

# Appendix A

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Local Transportation Analysis



October 23, 2023

Ms. Nichole Yee  
Rincon Consultants, Inc.  
449 15<sup>th</sup> Street, Suite 150  
Oakland, California 94612

## Local Transportation Analysis for 739 Sutter Avenue

Dear Ms. Yee;

As requested, W-Trans has prepared a Local Transportation Analysis for the proposed residential development to be located at 739 Sutter Avenue in the City of Palo Alto. The purpose of this letter is to document the project's potential to influence local transportation operations. Consistent with Senate Bill (SB) 743, the project's transportation impacts were analyzed using Vehicle Miles Traveled (VMT). According to the City of Palo Alto's Local Transportation Analysis policy, a Level of Service operational analysis is not required since this project would generate fewer than 20 net-new a.m. or p.m. peak hour trips. Similarly, a detailed operational analysis is not required per the policies outlined in the Santa Clara Valley Transportation Agency's *Transportation Impact Analysis Guidelines* since fewer than 100 new a.m. or p.m. peak hour trips would be generated by the project.

### Project Description

The project site is located at 739 Sutter Avenue in the City of Palo Alto and the project includes the construction of two three-story buildings with a total of 12 townhome dwelling units. The site is currently occupied by eight rental dwelling units which would be demolished to make way for the proposed project. A total of 24 parking spaces would be provided comprised of two covered spaces at each dwelling unit. Storage for bicycles would be provided via 12 ceiling-mounted long-term indoor bicycle parking spaces and two outdoor short-term spaces.

### Trip Generation

The anticipated trip generation for the proposed project was estimated using standard rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation Manual*, 11<sup>th</sup> Edition, 2021, based on the "Single-Family Attached Housing" (Land Use #215); rates for "Multifamily Housing (Low Rise)" (Land Use #220) were used to estimate the trips associated with the existing use to be eliminated.

As shown in Table 1, the proposed project is expected to generate an average of 86 trips per day, including six trips during the a.m. peak hour and seven trips during the p.m. peak hour. After deductions are taken for trips associated with the existing rental dwelling units, the project would be expected to generate 32 new trips on a daily basis, including three during the morning peak hour and three during the evening peak hour; these new trips represent the increase in traffic associated with the project. The project is not anticipated to generate any internal capture trips, pass-by trip credits or any other trip reductions.

**Table 1 – Trip Generation Summary**

Land Use	Units (du)	Daily		AM Peak Hour				PM Peak Hour			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
<b>Existing</b>											
Multifamily Housing (Low Rise)	-8	6.74	-54	0.40	-3	-1	-2	0.51	-4	-3	-1
<b>Proposed</b>											
Single Family Attached Housing	12	7.20	86	0.48	6	2	4	0.57	7	4	3
<b>TOTAL</b>			<b>32</b>		<b>3</b>	<b>1</b>	<b>2</b>		<b>3</b>	<b>1</b>	<b>2</b>

Note: du = dwelling unit

## Alternative Modes

### *Pedestrian Facilities*

Given the proximity of the site to surrounding residential and retail uses, as well as the California Avenue Caltrain Station and multiple local bus routes, it is reasonable to assume that some residents would choose to walk to destinations near the site and use the existing sidewalk network. Immediately surrounding the California Avenue Caltrain Station are approximately 100 acres of Pedestrian Transit-Oriented Development Zoning. Sidewalk connectivity is continuous throughout the surrounding neighborhood. The proposed project would include the demolition and replacement of the sidewalks along the project frontage on Sutter Avenue. The proposed sidewalk would be 5.5 feet wide.

**Project Summary** – Internal pedestrian access within the proposed development site would be provided via a network of 3- to 5-foot-wide paved pedestrian pathways. All pedestrian facilities would need to be built to satisfy current City of Palo Alto Public Works Department standards.

**Finding** – Pedestrian facilities serving the project site and surrounding area are adequate. New facilities that would be provided on-site would connect to the existing system.

