Appendix A

Vehicle Miles Traveled (VMT) Analysis Memorandum

Hexagon Transportation Consultants, Inc.

Memorandum

Date: November 11, 2022

To: Ms. Jennifer Murillo, Lisa Wise Consulting

From: Shikha Jain, Gary Black

Subject: Los Altos Housing Element Update Transportation Study

Hexagon Transportation Consultants, Inc. has completed a transportation study for the proposed Los Altos Housing Element Update (HEU) project. The purpose of this study is to conduct a vehicle-miles travelled (VMT) analysis consistent with CEQA guidelines to determine whether the proposed HEU project would generate a VMT impact. The HEU has identified 1,648 dwelling units distributed in parcels across the City (see Figure 1).

Background

SB 743, which was signed into law in 2013, initiated a change in how public agencies evaluate transportation impacts under the California Environmental Quality Act (CEQA). Traditionally, transportation impacts have been evaluated by examining whether the project is likely to cause automobile delay at intersections and congestion on nearby individual highway segments, and whether this delay will exceed local or regionally-defined thresholds of significance (this is known as Level of Service or LOS analysis).

Starting on July 1, 2020, agencies must analyze transportation impacts using a new metric known as vehicle miles traveled (VMT) instead of LOS. VMT is a metric that captures how much auto travel (additional miles driven) a proposed project would create on California roads. If the project adds excessive car travel onto our roads, the project may cause a significant transportation impact.

VMT Analysis Methodology and Criteria

VMT is the total miles of travel by personal motorized vehicles a project is expected to generate in a day. VMT is calculated using the Origin-Destination VMT method, which measures the full distance of personal motorized vehicle-trips with one end within the project. A project's VMT is compared to established thresholds of significance based on the project location and type of development.

Typically, development projects that are farther from other, complementary land uses (such as a business park far from housing) and in areas without transit or active transportation infrastructure (bike lanes, sidewalks, etc.) generate more driving than development near complementary land uses with more robust transportation options. Therefore, developments located in a central business district with high density and diversity of complementary land uses and frequent transit services are expected to internalize trips and generate shorter and fewer vehicle trips than developments located in a suburban area with low density of residential developments and no transit serve in the project vicinity.

When assessing a residential project, the project's VMT is divided by the number of residents expected to occupy the project to determine the VMT per capita.

VMT Evaluation

Given that the City of Los Altos has not formally adopted a local VMT policy, the HEU has been analyzed according to the City's interim VMT policy. The Interim VMT Policy sets a threshold of significance for residential VMT per capita at 15 percent below the regional average of 13.95 VMT per capita. Therefore, the threshold is 11.86 daily VMT per capita. Any project above the threshold would need to mitigate its impacts to less than significant.

To determine whether a project would result in CEQA transportation impacts related to VMT, the Santa Clara Valley Transportation Authority (VTA) travel demand forecasting (TDF) model was used. VTA also has developed the Santa Clara County map-based VMT Evaluation Tool, based on the model forecasts, to streamline the analysis for development projects located within the County. The TDF model and the map based VMT evaluation tool were used to estimate VMT for the proposed housing sites and determine whether the location of the housing sites would result in significant VMT impacts.

In addition to the location based VMT evaluation methodology using the County VMT Evaluation Tool, HEU sites that generate or attract fewer than 110 trips per day are considered as small projects and would be screened out from further VMT analysis per the Office of Planning and Research (OPR) guidelines.

Figure 1 shows the current VMT levels estimated by VTA's TDF model for residents in Los Altos and the location of the proposed housing sites. Areas are color-coded based on the level of existing VMT:

- Green-filled areas are parcels with existing VMT less than the City's residential threshold of 11.86 VMT per capita. HEU sites (954 units) that are located in these areas are assumed to have a **less-than-significant** VMT impact.
- Yellow-filled areas are parcels with existing VMT between the residential threshold and the regional average of 13.95 VMT per capita. HEU sites (388 units) that are located in these areas are assumed to have a **potentially significant** VMT impact. However, the VMT impact can be mitigated by implementing VMT-reducing measures.
- Orange-filled areas are parcels with existing VMT greater than the regional average. HEU sites (292 units) that are located in these areas are assumed to have a **potentially significant** VMT impact. However, the VMT impact can be mitigated by implementing VMT-reducing measures.
- Red-filled areas (14 units) are parcels with existing VMT greater than the residential thresholds. HEU sites that are located in these areas are assumed to have a significant VMT impact. However, the potential HEU developments identified in these areas all propose single family or multifamily developments that would generate fewer than 110 daily vehicle trips. Per OPR guidelines, these HEU sites would be screened out from further VMT analysis and would be presumed to have a **less-than-significant** VMT impact.

