

## TECHNICAL MEMORANDUM

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**To:** Shay Talbott , Green Living 515 Soquel Ave, LLC  
John Swift and Daniel Saphorghan, Swift Consulting Services, Inc.

**From:** Derek Wu P.E. and Frederik Venter P.E., Kimley-Horn and Associates, Inc.

**Date:** June 3, 2022

**Re:** **Talbott Apartments (513, 515, 519 Soquel Ave) – Trip Generation Analysis**

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### 1. Introduction

This technical memorandum presents the trip generation results for the proposed Talbott Apartments development at 513, 515, and 519 Soquel Avenue in the City of Santa Cruz, California. The property is located in the northeast quadrant of the Soquel / May Avenue intersection. The Project's site plan proposes to construct a mixed-use building consisting of up to 43 residential units, up to 1,166 square-feet of commercial space, and up to 39 parking spaces. Vehicle access to and from the project is provided via a proposed driveway on May Avenue.

The City of Santa Cruz Planning Department conducted a review of the project application and provided their comments in the CP21-065 document dated 3/4/2022. In regard to transportation, the project would need to prepare a trip generation analysis per the following City comments:

*6. Trip generation. Note that the proposed project is likely to generate an appreciable increase in vehicular traffic. The submitted traffic impact report discusses primarily pedestrian safety related to pedestrian visibility and lines-of-sight. Provide a memo or report, indicating the likely impact on traffic generation associated with the proposed project.*

*Advisory 4. Traffic Impact Study (TIS). City Staff will determine a need for and level of TIS based on an initial assessment of the transportation attributes, motor vehicle traffic generation, and parking generation of the proposed project. A TIS will be required if a proposed project disrupts existing pedestrian, bicycle, or transit circulation. Projects that are estimated to generate 50 or more vehicle trips during the p.m. peak hour require a TIS. At a minimum the parking component of a TIS will be required for any project not meeting the City parking requirement for parking. See Transportation Impact Study Guidelines.\**

*Advisory 10. Traffic Impact Study. Note that a Traffic Impact Study (TIS) must be prepared, should the proposed development be anticipated to generate 50 or more peak-hour vehicular trips.*

### 2. Trip Generation Methodology

The project description and operations plan were prepared by the Client and are provided below and summarized in the **Appendices** for trip generation analysis purposes.

Trip generation for the proposed project land uses was calculated using average trip generation rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition* (September 2021).

A trip is defined as a single or one-directional vehicle movement in either the origin or destination at the project site. In other words, a trip can be either "to" or "from" the site. In addition, a single customer

visit to a site is counted as two trips (i.e., one to and one from the site). Daily, AM, and PM peak hour trips for the project were calculated with average trip rates.

### ***Potential Residential Land Uses***

For the residential dwelling units, the ITE 221 Multifamily Housing (Mid-Rise) land use was conservatively applied to the proposed development. This land use consists of mid-rise multifamily housing including apartment, townhouses, and condominiums located within the same building with at least three other dwelling units and have between three and 10 levels (floors).

### ***Potential Commercial Land Uses***

The project description and future tenant for the commercial use is under negotiation at this time; however, the speculative commercial use is an office or medical office building (MOB). Based on the site configuration and discussions with the Client, the following commercial land uses were compared and evaluated for the project:

- ITE 712 Small Office Building
  - A small office building houses a single tenant and is less than or equal to 5,000 gross square feet in size. It is a location where affairs of a business, commercial or industrial organization, or professional person or firm are conducted.
- ITE 720 Medical-Dental Office Building
  - A medical-dental office building is a facility that provides diagnoses and outpatient care on a routine basis but is unable to provide prolonged in-house medical and surgical care. One or more private physicians or dentists generally operate this type of facility.
- ITE 876 Apparel Store
  - An apparel store is an individual store specializing in the sale of clothing.
- ITE 918 Hair Salon
  - A hair salon is a facility that specialize in cosmetic and beauty services, including hair cutting and styling; skin and nail care; and massage therapy. A hair salon may also contain spa facilities.
- ITE 930 Fast Casual Restaurant
  - A fast casual restaurant is a sit down restaurant with no wait staff or table service. Customers typically order off a menu board, pay for food before the food is prepared and seat themselves. The menu generally contains higher quality made to order food items with fewer frozen or processed ingredients than fast food restaurant.