### *Bicycle Network*

The *City of Palo Alto Bicycle & Pedestrian Transportation Plan, 2012*, classifies bikeways into four categories:

- **Class I Bikeways/Multi-Use Paths** – a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flows of motorized traffic minimized.
- **Class II Bikeways** – a striped and signed lane for one-way bike travel on a street or highway.
- **Class III Bikeways** – signing only for shared use with motor vehicles within the same travel lane on a street or highway.
- **Bicycle Boulevards** – Bicycle boulevards are signed, shared roadways with especially low motor vehicle volumes such that motorists passing bicyclists can use the full width of the roadway. Bicycle boulevards prioritize convenient and safe bicycle travel through traffic calming strategies, wayfinding, and other measures.

In the immediate project area, a Class II bikeway exists north of Middlefield Road on Colorado Avenue (eastbound direction only). Colorado Avenue is classified as a Class III bikeway in both directions south of Middlefield Road and westbound only north of Middlefield Road. The Bryant Street Bicycle Boulevard is located 0.6 miles away from the project site and a Class I Multi-Use Path is accessible between Cowper Street and Middlefield Road along Hoover Park. Proposed in the City’s 2012 *Bicycle & Pedestrian Transportation Plan*, Moreno Boulevard and Ross Road

are now fully functional bicycle boulevards, spanning over 2 miles altogether. Bicyclists ride in the roadway and/or on sidewalks along all other streets within the project study area. Table 2 summarizes the bicycle facilities which currently exist in the project vicinity, as described in the *City of Palo Alto Bicycle & Pedestrian Transportation Plan, 2012*.

<b>Table 2 – Bicycle Facility Summary</b>				
<b>Status Facility</b>	<b>Type</b>	<b>Length (miles)</b>	<b>Begin Point</b>	<b>End Point</b>
<b>Existing</b>				
<i>Hoover Park</i>	I	0.4	Middlefield Rd	Cowper St
<i>Colorado Ave (EB Only)</i>	II	0.4	Louis Rd	Middlefield Rd
<i>Colorado Ave (WB Only)</i>	III	0.4	Louis Rd	Middlefield Rd
<i>Colorado Ave</i>	III	0.2	Middlefield Rd	Cowper St
<i>Moreno Blvd</i>	Bicycle Blvd	0.4	Louis Rd	Middlefield Rd
<i>Ross Rd</i>	Bicycle Blvd	1.7	Oregon Expy	Louis Rd
<b>Proposed</b>				
<i>Matadero Creek</i>	I	1.5	Alma St	Bayshore Rd
<i>Middlefield Rd</i>	II	0.5	Moreno Ave	Loma Verde Ave

Source: *City of Palo Alto Bicycle & Pedestrian Transportation Plan, Alta Planning & Design, 2012, Google Maps, 2023*

Existing bicycle facilities together with shared use of minor streets provide adequate access for bicyclists within the vicinity of the project site. Bicycle use will be further supported through the provision of 12 additional long-term bike parking spaces and one additional short-term bike parking spaces as part of the project.

**Finding** – Existing and planned bicycle facilities serving the project site are adequate.

*Transit Facilities*

Development sites which are located within a half-mile (2,640-foot) walk of a transit stop are generally considered to be adequately served by transit.

**Santa Clara Valley Transportation Authority (VTA)**

The Santa Clara Valley Transportation Authority (VTA) provides fixed route bus service and light-rail train service in Santa Clara County. Two bicycles can be carried on most VTA buses. Bike rack space is on a first-come, first-served basis. Additional bicycles are allowed on VTA buses at the discretion of the driver.

Within a half-mile walk of the project site there are bus stops for Routes 21, School 288, School 288L, and School 288M. The combined service areas of these routes provide access between the project site and a variety of destinations such as the Palo Alto Transit Center, Sunnyvale Transit Center, Mountain View Transit Center, Stanford Shopping Center, Santa Clara Transit Center, Henry M. Gunn High School, and Palo Alto VA Medical Center. Bus service for Route 21 is available weekdays from 5:30 a.m. to 10:00 p.m. and weekends from 8:30 a.m. to 7:00 p.m., at 30- to 60-minute headways. School Routes 288, 288L and 288M are available every day that Henry M. Gunn High School is in session, aligning with its daily schedule.

