



HEXAGON TRANSPORTATION CONSULTANTS, INC.

Memorandum

Date: January 4, 2016

To: Lily Lim, City of San Mateo

From: Gary Black
Lance Knox

Subject: Traffic Analysis for the Proposed Residential Project at 4 W. Santa Inez Avenue in San Mateo, California

Hexagon Transportation Consultants, Inc. has completed a traffic study for the proposed multifamily residential project at 4 West Santa Inez Avenue in San Mateo, California. The project site is located west of El Camino Real between Engle Road and West Santa Inez Avenue (see Figure 1). The proposed project would include 10 condominium dwelling units with an underground parking garage. The project proposes six three-bedroom units, three two-bedroom units, and one one-bedroom unit. The site currently is occupied by two single-family homes. The current homes have one driveway to W. Santa Inez Avenue and one driveway to Engel Road (see Figure 2). The proposed project would have one driveway on W. Santa Inez Avenue.

The City of San Mateo has requested a traffic analysis be conducted for existing conditions as well as 2040 conditions with the project. The purpose of this traffic study is to identify whether the addition of project traffic at adjacent intersections would cause a significant impact by City standards. The study includes an evaluation of existing traffic conditions, vehicular trip generation estimates, and a qualitative analysis of traffic operations with the project.

Existing Roadway Network

El Camino Real (SR 82) is a four-lane north-south major arterial that serves the northwest residential areas of San Mateo. El Camino Real provides access to numerous residential streets within the project vicinity, as well as connects to commercial districts south of the project site. According to the City's General Plan, major arterial streets, such as El Camino Real, have a maximum capacity of about 50,000 vehicles per day. With an ADT of about 42,300, El Camino Real is currently operating below the capacity.

W. Santa Inez Avenue is a two-lane east-west collector street that serves the residential areas of San Mateo adjacent to Hillsboro Heights. Along the eastern edge of the project site, W. Santa Inez Avenue connects to El Camino Real via a one-way stop intersection with no turn pockets. Access to the project site is provided via one driveway along W. Santa Inez Avenue.

Project Trip Generation

Through empirical research, data have been collected that quantify the amount of traffic produced by common land uses. The research is compiled in a reference book published by the Institute of Transportation Engineers' (ITE) entitled *Trip Generation, 9th Edition* (2012). The magnitude of traffic added to the roadway system by a particular development is estimated by multiplying the applicable trip generation rates by the size of the development. Hexagon used the ITE trip generation rates for

Apartment (Land Use 220) instead of the trip generation rates for Condominium/Townhouse (Land Use 230), to generate a conservative estimate of project trips because the apartment rates are higher.

Based on average trip generation rates for Apartments (Land Use 220), the proposed development would generate a total of 67 daily trips, with 5 trips (1 in and 4 out) occurring during the morning (AM) peak commute hour and 6 trips (4 in and 2 out) occurring during the evening (PM) peak commute hour (see Table 1). It is expected that most, if not all, incoming and outgoing project traffic would use El Camino Real, since W. Santa Inez Avenue does not connect to any large destinations (i.e. retail stores, schools, or workplaces). Therefore, the project trip generation equates to one new trip on El Camino Real every 10-12 minutes. It is unlikely that such a small number of added trips would be noticeable to existing residents.

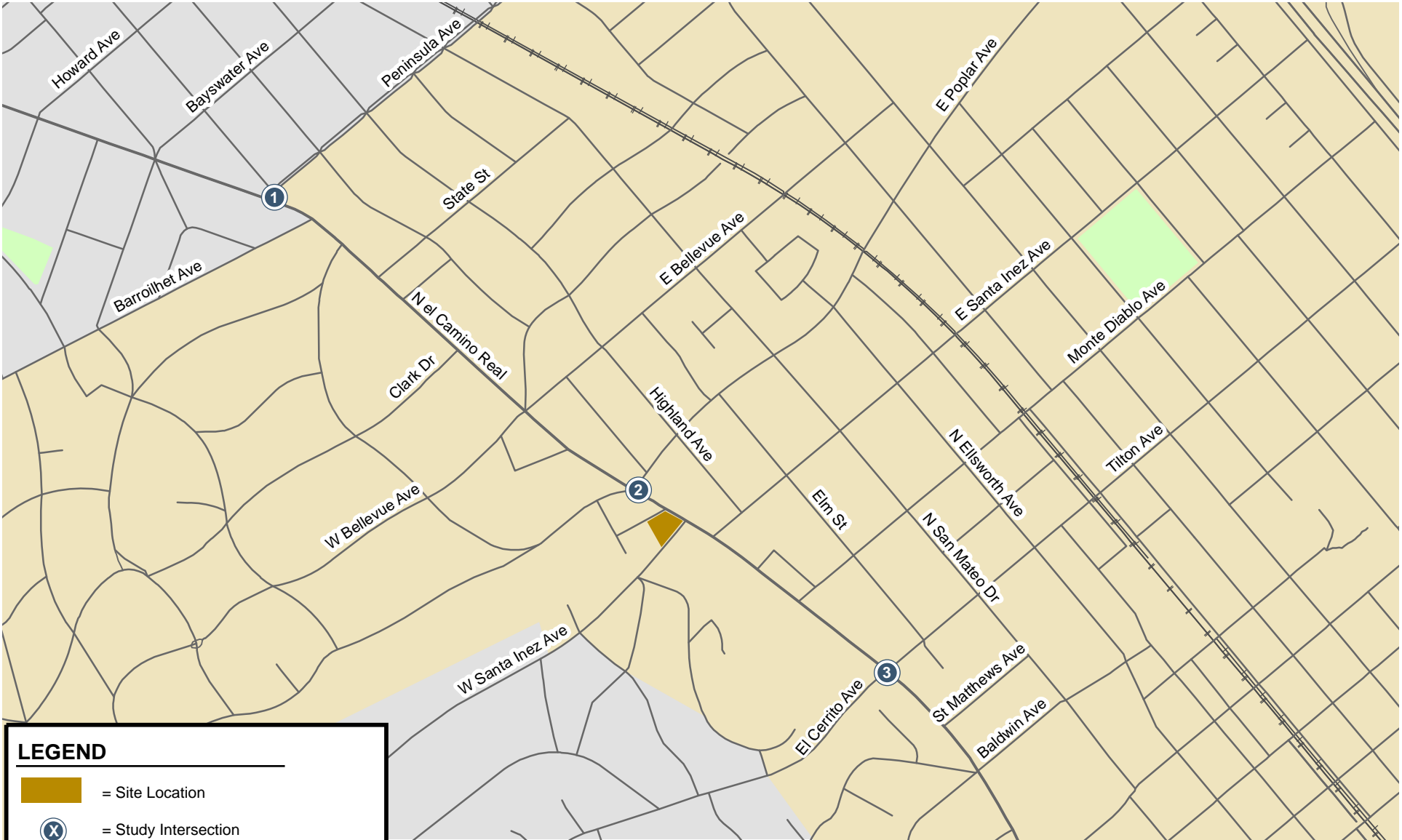
Given that the proposed project would demolish the existing buildings on-site, trip credits were taken for the trips generated by the existing two houses currently occupying the project site.

