in the Project area. There is no posted speed limit on Hacienda Drive, thus it is assumed to be a prima-facie speed limit of 25 miles per hour. West of Coldwater Canyon Avenue, immediately south of the Development Site, Hacienda Drive remains a dedicated (planned) but unimproved street.

Avenida del Sol is an east-west roadway that is located just south of the Project Site. Avenida del Sol is designated as a Local Street in the local Community Plan. One through travel lane is generally provided in each direction on Avenida del Sol. Street intersections are currently stop-controlled in the Project area. There is no posted speed limit on Avenida del Sol, thus it is assumed to be a prima-facie speed limit of 25 miles per hour.

Moorpark Street is an east-west roadway that is located north of the Project Site. Moorpark Street is designated as a Secondary Highway in the City of Los Angeles General Plan Transportation Element. One through travel lane is generally provided in each direction on Moorpark Street in the Project vicinity. Separate exclusive left-turn lanes are provided on Moorpark Street at major intersections in the Project area. Moorpark Street is posted for a 35 miles per hour speed limit in the Project vicinity.

Ventura Boulevard is an east-west roadway that is located north of the Project Site. Ventura Boulevard is designated as a Major Highway Class II in the City of Los Angeles General Plan Transportation Element. Two through travel lanes are provided in each direction on Ventura Boulevard near the Project Site. Separate exclusive left-turn lanes are provided on Ventura Boulevard at major intersections in the Project area. Ventura Boulevard is posted for a 35 miles per hour speed limit in the area.

Public Bus Transit Services

Public bus transit service in the Project study area is currently provided by the Los Angeles County Metropolitan Transportation Authority (Metro) and the Los Angeles Department of Transportation (LADOT). A summary of the existing transit service, including the transit route, destinations and peak hour headways is presented in **Table 3.8–3**. The existing public transit routes provided within the Project Site vicinity are illustrated **Appendix G**.

TABLE 3.8-3: EXISTING TRANSIT ROUTES

Route	Destinations	Roadways near Site	No. of Buses During Peak Hour		
			Dir.	AM	PM
Metro 150/240	Universal City to Canoga Park (via Studio City, Sherman Oaks, Encino, Tarzana, Reseda, Northridge, Woodland Hills, and Canoga Park)	Ventura Boulevard	EB	4	6
			WB	5	5
Metro 167	Chatsworth to Studio City (via Northridge, North Hills, Panorama City, and North Hollywood)	Coldwater Canyon, Whitsett Avenue, Ventura Boulevard, Moorpark Street	EB	1	2
			WB	2	1
Metro Rapid 750	Universal City to Warner Center (via Sherman Oaks and Tarzana)	Ventura Boulevard	EB	5	5
			WB	10	5
LADOT DASH Van Nuys/ Studio City	Van Nuys to Studio City (via Sherman Oaks)	Moorpark Street	EB	2	2
			WB	2	2
			Total	31	28

SOURCES: Los Angeles County Metropolitan Transportation Authority (Metro) and Los Angeles Department of Transportation (LADOT) websites, February 2012.

Harvard-Westlake Campus and Development Site Access

Vehicular access to the existing campus is presently provided via three driveways located on the east side of Coldwater Canyon Avenue:

- North Entrance Driveway: The North Entrance driveway is located on the east side of Coldwater Canyon Avenue at the northwest corner of the Harvard-Westlake Campus. The North Entrance driveway presently accommodates a majority of student pick-ups/drop-offs as well as access to faculty parking. The North Entrance driveway currently provides full vehicular access (i.e., left-turn and right-turn ingress and egress movements).

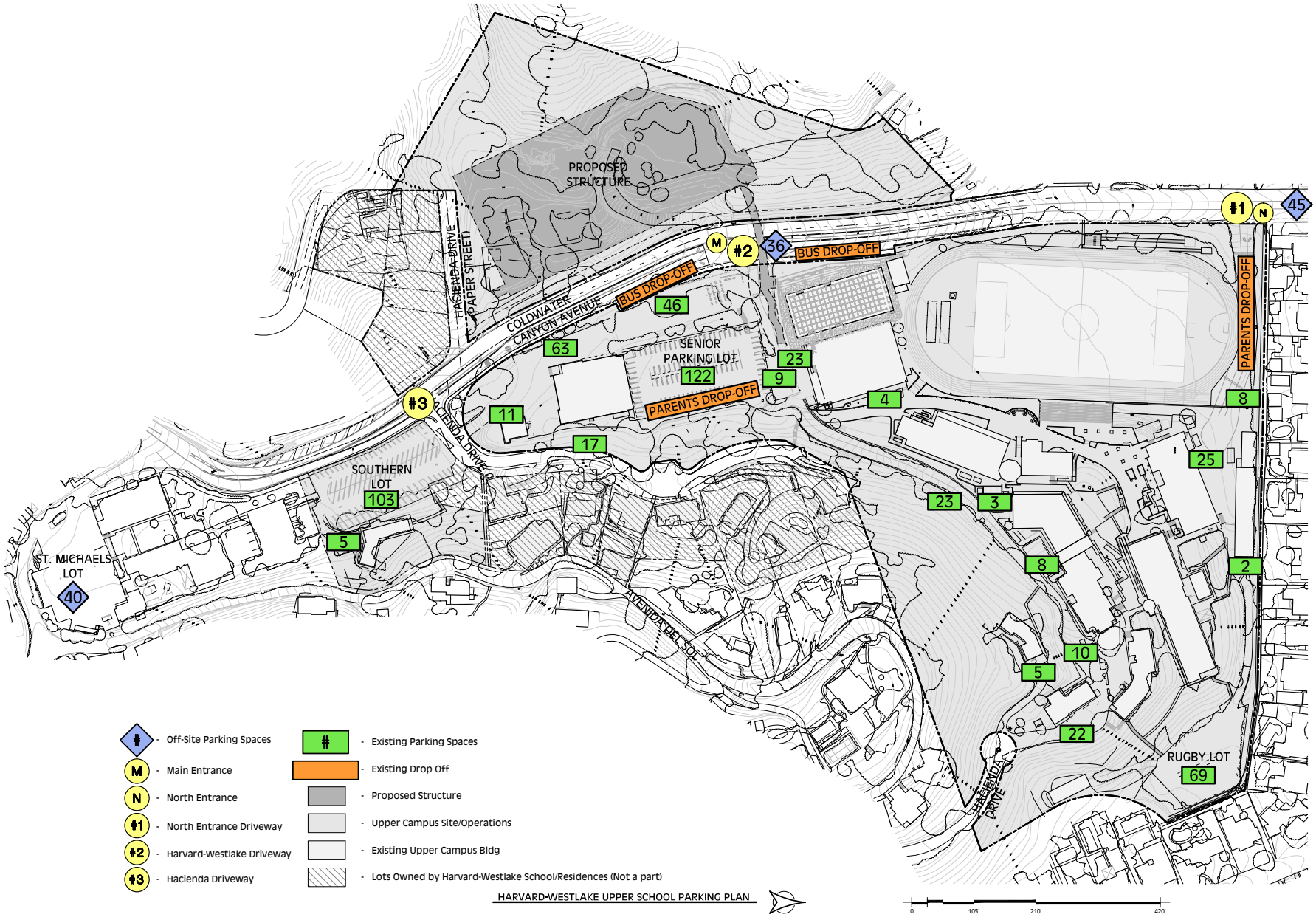
- Harvard-Westlake Driveway: The Harvard-Westlake driveway is located on the east side of Coldwater Canyon Avenue at the main entrance to the Harvard-Westlake Campus and is controlled by a traffic signal. The Harvard-Westlake driveway presently accommodates both staff and student vehicles. The Harvard-Westlake driveway currently provides full vehicular access (i.e., left-turn and right-turn ingress and egress movements).

- Hacienda Drive Driveway: The Hacienda Drive driveway is located on the east side of Coldwater Canyon Avenue at Hacienda Drive at the south end of the Harvard-Westlake Campus. The Hacienda Drive driveway presently accommodates student vehicles and provides access to the Harvard-Westlake School. In addition, the Hacienda Drive driveway provides access to the parking lot immediately south of Hacienda Drive and north of St. Michael's and All Angels Episcopal Church ("Southern Parking Lot"), which currently serves as student parking during school hours. The Hacienda Drive driveway currently provides full vehicular access (i.e., left-turn and right-turn ingress and egress movements).

Vehicular access to the Proposed Site is presently provided via two partially paved driveways on the west side of Coldwater Canyon Avenue, south of the existing Harvard-Westlake driveway and north of Hacienda Drive. Access to the Development Site would be provided solely from Coldwater Canyon Avenue; no access to the Development Site would be provided from Galewood Street, Blairwood Drive, Potosi Avenue or any other street except Coldwater Canyon Avenue.

