

ATTACHMENT NO. 5

TECHNICAL MEMORANDUM

To: City of Culver City Public Works Department
City Hall, 2nd Floor
9770 Culver Boulevard, Culver City, CA 90232

From: Roxannabelle Perfecto-Anaya, P.E.
Andi Slane, EIT
Kimley-Horn and Associates, Inc.

Date: August 17, 2021

Subject: Queuing and Circulation Analysis for the Emergency Department at the Southern California Hospital in City of Culver City, CA

INTRODUCTION

Kimley-Horn and Associates, Inc. ("Kimley-Horn") was contracted by Sobin-Harte Architects ("Architect") to prepare a queuing and circulation analysis for the proposed Emergency Department ("ED") at the Southern California Hospital ("SCH") located at 3828 Delmas Terrace, Culver City, CA 90232. The proposed project consists of renovating hospital facility, including the redevelopment of the Emergency Department and adjacent parking lot. This parking lot will provide access to ED for the general public, and access to the ambulance entrance area. Proposed site plan for the Southern California Hospital Emergency Department parking lot is shown below in **Figure 1**.

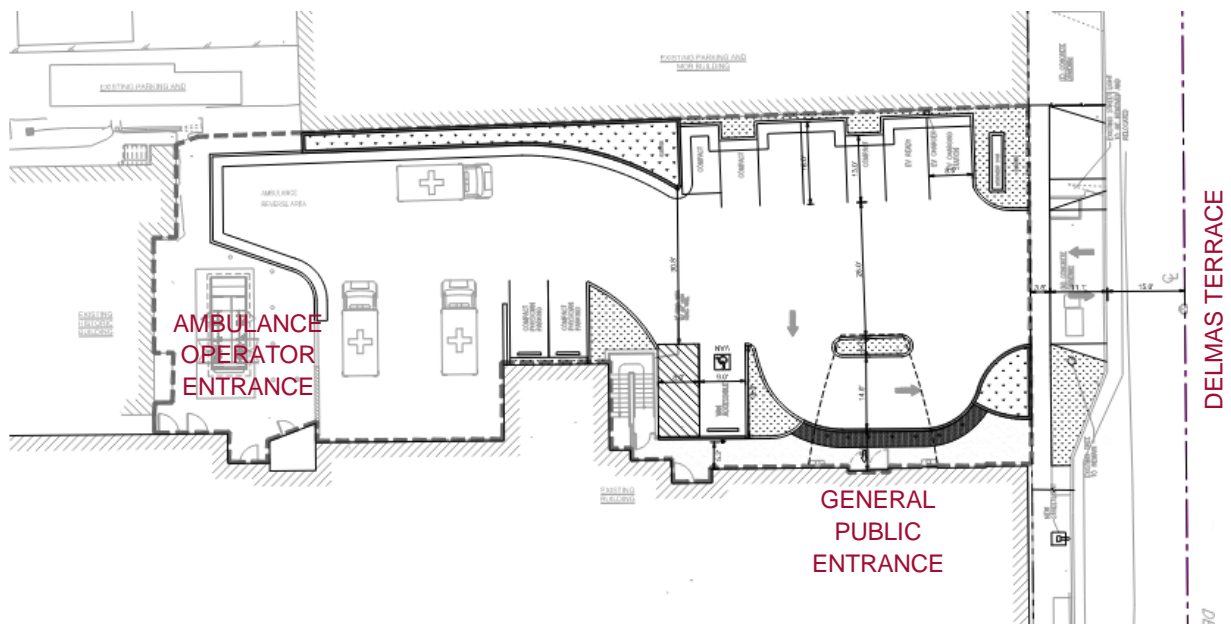


Figure 1 – Parking Lot Site Plan

AMBULANCE CIRCULATION AND QUEUE ANALYSIS

The proposed site plan shows ten (10) marked parking stalls and an ambulance drop-off area. Nine (9) general parking stalls and one (1) ADA parking stall are provided for the general public and employees. The drop-off and pick-up area in front of the ED entrance is for the general public. Separately, a turnaround area with room for three (3) unmarked parking stalls is provided for ambulances in the proposed parking layout. An AUTOTURN analysis was completed to analyze the circulation and turning maneuvers for ambulances within this area. For this analysis, a MEDTEC AS-170 ambulance was used as the design vehicle offering a 24.33-foot length and 8-foot width.