**Table 1** compares the ITE trip rates for the potential land uses for the project. Due to the project description and the unknown future tenant/s, the ITE 720 Medical-Dental Office Building land use was conservatively applied to the proposed development as the preferred alternative.

Table 1: ITE Trip Rate Comparison

LAND USE / DESCRIPTION	PROJECT SIZE	TOTAL DAILY TRIPS	AM PEAK TRIPS			PM PEAK TRIPS		
			TOTAL	IN	OUT	TOTAL	IN	OUT
<b>Trip Generation Rates (ITE)</b>								
Multifamily Housing (Mid-Rise) [ITE 221]	Per Dwelling Unit(s)	4.54	0.37	23%	77%	0.39	61%	39%
Small Office Building [ITE 712]	Per 1,000 Sq Ft	14.39	1.67	82%	18%	2.16	34%	66%
Medical-Dental Office Building [ITE 720]	Per 1,000 Sq Ft	36.00	3.10	79%	21%	3.96	30%	70%
Apparel Store [ITE 876]	Per 1,000 Sq Ft	66.40	1.00	80%	20%	4.12	51%	49%
Hair Salon [ITE 918]	Per 1,000 Sq Ft	*	1.21	50%	50%	1.45	17%	83%
Fast Casual Restaurant [ITE 930]	Per 1,000 Sq Ft	97.14	1.43	50%	50%	12.55	55%	45%

**Additional Amenity Space**

The project site plan proposes a residential community space on the ground floor approximately 1,106 square feet in size. Based on discussion with the Client, this amenity space has the option to potentially be used for commercial use as well. Trip generation for the project was determined with and without the addition of this space for commercial use.

**Existing Use Trip Credits**

The project will also involve demolishing the existing residential dwelling unit at 513 Soquel and the 3,303 square-foot medical office building at 515 Soquel. These land uses would be eligible for an existing use trip credit. Per the ITE 210 and 720 land uses, an existing use trip credit of 128 daily, 11 AM peak hour trips, and 14 PM peak hour trips were applied to the project.

**Trip Generation Alternatives**

Per City of Santa Cruz traffic impact study guidelines, a project that generates less than 50 new peak hour PM trips and would not be required to prepare a traffic impact study (TIS). The following land use alternatives for the project site were analyzed to determine baseline trip generation that would generate less than the 50 PM trip threshold:

- Alternative 1 – MOB
- Alternative 2 – MOB Plus Amenity Space
- Alternative 3 – Shared Office Workspace
- Alternative 4 – Shared Office Workspace Plus Amenity Space
- Alternative 5 – Apparel Store
- Alternative 6 – Apparel Store Plus Amenity Space
- Alternative 7 – Hair Salon
- Alternative 8 – Hair Salon Plus Amenity Space
- Alternative 9 – Fast Casual
- Alternative 10 – Fast Casual Plus Amenity Space

### 3. Alternative 1 Project Trip Generation

Trip generation for the proposed project site (Alternative 1) was determined assuming 43 residential apartment units and 1,116 square feet of commercial MOB per the latest site plan.

#### Baseline Vehicle Trips

Baseline vehicle trips for the proposed project (excluding trip adjustments) are anticipated to generate a gross total of 237 daily trips, 20 AM peak hour trips, and 22 PM peak hour vehicle trips. Of the AM peak hour trips, approximately 7 trips will be inbound to the project and 13 trips will be outbound from the project. For the PM peak hour trips, approximately 12 trips are inbound while 10 trips are outbound.

#### Net Vehicle Project Trips

Development of the proposed project with all applicable trip reductions and credits is anticipated to generate a net total of 109 additional daily trips, 9 AM, and 8 PM peak hour trips to the roadway network. **Table 2** provides a summary of the proposed trip generation and trip reductions/credits for the Alternative 1 site plan.