Dial-a-ride, also known as paratransit or door-to-door service, is available for those who are unable to independently use the transit system due to a physical or mental disability. VTA Paratransit is designed to serve the needs of individuals with disabilities within Palo Alto and Santa Clara County.

**Caltrain**

Caltrain is the commuter rail line serving the San Francisco Peninsula. It connects Palo Alto with San Francisco to the north and San Jose and Gilroy to the south. The California Avenue Caltrain Station is located at 101 California Avenue which is approximately 1.2 miles from the project site. Both bicycle racks and lockers are provided at the train station. Bicycle racks are available on a first-come, first-served basis, while lockers must be reserved. Weekday train service is provided at this station with both northbound and southbound trains on approximately 30-minute to one-hour headways from roughly 5:00 a.m. to 11:40 p.m.

**On-Demand Transportation Services**

On-demand private vehicle services (e.g., taxi, Uber, Lyft, etc.) are available in Palo Alto 24 hours a day. These vehicles can be used for trips both locally and to farther destinations.

**Project Summary** – If 20 percent of peak hour trips were made by transit, there would be one additional transit rider during each peak hour. The single rider expected to be generated by the project would therefore be unlikely to exceed the carrying capacity of the existing transit services near the project site.

**Significance Finding** – The proposed project would not conflict with any plans or policies related to pedestrian, bicycle and transit facilities or travel and these modes would be adequately served by existing facilities and routes. The project’s impact on such modes would therefore be less than significant.

**Vehicle Miles Traveled (VMT) Analysis**

Guidance provided by both the California Governor’s Office of Planning and Research (OPR) in the publication *Transportation Impacts (SB 743) CEQA Guidelines Update and Technical Advisory*, 2018, and the City of Palo Alto VMT Transportation Analysis Methodology Under CEQA (Dated June 15, 2020), were used. These documents recommend the use of screening thresholds to quickly identify when a project can be expected to result in a less-than-significant impact without conducting a detailed study. (See CEQA Guidelines, 15036(c)(3)(C), 15128, and Appendix G.) The Palo Alto VMT Criteria indicates that residential projects located in areas where the baseline VMT is 15 or more percent below the existing county average per resident could be considered to be in low-VMT areas and therefore presumed to have a less than significant VMT impact.

According to the Santa Clara Countywide VMT Evaluation Tool (Version 2), the countywide VMT per capita is 13.33 miles. Based on the Palo Alto VMT Criteria, a project generating a VMT that is 15 percent or more below this value, or 11.33 miles per capita or less, would have a less-than-significant VMT impact. The evaluation tool estimates that this project would have a VMT rate of 8.09 miles per capita. Because this per capita VMT rate is below the significance threshold of 11.33 miles, the project would be considered to have a less-than-significant VMT impact. A summary of the VMT findings is provided in Table 3. A copy of the Santa Clara Countywide Evaluation Tool screening results output is enclosed.

<b>Table 3 – Vehicle Miles Traveled Analysis Summary</b>				
<b>VMT Metric</b>	<b>Baseline VMT Rate</b>	<b>Significance Threshold</b>	<b>Project VMT Rate</b>	<b>Resulting Significance</b>
Household VMT per Capita (Countywide Baseline)	13.33	11.33	8.09	Less-Than-Significant

Note: VMT Rate is measured in VMT/Capita, or the number of daily miles driven per resident

**Significance Finding** – The project would be expected to have a less-than-significant transportation impact on vehicle miles traveled.

## Site Circulation and Access

### Vehicular Site Access

The proposed project would include the continued use of the existing driveway with access to/from Sutter Avenue. This full access driveway is shared with the adjacent residential property to the west as shown in the enclosed site plan.

