

Memorandum

Date: July 6, 2021

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Martin Alkire, City of Mountain View

From: Daniel Rubins, Mackenzie Watten, Richard Brockmyer, and Julie Morgan, Fehr & Peers

Subject: Vehicle Miles Traveled Assessment for the Gateway Master Plan Alternatives in Mountain View, California

SJ21-2087

This memorandum summarizes an informational vehicle miles traveled (VMT) assessment for the Gateway Master Plan Alternatives in Mountain View, California.

Project Description

The Mountain View Gateway Master Plan (the Project) site is in the North Bayshore planning area of Mountain View, California. The project site is generally bounded by Shoreline Boulevard to the east, Plymouth Street to the north, adjacent office buildings to the west, and US 101 to the south. The project includes the buildings at 1431, 1477 and 1555 Plymouth Street, and 1400 and 1500 Shoreline Boulevard. The City of Mountain View intends to increase development intensity at this site to include a mix of land uses in **Table 1**. In addition to the land use program, the project will include new development with the following transportation demand management strategies:

- **New Office Development:** Offices are expected to achieve a driveway vehicle trip target during the morning peak period that does not exceed a 45 percent single-occupancy mode share.
- **New Residential Development:** The residential development includes smaller units with an average household size of 1.75 persons per dwelling unit and a reduced parking ratio of approximately 0.60 spaces per unit.



Table 1: Project Land Use Program and Service Population

Scenario	Building Size	Service Population ^{1,2}
<i>Preferred Land Use Alternative</i>		
Residential Development	2,100 dwelling units	3,680
Office Development	500,000 square feet	2,000
Retail/Entertainment Development	300,000 square feet	800
Hotel Development	200 rooms	80
Service Population Total		6,560
<i>No-Office Land Use Alternative</i>		
New Residential Development	2,800 dwelling units	4,900
New Retail/Entertainment Development	300,000 square feet	800
New Hotel Development	200 rooms	80
Service Population Total		5,780

Notes:

1. Service population is the sum of the residents and employees for each land use scenario. The service population rounded to the nearest 10.
2. For the project land use program, the residential and employee densities utilized were 1.75 residents per dwelling unit, 4.00 employees per 1,000 square feet for office, 2.67 employees per 1,000 square feet for retail/entertainment, and 0.4 employees per room for a hotel.

Source: Fehr & Peers, 2021.

Overview of Methods

How transportation impacts under the California Environmental Quality Act (CEQA) are analyzed was changed with Senate Bill (SB) 743. SB 743 removed the use of automobile delay or traffic congestion for determining transportation impacts in environmental review. Instead, the latest *CEQA Statute & Guidelines* now specify that vehicle miles traveled, or VMT, is the appropriate metric to evaluate transportation impacts. In short, SB 743 changes the focus of transportation impact analysis in CEQA from measuring impacts to drivers, to measuring the impact of driving. This VMT assessment is being provided for informational purposes to support the environmental analysis for this project.

This VMT assessment calculates VMT using the following steps and methods consistent with the North Bayshore Precise Plan transportation analysis completed in 2017 (refer to the technical documents referenced below for additional details on the analysis methods):



- **Daily Trip Generation:** Daily project driveway and North Bayshore Gateway volume estimates were developed using the trip generation methods from the *North Bayshore Precise Plan with Residential – Project Trip Generation Estimates* (February 2017) memorandum in Appendix G of the *North Bayshore Precise Plan Transportation Impact Analysis* (July 2017). The daily project driveway trip generation is used for the project site, while the North Bayshore Gateway volume is used for the North Bayshore area.
- **Service Population:** The residential and employee populations were estimated using employee densities from the Mountain View travel model for each project alternative.
- **Vehicle Miles Traveled:** The project-generated and boundary VMT were developed using the City of Mountain View travel model. The VMT estimates are also presented on a per service population basis to distinguish the effects of population and/or employment growth from the effects of changes in personal travel behavior.¹ The project-generated VMT metric and calculation methods are consistent with the North Bayshore Precise Plan (NBPP) VMT assessment described in the *North Bayshore Precise Plan with Residential – Vehicle Miles Traveled Estimates* (May 2017). While the boundary VMT is a new VMT metric to evaluate the North Bayshore area, it has been used for the East Whisman Precise Plan transportation analysis.

As a cumulative VMT assessment of the North Bayshore Precise Plan (NBPP) is described in the *North Bayshore Precise Plan with Residential – Vehicle Miles Traveled Estimates* (May 2017) memorandum, this VMT assessment conducts an Existing with Project Conditions VMT assessment to quantify and the order of magnitude and direction of the Project's effect on VMT. Using the project-generated VMT and boundary VMT metrics, this VMT assessment shows the benefits of adding housing to North Bayshore, smaller-than-typical parking supply ratios, a shared parking strategy for the non-residential land uses, and increased transportation demand management effectiveness for new office development. These direct benefits are expressed using the project-generated VMT metric, while the boundary VMT metric is used to express the indirect benefits of the Project on the nearby streets.

