

TECHNICAL MEMORANDUM

To: Patricia Smith, ASLA, AICP
From: Brian A. Marchetti, AICP
Date: March 1, 2013
Subject: West Hollywood Avenues Streetscape Project – Traffic and Circulation Review
KOA Project JB11229

Introduction

KOA Corporation has prepared this technical memorandum to summarize the traffic and circulation review of the proposed roadway design features for Melrose Avenue, Beverly Boulevard, and Robertson Boulevard, as part of the Avenues Streetscape Project. KOA analyzed the following project elements, in order to provide analysis of post-project roadway operations where quantifiable, and also provided general observations and recommendations:

- Approach lane modification at major intersections in study area, to support curb extensions at corners and improved crosswalk locations.
- The provision of a consistent configuration of travel lanes within the Melrose Avenue corridor.
- Potential future new pedestrian crosswalks and improvements to existing crosswalks.

A summary of the traffic and circulation analysis findings for these improvements is provided within these following sections:

- Intersection Approach Lane Modification Effects – All Roadways
- Potential Effects on La Cienega Boulevard Traffic
- Project Elements on Melrose Avenue
- Project Elements on Beverly Boulevard
- Project Elements on Robertson Boulevard
- Crosswalk Improvement Framework

Four supporting figures are provided within Attachment A to this memorandum:

- Figure 1: Locations of proposed project sidewalk/curb extensions, and general determinations on feasibility are provided on this figure.
- Figure 2: Existing weekday peak-hour vehicle turn movement volumes at the major intersections within the study area are provided on this figure. The sources for the traffic volume data at these intersections are the Melrose Triangle project traffic study and supplemental counts conducted by KOA in 2012.



- Figure 3: The modifications to major intersection approach lanes that will occur due to the implementation of the planned project are provided on this figure.
- Figure 4: Average daily traffic volumes within the project area, based on the City of West Hollywood General Plan and supplemental counts conducted for this study, are provided on this figure.

Summary

The following are the primary findings from the analysis presented within this document:

- The primary roadway facility changes that would occur due to the project include westbound approach lane reconfigurations at the intersection of La Cienega Boulevard/Melrose Avenue and a streamlining of cross-sectional configurations of Melrose Avenue. These changes have been proposed to provide wider sidewalks and more orderly traffic flow.
- Some worsening of intersection operations would occur at most of the study intersection, but operations would remain at LOS C (good operations) or better. At the intersection of La Cienega Boulevard/Melrose Avenue, operations would improve due to the provision of more balanced capacity at that intersection by the project.
- The proposed project improvements would provide a consistent travel lane configuration for Melrose Avenue of one travel lane in each direction. The current inconsistent application of roadway capacity creates unexpected roadway characteristics for drivers and creates bottlenecks at merge points that are detrimental to overall traffic flow and safety.

A. Intersection Approach Lanes– All Roadways

The level of service analysis for all of the analyzed study area intersections is discussed within this single report section on this subject, as the study intersections overlap roadway corridors.

Project Roadway Improvements

The proposed project elements affect intersection geometric configurations due to sidewalk extensions, roadway segment travel lane configurations, and some intersection approach lanes. The following roadway changes are evaluated here:

- An additional (second) left-turn lane and a relocation of the westbound merge at the approach to the La Cienega Boulevard/Melrose Avenue intersection would be implemented, and would not adversely impact operations. This treatment supports the pedestrian emphasis of the project, by emphasizing travel via surrounding arterials.
- Curb extensions can be applied within the study area at almost all of the targeted locations. Figure I illustrates where such improvements have been determined to be feasible and infeasible, under the analysis conducted for this report.

Operations Analysis - Study Intersections

Table I provides a level of service (LOS) analysis for the major study intersections, using existing volumes and the existing and post-project intersection approach lane configurations. The analysis methodology follows that used for the General Plan.