### Sight Distance

At driveways, a substantially clear line of sight should be maintained between the driver of a vehicle waiting to enter the street and the driver of an approaching vehicle. Sight distances along Sutter Avenue at the project driveway were evaluated based on sight distance criteria contained in the *Highway Design Manual* published by Caltrans. There is no recommended sight distance for urban driveways; however, stopping sight distance was applied to estimate adequacy for safe operation using the approach travel speed as the basis for determining the recommended sight distance. Based on the posted speed limit of 25 mph the minimum stopping sight distance required is 150 feet. However, a portion of Sutter Avenue just south of the project site is within 500 feet of Key Elementary School. Due to this, the project area is subject to section 10.56 of the Palo Alto Municipal Code, which requires that a 20-mph speed limit be imposed while school is in session. Although this roadway segment along Sutter Avenue is affected by the ordinance for special speed zones, a 25-mph design speed was used to maintain a conservative analysis of the project site.

A review in the field shows that sight distances at the proposed project driveway on Sutter Avenue each exceed 150 feet so are adequate. To maintain this sight distance, it is suggested that any vegetation near the project's driveways should be trimmed in accordance with the Federal Highway Administration's guide on *Vegetation Control for Safety*, 2008, which states that any vegetation near the project's driveways should be trimmed to an appropriate height of three feet or less and trees should be trimmed so that nothing hangs below a height of seven feet from the surface of the roadway. This provides a gap in vegetation for drivers to observe oncoming traffic and safely maneuver from a driveway. Additionally, it is recommended that on-street parking be restricted for 20 feet on either side of the project driveway on Sutter Avenue, which is consistent with guidance from the American Association of State Highway and Transportation Officials' *A Policy on Geometric Design of Highways and Streets* and the National Association of City Transportation Officials' *Urban Street Design*.

For a motorist traveling eastbound on Sutter Avenue intending to turn left into the proposed project driveway, the stopping sight distance looking west along Sutter Avenue is also greater than 150 feet, providing adequate visibility to allow a following driver to observe and react to a vehicle that may stop in the roadway before making a left turn into the driveway.

**Finding** – Adequate sight distance is available at the existing project driveway location to accommodate all turns entering and exiting the site.

**Recommendations** – To achieve a minimum sight distance of 150 feet at the driveway access point, it is recommended that on-street parking be restricted for 20 feet on either side of the driveway. Also, it is recommended that planned or existing vegetation along the project frontage on Sutter Avenue be trimmed and maintained to ensure continued adequate visibility.

**Significance Finding** – With implementation of a landscaping management program, the proposed project would have a less-than-significant impact on safety as it would not introduce any new hazards.

### Emergency Vehicle Access

The project's driveway and internal parking lot circulation network would need to be designed to meet current City standards and so can be expected to accommodate the access requirements for passenger vehicles. Vehicle access would be provided via 20- to 24-foot-wide drive aisles. These aisles would have sufficient width to

accommodate two-way traffic operations for circulating vehicles, as well as parking maneuvers to/from covered (garage) parking spaces.

All buildings are accessible by fire apparatus since each exterior wall is within 150 feet of Sutter Avenue thereby satisfying the conditions specified by the *California Fire Code (CFC), Section 503.1.1* which states “*Approved fire apparatus access roads shall be provided for every facility, building or portion of a building hereafter constructed or moved into or within the jurisdiction. The fire apparatus access road shall comply with the requirements of this section and shall extend to within 150 feet (45,720 mm) of all portions of the facility and all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building or facility.*” Building access by aerial ladder is not possible due to the existing overhead lines adjacent to the project site. Instead, each building is accessible by ground-based ladders and fire hoses attached to fire apparatus parked on Sutter Avenue.

It is noted that the Palo Alto Fire Department has sole responsibility for determining the suitability of the project site for adequate fire apparatus vehicle access.

Since all roadway users must yield the right-of-way to emergency vehicles when using their sirens and lights, the added project-generated traffic would not impact access or response times for emergency vehicles.

**Significance Finding** – The project would result in a less-than-significant impact regarding adequacy of emergency response since emergency vehicles are able to access the site from the public street and all roadway users must yield to emergency vehicles when using their lights and sirens.