Table 2: Project Trip Generation – Alternative 1

LAND USE / DESCRIPTION	PROJECT SIZE		TOTAL DAILY TRIPS	AM PEAK TRIPS		PM PEAK TRIPS	
				TOTAL	IN / OUT	TOTAL	IN / OUT
<b>Trip Generation Rates (ITE)</b>							
Single-Family Detached Housing [ITE 210]	Per	Dwelling Unit(s)	9.44	0.70	26% / 74%	0.94	63% / 37%
Multifamily Housing (Mid-Rise) [ITE 221]	Per	Dwelling Unit(s)	4.54	0.37	23% / 77%	0.39	61% / 39%
Medical-Dental Office Building [ITE 720]	Per	1,000 Sq Ft	36.00	3.10	79% / 21%	3.96	30% / 70%
<b>Baseline Vehicle Trips for Project</b>							
Talbott Apartments [ITE 221]	43	Dwelling Unit(s)	195	16	4 / 12	17	10 / 7
Talbott 1st Floor Commercial [ITE 720]	1.166	1,000 Sq Ft	42	4	3 / 1	5	2 / 3
<b>Baseline Project Vehicle-Trips</b>			<b>237</b>	<b>20</b>	<b>7 / 13</b>	<b>22</b>	<b>12 / 10</b>
<b>Other Trip Adjustments</b>							
Existing Use Credit (ITE 210 at 515 Soquel)	-1	Dwelling Unit(s)	(9)	(1)	0 / (1)	(1)	(1) / 0
Existing Use Credit (ITE 720 at 513 Soquel)	-3.303	1,000 Sq Ft	(119)	(10)	(8) / (2)	(13)	(4) / (9)
<b>Other Trip Adjustment Subtotal</b>			<b>(128)</b>	<b>(11)</b>	<b>(8) / (3)</b>	<b>(14)</b>	<b>(5) / (9)</b>
<b>Baseline Project Vehicle-Trips</b>			<b>237</b>	<b>20</b>	<b>7 / 13</b>	<b>22</b>	<b>12 / 10</b>
<b>Net Project Vehicle-Trips</b>			<b>109</b>	<b>9</b>	<b>(1) / 10</b>	<b>8</b>	<b>7 / 1</b>
<b>Notes:</b>							
Land Uses assumed based on latest proposed site plan from project applicant dated 1/12/2022							
Daily, AM, and PM trips based on average land use rates from the Institute of Traffic Engineers Trip Generation 11th Edition (September 2021)							
Medical-Dental Office Building (ITE 720) was assumed for the project commercial use to provide a conservative analysis							
Assumed existing use credit for residential and MOB buildings to be demolished on-site per ITE							

As shown above, the Alternative 1 project land use program would generate up to 20 AM and 22 PM new peak hour vehicle trips. This trip total assumes full occupancy of the residential units and full buildout of the commercial space on-site. Per City of Santa Cruz traffic impact study guidelines, the project would generate less than 50 new peak hour PM trips and would not be required to prepare a traffic impact study (TIS).

#### 4. Alternative 2 Project Trip Generation

An Alternative 2 trip generation scenario for the proposed project site was analyzed for informational purposes. This land use scenario assumes 43 residential apartment units and up to 2,272 square feet of commercial MOB. The additional commercial space would replace the residential amenity area located on the ground floor.

##### Baseline Vehicle Trips

Baseline vehicle trips for the proposed project (excluding trip adjustments) are anticipated to generate a gross total of 277 daily trips, 23 AM peak hour trips, and 26 PM peak hour vehicle trips. Of the AM peak hour trips, approximately 10 trips will be inbound to the project and 13 trips will be outbound from the project. For the PM peak hour trips, approximately 13 trips are inbound while 13 trips are outbound.

##### Net Vehicle Project Trips

Development of the proposed project with all applicable trip reductions and credits is anticipated to generate a net total of 149 additional daily trips, 12 AM, and 12 PM peak hour trips to the roadway network. **Table 3** provides a summary of the proposed trip generation and trip reductions/credits for the Alternative 2 site plan.