Parking

A total of 578 parking spaces are currently required and provided on the existing Harvard-Westlake Campus. However, the existing supply of parking is insufficient to accommodate existing parking demand during regular school days, or during school-related activities that occur outside regular school hours such as football games and graduation. Approximately 400 students, 185 faculty and staff, 50 vendors and 30 coaches drive to school on a typical school day. In addition, parents, student athletes from other schools, and visitors come to the campus on a regular basis. Students who do not drive or take a bus, carpool with other students or are dropped off and picked up by parents. Harvard-Westlake estimates that football games have an attendance of approximately 1,500 to 2,000 people and an associated demand for approximately 800 parking spaces. Graduation attracts approximately 5,000 people with an associated demand for approximately 1,800 spaces. As a result, school-related vehicles regularly park on-street on Coldwater Canyon Avenue, as well as in the residential neighborhood nearby (see **Appendix G**, *Table 6-3*). Existing Parking areas and drop-off zones are shown in **Figure 3.8-1**.



SOURCE: IDG Parkitects, Inc.

Figure 3.8-1

Existing Parking and Drop Off Zones

Harvard-Westlake currently undertakes a number of measures to reduce trips. These measures include:

- Bus Service: Approximately one-third of the students arrive to Harvard-Westlake via the school's bus service (approximately 300 riders). Currently, Harvard-Westlake operates eight bus lines, together servicing both the San Fernando Valley and Westside. To encourage use of the bus service, Harvard-Westlake subsidizes approximately 50% of the costs through the parking fees charged to students who drive to school. Approximately 8 students take the Metro bus system to school (Harvard-Westlake provides no incentives to ride the Metro bus).

- Discounts for Carpoolers: Students who drive to school are charged a parking fee, however, reductions in the fees are provided to students who arrive to school with one or more passengers. As noted above, the fees collected from student drivers are used to subsidize the school's bus service.

- Ride-Matching: Harvard-Westlake provides ride-matching services for purposes of forming carpools.

REGULATORY FRAMEWORK

County

Congestion Management Program: The 2010 Congestion Management Program (CMP) for Los Angeles County (adopted October 28, 2010) was developed in part to link local land use decisions with their impacts on regional transportation. The CMP identifies a system of highways and roadways, with minimum levels of service performance measurements designated at LOS E (unless exceeded in base year conditions) for highway segments and key roadway intersections on this system. A traffic impact analysis (TIA) is required for projects that generate at least 50 new trips at CMP intersections during the peak hour or 150 trips to mainline freeway locations. The analysis must: investigate measures which will mitigate the significant CMP system impacts; develop cost estimates, including the fair share costs to mitigate impacts of the proposed project; and, indicate the responsible agency. Selection of final mitigation measures is left at the discretion of the local jurisdiction. Once a mitigation program is selected, the jurisdiction self-monitors implementation through the existing mitigation monitoring requirements of CEQA.

City of Los Angeles

The site of the proposed Parking Structure is located along the west side of Coldwater Canyon Avenue. Provisions in the Municipal Code require the City to consider half-street dedications and improvements for roadways adjacent to development sites in accordance with adopted standards in the Transportation Element of the General Plan. Coldwater Canyon is designated as a Secondary Highway in the Transportation Element of the City of Los Angeles General Plan. Coldwater Canyon Avenue is designated as a Secondary Highway in the Transportation Element of the City of Los Angeles General Plan. The standard cross-section for a Secondary Highway is a 70-foot roadway on a 90-foot right-of-way (or a 35-foot half roadway on a 45-foot half right-of-way as measured from the centerline). Review of City as-built plans show an existing half roadway width of 24 feet and a half right-of-way width of 30 feet along the west side of Coldwater Canyon Avenue adjacent to the Project Site.

THRESHOLDS OF SIGNIFICANCE

The relative impact of the added traffic volumes to be generated by the construction phases of the Proposed Project during the weekday commuter AM and PM peak hours was evaluated based on analysis

of existing and future operating conditions at the study intersections, without and with the construction traffic. Likewise, the relative impact of the shifted Project traffic volumes during the school AM and PM peak hours, as discussed in detail in the Project Operation Traffic Analysis below, was evaluated based on analysis of existing and future operating conditions at the study intersections, without and with the Proposed Project. The capacity analysis procedures (see methodology discussion below) were utilized to evaluate the future volume-to-capacity (*v/c)* relationships and service level characteristics at each study intersection.

The significance of the potential impacts of construction and Project-related traffic was identified using the traffic impact criteria set forth in LADOT's *Traffic Study Policies and Procedures,* May, 2012. According to the City's published traffic study guidelines, the impact is considered significant if the construction or Project-related increase in the *v/c* ratio equals or exceeds the thresholds presented in **Table 3.8–4**.

TABLE 3.8-4: INTERSECTION IMPACT THRESHOLD CRITERIA

Final *v/c*	Level of Service	Project Related Increase in *v/c*
> 0.701 - 0.800	C	equal to or greater than 0.040
> 0.801 - 0.900	D	equal to or greater than 0.020
>0.901	E or F	equal to or greater than 0.010

The City's Sliding Scale Method requires mitigation of Project traffic impacts whenever traffic generated by the proposed development causes an increase of the analyzed intersection *v/c* ratio by an amount equal to or greater than the values shown above.

CMP Intersections

According to Section D.9.1 (Appendix D, page D-6) of the 2010 CMP manual, the criteria for determining a significant transportation impact is listed below:

> "A significant transportation impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity (V/C $\geq$ 0.02), causing or worsening LOS F (V/C > 1.00)."

The CMP impact criteria apply for analysis of both intersection and freeway monitoring locations.

IMPACTS

Project Access

Vehicular access to the Project Site would be provided via two driveways located along the west side of Coldwater Canyon Avenue. Descriptions of the Project Site driveways are provided in the following paragraphs:

- *Northerly Project Driveway:* The northerly Project driveway would be located on the west side of Coldwater Canyon Avenue at the northeast corner of the Parking Structure. The northerly Project driveway would be located directly across from the Harvard-Westlake driveway following the relocation of the existing traffic signal. The northerly Project driveway would provide primary

access into the proposed Parking Structure and will accommodate full vehicular access (i.e., left-turn and right-turn ingress and egress movements).

- *Southerly Project Driveway:* The southerly Project driveway would be located on the west side of Coldwater Canyon Avenue at the southeast corner of the Project Site. The southerly Project driveway would provide secondary access to the proposed Parking Structure and would accommodate limited vehicular access (i.e., right-turn ingress and right-turn egress movements, with left-turn egress permitted outside of the weekday period 7:00 a.m. – 7:00 p.m.).

No access to the Project Site would be provided from Galewood Street, Blairwood Drive, Potosi Street, or any other street except Coldwater Canyon Avenue.

The Project includes a new pedestrian bridge crossing Coldwater Canyon Avenue, connecting the proposed Parking Structure to the Harvard-Westlake School. The proposed pedestrian bridge would allow for safe crossing between the Parking Structure and the Campus on the east side of Coldwater Canyon Avenue without stopping vehicles traveling north and south along Coldwater Canyon Avenue. The pedestrian bridge would measure 163 feet long and 13 feet wide and would provide a minimum clearance of 25-feet and 7-inches above Coldwater Canyon Avenue. Connection to the pedestrian bridge would be provided at Level 2 of the proposed Parking Structure and a bridge landing on the existing campus. Due to safety reasons and the danger of speeding vehicles currently traveling along Coldwater Canyon Avenue, no pedestrian access to the Project Site will be provided from the street. Pedestrians would access the Harvard-Westlake School from the Parking Structure, and vice versa, only via the proposed pedestrian bridge crossing Coldwater Canyon Avenue. The bridge would be enclosed with a metal screen over Coldwater Canyon Avenue (between the elevator towers) to prevent objects from being thrown from the bridge. The bridge would be secured when the school is closed to prevent unauthorized access to the bridge.

Project Roadway Improvements

As noted above, provisions in the Municipal Code require the City to consider half-street dedications and improvements for roadways adjacent to development sites in accordance with adopted standards in the Transportation Element of the General Plan. Coldwater Canyon Avenue is designated as a Secondary Highway in the Transportation Element of the City of Los Angeles General Plan. The standard cross-section for a Secondary Highway is a 70-foot roadway on a 90-foot right-of-way (or a 35-foot half roadway on a 45-foot half right-of-way as measured from the centerline).