TABLE I – EXISTING LEVEL OF SERVICE AT STUDY AREA INTERSECTIONS

Study Intersections		Peak Hour	Existing (2012) Conditions		Existing (2012) Conditions with Project		Change in Delay
			Delay (sec)	LOS	Delay (sec)	LOS	
1	Robertson Boulevard & Melrose Avenue	AM	15.1	B	19.4	B	4.3
		PM	15.1	B	18.9	B	3.8
2	San Vicente Boulevard & Melrose Avenue	AM	20.3	C	26.4	C	6.1
		PM	18.3	B	28.0	C	9.7
3	La Cienega Boulevard & Melrose Avenue	AM	81.3	F	77.1	E	-4.2
		PM	43.0	D	32.9	C	-10.1
4	Robertson Boulevard & Beverly Boulevard	AM	27.8	C	27.8	C	0.0
		PM	16.4	B	16.4	B	0.0
5	San Vicente Boulevard & Beverly Boulevard	AM	20.8	C	26.2	C	5.4
		PM	21.1	C	26.1	C	5.0

The data within Table I indicates that with the proposed improvements, there will be some worsening of conditions at three of the study intersections. Operations at these three locations, however, will not worsen beyond the LOS C range (good operating conditions), and the incremental changes are not considered significant impacts based on the City's thresholds.

At the La Cienega Boulevard & Melrose Avenue intersection, operations would improve from LOS F to LOS E in the a.m. peak hour, with a small decrease in overall delay. Operations would also improve from LOS D to LOS C in the p.m. peak hour. The provision of additional capacity for the westbound left-turn movement at this location is the primary reason for the associated delay reductions.

Additional intersection approach lane changes were considered at intersections with local/residential roadways, primarily involving the removal of left-turn lanes onto the minor roadways from Melrose Avenue and Beverly Boulevard. Based on community concerns, additional analysis was conducted and due to potential adverse impacts on circulation these specific elements are not recommended for implementation.

B. Potential Effects on La Cienega Boulevard Traffic

A large percentage of the traffic in the peak periods is generated by non-local traffic. The turn movement volumes indicate that high volumes of traffic pass through the Avenues area on Minor Arterial roadways such as Melrose Avenue and Robertson Boulevard. Ideally, commute traffic remains on Major Arterials such as Santa Monica Boulevard and Beverly Boulevard.

The planned project-related improvements at the La Cienega Boulevard/Melrose Avenue intersection include the provision of an additional (second) left-turn lane and a relocation of the westbound merge section. This treatment will potentially encourage the diversion of vehicles onto surrounding Major Arterials, and therefore could increase volumes on the La Cienega Boulevard corridor.

Typical daily volume capacities for four-lane arterial roadways range from the conservative end at approximately 36,000 vehicles to higher end of 40,000 vehicles. The City of Los Angeles, however, defines the upper volume limit of the roadway classification at 50,000 vehicles.

Using the most recent vehicle volume count from the City of Los Angeles (at a location south of Beverly Boulevard) there are 42,670 daily vehicle trips. This total is higher than the General Plan count to the north of Melrose Avenue at 38,540 vehicles. The value of 42,670 vehicles does not reach the upper end of City of Los Angeles volume range definition for the roadway classification. Any shift in traffic to La Cienega Boulevard due to project-related improvements will not likely create any significant roadway segment impacts in that corridor.

C. Project Elements on Melrose Avenue

Melrose Travel Lane Adjustments

A primary goal of the project and the roadway design elements is to provide a typical Melrose Avenue roadway cross-section with two travel lanes (one lane in each direction) between Santa Monica Boulevard and La Cienega Boulevard. This configuration would be consistent with the lane configurations along Melrose Avenue west of Robertson Boulevard and east of Huntley Drive.

Two short roadway segments within the overall Melrose Avenue corridor in the Avenues area provide a non-typical configuration of two lanes in one direction of travel:

- Between Robertson Boulevard and San Vicente Boulevard, two eastbound travel lanes are currently striped within a short segment. The adjacent on-street parking area, however, has permitted two-hour parking during business hours, and permitted parking without time limits during other hours.
- Between San Vicente Boulevard and Huntley Drive, along the south frontage of the Pacific Design Center site, two eastbound travel lanes are currently provided.

An inconsistent application of roadway capacity creates unexpected roadway characteristics for drivers and creates bottlenecks at merge points that are detrimental to overall traffic flow and safety. The proposed project

improvements would provide a consistent travel lane configuration for Melrose Avenue of one travel lane in each direction, and would not create significant impacts to local circulation.

