



HEXAGON TRANSPORTATION CONSULTANTS, INC.

Memorandum



Date: December 15, 2023

To: Mr. Andreas Bechtolsheim, Arista Networks

From: Michelle Hunt
Ling Jin



Subject: Transportation Memo for the Proposed Arista HW Engineering Building at 5200 Patrick Henry Drive in Santa Clara, California



Hexagon Transportation Consultants, Inc. has completed a traffic study for the proposed Arista HW Engineering Building at 5200 Patrick Henry Drive in Santa Clara, California. The project site is located on the west side of Patrick Henry Drive between Bunker Hill Lane and Mountain View-Alviso Road and contains a vacant one-story building with 91,352 square feet (s.f.) of research and development (R&D) space. The project would demolish the existing building and construct a four-story Research and Development (R&D) Center with 244,918 s.f. total including 21,079 s.f. of data center use, 53,060 s.f. of R&D lab equipment space, and 170,779 s.f. of other R&D space. The project site would have two full-access driveways on Patrick Henry Drive with surface and subterranean parking.



Vehicle Miles Traveled (VMT) Analysis

In 2013, Governor Brown signed Senate Bill 743. SB 743 directed the State Office of Planning and Research (OPR) to develop new California Environmental Quality Act (CEQA) guidelines and to replace Level of Service (LOS) as the evaluation measure for transportation impacts under CEQA with another measure such as Vehicle Miles Traveled (VMT). VMT measures the amount of vehicle trip making and trip length and is a direct measurement of greenhouse gas emissions. A reduction in VMT would promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses that reduces the reliance on individual vehicles.



The City of Santa Clara recently adopted a VMT Transportation Analysis Policy for Environmental Review¹. Figure 1 shows a VMT heat map for employment uses that indicates locations where the VMT is below the City's adopted threshold (shown in green), above the adopted threshold and mitigable (yellow and orange), or above the adopted threshold and immitigable (red). The Policy sets forth screening criteria that allow various types of developments such as infill developments, small projects, and/or transit supportive projects near major transit corridors to be presumed to have a less than significant impact on VMT. The proposed Arista HW Engineering Building was assessed to determine if it meets the following requirements that define a transit supportive project:

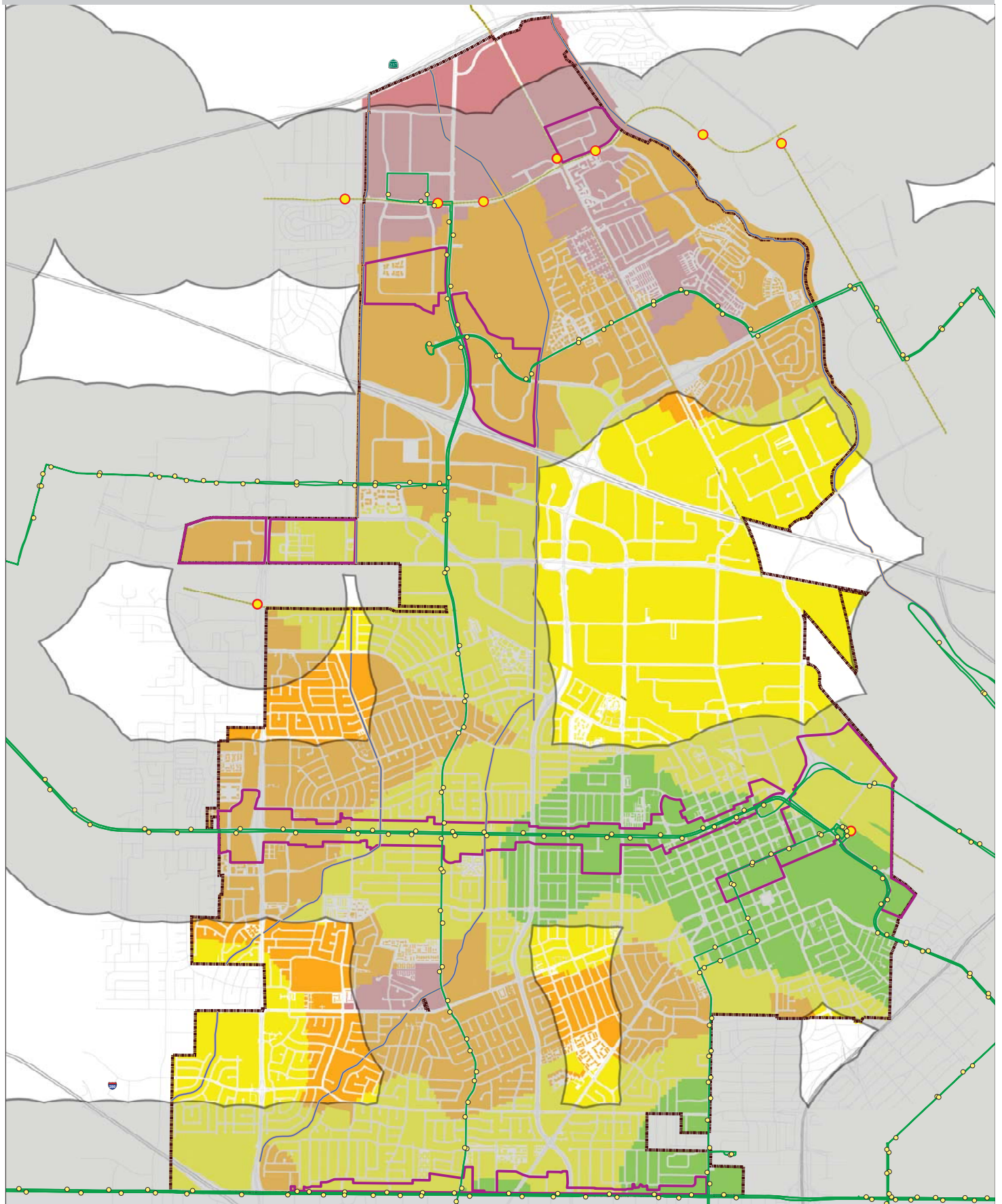


¹ City of Santa Clara, Resolution No. 20-8861, "A Resolution of the City of Santa Clara, California to Amend Resolution 5713 to Adopt a Transportation Analysis Policy to Comply with the California Environmental Quality Act Pursuant to State Senate Bill 743 (2013) and CEQA Guidelines Section 15064.3," adopted June 23, 2020.



Figure 1

City of Santa Clara VMT Heat Map - Employment Uses



City of Santa Clara 2015 Employee VMT per Capita
(assuming threshold = 15% below city avg)

- Below Threshold VMT
- Between Threshold & Average
- Above Average, Mitigatable
- Immitigable VMT
- Zero Res VMT
- FreqBusRoutes
- FreqBusStops
- Focus Areas
- City Limit

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Proximity to Transit

Transit supportive projects must be located within ½ mile of an existing Major Transit Stop or an existing transit stop along a High-Quality Transit Corridor, as those terms are defined by Public Resources Code sections 21064.3 and 21155. A “Major Transit Stop” is defined as a site containing any of the following: (a) an existing rail or bus rapid transit station; (b) the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods; or (3) a major transit stop that is included in Plan Bay Area 2040 (Pub. Res. Code §§ 21064.3, 21155(b)). A “High-Quality Transit Corridor” is defined as a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours. (Pub. Res. Code § 21155(b)).

The project site is within ½ mile of the Old Ironsides LRT station, which meets the definition of a Major Transit Stop. In addition, VTA provides the frequent bus service via Route 57, which runs along Great America Parkway with 15-minute headways during the AM and PM peak commute periods. Thus, Great America Parkway is considered a High-Quality Transit Corridor. The project site is within ½ mile of the nearest Route 57 bus stop on Tasman Drive at Old Ironsides Drive.

Density

For office/R&D projects, transit supportive projects must have a minimum floor area ratio (FAR) of 0.75. Likewise, residential projects must have a minimum density of 35 dwelling units per acre. The project proposes to construct 244,918 s.f. of R&D use on a 5.64-acre (245,679 s.f.) parcel. The R&D development on the parcel equates to an FAR of 1.00. Thus, the proposed development density meets the minimum requirements to be considered a transit supportive project.

Multimodal Transportation Networks

The City Policy requires that transit supportive projects promote multimodal transportation networks. The project will promote access to nearby destinations and transit stations. The project would include the following features that support safe, active, and sustainable travel options for employees and visitors:

- Sidewalks connecting the building entries to the existing sidewalk along Patrick Henry Drive
- Project location within walking distance of bus and light rail transit stops
- Adjacent to the Calabazas Creek Trail and near other trails and greenways
- Project location near existing bicycle lanes on Great America Parkway and Tasman Drive
- Transportation Demand Management (TDM) Plan to minimize vehicle miles traveled

Transit-Oriented Design Elements

Transit supportive projects must include transit-oriented design elements. The project will include internal pedestrian pathways to ensure convenient connections to high-quality transit. Furthermore, the project would include a cafeteria on the ground floor that will reduce the need for employees to travel outside the site for meals during work hours.