## **Parking Facilities**

The project was analyzed to determine whether the proposed parking supply would be sufficient to satisfy City Code requirements. The project site as proposed would provide a total of 24 parking spaces comprised of two covered spaces at each dwelling unit.

The City of Palo Alto parking supply requirements stipulate that 24 spaces are required for this project. This requirement is based on the *City of Palo Alto Municipal Code, Chapter 18.52.040; Off-Street Parking, Loading and Bicycle Facility* which states that for dwelling units with two or more bedrooms that two spaces are required for each unit at multi-family residential developments and at least one space per unit must be covered.

The proposed parking supply of 24 spaces is equal to the number of required spaces by the City Code.

**Finding** – The number of parking spaces provided by the project would satisfy the City’s parking Code requirement.

## **Bicycle Storage**

The *Palo Alto Municipal Code (Chapter 18.52.040 – Off-Street Parking, Loading and Bicycle Facility Requirements)* states that one bicycle space shall be provided for every unit for multi-family residential developments. Thus, the City Code requires a minimum of 12 bicycle parking spaces to be provided at the project site. The proposed project would provide 14 bicycle parking spaces comprised of 12 long-term spaces in garages and two outdoor short-term spaces.

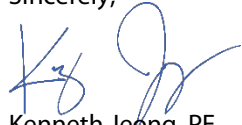
**Finding** – The proposed supply of 13 bicycle parking spaces is more than the required amount of 12.

## Conclusions and Recommendations

- The proposed project would generate an average of 86 daily trips, including six trips during the a.m. peak hour and seven trips during the p.m. peak hour. This represents an increase of 32 trips each day, with three during the a.m. peak hour and three during the p.m. peak hour when compared to present conditions.
- Pedestrian, bicycle, and transit facilities would be adequate to serve the project as proposed based on the comprehensive network of pedestrian, bicycle and transit facilities that exist within the study area. The project would not conflict with any plans or policies for these modes, resulting in a less-than-significant impact.
- The proposed project would have a less-than-significant transportation impact on vehicle miles traveled.
- Adequate sight lines are available at the proposed project driveway locations. To maintain adequate sight lines, vegetation along the project frontage on Sutter Avenue should be trimmed and maintained to ensure that all landscaping lies below three feet in height or above seven feet. With a maintenance program implemented the project would not introduce any hazards and its impact would be less than significant.
- Emergency access and circulation would function acceptably, and traffic from the proposed development would be expected to have a less-than-significant impact on emergency response times.
- The proposed parking supply of 24 spaces is equal to the minimum City requirement.
- The 14 proposed bicycle parking spaces would be more than enough to meet the City's requirement for bicycle storage facilities.

Thank you for giving W-Trans the opportunity to provide these services. Please call if you have any questions.

Sincerely,



Kenneth Jeong, PE  
Senior Traffic Engineer



Mark Spencer, PE  
Senior Principal



MES/kbj/PAL026.L1

Enclosure: VMT Output Report, Site Plan



## Project Details

Timestamp July 24, 2023, 12:09:00 PM  
of Analysis

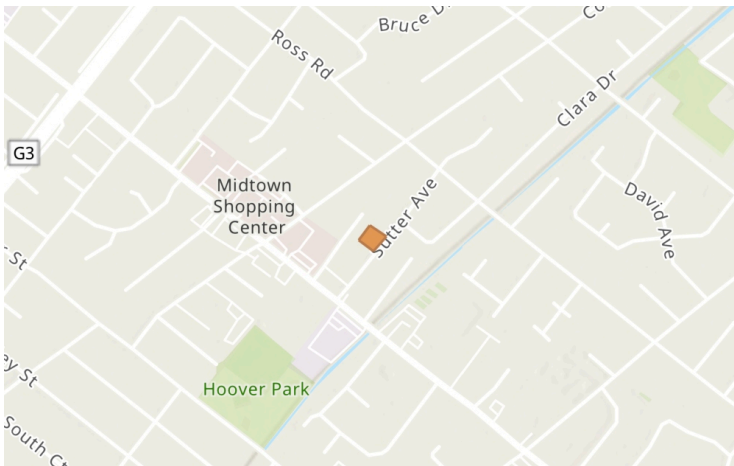
Project Name 739 Sutter Avenue - Residential