Review of City as-built plans show an existing half roadway width of 24 feet and a half right-of-way width of 30 feet along the west side of Coldwater Canyon Avenue adjacent to the Project Site. Therefore, the Proposed Project includes the dedication on the west side of Coldwater Canyon Avenue along the school's property frontage by 15 feet to provide the City's standard half right-of-way dimension for Secondary Highways as measured from the roadway centerline. On the southbound Coldwater Canyon Avenue approaches to the two driveways proposed to serve the Parking Structure, the widening of 11 feet is proposed to provide the minimum 35-foot half-street dimension. The roadway widening is proposed at the driveway approaches so as to allow for the striping of separate right-turn lanes for each intersection. Specifically, the widening will allow for a separate 300-foot long northbound left-turn lane and a 200-foot long southbound right-turn lane at the northerly-signalized intersection. A separate 100-foot southbound right-turn lane will also be provided at the southerly driveway. Two southbound through lanes on Coldwater Canyon Avenue will also be installed to provide additional capacity for southbound traffic and minimize potential delay and loss of green-time to non-School related vehicles on Coldwater Canyon Avenue (see **Figure 2-16, Traffic and Parking Improvements**).

In summary, the following Coldwater Canyon Avenue Project roadway improvement features are proposed in conjunction with the Project:

- Provide one northbound through lane and two southbound through lanes on Coldwater Canyon Avenue along the Project frontage (i.e., addition of one southbound through lane);

- At the intersection of Coldwater Canyon Avenue and the Proposed Project's northerly driveway opposite the relocated Harvard-Westlake driveway, provide:

    - Northbound: One left-turn lane, one through lane and one right-turn lane;
    - Southbound: One left-turn lane, two through lanes and one right-turn lane;
    - Eastbound: One left-turn lane and one optional through/right-turn lane; and
    - Westbound: One left-turn lane and one optional through/right-turn lane;

- Also at the intersection of Coldwater Canyon Avenue and the Proposed Project's northerly driveway opposite the relocated Harvard-Westlake driveway, provide new traffic signal equipment, including left-turn phasing for northbound and southbound Coldwater Canyon Avenue traffic, and LADOT's ATSAC/ATCS equipment with connection to the Coldwater Canyon Avenue intersection at Ventura Boulevard;

- At the intersection of Coldwater Canyon Avenue and the Proposed Project's southerly driveway, provide:

    - Northbound: One through lane (i.e., no left-turns from northbound Coldwater Canyon Avenue to the southerly driveway will be permitted);
    - Southbound: Two through lanes and one right-turn lane; and
    - Eastbound: One optional left-turn/right-lane (controlled by a stop sign, with no left-turns permitted weekdays 7:00 a.m. – 7:00 p.m.).

Intersection Analysis

Methodology

In order to estimate the traffic impact characteristics of the proposed Parking Structure and associated roadway improvements, a multi-step process has been utilized. The first step is trip generation, which estimates the total arriving and departing traffic volumes on a peak hour and daily basis. Trip generation was considered for both the period during construction of the Project, as well as following completion and occupancy of the Project. A trip generation forecast was prepared for the construction traffic related to the development of the Proposed Project. A trip generation forecast was not required for operation of the Parking Structure as the Project would not generate new vehicle trips to and from the site since there would be no changes in student enrollment. The second step of the forecasting process is trip distribution, which identifies the origins and destinations of inbound and outbound Project traffic volumes, or in this case, the inbound and outbound construction traffic volumes. These origins and destinations are typically based on demographics and existing/anticipated travel patterns in the study area.

The third step is traffic assignment, which involves the allocation of the construction traffic to study area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds. Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway links and intersection turning movements throughout the study area. In addition to the traffic assignment of Project construction traffic, a localized

distribution shift and traffic assignment was conducted for school-related traffic volumes following completion of the Proposed Project. This traffic assignment is based on the shift of the majority of school-related traffic due to the Project features of the Proposed Project.

With the forecasting process complete and the construction and Project traffic assignments developed, the impact of the construction phases related to the Proposed Project as well as the Project features of the Proposed Project is isolated by comparing operational (i.e., Levels of Service) conditions at the selected key intersections using expected future traffic volumes without and with forecast Project traffic. The need for site-specific and/or cumulative local area traffic improvements can then be evaluated and the significance of the Project's impacts identified.

The study intersections were evaluated using the Critical Movement Analysis (CMA) method of analysis that determines Volume-to-Capacity (*v/c*) ratios on a critical lane basis. The overall intersection *v/c* ratio is subsequently assigned a Level of Service (LOS) value to describe intersection operations. Level of Service varies from LOS A (free flow) to LOS F (jammed condition). A description of the CMA method and corresponding Level of Service is provided in **Appendix G**.

The City of Los Angeles Automated Traffic Surveillance and Control (ATSAC) and Adaptive Traffic Control System (ATCS) provides computer control of traffic signals allowing automatic adjustment of signal timing plans to reflect changing traffic conditions, identification of unusual traffic conditions caused by accidents, the ability to centrally implement special purpose short term traffic timing changes in response to incidents, and the ability to quickly identify signal equipment malfunctions. ATCS provides real time control of traffic signals and includes additional loop detectors, closed-circuit television, an upgrade in the communications links, and a new generation of traffic control software. LADOT estimates that the ATSAC system reduces critical *v/*c ratios by seven percent (0.07). The ATCS upgrade further reduces the critical *v/c* ratios by three percent (0.03) for a total of 10 percent (0.10). Four of the five signalized study intersections (i.e., all of the study intersections except Coldwater Canyon Avenue/Harvard-Westlake Driveway) are currently equipped with the ATSAC/ATCS signal upgrades as part of the LADOT Victory ATSAC/ATCS system (System No. 6). Accordingly, the Level of Service calculations reflect a 0.10 adjustment for all analysis scenarios evaluated. As discussed above, in conjunction with the Project, the modified signalized intersection of Coldwater Canyon Avenue and the Harvard-Westlake Driveway (opposite the proposed northerly entrance to the Parking Structure) would be connected to the LADOT ATSAC/ATCS system. Thus, the 0.10 adjustments in the *v/c* ratios were incorporated at this intersection in conditions with Project-related traffic.

Construction Assumptions

It is assumed that excavation would occur on the Project Site during the first year of construction. It is also assumed that following completion of the initial phase of excavation, final grading and structure construction would begin on the site. It is estimated that excavation would require the removal of approximately 135,000 cubic yards of material from the site. It is anticipated that the equipment staging area and construction worker parking during the initial phases of construction grading, as well as after the start of construction, will occur on the Project Site.

The following truck trips were estimated for each of the construction phases: 1) construction grading and material export: 30-50 trucks per day and 2) final grading and structure construction: 18-22 trucks per day. In addition, the following construction worker estimates were estimated for each of the construction phases: 1) construction grading and material export: 16-20 workers and 2) final grading and structure construction: 35-45 workers.

Based on the review and mapping of these construction phases, it has been determined that the peak construction activity and the corresponding highest number of vehicle/truck trips would occur during the construction grading and material export phase. Thus, the greatest potential for impact on the adjacent street system would occur during this peak condition.

Construction Traffic Analysis

Construction Grading and Material Export Phase

Construction workers are expected to typically arrive at the Project Site before 7:00 a.m. and most will depart before 4:00 p.m. or after 6:00 p.m. Thus, these construction work trips would occur outside of the peak hour of traffic on the local street system. The peak hour of traffic at the study intersections in the vicinity of the Project Site begins between 7:15 and 8:00 a.m. during the morning commuter period, and begins between 4:45 p.m. and 5:00 p.m. during the afternoon commuter period. However, in order to conduct a more conservative analysis, it was assumed that approximately ten percent of the total daily construction worker trips would occur during the commuter peak hours.

Approximately 20 construction workers will be on-site during the construction grading and material export phase of the Proposed Project and would remain on-site throughout the day. It is also assumed that each construction worker would take their own vehicle to the construction site. Therefore, it is estimated that approximately 40 vehicle trips per day (i.e., 20 inbound trips and 20 outbound trips) would be generated by the construction workers during the construction grading and material export phase at the Project Site. During peak hours, it is estimated that ten percent of the workers would arrive during the AM peak hour (i.e., 2 workers) and ten percent of the workers would depart during the PM peak hour.

Heavy construction equipment would be located on-site during grading activities and would not travel to and from the Project Site on a daily basis. However, truck trips would be generated during the construction grading and material export period, so as to remove material (from excavation) from the Project Site. It is anticipated that with respect to these excavation (haul) trucks, trucks would be stationed at a designated location until called up by the on-site dispatcher for the export of excavated soils. From the queue, trucks would proceed directly to the jobsite. Furthermore, trucks are expected to exit the site onto Coldwater Canyon Avenue, proceed to the Southbound US-101 (Ventura) Freeway, and carry the export material to a receptor site located within 35 miles of the Project Site.