Parking

Transit supportive projects may not include more parking for use by employees and visitors of the project than required by the City Code. According to the Santa Clara Municipal Code, data centers require one parking space per 4,000 s.f., R&D uses require one parking space per 750 s.f. of gross floor area occupied exclusively by laboratory equipment, plus one parking space per 300 s.f. of gross floor area for other non-lab uses. Therefore, the project would be required to provide 647

parking spaces in total. According to the site plan, the project proposes to provide 426 surface parking spaces and 223 spaces in the subterranean parking area for a total of 649 spaces. The proposed parking exceeds the parking spaces required by the City Code by a negligible amount (two spaces, which equates to 0.3 percent of the total required spaces). Thus, the project can be considered a transit supportive project.

Affordable Housing

Affordable housing has been shown to generate fewer vehicle miles traveled per capita than market rate housing. Accordingly, the City's VMT Policy states that transit supportive projects must not replace affordable residential units with a smaller number of affordable units, and any replacement units must be at the same level of affordability. Currently, the project does not contain any residential dwelling units and there are no existing residential units on site. Therefore, the project would not result in a loss of affordable dwelling units.

Findings

Per the State's guidance and the City's VMT Policy, the proposed Arista HW Engineering Building would qualify as a transit supportive project if the on-site parking were reduced to match the City's code requirement. Transit supportive projects are presumed to have a less than significant impact on VMT.

Project Trip Generation

Through empirical research, data have been collected that show trip generation rates for many types of land uses. The research is compiled in the ITE *Trip Generation Manual, 11th Edition*. 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. Based on the ITE Trip Generation Manual, a Research and Development Center is defined as a facility or group of facilities devoted almost exclusively to research and development activities. The primary use of the proposed building is consistent with the definition of R&D Center specified in the ITE *Trip Generation Manual*. Therefore, the rates published for Research and Development Center (Land Use 760) and Data Center (Land Use 160) were used to estimate the trips generated by the proposed project. The existing research and development building on the project site is currently vacant. Because the existing building has been vacant for less than two years, the existing R&D space was credited against the proposed project.

The proposed project will submit a Transportation Demand Management (TDM) Plan for the City's review and approval under separate cover. The TDM Plan will be required to achieve a 25 percent reduction in VMT per the City of Santa Clara's *Climate Action Plan 2022*. Thus, the project trip estimates were reduced by 25 percent to account for TDM Measures.

Based on the ITE trip generation rates and the TDM reduction, the project is estimated to generate approximately 852 net new daily vehicle trips, with 79 net new trips occurring during the AM peak hour and 75 net new trips during the PM peak hour (see Table 1).

Conclusions

Per the State's guidance and City of Santa Clara's VMT Policy, the proposed Arista HW Engineering Building would qualify as a transit supportive project. Transit supportive projects are presumed to have a less than significant impact on VMT. Based on the ITE trip generation rates and TDM trip reductions, the proposed Arista HW Engineering Building is estimated to generate

approximately 864 net new daily vehicle trips, with 80 net new trips occurring during the AM peak hour and 76 net new trips during the PM peak hour.

**Table 1
Project Trip Generation Estimates**

Land Use	Size	Unit	Daily		AM Peak Hour			PM Peak Hour				
			Rate	Trips	Rate	In	Out	Total	Rate	In	Out	Total
Proposed Use												
Research and Development Center ¹	223.839	ksf	11.08	2,480	1.03	189	42	231	0.98	35	184	219
Data Center ²	21.079	ksf	0.99	21	0.11	1	1	2	0.09	1	1	2
				(625)		(48)	(11)	(59)		(9)	(46)	(55)
			Subtotal	1,876		142	32	174		27	139	166
Existing Use												
Research and Development Center ¹	91.352	ksf	11.08	(1,012)	1.03	(77)	(17)	(94)	0.98	(14)	(76)	(90)
Net Project Trips				864		65	15	80		13	63	76
<u>Notes:</u>												
Trip rates are from the ITE <i>Trip Generation Manual, 11th Edition, 2021</i> .												
1. Research and Development Center (Land Use 760) daily and average rates expressed in trips per 1,000 square feet (ksf) are used.												
2. Data Center (Land Use 160) daily and average rates expressed in trips per 1,000 square feet (ksf) are used.												