Table 3: Project Trip Generation – Alternative 2

LAND USE / DESCRIPTION	PROJECT SIZE		TOTAL DAILY TRIPS	AM PEAK TRIPS		PM PEAK TRIPS	
				TOTAL	IN / OUT	TOTAL	IN / OUT
<b>Trip Generation Rates (ITE)</b>							
Single-Family Detached Housing [ITE 210]	Per	Dwelling Unit(s)	9.44	0.70	26% / 74%	0.94	63% / 37%
Multifamily Housing (Mid-Rise) [ITE 221]	Per	Dwelling Unit(s)	4.54	0.37	23% / 77%	0.39	61% / 39%
Medical-Dental Office Building [ITE 720]	Per	1,000 Sq Ft	36.00	3.10	79% / 21%	3.96	30% / 70%
<b>Baseline Vehicle Trips for Project</b>							
Talbott Apartments [ITE 221]	43	Dwelling Unit(s)	195	16	4 / 12	17	10 / 7
Talbott 1st Floor Commercial [ITE 720]	2.272	1,000 Sq Ft	82	7	6 / 1	9	3 / 6
<b>Baseline Project Vehicle-Trips</b>			<b>277</b>	<b>23</b>	<b>10 / 13</b>	<b>26</b>	<b>13 / 13</b>
<b>Other Trip Adjustments</b>							
Existing Use Credit (ITE 210 at 515 Soquel)	-1	Dwelling Unit(s)	(9)	(1)	0 / (1)	(1)	(1) / 0
Existing Use Credit (ITE 720 at 513 Soquel)	-3.303	1,000 Sq Ft	(119)	(10)	(8) / (2)	(13)	(4) / (9)
<b>Other Trip Adjustment Subtotal</b>			<b>(128)</b>	<b>(11)</b>	<b>(8) / (3)</b>	<b>(14)</b>	<b>(5) / (9)</b>
<b>Baseline Project Vehicle-Trips</b>			<b>277</b>	<b>23</b>	<b>10 / 13</b>	<b>26</b>	<b>13 / 13</b>
<b>Net Project Vehicle-Trips</b>			<b>149</b>	<b>12</b>	<b>2 / 10</b>	<b>12</b>	<b>8 / 4</b>
<b>Notes:</b>							
Land Uses assumed based on latest proposed site plan from project applicant dated 1/12/2022							
Daily, AM, and PM trips based on average land use rates from the Institute of Traffic Engineers Trip Generation 11th Edition (September 2021)							
Medical-Dental Office Building (ITE 720) was assumed for the project commercial use to provide a conservative analysis. Commercial land use size doubled to replace residential amenity space located on the ground floor							
Assumed existing use credit for residential and MOB buildings to be demolished on-site per ITE							

As shown above, the Alternative 2 project land use program would generate up to 23 AM and 26 PM new peak hour vehicle trips. This trip total assumes full occupancy of the residential units and full buildout of the commercial space on-site. Per City of Santa Cruz traffic impact study guidelines, the project would generate less than 50 new peak hour PM trips and would not be required to prepare a traffic impact study (TIS).

## 5. Alternatives 3 – 10 Project Trip Generation

For informational purposes, **Table 4** compares the baseline trip generation for all the potential project land use programs assuming full occupancy of the residential units and full buildout of the commercial space on-site. Per City of Santa Cruz traffic impact study guidelines, the project alternatives would generate less than 50 new peak hour PM trips and would not be required to prepare a traffic impact study (TIS).

## 6. Driveway Access and Commercial Use Viability

The existing site provides vehicle access to off-street parking from driveways along Soquel Avenue and May Avenue; however, the proposed project would close vehicle access along Soquel Avenue and provide vehicle access only via May Avenue. Residential and commercial parking for the proposed project site would be provided behind the Soquel Avenue building frontage and located in an underground parking garage accessed by a 20-foot wide driveway on May Avenue.