The Project applicant anticipates that trucks with a capacity of 20 cubic yards of material per truck carrying 14 cubic yards of material would be used during the export period. During the peak of the construction grading and material export phase, up to 100 truck trips per day (i.e., 50 inbound trips and 50 outbound trips) are anticipated. To conservatively estimate the equivalent number of vehicles associated with the trucks, a passenger car equivalency factor of 2.0 truck trips was utilized based on standard traffic engineering practice. The use of the 2.0 passenger car equivalent (PCE) in the forecast of construction-related traffic is very conservative ("worst case") as the *Highway Capacity Manual 2010*[1] recommends a lower PCE factor of 1.5 for roadways similar in design to Coldwater Canyon Avenue. Therefore, conservatively assuming 100 truck trips, it is estimated that trucks would generate approximately 200 passenger car equivalent vehicle trips (i.e., 100 PCE inbound trips and 100 PCE outbound trips) on a daily basis. Of the 200 PCE daily vehicle trips, it is estimated that approximately 20 PCE vehicle trips (10 inbound trips and 10 outbound trips) would occur during the weekday commuter AM peak hour and the weekday commuter PM peak hour, assuming ten percent of the daily truck trips occur during the peak hours.

[1] *Highway Capacity Manual 2010*, Transportation Research Board of the National Academy of Sciences, December 2010.

Taken together, the construction worker vehicles and haul trucks are forecast to generate 240 PCE vehicle trips per day (i.e., 120 inbound trips and 120 outbound trips) during the construction grading and material export phase at the site. During the weekday commuter AM peak hour and the weekday commuter PM peak hour, it is estimated that approximately 22 PCE vehicle trips would be generated during each of these peak hours.

Final Grading and Structure Construction Phase

As mentioned above, construction workers are expected to typically arrive at the Project Site before 7:00 a.m. and most will depart before 4:00 p.m. or after 6:00 p.m.. Thus, these construction work trips would occur outside of the peak hour of traffic on the local street system. However, in order to conduct a more conservative analysis, it was assumed that approximately ten percent of the total daily construction worker trips would occur during the commuter peak hours.

Based on information received from the Applicant, it is anticipated that approximately 45 construction workers will be on-site during the final grading and structure construction phase of the Proposed Project and would remain on-site throughout the day. It is also assumed that each construction worker would take their own vehicle to the construction site. Therefore, it is estimated that approximately 90 vehicle trips per day (i.e., 45 inbound trips and 45 outbound trips) would be generated by the construction workers during the final grading and structure construction phase at the Project Site. During peak hours, it is estimated that ten percent of the workers would arrive during the a.m. peak hour (i.e., 5 workers) and ten percent of the workers would depart during the p.m. peak hour.

In addition to construction worker vehicles, additional trips may be generated by miscellaneous trucks traveling to and from the Project Site. These trucks may consist of larger vehicles delivering equipment and/or construction materials to the Project Site, or smaller pick-up trucks or four-wheel drive vehicles used by construction supervisors and/or City inspectors. During peak construction phases, it is estimated that approximately 44 trips per day would be made by miscellaneous trucks. To conservatively estimate the equivalent number of vehicles associated with the trucks, a passenger car equivalency factor of 2.0 truck trips was utilized based on standard traffic engineering practice. As previously noted, the use of the 2.0 passenger car equivalent (PCE) in the forecast of construction-related traffic is very conservative ("worst case") as the *Highway Capacity Manual 2010* recommends a lower PCE factor of 1.5 for roadways similar in design to Coldwater Canyon Avenue. Therefore, conservatively assuming 44 daily truck trips, it is estimated that trucks would generate approximately 88 passenger car equivalent vehicle trips (i.e., 44 PCE inbound trips and 44 PCE outbound trips) on a daily basis. Of the 88 PCE daily vehicle trips, it is estimated that approximately 8 PCE vehicle trips (4 inbound trips and 4 outbound trips) would occur during the weekday commuter AM peak hour and the weekday commuter PM peak hour, assuming ten percent of the daily truck trips occur during the peak hours.

Taken together, the construction worker vehicles and miscellaneous trucks are forecast to generate 178 PCE vehicle trips per day (i.e., 89 inbound trips and 89 outbound trips) during the final grading and structure construction phase at the site. During the weekday commuter AM peak hour and the weekday commuter PM peak hour, it is estimated that approximately 13 PCE vehicle trips would be generated during each of these peak hours.

The construction trip generation forecasts for both the construction grading/material export and final grading/structure construction phases of the Proposed Project are presented in **Appendix G**. Activities related to the construction grading and material export phase would generate a higher number of PCE vehicle trips as compared to the construction grading and structure construction phase. Thus, the greatest

potential for impact on the adjacent street system would occur during the construction grading and material export phase.

Construction Traffic Distribution

Construction traffic was assigned to the local roadway system based on a traffic distribution pattern that reflects existing traffic movements, characteristics of the surrounding roadway system, and nearby employment and residential areas. Construction traffic volumes both entering and exiting the Project Site have been distributed and assigned to the adjacent street system based on the following considerations:

- The site's proximity to major traffic corridors (i.e. U.S. 101 Freeway, Coldwater Canyon Avenue, Ventura Boulevard, etc.);
- Expected localized traffic flow patterns based on adjacent roadway channelization and presence of traffic signals;
- Existing intersection traffic volumes;
- Ingress/egress availability at the Project Site during all construction phases of the Proposed Project;
- The location of existing and proposed parking areas for both construction machinery and construction worker vehicles;
- The location of potential haul sites; and
- Input from LADOT staff

The construction traffic distribution percentages at the study intersections are illustrated in **Appendix G** (*Figure 8-1*). The forecast weekday commuter AM and PM peak hour construction traffic volumes at the study intersections associated with the Proposed Project are displayed in **Appendix G** (Figure 8–2). The traffic volume assignments reflect the traffic distribution characteristics and the construction traffic generation forecast.

Construction Traffic Intersection Analysis

Pursuant to LADOT's traffic study guidelines, Level of Service calculations have been prepared for the following scenarios for the study intersections to evaluate the traffic effects related to construction of the Project:

(a) Existing (2012) conditions.
(b) Condition (a) with Project construction phase.
(c) Condition (b) with implementation of any Project construction mitigation measures (none are required for the Project).
(d) Condition (a) plus two percent (2.0%) annual ambient traffic growth through year 2016 and with completion and occupancy of the related projects (i.e., future cumulative without project).
(e) Condition (d) with Project construction phase.
(f) Condition (e) with implementation of any project construction mitigation measures (none are required for the Project).

The traffic volumes for each new condition were added to the volumes in the prior condition to determine the change in capacity utilization at the study intersections.

The construction traffic impact analysis prepared for the study intersections using the CMA methodology and application of the City of Los Angeles significant impact criteria is summarized in **Table 3.8-4**. The

calculation worksheets for the construction traffic analyses using the CMA methodology are contained in **Appendix G**.

Existing Conditions. As indicated in **Table 3.8-5**, four of the five study intersections are presently operating at LOS D or better during the weekday commuter a.m. and p.m. peak hours under existing conditions. The following study intersection is currently operating at LOS E during the peak hour as shown below under existing conditions:

- Int. No. 5: Coldwater Canyon Avenue/ Harvard-Westlake Driveway — PM Peak Hour: v/c=0.951, LOS E

The existing traffic volumes at the study intersections during the weekday commuter a.m. and p.m. peak hours are shown in the Traffic Study in **Appendix G** (*Figures 6-1* and *6-2* respectively).

Existing With Construction Traffic. As indicated in **Table 3.8-5**, application of the City's threshold criteria to the "Existing With Construction" scenario indicates that the construction phase is not expected to create significant impacts at the five study intersections. Incremental, but not significant, impacts are noted at the study intersections. The existing with construction traffic volumes at the study intersections during the weekday commuter AM and PM peak hours are illustrated in the Traffic Study in **Appendix G** (*Figures 10–1* and *10–2,* respectively).

Future Cumulative without Project Construction Traffic Conditions. The future cumulative without project conditions were forecast based on the addition of traffic generated by the plus completion and occupancy of related projects, as well as the growth in traffic due to the combined effects of continuing development, intensification of existing developments and other factors (i.e., ambient growth). The v/c ratios at all of the study intersections are incrementally increased with the addition of ambient traffic and traffic generated by the related projects listed in **Table 3.8-7**. As presented in **Table 3.8-5**, two of the five study intersections are expected to continue operating at LOS D or better during the weekday commuter AM and PM peak hours with the addition of growth in ambient traffic and related project traffic under the future cumulative baseline conditions (No. 1, Coldwater Canyon Avenue/US-101 Freeway NB ramps, No. 2, Coldwater Canyon Avenue/US-101 Freeway SB Ramps). The following study intersections are expected to operate at LOS E or F during the peak hours shown below with the addition of ambient traffic and related project traffic:

- Int. No. 3: Coldwater Canyon Avenue/ Moorpark Street — PM Peak Hour: *v/c*=0.982, LOS E
- Int. No. 4: Coldwater Canyon Avenue/ Ventura Boulevard — PM Peak Hour: *v/c*=0.984, LOS E
- Int. No. 5: Coldwater Canyon Avenue/ Harvard-Westlake Driveway — PM Peak Hour: *v/c*=1.040, LOS F

The future cumulative without Project (existing, ambient growth, and related projects) traffic volumes at the study intersections during the weekday commuter AM and PM peak hours are presented in **Appendix G** (*Figures 10–3* and *10–4*, respectively).