Pedestrian Crosswalks

The following project-related sidewalk/curb extensions appear to be physically and operationally acceptable within the Melrose Avenue corridor, based on an initial review of geometric conditions. Curb extensions may impact the ability to perform U-turn movements at some intersections. The feasibility and need for such movements will be assessed in the design phase of the project:

- Melrose Avenue/Almont Drive – Curb extensions are physically feasible on all four corners.
- Melrose Avenue/La Peer Drive – Curb extensions are physically feasible on the northwest and northeast corners.
- Melrose Avenue/Robertson Boulevard – Curb extensions are physically feasible on the northeast, northwest, and southwest corners. Curb extensions are not feasible on the southeast corner. It is recommended that the existing northbound right-turn lane on Robertson Boulevard at Melrose Avenue be maintained.
- Melrose Avenue/San Vicente Boulevard – Curb extensions are physically feasible on all four corners. There is a need to maintain the westbound right-turn lane, as the westbound right-turn lane on Melrose Avenue at Robertson Boulevard will be removed as part of the implementation of curb extensions.
- Melrose Avenue/Huntley Drive – Curb extensions are physically feasible on all four corners, but should only extend into the major street of Melrose Avenue.
- Melrose Avenue/Westbourne Drive – Curb extensions are physically feasible on all four corners, but should only extend into the major street of Melrose Avenue.
- Melrose Avenue/Westmount Drive – Curb extensions are physically feasible on all four corners, but should only extend into the major street of Melrose Avenue.
- Melrose Avenue/La Cienega Boulevard – Curb extensions are physically feasible on the northwest and northeast corners. Curb extensions are not recommended on the southeast corner. It is recommended that the existing northbound and westbound right-turn lanes on La Cienega Boulevard at Melrose Avenue be maintained.

Westbound U-turn movements at the La Cienega Boulevard/Melrose Avenue intersection are not currently prohibited, but are conducted within a set of receiving lanes that do not currently meet turning radius requirements. This location should not be relied upon for a high level of U-turn movements in the post-project period.

Sidewalk extensions can potentially create surface drainage issues, depending on the locations of storm sewer inlets and topography. The use of culverts or other means of drainage provision may need to be provided at these locations.

D. Project Elements on Beverly Boulevard

The following project-related sidewalk/curb extensions appear to be physically and operationally acceptable within the Beverly Boulevard Avenue corridor, based on an initial review of geometric conditions. The feasibility and need for U-turn movements will be assessed in the design phase of the project:

- Beverly Boulevard/Almont Drive – Curb extensions are physically feasible on all four corners.
- Beverly Boulevard/La Peer Drive – Curb extensions are physically feasible on the southwest and southeast corners. The existing crosswalk on Beverly Boulevard at La Peer Drive on the southeast corner is proposed to be relocated to the southwest corner. The curb extension on the north side of Beverly Boulevard, on the west side of the La Peer Drive T-intersection, is physically feasible and recommended for implementation with the proposed relocated crosswalk.
- Beverly Boulevard/Swall Drive – Curb extensions are physically feasible on the southwest and southeast corners. The curb extension on the north side of Beverly Boulevard, on the west side of the Swall Drive T-intersection, is physically feasible and recommended for the existing crosswalk.
- Beverly Boulevard/Clark Drive – Curb extensions are physically feasible on the southwest and southeast corners.
- Beverly Boulevard/Robertson Boulevard – Curb extensions are physically feasible on all four corners.
- Beverly Boulevard/George Burns Road – Curb extensions are physically feasible on the southwest and southeast corners. The curb extension on the north side of Beverly Boulevard, on the east side of the George Burns Road T-intersection, is physically feasible and recommended for implementation with the existing crosswalk.
- Beverly Boulevard/Sherbourne Drive – Curb extensions are physically feasible on the northwest and northeast corners. It is recommended that two-way traffic be maintained on Sherbourne Drive north of Beverly Boulevard.
- Beverly Boulevard/San Vicente Boulevard – Curb extensions are physically feasible on the northwest, northeast, and southwest corners. Curb extensions are not recommended on the southeast corner. High vehicle volumes at the intersection and the proximity of the adjacent Beverly Center & Cedar Sinai justify such changes for pedestrian safety. The crosswalks should be realigned, as feasible based on intersection geometry and approach limit-line locations, to shorten the distance required for pedestrians to cross the street. This is necessary, particularly at the west leg crosswalk. LADOT maintains the intersection and would need to approve removal of right-turn lanes or protected phasing. Jurisdiction of the intersection is 75% City of West Hollywood and 25% City of Los Angeles.

Sidewalk extensions can potentially create surface drainage issues, depending on the locations of storm sewer inlets and topography. The use of culverts or other means of drainage provision may need to be provided at these locations.

E. Crosswalk Improvement Framework

Potential pedestrian crosswalk improvements will be evaluated further by the City during final design. The following discussion is a general framework for this pending evaluation.