Project Description The project site is located at 739 Sutter Avenue in the City of Palo Alto and the project includes the construction of two three-story buildings with a total of 12 townhome dwelling units. The site is currently occupied by eight rental dwelling units

## Project Location Map

Jurisdiction:  
Palo Alto

APN	TAZ
12735200	488



## Analysis Details

Data Version VTA Countywide Model December 2019  
Analysis Methodology TAZ  
Baseline Year 2023

## Project Land Use

### Residential:

Single Family DU:

Multifamily DU: 12

Total DUs: 12

### Non-Residential:

Office KSF:

Local Serving Retail KSF:

Industrial KSF:

### Residential Affordability (percent of all units):

Extremely Low Income: 0 %

Very Low Income: 0 %

Low Income: 0 %

### Parking:

Motor Vehicle Parking: 24

Bicycle Parking:

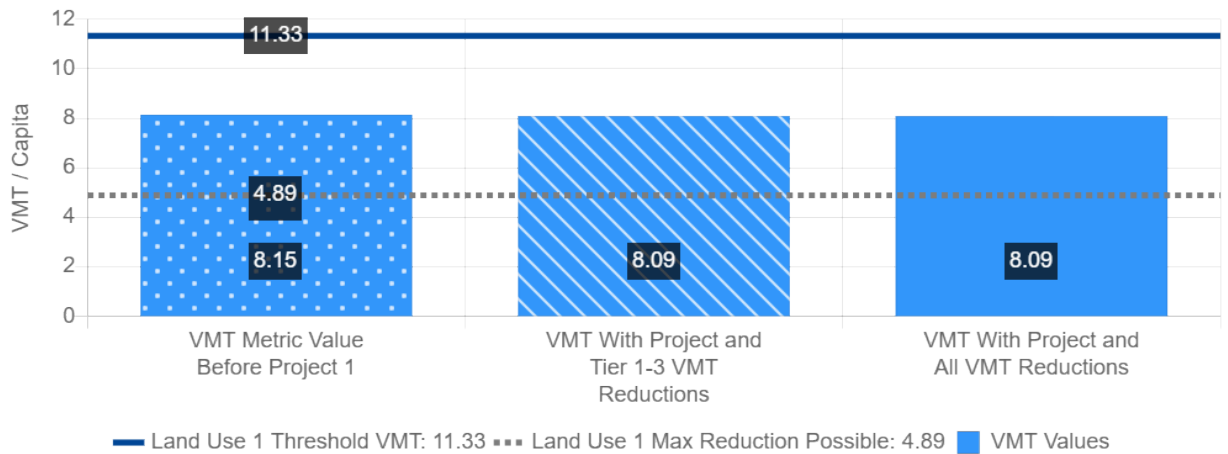
## Proximity to Transit Screening

Inside a transit priority area? No (Fail)

## Residential Vehicle Miles Traveled (VMT) Screening Results

Land Use Type 1:	Residential
VMT Metric 1:	Home-based VMT per Capita
VMT Baseline Description 1:	County Average
VMT Baseline Value 1:	13.33
VMT Threshold Description 1 / Threshold Value 1:	-15% / 11.33
Land Use 1 has been Pre-Screened by the Local Jurisdiction:	N/A

	Without Project	With Project & Tier 1-3 VMT Reductions	With Project & All VMT Reductions
Project Generated Vehicle Miles Traveled (VMT) Rate	8.15	8.09	8.09
Low VMT Screening Analysis	Yes (Pass)	Yes (Pass)	Yes (Pass)



## Tier 1 Project Characteristics

### PC01 Increase Residential Density

Existing Residential Density:	8.82
With Project Residential Density:	8.98

### PC02 Increase Residential Diversity

Existing Residential Diversity Index:	0.31
With Project Residential Diversity Index:	0.3

### PC03 Affordable Housing

### PC04 Increase Employment Density

Existing Employment Density:	45.97
With Project Employment Density:	45.97