After applying the trip credits for the existing buildings on-site, the project would generate a net total of 47 daily trips, with 4 trips (1 in and 3 out) during the AM peak hour and 4 trips (3 in and 1 out) during the PM peak hour.

Table 1
Project Trip Generation Estimates

Land Use	Size	Daily		AM Peak Hour			PM Peak Hour				
		Rate	Trips	Rate	In	Out	Total	Rate	In	Out	Total
Proposed Project											
Santa Inez Residential Housing ¹	10 units	6.65	67	0.51	1	4	5	0.62	4	2	6
Existing Use											
Single-Family Housing ²	2 units	9.52	19	0.75	0	1	2	1.00	1	1	2
Net Project Trips			47		1	3	4		3	1	4
Notes											
¹ Apartment (Land Use 220) based on ITE's <i>Trip Generation, 9th Edition</i> , average rates.											
² Single-Family Detached (Land Use 252) based on ITE's <i>Trip Generation, 9th Edition</i> , average rates.											

With an estimated 47 added daily trips, the project would add traffic equal to 0.094 percent of the capacity on El Camino Real. Thus, when project trips are combined with the existing residential traffic, the road would continue to operate below capacity.



LEGEND

= Site Location

X

= Study Intersection

= City of San Mateo

Figure 1
Site Location and Study Intersections



Figure 2
Project Site Aerial

Intersection Operations

The operating conditions of the nearby intersections were qualitatively evaluated for significant impacts. Traffic conditions at the study intersections were evaluated using level of service (LOS). Level of Service is a qualitative description of operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or jammed conditions with excessive delays. The City of San Mateo level of service standard is mid-LOS D (delay of 45 seconds) or better for signalized intersections. The City of San Mateo does not have standards for unsignalized intersections. City traffic policies do not consider unsignalized intersections to represent constraints to the operation of the transportation system. The nearest signalized intersections to the project site include El Camino Real/Peninsula Avenue, El Camino Real/Poplar Avenue, and El Camino Real/Tilton Avenue. Operating conditions at these intersections are described below.

El Camino Real and Peninsula Avenue

The intersection of El Camino Real and Peninsula Avenue currently operates at LOS B during both the morning (AM) and the evening (PM) peak commute hours. The intersection would carry a small portion of the project traffic given that El Camino Real ultimately extends into the City of Burlingame and Peninsula Avenue extends to US 101. Project traffic through this study intersection would be minimal and add very little, if any, vehicle delay. This intersection is projected to operate at LOS C during the AM peak hour and LOS D during the PM peak hour under 2040 conditions.

El Camino Real and Poplar Avenue

El Camino Real and Poplar Avenue currently operates at LOS B during both the AM and PM peak hours. Some project traffic would be expected to travel through this intersection. However, the added project traffic would not significantly impact intersection operations. The intersection is projected to operate at LOS B during both the AM and PM peak hours under 2040 conditions.

El Camino Real and Tilton Avenue

El Camino Real and Tilton Avenue currently operates at LOS A during both the AM and PM peak hours. Some project traffic would use southbound El Camino Real through this intersection. However, the project would add minimal delays and would not significantly impact intersection operations. Under 2040 conditions, this intersection would operate at an acceptable LOS B during the AM and PM peak hours.

Conclusions

The proposed residential project at 4 W. Santa Inez Avenue would generate less than 10 trips during the AM and PM peak hours. Under existing conditions, the adjacent study intersections operate at an acceptable LOS B or better. The addition of project-generated trips to El Camino Real would be minimal and unlikely to be noticed by existing residents. The added project trips would not create a noticeable change in intersection operations at the nearby intersections.