The California edition of the Manual of Uniform Traffic Control Devices (MUTCD) provides guidelines for the analysis of new crosswalks based on posted speed limits and daily vehicle volumes. Thresholds for the installation of crosswalks used by the City of Los Angeles are based on existing posted speed limits, pedestrian crossing volumes, and the linear distance from the nearest controlled (by traffic signal or stop sign) intersection or controlled mid-block crosswalk.

The City of West Hollywood *Citywide Crosswalk Policy* defines a methodology for determining the appropriate conditions for the installation of new pedestrian crosswalks at uncontrolled intersections, and the removal of existing crosswalks as well. Enhanced crosswalk technology can provide control in the form of video-actuated or push button-actuated flashing yellow beacons or “hawk eye” flashing/alternating red beacons, or similar treatments.

During final design, the City of West Hollywood will further evaluate crosswalks within the Avenues project area at the following locations, as well as any others determined to be necessary for review:

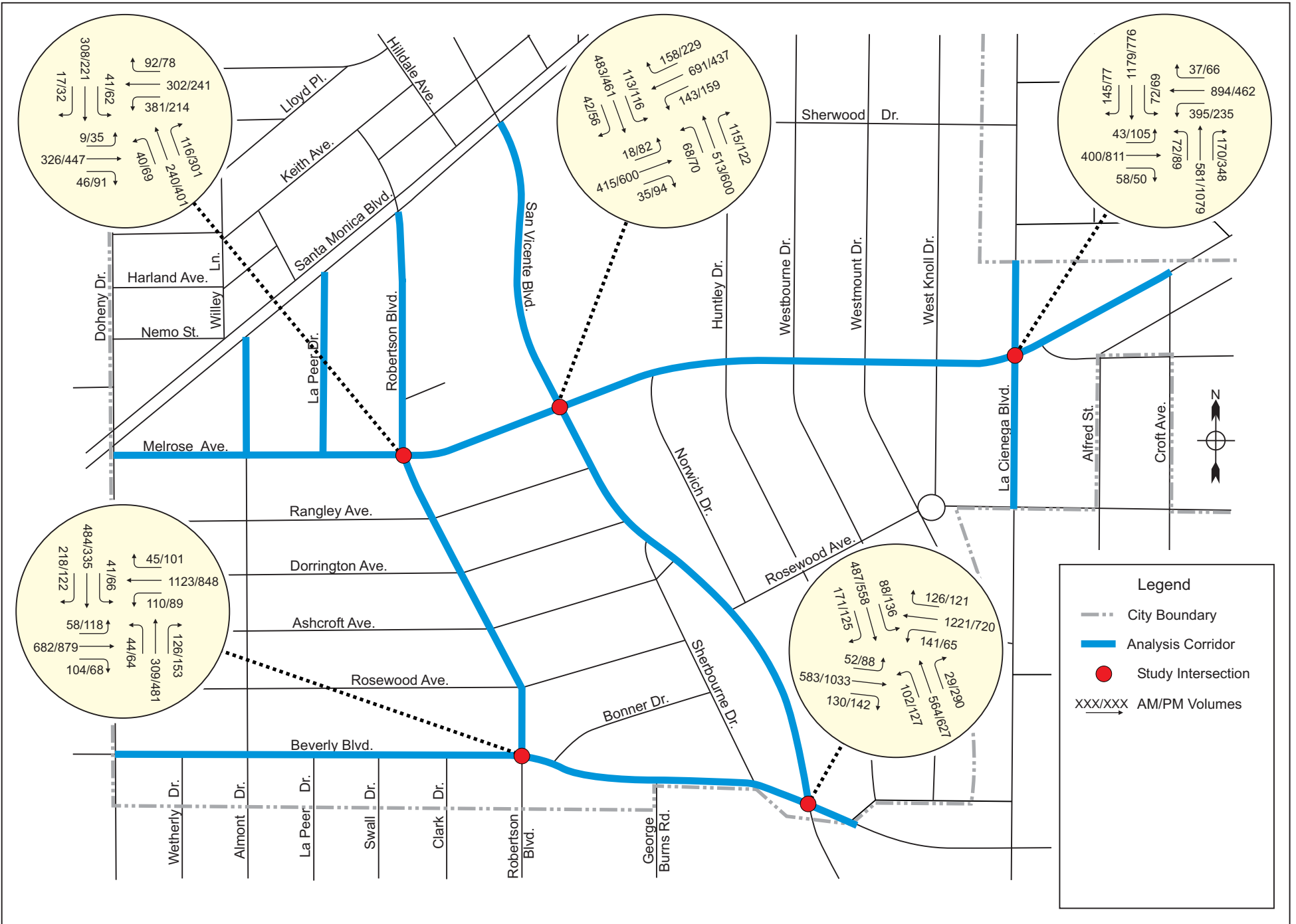
- Melrose Avenue/La Peer Drive
- Melrose Avenue/PDC Frontage (mid-block near Norwich Drive and PDC driveway)
- Melrose Avenue/West Knoll Drive
- Melrose Avenue/Croft Avenue
- Robertson/Ashcroft Avenue
- Beverly Boulevard/Clark Drive