VMT Mitigation

Projects located in areas where the existing VMT is above the established threshold are referred to as being in "high-VMT areas". Projects in high-VMT areas are required to include a set of VMT reduction measures that would reduce the project VMT to the greatest extent possible. The evaluation tool evaluates a list of selected VMT reduction measures that can be applied to a project to reduce the project VMT. There are four strategy tiers whose effects on VMT can be calculated with the VMT evaluation tool:

1. Tier 1: Project characteristics (e.g. density, diversity of uses, design, and affordability of housing) that encourage walking, biking and transit uses;

2. Tier 2: Multimodal network improvements that increase accessibility for transit users, bicyclists, and pedestrians. These improvements include:
    - Increase bike access
    - Improve connectivity by increasing intersection density
    - Increase transit accessibility
    - Traffic calming measures beyond the project frontage
    - Pedestrian network improvements beyond the project frontage
3. Tier 3: Parking measures that discourage personal motorized vehicle-trips. These improvements include:
    - Limit parking supply
    - Provide bike facilities
4. Tier 4: Transportation demand management (TDM) measures that provide incentives and services to encourage alternatives to personal motorized vehicle-trips. These measures for residential developments include:
    - School pool programs
    - Bike share programs
    - Car share programs
    - Subsidized transit program
    - Unbundle parking costs from property costs
    - Voluntary travel behavior change program

The first three strategies – land use characteristics, multimodal network improvements, and parking – are physical design strategies that can be incorporated into the project design. TDM includes programmatic measures that aim to reduce VMT by decreasing personal motorized vehicle mode share and by encouraging more walking, biking, and riding transit. TDM measures should be enforced through annual trip monitoring to assess the project's status in meeting the VMT reduction goals.

VMT of HEU Sites in Yellow Areas (higher than the Residential Threshold but below the Regional Average)

The HEU proposes 388 units located in these areas. Most potential developments would generate fewer than 110 daily vehicle trips. Per OPR guidelines, these HEU sites would be screened out from further VMT analysis and would be presumed to have a less than significant VMT impact. Two parcels (APN#18956014, APN#31801036) would not be screened out from the VMT analysis and would need to implement Tier 1-3 mitigation measures for the VMT impact to be **less-than-significant.**

VMT of HEU Sites in Orange Areas (higher than the Regional Average, but Mitigatable)

The HEU proposes 292 units located in these areas. Some potential developments would generate fewer than 110 daily vehicle trips and would be screened out from further VMT analysis. Four parcels (APN#31816022, APN#32601052, APN#32601053, APN#33609018) would not be screened out from VMT analysis and would need to implement Tier 1-4 mitigation measures for the VMT impact to be **less-than-significant.**

Since there are no specific development projects associated with the HEU, specific housing sites developed under the HEU cannot be analyzed for VMT mitigation measures at this time. See Appendix A for example VMT reductions for a parcel located in yellow areas and a parcel located in orange areas.

The City requires that driveway trips for projects located in the yellow and above tiers be monitored with automatic driveway count equipment. The counts would automatically be uploaded to a City account for continuous monitoring, and VMT assumptions would be compared against actual

conditions as projects come online. The City will identify the driveway count technology as part of project approvals.