Up to three (3) ambulances at a time can pull forward into the northwest turnaround area and park by reversing into the parking area, as shown in **Figure 2**. One (1) additional ambulance can parallel park on the north curb without blocking the entrance and exit.

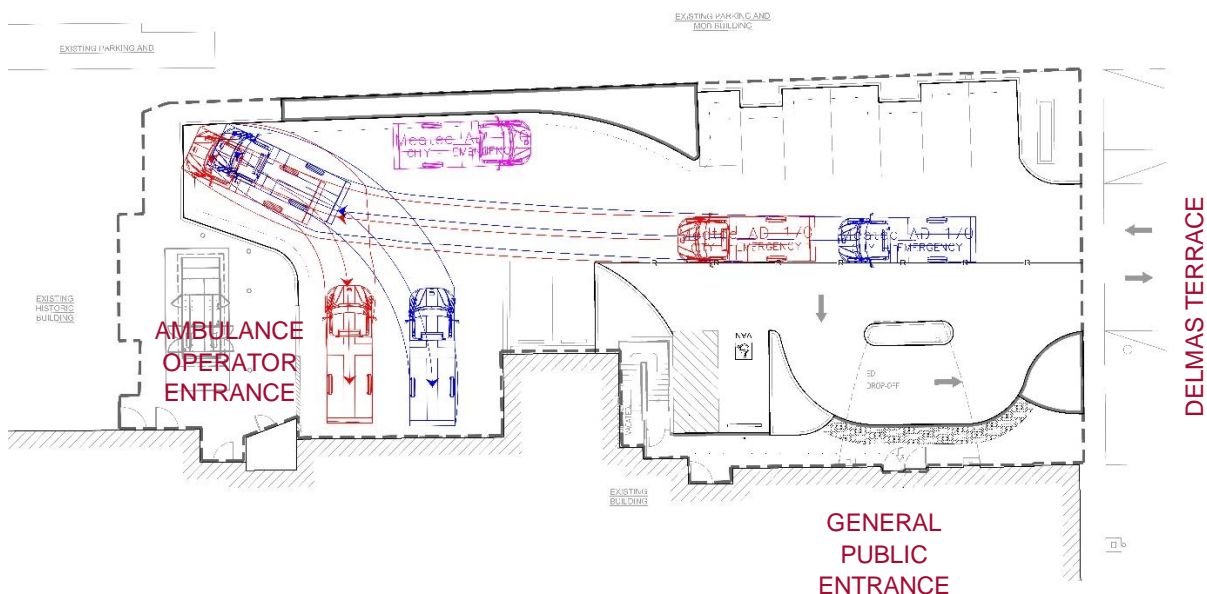


Figure 2 – Ambulance Path of Entrance

The parking operation of ambulances differs from that of a typical parking lot because vehicles will be attended by emergency personnel. Ambulance parking locations can be adjusted in this area while idling to provide room for additional ambulances as they arrive. Per data provided by the Architect, emergency departments typically have an average daily through put of 17 ambulances with an average peak of 3.5 vehicles per hour from 3 PM to 6 PM. During 2020, SCH ED had 5,886 ambulance visits, or 16.1 average daily visits. The new development at SCH is not expected to produce an increase in daily visits.