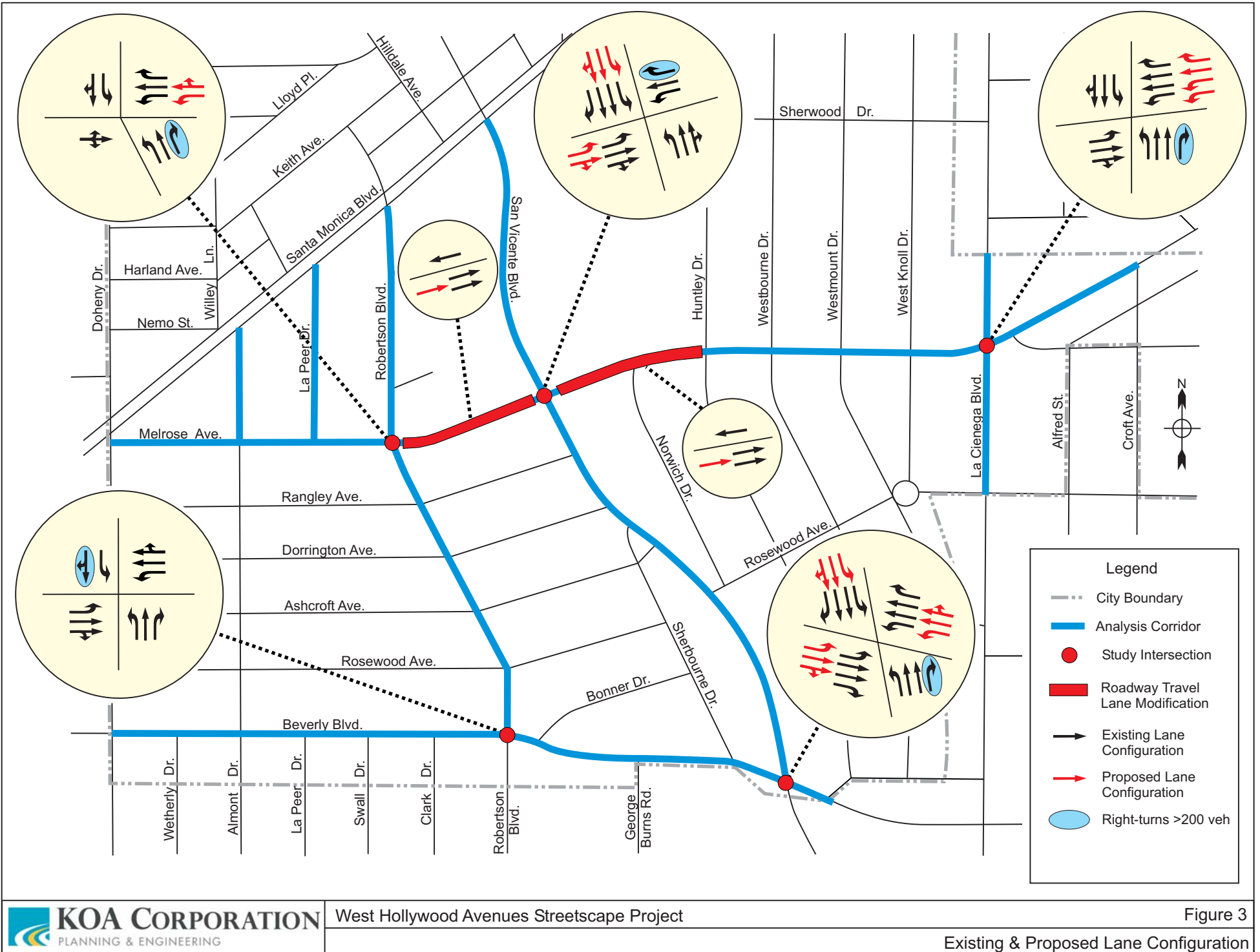
Posted speeds on Melrose Avenue and Beverly Boulevard within the study area should be evaluated as part of the review during final design of proposed crosswalks. The 85th percentile observed speed is the speed at or below which 85 percent of the motorists drive. This speed value is the primary determinant of posted/regulatory speeds.