The relocation of parking and vehicle access behind the building and street frontage is consistent with the community character, goals, and policies from the Eastside Business Area Improvement Plan (January 1996) and the Ocean Street Area Plan (January 2014) published by the City. The project is located in the West Soquel Entry Zone and would be consistent with the following urban design guidelines:

- *Appropriate uses in this area would include high density residential surrounded by office and retail uses along the street edge; medical or garden office; and other uses where architectural footprint can be stepped with the topography. Encourage uses which benefit from proximity to Branciforte Plaza. Avoid large, massive buildings or uses with high parking requirements.*
- *Buildings should be located either directly on right-of-way edge or with landscape buffer between building and street. Off-street parking areas should be located behind buildings. Consider consolidating existing rear parking areas to provide a more efficient layout.*

Due to the proposed site plan layout, City Area Plans, and vehicle parking access from May Avenue, the project's on-site commercial space would likely be limited to small retail or professional office land uses in order for the commercial space to be economically and operationally feasible. These types of commercial uses are appropriate for the project site since on-site parking is shared and visitor/employee parking demand for offices are typically lower and more consistent than restaurant or other intense retail service uses which can experience peak activity.

## 7. Conclusions and Recommendations

Based on ITE trip generation methodology, the project's proposed land use program options (Alternatives 1 to 10) are anticipated to generate less than 50 new PM peak hour vehicle trips and would not trigger the need to prepare a Traffic Impact Study per City guidelines. Due to the site plan layout and the project's intended use, it is likely that the project's commercial space will be leased for small retail or professional office use.

## 8. Appendix

- Talbot Apartments Site Plan (Dated 1/12/2022)