TABLE 3.8-5: CONSTRUCTION TRAFFIC IMPACT (AM AND PM PEAK HOURS)

No.	Intersection	Peak Hour	Year 2012 Existing		Year 2012 Existing with Construction Traffic		V/C Change	Sig. Impact ?	Year 2016 Future		Year 2016 Future With Construction		V/C Change	Sig. Impact ?
			V/C	LOS	V/C	LOS			V/C	LOS	V/C	LOS		
1	Coldwater Canyon Avenue/ US-101 Freeway NB Ramps	AM	0.504	A	0.506	A	0.002	NO	0.589	A	0.592	A	0.003	NO
		PM	0.492	A	0.494	A	0.002	NO	0.552	A	0.554	A	0.002	NO
2	Coldwater Canyon Avenue/ US-101 Freeway SB Ramps	AM	0.562	A	0.569	A	0.007	NO	0.628	B	0.635	B	0.007	NO
		PM	0.576	A	0.579	A	0.003	NO	0.645	B	0.648	B	0.003	NO
3	Coldwater Canyon Avenue/ Moorpark Street	AM	0.689	B	0.692	B	0.003	NO	0.767	C	0.770	C	0.003	NO
		PM	0.880	D	0.884	D	0.004	NO	0.982	E	0.986	E	0.004	NO
4	Coldwater Canyon Avenue/ Ventura Boulevard	AM	0.776	C	0.780	C	0.004	NO	0.874	D	0.878	D	0.004	NO
		PM	0.877	D	0.882	D	0.005	NO	0.984	E	0.988	E	0.004	NO
5	Coldwater Canyon Avenue/ Harvard-Westlake Driveway	AM	0.761	C	0.776	C	0.015	NO	0.836	D	0.851	D	0.015	NO
		PM	0.951	E	0.959	E	0.008	NO	1.040	F	1.048	F	0.008	NO

SOURCE: LLG Traffic Engineers, 2012

Future Cumulative with Project Construction Traffic Conditions. As shown in **Table 3.8-5**, application of the City's threshold criteria to the "Future With Construction" scenario indicates that the Proposed Project is not expected to create significant impacts at the five study intersections. Incremental, but not significant, impacts are noted at the study intersections and two of the five study intersections are expected to continue operating at LOS D or better during the weekday commuter AM and PM peak hours with the addition of growth in ambient traffic, related project traffic, and construction traffic.

The future cumulative with construction (existing, ambient growth, related projects, and construction) traffic volumes at the study intersections during the weekday commuter AM and PM peak hours are illustrated in **Appendix G**, (*Figures 10-5* and *10–6*, respectively).

Project Operation Traffic Analysis

The Proposed Project consists of the construction of a Parking Structure with an auxiliary athletic field and a pedestrian bridge connecting the new Parking Structure to the Harvard-Westlake School. No increase in student enrollment or faculty is proposed as part of the Project. Therefore, the Project will not generate new vehicle trips to the study area. Some localized shifts in existing trips are expected, which are described in a following section.

Project-Related Localized Distribution Shift and Assignment

The peak hour traffic volumes that would be anticipated to enter and exit the Project Parking Structure were forecast based on the existing traffic counts conducted at all of the school driveways during the school peak hours. In conducting the localized Project trip distribution shift it was assumed that vehicles approaching the site would continue to do so in a manner similar to existing conditions (e.g., a vehicle that currently approaches the site from the north and turns left from Coldwater Canyon Avenue into the Harvard-Westlake School would in the future turn right into the proposed Parking Structure). As previously noted, the proposed Parking Structure is intended to accommodate parking for all students (whether currently parking on the Campus or on-street) as well as parking for some faculty, staff and visitors. Student drop-offs and pick-ups will continue to be accommodated on east side of Coldwater Canyon Avenue; no student drop-offs and pick-ups will be permitted within the proposed Parking Structure or on Coldwater Canyon Avenue. Additionally, student drop-offs and pick-ups related to the Harvard-Westlake school buses would be shifted from Coldwater Canyon Avenue to occur in the existing Southern Parking Lot (see **Figure 3.8-1 Existing Parking and Drop Off Zones**).

Accordingly, the vehicular turning movement volumes at the northerly Parking Structure driveway were forecast based on the conservative assumption that during the school AM peak hour, nearly all of the existing school-related vehicles associated with student parking, as well as some faculty/staff parkers either turning into the Harvard-Westlake School or utilizing on-street parking on Coldwater Canyon Avenue or the adjacent residential neighborhood would instead utilize the proposed northerly driveway into the Parking Structure. As for the PM peak hour, it was assumed that all vehicles exiting the Parking Structure onto northbound Coldwater Canyon Avenue would do so from the northerly Parking Structure driveway. For vehicles exiting the structure onto southbound Coldwater Canyon Avenue, it was assumed that the majority of vehicles (i.e., approximately 75 percent) would exit the Parking Structure from the southerly Parking Structure driveway and that the remaining 25 percent of southbound vehicles would exit the Parking Structure from the northerly Parking Structure driveway.

There were several factors considered in preparing the localized Project trip distribution shift. First, as previously noted, student drop-off/pick-up at the school will continue to take place on the Campus east of Coldwater Canyon Avenue via the North Entrance and Main Entrance driveways and will not be moved

to the proposed Parking Structure. Thus, no distribution shifts were made for vehicles assumed to be dropping-off/picking-up students during both the AM and PM school peak hours.

Second, parking will continue to be provided in lots on the Campus on the east side of Coldwater Canyon Avenue. However, student parking currently provided in the on-campus Southern Parking Lot located immediately south of Hacienda Drive, as well as student parking currently provided in the off-site parking lot located immediately north of Avenida del Sol (St. Michael's Church Lot) is assumed to be shifted to the new Parking Structure following Project build-out. Existing parking areas are shown in **Figure 3.8-1**. Access to the existing Campus parking lots is currently provided via the Harvard-Westlake driveway and the Hacienda Drive driveway. Access to the Southern Parking Lot is provided solely via the Hacienda Drive driveway. Based on the total parking supply of existing spaces to remain in parking lots on the Campus on east side of Coldwater Canyon Avenue, plus the proposed spaces in the future Parking Structure, it was estimated that approximately 20 percent of the existing turning movements into the existing campus parking lots would continue to utilize the Main Entrance and Hacienda Drive driveways to access the campus parking lots on the east side of Coldwater Canyon Avenue. The remaining 80 percent of vehicles at said driveways were shifted to the future northerly Parking Structure driveway.

As previously mentioned, the Southern Parking Lot located immediately south of Hacienda Drive would no longer be available for student parking following Project build-out. Instead, the Southern Parking Lot will be utilized for school bus drop-off/pick-up and school bus turnaround and will serve as overflow parking for school-related special events. As a result, school bus activities would no longer be taking place along the east side of Coldwater Canyon Avenue. Based on information from the Applicant, it was assumed that two buses arrive at the campus from the north (i.e., traveling southbound on Coldwater Canyon from the U.S. 101 Freeway) and six buses arrive at the campus from the south (i.e., traveling northbound on Coldwater Canyon Avenue). Hence, bus traffic was shifted accordingly to the Hacienda Drive driveway from Coldwater Canyon Avenue.

Lastly, it should be noted that on-street parking currently permitted along the east side of Coldwater Canyon Avenue between the North Entrance driveway and the Hacienda Drive driveway would be removed as part of the Proposed Project. Thus, vehicles that currently park on-street on Coldwater Canyon Avenue were shifted accordingly to instead park in the proposed Parking Structure. In addition, it was noted during field observations that some students park in the adjacent residential neighborhood located north of existing Harvard-Westlake Campus during school hours. To account for this, parking utilization counts were conducted in these adjacent residential neighborhoods to determine the approximate number of school-related vehicles that currently park there. As seen in **Appendix G** (*Table 6-3),* on-street parking in the adjacent residential neighborhood increased from 41 parked vehicles at 7:00 a.m. to 69 parked vehicles at 9:00 a.m. Assuming the increased parking demand is related to school-related parkers, this would be approximately 28 vehicles (these 28 vehicles would easily be accommodated within the proposed increased parking supply of 507 spaces during regular days and 610 spaces during special events – see discussion of parking below).[2] Therefore, based on the total amount of on-street vehicles, it was assumed that these vehicles parked in the adjacent residential neighborhood were school-related vehicles and were shifted accordingly to instead park in the proposed Parking Structure.