The parking area provided for the ambulances will provide sufficient space for a peak hour influx. Dwell time is different per arrival and any more than three ambulances in the lot will require the operators to jointly maneuver to fit other ambulances. Additionally, if necessary, ambulances can utilize the ED public pick-up/drop-off driveway to maneuver and exit the lot. In the unlikely event that several ambulances enter the project site, the site has capacity for two additional ambulances, if actively

attended to by the ambulance operators, before spill back occurs on to Delmas Terrace, shown in **Figure 3**.

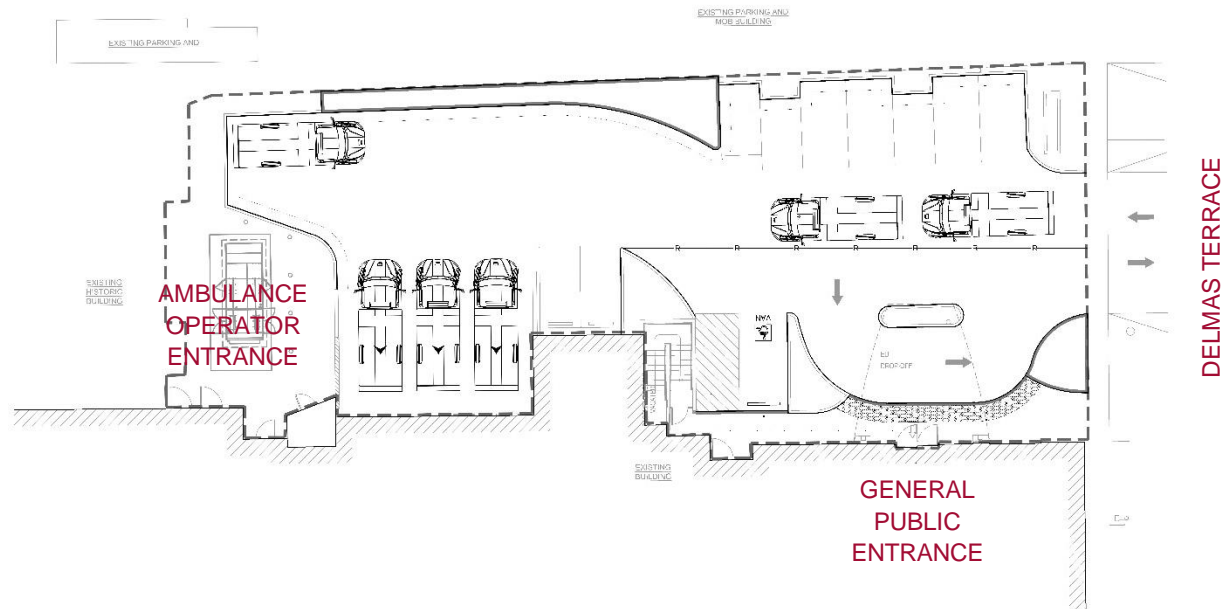


Figure 3 – Maximum Capacity

PATIENT DROP-OFF/PICK-UP QUEUE ANALYSIS

The proposed site plan shows a specified drop-off and pick-up area for the general public. An AUTOTURN analysis was completed to analyze the possible queueing of vehicles waiting to drop-off/pick-up. For this analysis, an AASHTO 2011 passenger vehicle was used as the design vehicle offering a 19-foot length and 7-foot width.

Up to three (3) passenger vehicles at a time can pull forward into the drop-off and pick-up area, as shown in **Figure 4**. Three (3) additional passenger vehicles can queue without blocking the entrance and exit, and without spillback onto Delmas Terrace, the public street.