Cumulative VMT Analysis

A cumulative analysis that calculates the change in citywide VMT as a result of the housing element was conducted. VMT forecasts were developed using the VTA Travel Demand Forecasting Model. Two future land use scenarios were evaluated: Cumulative (2040) No Project Conditions and Cumulative (2040) Conditions with the HEU. The Cumulative (2040) No Project scenario includes local and regional roadway improvements and land use projections consistent with ABAG Projections 2017 in the rest of the region but assumes no growth in housing units in Los Altos. The Cumulative (2040) conditions with the HEU assumes the addition of 1,648 residential units to the City's housing inventory. Table 1 presents the results of the VMT analysis. The table shows that the VMT per resident would decrease by 0.17, from 13.08 under cumulative (2040) no project conditions to 12.90 with the HEU.

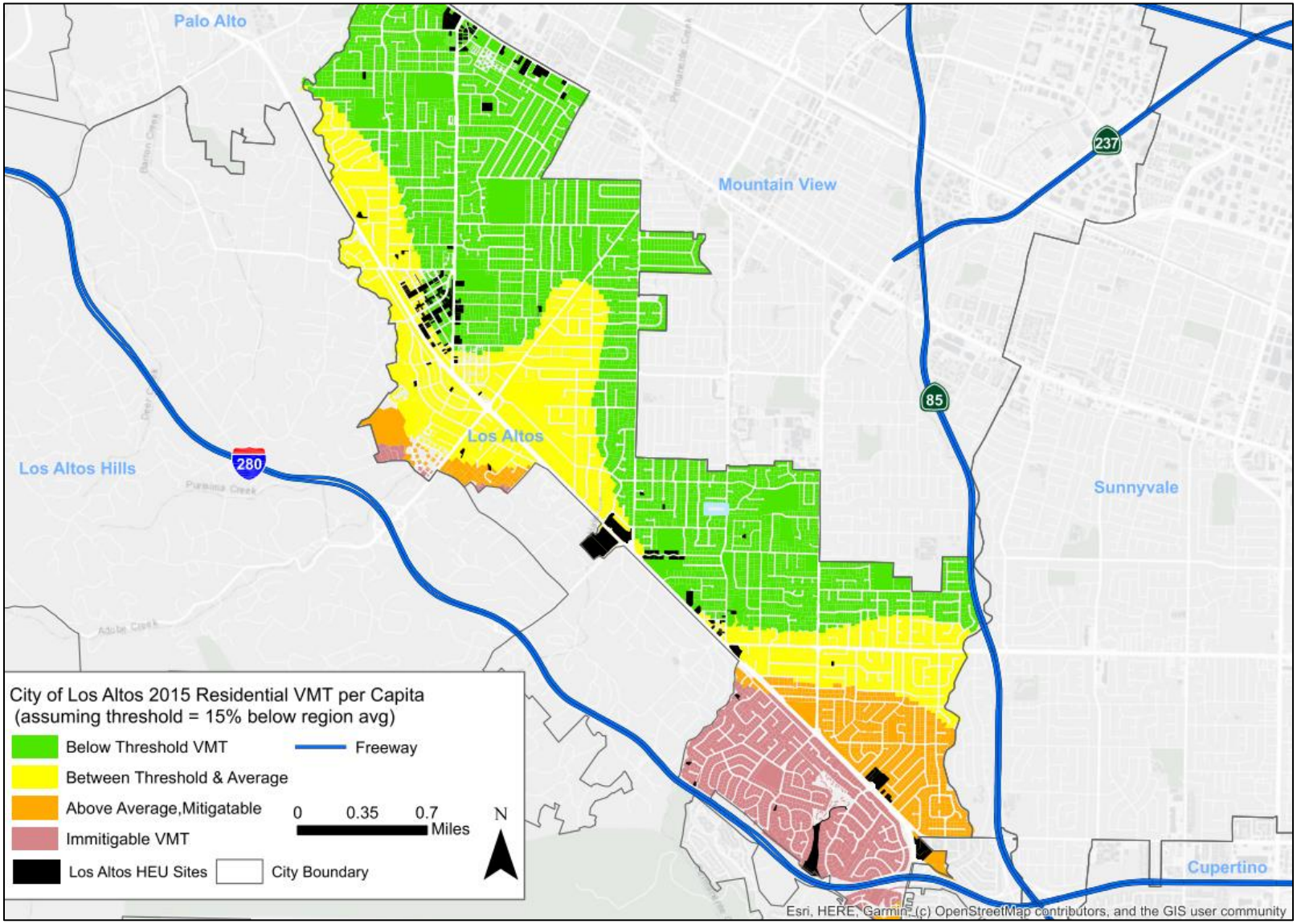
Since the HEU buildout year is 2031, the VMT forecasts for the cumulative (2031) no project and cumulative (2031) with HEU scenarios were extrapolated using the existing and cumulative 2040 VMT forecasts from the VTA model. As shown in Table 1, the VMT per resident under cumulative (2031) with HEU would decrease by 0.14, from 12.85 under cumulative (2031) no project conditions to 12.71 with the HEU resulting in a **less-than-significant** VMT impact.