The shifted net Project traffic volumes at the study intersections for the weekday school AM and PM peak hours are displayed in **Appendix G** (Figures 8-3 and 8-4, respectively). The breakdown of the shifts of Project traffic volumes by specific location and/or population can be found in **Appendix G**.

[2] The enrollment at Harvard-Westlake is maintained at approximately 900 students per year – 300 students in each grade – 10th, 11th and 12th, enrollment fluctuates due to a variety of factors.

Project Occupancy Traffic Impact Analysis Scenarios

Pursuant to LADOT's traffic study guidelines, Level of Service calculations have been prepared for the following scenarios for the study intersection to evaluate the traffic effects related to occupancy of the Project:

(a) Condition (b) with implementation of any Project mitigation measures (none are required for the Project).
(b) Condition (a) plus two percent (2.0%) annual ambient traffic growth through year 2016 and with completion and occupancy of the related projects (i.e., future cumulative without Project).
(c) Condition (d) with completion and occupancy of the Project.
(d) Condition (e) with implementation of any Project mitigation measures (none are required for the Project.

The traffic volumes for each new condition were added to the volumes in the prior condition to determine the change in capacity utilization at the study intersections.

The Project occupancy traffic impact analysis prepared for the study intersection using the CMA methodology and application of the City of Los Angeles significant impact criteria is summarized in **Table 3.7-5**. The calculation worksheets for the Project occupancy traffic analyses using the CMA methodology are contained in **Appendix G**.

Existing Conditions. As indicated in column **Table 3.7-6**, the Coldwater Canyon Avenue/Harvard-Westlake Driveway study intersection is presently operating at LOS C during the weekday school AM peak hour and LOS E during the weekday school PM peak hour under existing conditions.

The existing traffic volumes at the study intersections during the weekday school AM and PM peak hours are displayed in **Appendix G** (*Figure 6-3)*.

Existing with Project Occupancy. As described above, in conjunction with the proposed Parking Structure Project, Harvard-Westlake will improve the Coldwater Canyon Avenue/Harvard-Westlake Driveway intersection. These improvements include: 1) Providing a southbound through lane on Coldwater Canyon Avenue adjacent to the Project Site; 2) Providing separate left-turn and a right-turn lanes at the intersection to facilitate traffic entering the Parking Structure; 3) Enhancing the traffic signal to provide separate left-turn phasing for northbound and southbound traffic, plus LADOT's ATSAC/ATCS equipment; and 4) Relocating the intersection approximately 34 feet to the south of its current location along Coldwater Canyon Avenue in order to align with the proposed northerly Parking Structure driveway. As indicated in **Table 3.8-6**, application of the City's threshold criteria to the "Existing With Project Occupancy" scenario indicates that the Project occupancy – including implementation of the improvements outlined above - is not expected to create significant impacts at the study intersection. Rather, the Project and these improvements will cause a substantial decrease in the calculated *v/c* ratio at the study intersection during the school AM hour, as well as an incremental decrease in the calculated *v/c* ratio during the PM. peak hour, primarily related to the increased capacity provided at the intersection in conjunction with the Project. The existing with Project occupancy traffic volumes at the study intersections during the weekday school AM and PM peak hours are illustrated in **Appendix G** (*Figure 11–1*).

Future without Project Conditions. The future cumulative without Project conditions were forecast based on the addition of traffic generated by the plus completion and occupancy of related projects, as well as the growth in traffic due to the combined effects of continuing development, intensification of existing

developments and other factors (i.e., ambient growth). The *v/c* ratios at the study intersection are incrementally increased with the addition of ambient traffic and traffic generated by the related projects listed in **Table 3.8-7**. As presented in column **Table 3.8-6**, the Coldwater Canyon Avenue/Harvard-Westlake Driveway intersection is forecast to operate at LOS D during the school AM peak hour, and LOS E during the school PM peak hour with the addition of ambient traffic and related project traffic under the future cumulative baseline conditions. The future cumulative baseline (existing, ambient growth, and related projects) traffic volumes at the study intersections during the weekday school AM and PM peak hours are presented in Appendix G (*Figure 11–2*).

Future Cumulative with Project. As shown in **Table 3.8-6**, application of the City's threshold criteria to the "With Project Occupancy" scenario indicates that the Proposed Project occupancy including implementation of the improvements outlined above would not create significant impacts at the study intersection. Rather, the Project and these improvements will cause a substantial decrease in the calculated *v/c* ratio at the study intersection during the school AM hour, as well as an incremental decrease in the calculated *v/c* ratio during the PM peak hour, primarily related to the increased capacity provided at the intersection in conjunction with the Project.

The future cumulative with Project occupancy (existing, ambient growth, related projects, and Project occupancy) traffic volumes at the study intersections during the weekday school AM and PM peak hours are illustrated in **Appendix G** (Figure 11-3*)*.

Congestion Management Plan

The Congestion Management Program (CMP) is a state-mandated program that was enacted by the California State Legislature with the passage of Proposition 111 in 1990. The program is intended to address the impact of local growth on the regional transportation system.

Intersections. As required by the 2010 Congestion Management Program for Los Angeles County, a Traffic Impact Assessment (TIA) has been prepared to determine the potential impacts on designated monitoring locations on the CMP highway system. The analysis has been prepared in accordance with procedures outlined in the *2010 Congestion Management Program for Los Angeles County*, County of Los Angeles Metropolitan Transportation Authority, 2010.

The following CMP intersection monitoring locations are located in the Project vicinity:

CMP Station	Intersection
Int. No. 74	Ventura Boulevard/Laurel Canyon Boulevard
Int. No. 76	Ventura Boulevard/Sepulveda Boulevard
Int. No. 78	Ventura Boulevard/Woodman Avenue

The CMP TIA guidelines require that intersection monitoring locations must be examined if the Proposed Project will add 50 or more trips during either the AM or PM weekday commuter peak hours. The Proposed Project will not add 50 or more trips during either the AM or PM weekday commuter peak hours (i.e., of adjacent street traffic) at the three CMP monitoring intersections in the Project vicinity, which is stated in the CMP manual as the threshold criteria for a traffic impact assessment. Therefore, no further review of potential impacts to intersection monitoring locations that are part of the CMP highway system is required.

TABLE 3.8-6: PROJECT OPERATIONS TRAFFIC IMPACT

No.	Intersection	Peak Hr.	Year 2012 Existing V/C	Year 2012 Existing LOS	2012 Existing w/ Project V/C	2012 Existing w/ Project LOS	V/C Change	Sig. Impact ?	Year 2016 w/o Project V/C	Year 2016 w/o Project LOS	Year 2016 w/ Project V/C	Year 2016 w/ Project LOS	V/C Change	Sig. Impact?
5	Coldwater Canyon Avenue/ Harvard-Westlake Driveway	AM	0.761	C	0.377	A	-0.384	NO	0.836	D	0.419	A	-0.417	NO
		PM	0.901	E	0.876	D	-0.025	NO	0.985	E	0.967	E	-0.018	NO

P.m. peak hour analysis based on peak hour of traffic on Coldwater Canyon Avenue (2:45 p.m. to 3:45 p.m.) coinciding with student dismissal period at Harvard-Westlake School.
SOURCE: LLG, Traffic Engineers, 2012

Freeways. The following CMP freeway monitoring location are located in the Project vicinity:

CMP Station	Location
No. 1038	101 Freeway at Coldwater Canyon Avenue
No. 1057	170 Freeway south of Sherman Way

The CMP TIA guidelines require that freeway monitoring locations must be examined if the Proposed Project will add 150 or more trips (in either direction) during either the AM or PM weekday commuter peak periods. The Proposed Project will not add 150 or more trips (in either direction) during either the AM or PM weekday commuter peak hours to CMP freeway monitoring locations which is the threshold for preparing a traffic impact assessment, as stated in the CMP manual. Therefore, no further review of potential impacts to freeway monitoring locations that are part of the CMP highway system is required.

Transit Impact Review. As required by the 2010 CMP for Los Angeles County, a review has been made of the potential impacts of the construction of the Project on transit service. As discussed above, existing transit service is provided in the vicinity of the existing Harvard-Westlake Campus.