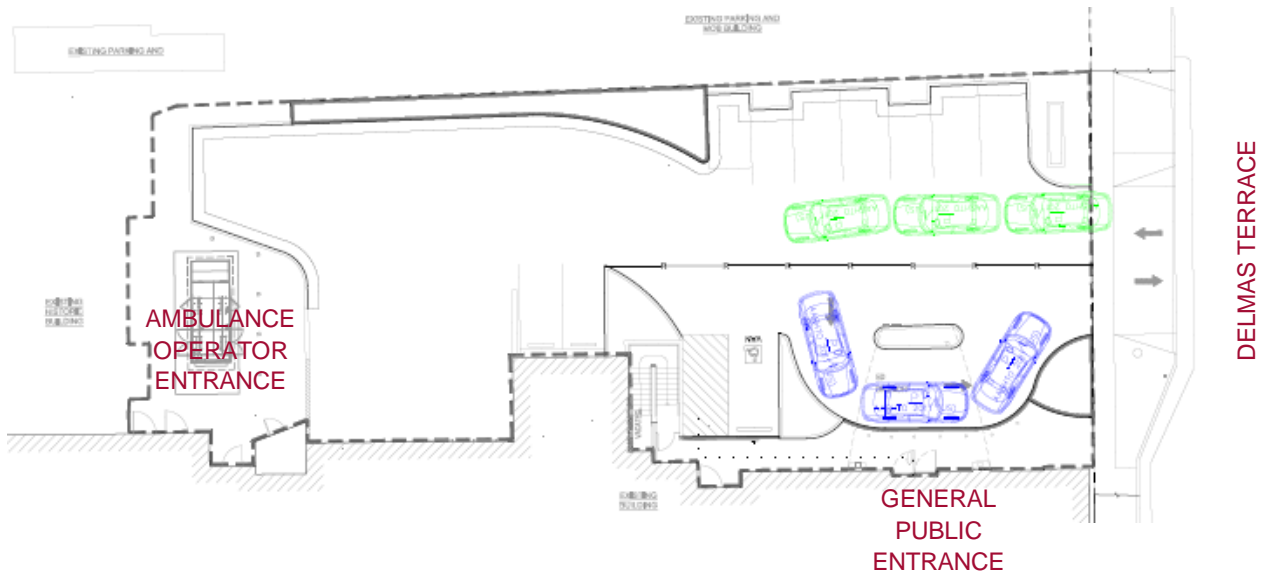


Figure 4 – Drop-Off/Pick-up Maximum Capacity

Per data provided by the Architect, during 2020, SCH ED had an average of 1572 passenger vehicle visits, or 53 average daily visits, or 2.2 visits per hour. The new development at SCH is not expected to produce an increase in daily visits.

The designated drop-off and pick-up area provided for the general public will provide more than sufficient space for average visits per hour. Additionally, in an extenuating circumstantial event, general public vehicles can and will be directed to the existing, secondary public entrance. Visitors can then make their way, following the red path as shown in **Figure 5**, to the ED. The one-way driveway leading to the secondary public entrance is accessible from Hughes Avenue. This driveway can comfortably fit fifteen (15) passenger vehicles, while leaving a full lane open for ease of navigation while exiting.