Table 1
Los Altos Cumulative VMT Analysis

Scenario	Residential VMT [1]	Housing Units	Population	VMT per Resident [2]
Cumulative (2031) No Project	415,472	11,847	32,322	12.85
Cumulative (2040) No Project	424,782	11,905	32,478	13.08
Cumulative (2031) Plus HEU	467,012	13,495	36,756	12.71
Cumulative (2040) Plus HEU	476,322	13,553	36,912	12.90

[1] Residential VMT = Daily Home-Based Vehicle Trips * Travel Distance
[2] VMT per Resident = Residential VMT / Population

Figure 1
Los Altos HEU Sites and VMT Heat Map



APPENDIX A

VMT Screening Reports

Santa Clara Countywide VMT Evaluation Tool - Version 2 - Report

Project Details

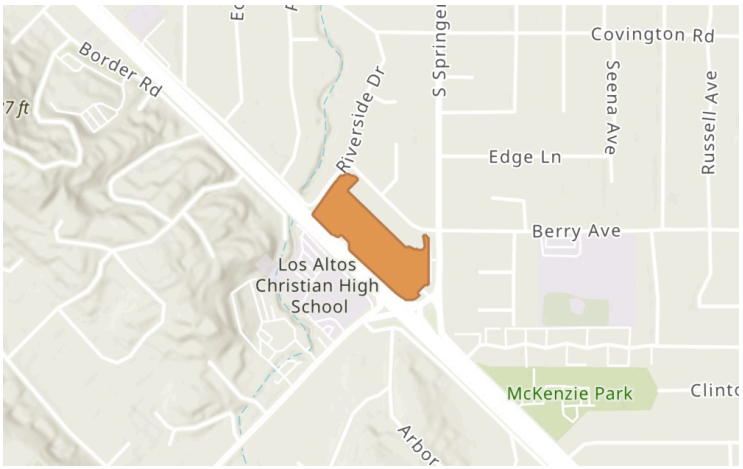
Timestamp of Analysis	November 16, 2022, 12:37:14 PM
Project Name	Los Altos HEU
Project Description	Housing in Yellow Area

Project Location Map

Jurisdiction:

Los Altos

APN	TAZ
18956014	214



Analysis Details

Data Version	VTA Countywide Model December 2019
Analysis Methodology	Parcel Buffer Method
Baseline Year	2015

Project Land Use

Residential:

Single Family DU:	
Multifamily DU:	82
Total DUs:	82

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:	25 %

Parking:

Motor Vehicle Parking:

Bicycle Parking:

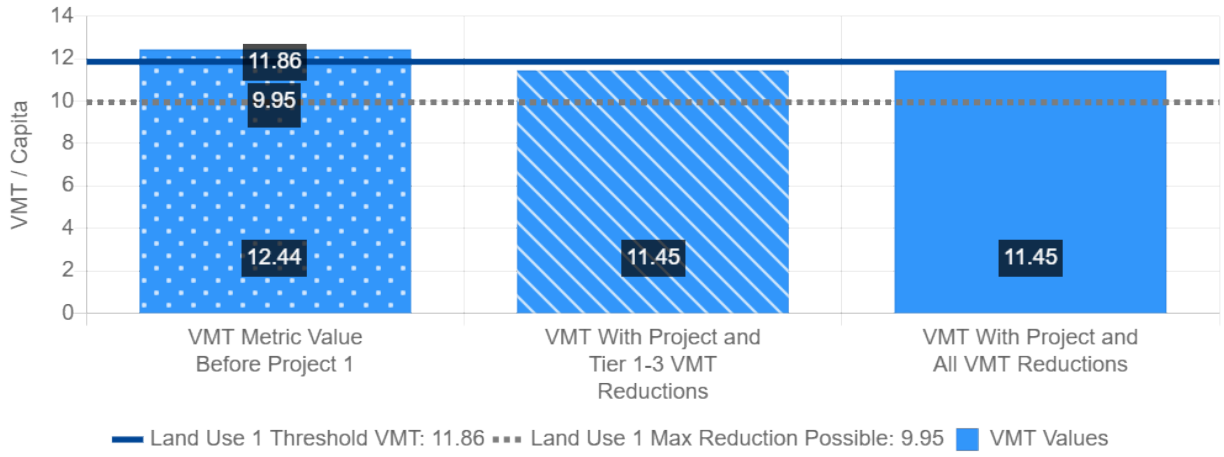
Proximity to Transit Screening

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:	Bay Area Regional Average
VMT Baseline Value 1:	13.95
VMT Threshold Description 1 / Threshold Value 1:	-15% / 11.86
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	12.44	11.45	11.45
Low VMT Screening Analysis	No (Fail)	Yes (Pass)	Yes (Pass)



Tier 1 Project Characteristics

PC01 Increase Residential Density

Existing Residential Density:	2.87
With Project Residential Density:	3.13

PC02 Increase Residential Diversity

Existing Residential Diversity Index:	0.67
With Project Residential Diversity Index:	0.65

PC03 Affordable Housing

Low Income:	25 %

PC04 Increase Employment Density

Existing Employment Density:	28.03
With Project Employment Density:	28.03

Tier 2 Multimodal Infrastructure

MI01 Increase Bike Access

Distance to Nearest Existing Bike Facility:	ft

MI02 Improve Connectivity

MI03 Increase Transit Accessibility

MI04 Traffic Calming

Traffic Calming Added Beyond Development Frontage:	Yes

MI05 Pedestrian Networks

Pedestrian Improvements Beyond Development Frontage:	Yes

Tier 3 Parking

PK01 Limit Parking Supply

Minimum Parking Required by City Code:	82
Is the Surrounding Street Parking Restricted?:	

PK02 Provide Bike Facilities

Project End-of-trip Bike Facilities:	Yes

Santa Clara Countywide VMT Evaluation Tool - Version 2 - Report

Project Details

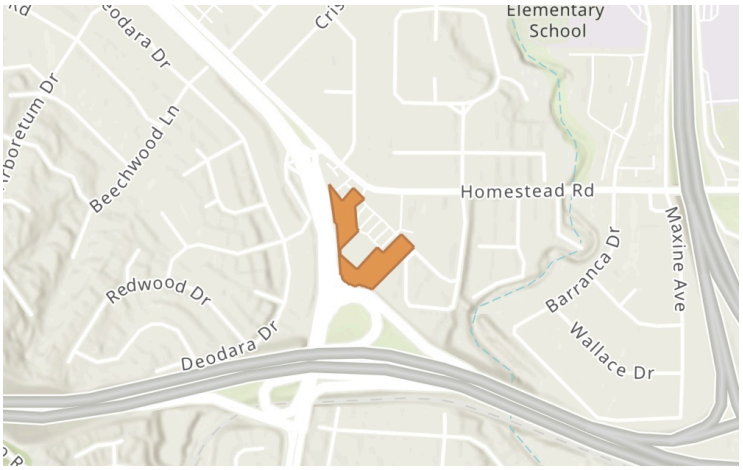
Timestamp of Analysis	November 16, 2022, 12:52:57 PM
Project Name	Los Altos HEU
Project Description	Housing in Orange Area

Project Location Map

Jurisdiction:

Los Altos

APN	TAZ
32601053	204



Analysis Details

Data Version	VTA Countywide Model December 2019
Analysis Methodology	Parcel Buffer Method
Baseline Year	2015

Project Land Use

Residential:

Single Family DU:	
Multifamily DU:	80
Total DUs:	80

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:	50 %

Parking:

Motor Vehicle Parking:

Bicycle Parking:

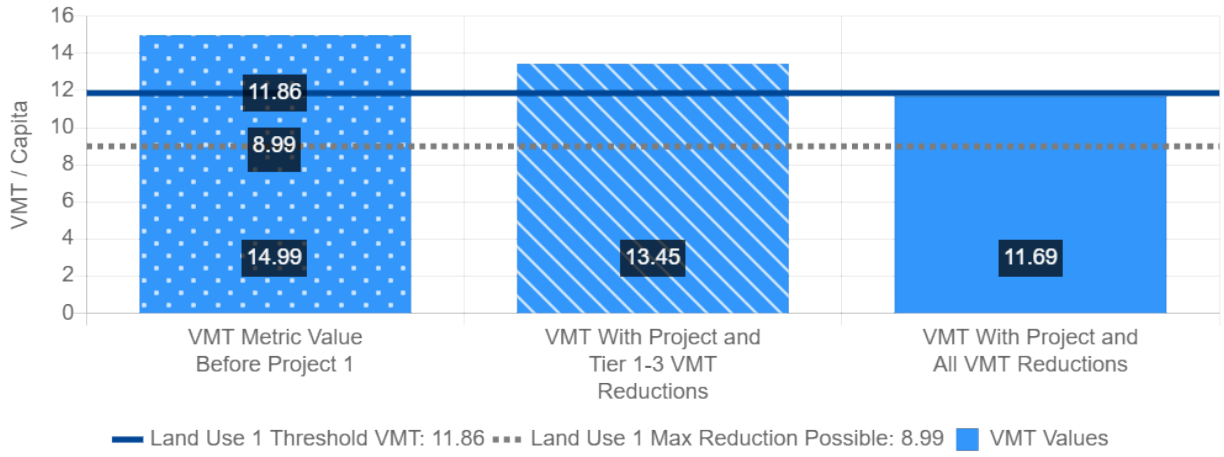
Proximity to Transit Screening

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:	Bay Area Regional Average
VMT Baseline Value 1:	13.95
VMT Threshold Description 1 / Threshold Value 1:	-15% / 11.86
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	14.99	13.45	11.69
Low VMT Screening Analysis	No (Fail)	No (Fail)	Yes (Pass)



Tier 1 Project Characteristics

PC01 Increase Residential Density

Existing Residential Density:	4.56
With Project Residential Density:	4.83

PC02 Increase Residential Diversity

Existing Residential Diversity Index:	0.36
With Project Residential Diversity Index:	0.34

PC03 Affordable Housing

Low Income:	50 %

PC04 Increase Employment Density

Existing Employment Density:	31.95
With Project Employment Density:	31.95

Tier 2 Multimodal Infrastructure

MI01 Increase Bike Access

Distance to Nearest Existing Bike Facility With Project:	50 ft

MI04 Traffic Calming

Traffic Calming Added Beyond Development Frontage:	Yes

MI05 Pedestrian Networks

Pedestrian Improvements Beyond Development Frontage:	Yes

Tier 3 Parking

PK01 Limit Parking Supply

Minimum Parking Required by City Code:	80
Is the Surrounding Street Parking Restricted?:	

PK02 Provide Bike Facilities

Project End-of-trip Bike Facilities:	Yes

Tier 4 TDM Programs

TP01 School Pool Programs

School Pool Program Percent of Expected Participant Households:	100 %

TP03 Car Share Programs

Car Share Program Percent of Eligible Residents/Employees:	100 %

TP07 Subsidized Transit Program

Percent of Transit Subsidy:	100 %

TP12 Neighborhood Schools

Type of School Served By the Project:	Neighborhood School
Families With School-Aged Children in the Project:	20 Families

TP13 Ride-Sharing Programs

Expected Percent of Ride-Sharing Participants:	10 %

TP16 Unbundle Parking Costs from Property Cost (On Site Parking)

Is the Surrounding Street Parking Restricted?:	
Monthly Parking Cost:	100 $USD

TP18 Voluntary Travel Behavior Change Program

Percent of Behavior Program Participants :	100 %