The construction trip generation, as shown in, was adjusted by values set forth in the CMP (i.e., person trips equal 1.4 times vehicle trips, and transit trips equal 3.5 percent of the total person trips) to estimate transit trip generation. Pursuant to the CMP guidelines, the Proposed Project is forecast to generate demand for one transit trip during the commuter AM peak hour and one transit trip during the commuter PM peak hour. Over a 24-hour period, the Proposed Project is forecast to generate demand for 14 daily transit trips. Therefore, the calculations are as follows:

- AM Peak Hour = 22 × 1.4 × 0.035 = 1 Transit Trips
- PM Peak Hour = 22 × 1.4 × 0.035 = 1 Transit Trips
- Daily Trips = 240 × 1.4 × 0.035 = 12 Transit Trips

As shown in **Table 3.8-3**, five bus transit lines and routes are provided adjacent to or in close proximity the Project Site. These five transit lines provide services for an average of (i.e., average of the directional number of buses during the peak hours) generally 31 buses during the commuter AM peak hour and roughly 28 buses during the commuter PM peak hour. Therefore, based on the above calculated AM and PM peak hour trips, this would correspond on average to no more than one additional transit rider per bus. It is anticipated that the existing transit service in the Project area will adequately accommodate the increase of Project construction-generated transit trips. Thus, given the low number of Project construction-generated transit trips per bus, no Project construction impacts on existing or future transit services in the Project area are expected to occur as a result of the construction of the Proposed Project.

Occupancy of the Proposed Project would not generate any new vehicle trips to and from the site. Accordingly, no changes to utilization of public transit services are anticipated as a result of occupancy of the Proposed Project.

Parking

578 parking spaces are currently required for the Harvard-Westlake School.[3] In addition, approximately 121 off-site spaces (including approximately 81 public, on-street parking spaces surrounding the school – see discussion below) are utilized in part by students,[4] **Figure 3.8-1** shows existing parking at the School. As part of the Proposed Project, approximately 364 spaces currently used by the School would be removed from regular use, including a total of approximately 243 parking spaces removed from the Campus[5] and the approximately 121 off-site spaces (including 81 on-street, public spaces and 40 spaces in the St. Michael's church lot). The construction of the proposed Parking Structure would add 750 parking spaces. Thus, following the construction of the Proposed Project, 1,085 parking spaces would be provided on the Harvard-Westlake Campus for regular use and 1,188 for use during special events, as shown in **Table 3.8-7**.

TABLE 3.8-7: PROJECT PARKING

Parking Location	Existing Parking Supply	Regular School Days Proposed Parking Supply	Regular School Days Change	School Events Proposed Parking Supply	School Events Change
On-Campus	578	335	-243	438	-140
Parking Structure	0	750	+750	750	+750
Total	578	1,085	+507	1,188	+610

Following completion of the Project, the Southern Parking Lot would be primarily used for bus circulation, staging, and parking, but would continue to be striped for parking and available for occasional special events, such as graduation and homecoming.

In accordance with City of Los Angeles parking requirements, 578 parking spaces[6] are currently required for the existing Harvard-Westlake Campus. As no increase in student enrollment is proposed as part of the Proposed Project, Harvard-Westlake must continue to provide a minimum of 578 parking spaces. Current student enrollment is approximately 900 students with approximately 300 students in each grade (10^{th}, 11^{th} and 12^{th} grades; enrollment fluctuates due to a variety of factors). There are currently approximately 185 faculty and staff employed by the school plus an additional approximately 50 vendors (e.g. technicians, kitchen aids, landscapers, etc.) on-site daily plus approximately 30 coaches are on campus daily (faculty and coaches teach/coach across grades and are not assigned specifically to one grade).

As part of the parking supply, the Project must provide a minimum of 15 handicap accessible spaces. This complies with the American with Disabilities Act requirements of a minimum of two percent (2%) of the number of parking spaces in the Parking Structure as handicap spaces, with one in every eight handicap spaces being van accessible.

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3 Per City of Los Angeles, Certificate of Occupancy for Building Permits 11010-20000-01949 and 11010-20001-01949.

4 This includes approximately 36 parking spaces on Coldwater Canyon Avenue (that were not used during the recent LADWP water line construction activity) , approximately 40 parking spaces in the St. Michael's Church parking lot, and approximately 45 parking spaces in the surrounding neighborhood.

5 This includes approximately 140 spaces from surface parking lots near the Main Entrance and along the Main Entrance Driveway as a result of reconfiguration of the Main Entrance Driveway, and approximately 103 spaces from the Southern Parking Lot.

6 Certificate of Occupancy dated March 6, 2013

In the above, the number of on-street spaces used by Harvard-Westlake is conservatively estimated at 81, but Harvard-Westlake may use more than this: on-street parking utilization counts were conducted for a selected number of residential street segments located north of the Harvard-Westlake Campus, as well as along Coldwater Canyon Avenue where some students are known to park during school hours. However, the count did not verify if all of the vehicles parked on-street during the survey were Harvard-Westlake students, faculty, or staff. Given the proximity of the vehicles to the school, all of these vehicles were assumed to be parked on these streets to access the campus. The number of occupied parking spaces was noted for each on-street parking segment during each observation period. (The parking accumulation surveys were conducted on Thursday, January 27, 2011 from 7:00 to 10:00 a.m. and from 2:00 to 6:00 p.m. A summary of the existing weekday on-street parking utilization counts is provided in **Appendix G**. This detailed summary of the existing weekday on-street parking counts provides the hourly parking utilization observed for each segment. As shown in **Appendix G** (*Table 6-3)*, the existing weekday peak parking demand for on-street parking near the Campus occurred at 9:00 a.m. when 109 vehicles were observed. No observation of parking during special events was undertaken.

CUMULATIVE IMPACTS

As shown in **Tables 3.8-5** and **3.8-6**, above, the Project would not result in a cumulatively considerable contribution to cumulative traffic conditions. The forecast of future without project conditions was prepared in accordance with procedures outlined in Section 15130 of the CEQA Guidelines. Specifically, the CEQA Guidelines provide two options for developing the future traffic volume forecast:

> "(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the [lead] agency, or
>
> (B) A summary of projects contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reductions of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projects may be supplemented with additional information such as a regional modeling program. Any such document shall be referenced and made available to the public at a location specified by the lead agency."

Accordingly, this traffic analysis provides a conservative estimate of future without project traffic volumes as it incorporates both the "A" and "B" options outlined in the CEQA Guidelines for purposes of developing the forecast. A forecast of on-street traffic conditions without the Project was prepared by incorporating the potential trips associated with other known development projects (related projects) in the area. With this information, the potential impact of the Project can be evaluated within the context of the cumulative impact of all ongoing development. The list of related projects in the Project area is presented in **Table 3.8-8**. The location of the related projects is shown in **Figure 3.8-2.**