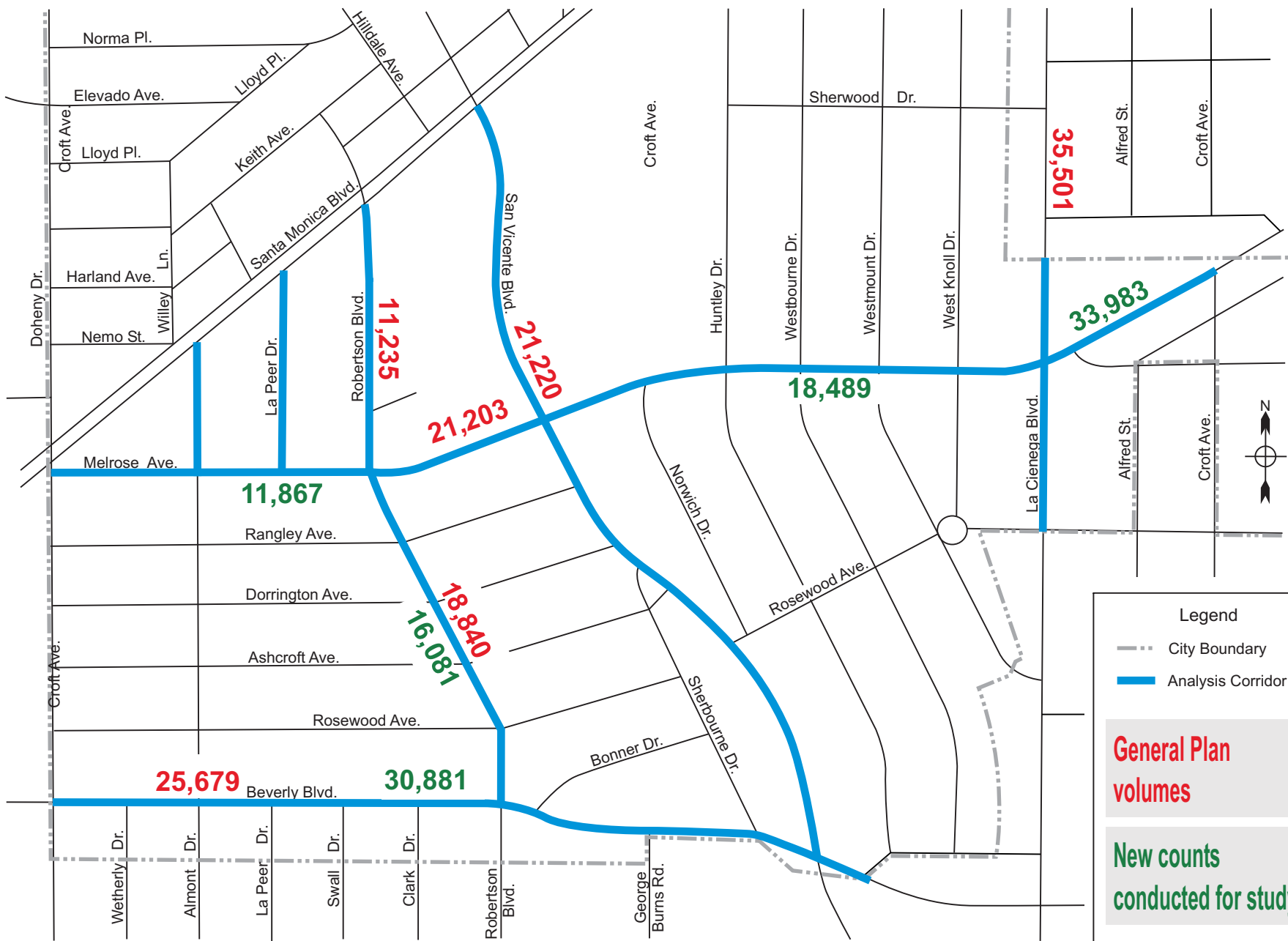
Changes to the posted speed limit on Melrose Avenue as part of project implementation, or as part of post-implementation traffic monitoring, could be pursued by the City so that the posted speed limit can be reduced from 35 mph to 30 mph as part of the project.

**ATTACHMENT A –
STUDY AREA FIGURES**









Legend

- City Boundary
- Analysis Corridor

General Plan volumes

New counts conducted for study