

Memorandum

Date: November 18, 2019
To: Fiona Phung, David J. Powers & Associates, Inc.
From: Jane Bierstedt
Subject: **Land Use Equivalencies for a Proposed Tasman East Specific Plan Revision**

SJ16-1669.02

Fehr & Peers conducted a trip generation analysis for a proposed change to the Tasman East Specific Plan (TESP) in Santa Clara, California. The TESP, as originally evaluated, included 4,500 residential units, 106,000 square feet of retail space (including a 25,000-square foot grocery store), and a school. A currently proposed use is 191 assisted living and memory care units which does not fit into any of these land use categories. The purpose of this analysis is to determine residential and retail land use equivalencies for the proposed units based on vehicle trip generation.

Analysis Approach

Daily, AM peak hour, and PM peak hour vehicle trip generation estimates were developed for the proposed 191 assisted living and memory care units¹ using rates from the Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 10th Edition. The numbers of trips were then divided by trip generation rates for mid-rise apartments (to represent residential units) and shopping center (to represent retail space) from the *Trip Generation Manual* to obtain equivalent numbers of residential units and square feet (sf) of retail space, respectively.

¹ Per ITE, rates for assisted living units include memory care units. The rates are provided on a per-bed basis. It was assumed that each unit would have one bed.



Analysis Results

The trip generation rates and trip generation estimates for the assisted living and memory care units are presented in **Table 1**. These units are estimated to generate 496 daily vehicle trips with 36 during the AM peak hour and 50 during the PM peak hour.

Table 1: Vehicle Trip Generation Rates and Estimates for Proposed 191 Assisted Living and Memory Care Units

Item	Daily	AM Peak Hour	PM Peak Hour
Rates	2.60	0.19	0.26
Trips	496	36	50

Source: Institute of Transportation Engineers, *Trip Generation Manual*, 10th Edition, September 2017.

These trip estimates were divided by the residential and retail rates from the ITE *Trip Generation Manual* to estimate equivalent numbers of residential units and amounts of retail space. The results are presented in **Table 2**.

There is a range of equivalencies depending on whether daily, AM peak hour, or PM peak hour, trips are used as the basis. The number of residential units ranges from 48 to 256 units and the amount of retail space ranges from 10,400 sf to 39,700 sf.

Table 2: Residential and Retail Vehicle Trip Generation Rates and Equivalent Sizes

Land Use	Daily	AM Peak Hour	PM Peak Hour
Rates			
Residential	5.44	0.36	0.44
Retail	37.75	0.94	3.81
Equivalent Sizes (residential units and 1,000s of square feet of retail space)			
Residential	91	100	114
Retail	13.1	38.3	13.1

Source: Institute of Transportation Engineers, *Trip Generation Manual*, 10th Edition, September 2017.

Conclusions

Using the highest values to be conservative, the 191 assisted living and memory care units would be equivalent to 114 residential units or 38,300 square feet of retail space.