Table 4: Project Trip Generation – Alternatives 3 – 10

LAND USE / DESCRIPTION	PROJECT SIZE		TOTAL DAILY TRIPS	AM PEAK TRIPS		PM PEAK TRIPS	
				TOTAL	IN / OUT	TOTAL	IN / OUT
<b>Trip Generation Rates (ITE)</b>							
Multifamily Housing (Mid-Rise) [ITE 221]	Per	Dwelling Unit(s)	4.54	0.37	23% / 77%	0.39	61% / 39%
Small Office Building [ITE 712]	Per	1,000 Sq Ft	14.39	1.67	82% / 18%	2.16	34% / 66%
Medical-Dental Office Building [ITE 720]	Per	1,000 Sq Ft	36.00	3.10	79% / 21%	3.96	30% / 70%
Apparel Store [ITE 876]	Per	1,000 Sq Ft	66.40	1.00	80% / 20%	4.12	51% / 49%
Hair Salon [ITE 918]	Per	1,000 Sq Ft	*	1.21	50% / 50%	1.45	17% / 83%
Fast Casual Restaurant [ITE 930]	Per	1,000 Sq Ft	97.14	1.43	50% / 50%	12.55	55% / 45%
<b>Alternative 1 - MOB</b>							
Talbott Apartments [ITE 221]	43	Dwelling Unit(s)	195	16	4 / 12	17	10 / 7
Talbott 1st Floor Commercial [ITE 720]	1.166	1,000 Sq Ft	42	4	3 / 1	5	2 / 3
<b>Baseline Project Vehicle-Trips</b>			<b>237</b>	<b>20</b>	<b>7 / 13</b>	<b>22</b>	<b>12 / 10</b>
<b>Alternative 2 - MOB Plus Amenity</b>							
Talbott Apartments [ITE 221]	43	Dwelling Unit(s)	195	16	4 / 12	17	10 / 7
Talbott 1st Floor Commercial [ITE 720]	2.272	1,000 Sq Ft	82	7	6 / 1	9	3 / 6
<b>Baseline Project Vehicle-Trips</b>			<b>277</b>	<b>23</b>	<b>10 / 13</b>	<b>26</b>	<b>13 / 13</b>
<b>Alternative 3 - Shared Office Workspace</b>							
Talbott Apartments [ITE 221]	43	Dwelling Unit(s)	195	16	4 / 12	17	10 / 7
Talbott 1st Floor Commercial [ITE 712]	1.166	1,000 Sq Ft	17	2	2 / 0	3	1 / 2
<b>Baseline Project Vehicle-Trips</b>			<b>212</b>	<b>18</b>	<b>6 / 12</b>	<b>20</b>	<b>11 / 9</b>
<b>Alternative 4 - Shared Office Plus Amenity</b>							
Talbott Apartments [ITE 221]	43	Dwelling Unit(s)	195	16	4 / 12	17	10 / 7
Talbott 1st Floor Commercial [ITE 712]	2.272	1,000 Sq Ft	33	4	3 / 1	5	2 / 3
<b>Baseline Project Vehicle-Trips</b>			<b>228</b>	<b>20</b>	<b>7 / 13</b>	<b>22</b>	<b>12 / 10</b>
<b>Alternative 5 - Apparel Store</b>							
Talbott Apartments [ITE 221]	43	Dwelling Unit(s)	195	16	4 / 12	17	10 / 7
Talbott 1st Floor Commercial [ITE 876]	1.166	1,000 Sq Ft	77	1	1 / 0	5	3 / 2
<b>Baseline Project Vehicle-Trips</b>			<b>272</b>	<b>17</b>	<b>5 / 12</b>	<b>22</b>	<b>13 / 9</b>
<b>Alternative 6 - Apparel Store Plus Amenity</b>							
Talbott Apartments [ITE 221]	43	Dwelling Unit(s)	195	16	4 / 12	17	10 / 7
Talbott 1st Floor Commercial [ITE 876]	2.272	1,000 Sq Ft	151	2	2 / 0	9	5 / 4
<b>Baseline Project Vehicle-Trips</b>			<b>346</b>	<b>18</b>	<b>6 / 12</b>	<b>26</b>	<b>15 / 11</b>
<b>Alternative 7 - Hair Salon</b>							
Talbott Apartments [ITE 221]	43	Dwelling Unit(s)	195	16	4 / 12	17	10 / 7
Talbott 1st Floor Commercial [ITE 918]	1.166	Dwelling Unit(s)	-	1	1 / 0	2	0 / 2
<b>Baseline Project Vehicle-Trips</b>			<b>195</b>	<b>17</b>	<b>5 / 12</b>	<b>19</b>	<b>10 / 9</b>
<b>Alternative 8 - Hair Salon Plus Amenity</b>							
Talbott Apartments [ITE 221]	43	Dwelling Unit(s)	195	16	4 / 12	17	10 / 7
Talbott 1st Floor Commercial [ITE 918]	2.272	Dwelling Unit(s)	-	3	2 / 1	3	1 / 2
<b>Baseline Project Vehicle-Trips</b>			<b>195</b>	<b>19</b>	<b>6 / 13</b>	<b>20</b>	<b>11 / 9</b>
<b>Alternative 9 - Fast Casual</b>							
Talbott Apartments [ITE 221]	43	Dwelling Unit(s)	195	16	4 / 12	17	10 / 7
Talbott 1st Floor Commercial [ITE 930]	1.166	1,000 Sq Ft	113	2	1 / 1	15	8 / 7
<b>Baseline Project Vehicle-Trips</b>			<b>308</b>	<b>18</b>	<b>5 / 13</b>	<b>32</b>	<b>18 / 14</b>
<b>Alternative 10 - Fast Casual Plus Amenity</b>							
Talbott Apartments [ITE 221]	43	Dwelling Unit(s)	195	16	4 / 12	17	10 / 7
Talbott 1st Floor Commercial [ITE 930]	2.272	1,000 Sq Ft	221	3	2 / 1	29	16 / 13
<b>Baseline Project Vehicle-Trips</b>			<b>416</b>	<b>19</b>	<b>6 / 13</b>	<b>46</b>	<b>26 / 20</b>
<b>Notes:</b>							
Land Uses assumed based on latest proposed site plan from project applicant							
Daily, AM, and PM trips based on average land use rates from the Institute of Traffic Engineers Trip Generation 11th Edition (September 2021)							