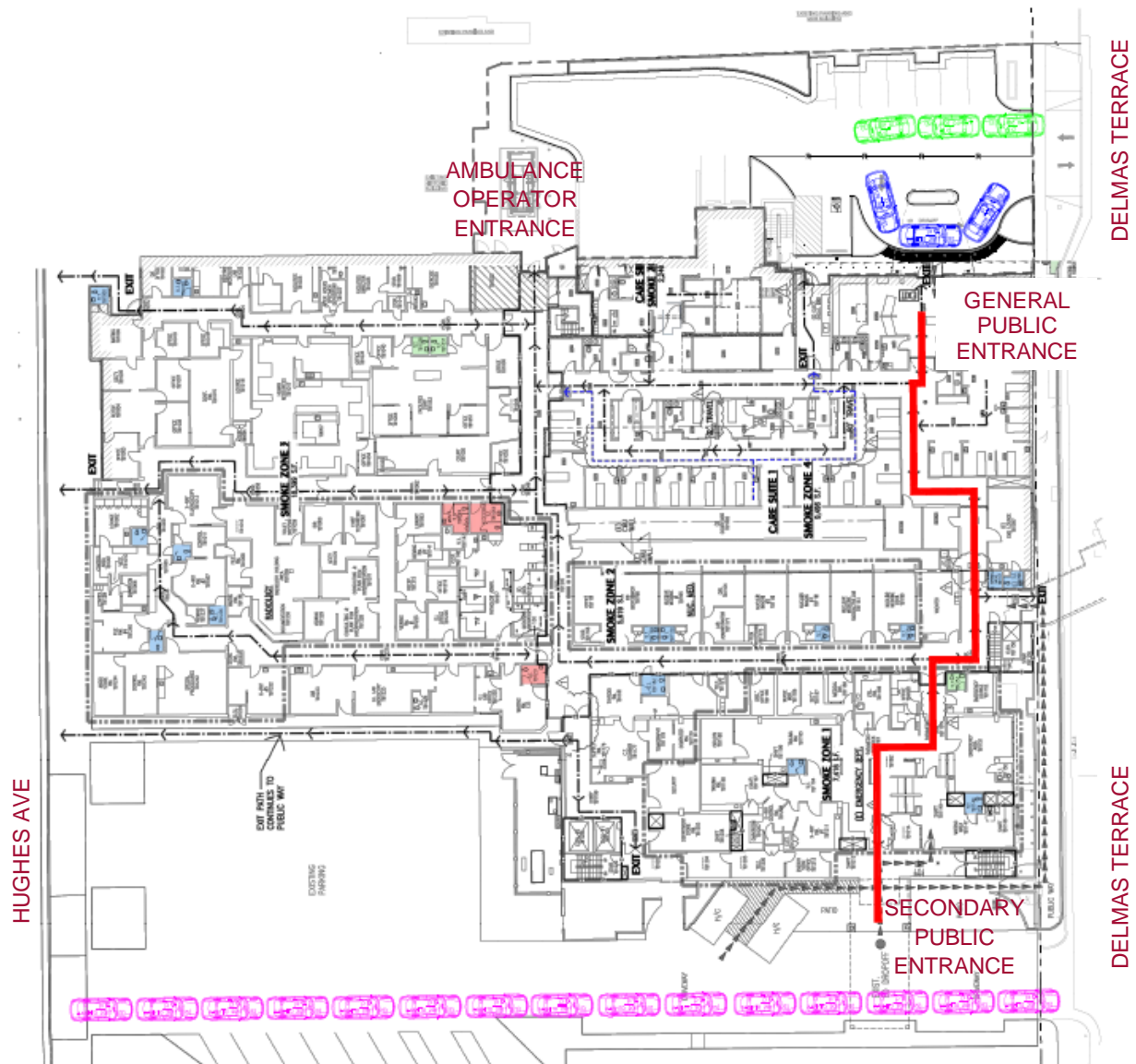


Figure 5 – Drop-Off/Pick-up Overflow

CONCLUSIONS AND RECOMMENDATIONS

The redevelopment of the parking lot at the SCH-ED will have a shared entrance off of Delmas Terrace for ambulances and general public. The emergency department provides a private entrance for the ambulance operators and their patients on the west side of the site. The general public will have 10 parking spaces in the parking lot, including one ADA van space. While no marked parking stalls will be designated in the ambulance drop-off area on the west side of the parking lot, the analysis indicates that there is sufficient room for three stationary ambulances to park. The analysis further indicates that six ambulances could be accommodated in the parking lot at the same time, if actively attended to by the ambulance operators, before a spillback would occur onto Delmas Terrace.

The new parking lot will also have a designated drop-off and pick-up area. The analysis indicates that there is sufficient room for three (3) passenger vehicles to temporarily station in this area, and another three (3) to queue in the parking lot, without blocking traffic or creating spillback onto Delmas Terrace. Additionally, the analysis further indicates that the driveway accessible from Hughes Avenue can serve as an additional drop-off and pick-up area, where up to fifteen (15) passenger vehicles can temporarily station.