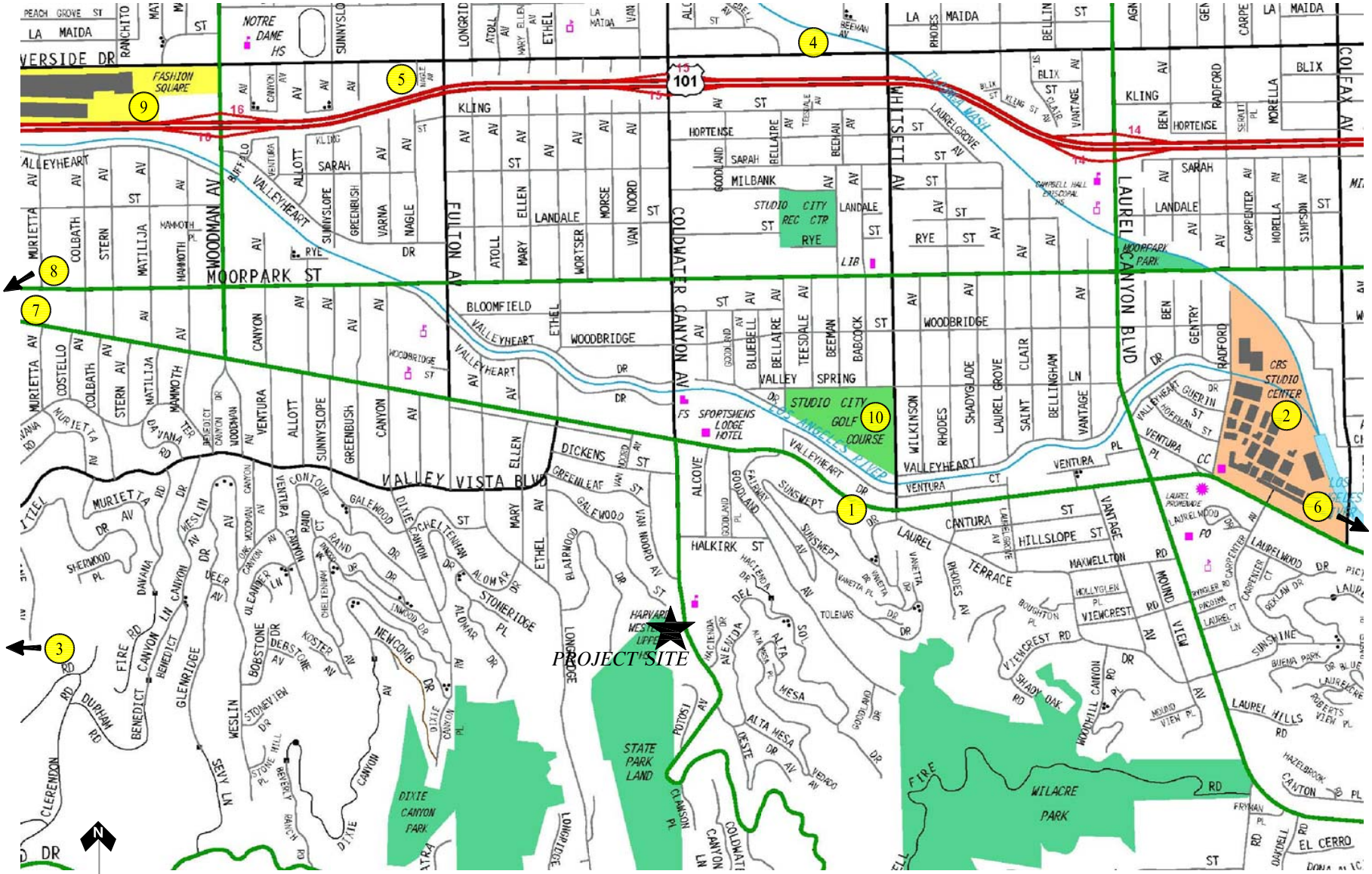
Traffic volumes anticipated from the related projects were calculated using rates provided in the Institute of Transportation Engineers' (ITE) *Trip Generation* manual[7]. The related projects respective traffic generation for the weekday commuter AM and PM peak hours, as well as on a daily basis for a typical weekday, is summarized in **Appendix G**. The distribution of the related projects traffic volumes to the study intersections during the weekday AM and PM peak hours are displayed in **Appendix G** (*Figures 7-2 and 7-3*, respectively).

[7] *Trip Generation,* Institute of Transportation Engineers, 8th Edition, 2008.

TABLE 3.8-8: RELATED PROJECTS

Map No.	Project STATUS	Project Name Number Address Location	Address/Location	Land Use Data		
				Land Use	Size	
1	Proposed	VEN-2010-020	12548 Ventura Boulevard	Apartment	62	DU
				Retail	10,747	GLSF
				Other	1,925	GSF
				Existing Retail	(3,000)	GLSF
2	Proposed	CBS Radford Studios	4200 Radford Avenue	Master Plan Expansion	161,885	GSF
3	Proposed	Buckley School	3900 Stansbury Avenue	Private School (K-12)	80	Students
4	Under Construction	Sherman Village SFV-2006-130	12629 Riverside Drive	Condominium	260	DU
				TV production		
5	Approved	Merdinian Evangelical School SFV-2006-044	13330 Riverside Drive	Private High School	383	Seats
6	Inactive	VEN-2004-008	11617 Ventura Boulevard	Apartment	391	DU
				Less Existing Office	(7,793)	GSF
				Less Existing Retail	(12,663)	GLSF
7	Under Construction	Ralphs Supermarket VEN-2009-014	14049 Ventura Boulevard	Supermarket Expansion	27,389	GLSF
8	Under Construction	Camino Real Mixed-Use Project VEN-2004-005	14121 Ventura Boulevard	Condominium	88	DU
				Retail (Less 10% Pass-by)	6,000	GLSF
				Fast-Food without Drive-Through (Less 50% Pass-by)	3,500	GSF
9	Inactive	Westfield Sherman Oaks Fashion Square [1] SFV-2005-278	14006 Riverside Drive	Retail	220,000	GLSF
10	Proposed	Studio City Senior Living Center Project [2] SFV-2011-08	4141 Whitsett Avenue	Senior Housing	200	DU
				Golf Driving Range	21	Tees
				Golf Course	9	Holes
				Golf Driving Range	(24)	Tees
				Golf Course	(9)	Holes
				Tennis Courts	(16)	Courts
TOTAL						

SOURCE: City of Los Angeles Department of Transportation Related Projects List, September 2013, except as noted below.
[1] Traffic Impact, Parking, and Site Access Study, Westfield Fashion Square Expansion Project, LLG Engineers, August 2008.
[2] Traffic Impact Study for the Studio City Senior Living Center Project, LLG Engineers, February 2012.



SOURCE: Linscott, Law & Greenspan, 2012

Figure 3.8-2

Location of Related Projects

As previously noted, the City's Department of Water and Power (DWP) is currently installing a new subsurface Trunk Line pipe (City Trunk Line South – Unit 5) on Coldwater Canyon Avenue between Moorpark Street and Avenida Del Sol (i.e., south of the Harvard-Westlake Campus). The DWP construction project has resulted in portions of the Coldwater Canyon Avenue pavement closed to traffic and/or street parking, occasionally including the segment adjacent to the school campus.

According to the Los Angeles Department of Water and Power, construction of the Trunk Line pipe is scheduled to be completed in late 2015. Harvard-Westlake has indicated that construction of the proposed Parking Structure Project would not commence until elements of the DWP-related work on its Trunk Line project are completed such that it would not impede the movement of project-related construction traffic to and from the Project Site.

In order to account for unknown related projects not included in this analysis, the existing traffic volumes were increased at an annual rate of 2.0 percent (2.0%) per year to the year 2016 (i.e., the anticipated year of Project build-out). The ambient growth factor was based on general traffic growth factors provided in the *2010 Congestion Management Program for Los Angeles County* (the "CMP manual") and determined in consultation with LADOT staff. It is noted that based on review of the general traffic growth factors provided in the CMP manual for the San Fernando Valley area, it is anticipated that the existing traffic volumes are expected to increase at an annual rate of less than 1.0% per year between the years 2010 and 2020. Thus, application of an annual 2.0% growth factor allows for a conservative, worst case forecast of future traffic volumes in the area. Further, it is noted that the CMP manual's traffic growth rate is intended to anticipate future traffic generated by development projects in the Project vicinity. Thus, the inclusion in this traffic analysis of both a forecast of traffic generated by known related projects plus the use of an ambient growth traffic factor based on CMP traffic model data results in a conservative estimate of future traffic volumes at the study intersections.

PROJECT DESIGN FEATURE

The following project design feature would encourage use of electric vehicles thereby reducing the carbon footprint of the school and would further encourage students and faculty with electric cars to park in the structure.

PDF-TR-1: The Parking Structure will include electric vehicle charging stations to encourage use of electric vehicles and encourage those with electric cars to park in the structure.

MITIGATION MEASURE

Construction

While Project construction traffic would incrementally impact local intersections, the impact would not rise to the level of significance and therefore no mitigation measures are required.

Operation

Project impacts would be beneficial therefore no mitigation measures are required. The Project includes required roadway dedications as well as the addition of a second southbound through lane adjacent to the Development Site.

The following Mitigation Measure would help ensure that student parkers use the Parking Structure as intended.

MM-TR-1: Harvard-Westlake will issue to all students, staff, and faculty car parking permits, which shall be required to be displayed on cars (stickers, rearview mirror hangers, or some other way to identify cars). Such stickers will allow neighbors and Harvard-Westward Administration a means of identifying any parking activity that continues in the neighborhood.

SIGNIFICANCE AFTER MITIGATION

Construction

Construction traffic impacts would be less than significant.

Operation

There would be no operational impacts from the Project. Coldwater Canyon Avenue at the Harvard Westlake Driveway would operate at an improved Level of Service in the AM peak hour. The Project would improve through traffic flow adjacent to the Parking Structure during the morning commute period with a second southbound through lane adjacent to the structure; this would incrementally improve travel delay along Coldwater Canyon Avenue at the entrance to the school as compared to existing conditions.

Traffic turning into the new Parking Structure would not disrupt through traffic flow on northbound nor southbound Coldwater Canyon Avenue as a result of new separate left-turn and right-turn lanes at the Parking Structure entrance, as well as left-turn traffic signal phasing for northbound and southbound traffic, thereby improving safety and reducing potential conflicts for motorists on Coldwater Canyon Avenue. The traffic signal at the Harvard-Westlake entrance would operate at optimum efficiency based on the installation of LADOT's ATSAC/ATCS traffic signal equipment.