Daily Trip Generation

The project driveway trip generation and North Bayshore volumes described below use the trip generation methods described in detail in the *North Bayshore Precise Plan with Residential – Project Trip Generation Estimates* (February 2017) memorandum in Appendix G of the *North Bayshore Precise Plan Transportation Impact Analysis* (July 2017).

¹ For example, population growth may cause an increase in total VMT, but if travelers change their behavior by using different travel modes or decreasing their trip lengths, then the VMT per service population metric could decrease.



Driveway Trip Generation

The existing building demolition credit and daily driveway trip generation is show in **Tables 2** and **3**, respectively. The project driveway vehicle trip generation is based on the following assumptions:

- Existing Building Demolition Credit:** The existing building demolition credit is based on the occupied buildings described in **Table 2**. The existing daily trip generation rate is 6.75 total vehicle trips per employee for entertainment uses and for industrial uses, while the rate is 3.12 total vehicle trips per employee for all other uses.

Table 2: Existing Building Driveway Trip Generation

Land Use	Building Size ¹	Daily Trips ²
Entertainment (Movie Theater)	100,000 square feet	1,800
Industrial Use	39,105 square feet	270
Restaurant Use	11,056 square feet	230
Office Use	3,657 square feet	50
Total		2,350

Note:

1. Summary of occupied buildings. The vacant portions (e.g., approximately 43,140 square feet of retail land use, and 48,250 square feet of service land use.) of the project site are not summarized in this table.

2. Employees and daily trips rounded to the nearest 10.

Source: Fehr & Peers, 2021.

- New Residential Development:** The new residential units are assumed to be a mix of market rate units, with an average size of 1.75 persons per household and the smaller-than-typical parking ratio per the North Bayshore Precise Plan Update of 0.60 parking spaces per dwelling unit. This results in an estimate of approximately 3,680 residents for the preferred land use alternative, and approximately 4,900 residents for the no-office land use alternative. The proposed residential uses would have a combined effective daily trip generation rate of approximately 3.67 daily vehicle trips per dwelling unit.
- New Office Development:** The proposed office space is assumed to be 100 percent occupied at a density of 4.0 employees per 1,000 square feet gross floor area. This results in an estimate of approximately 2,000 employees on-site upon full occupancy of the preferred land use alternative. The daily trip generation rate for new office uses in the North Bayshore Precise Plan area is 2.06 daily vehicle trips per employee.
- New Retail and Entertainment Development:** The proposed retail space is assumed to be 100 percent occupied at a density of 2.67 employees per 1,000 square feet gross floor



area. This results in an estimate of approximately 801 employees on-site upon full occupancy of the project. The Daily trip generation rate for new retail/entertainment uses in the North Bayshore Precise Plan is 6.66 daily vehicle trips per employee.

- **New Hotel Development:** The proposed hotel space is assumed to have an employment density of 0.4 employees per room. This results in an estimate of approximately 80 employees on-site upon full occupancy of the project. The Daily trip generation rates for new hotel uses in the North Bayshore Precise Plan are 8.17 daily vehicle trips per room.

Table 3: Driveway Trip Generation with Project

Scenario	Building Size	Service Population	Daily Trips
Preferred Land Use Alternative			
New Residential Development	2,100 dwelling units	3,680	7,710
New Office Development	500,000 square feet	2,000	4,120
New Retail/Entertainment Development	300,000 square feet	800	5,330
New Hotel Development	200 rooms	80	1,630
Total (A)		6,560	18,790
<i>Existing Building Demolition Trip Credit (B)</i>			<i>-2,350</i>
Net Increase (A-B=C)			16,440
No-Office Land Use Alternative			
New Residential Development	2,800 dwelling units	4,900	10,280
New Retail/Entertainment Development	300,000 square feet	800	5,330
New Hotel Development	200 rooms	80	1,630
Total (A)		5,780	17,240
<i>Existing Building Demolition Trip Credit (B)</i>			<i>-2,350</i>
Net Increase (A-B=C)			14,890

Note: Service population and daily trips rounded to the nearest 10.
 Source: Fehr & Peers, 2021.



North Bayshore Gateway Volumes

The daily North Bayshore Gateway volume is shown in **Table 4**. The North Bayshore Gateway vehicle volume is based on the following assumptions. (Detailed trip generation results for each of the three scenarios (Existing Conditions, Existing with Preferred Land Use Alternative Conditions, and Existing with No-Office Land Use Alternative Conditions) are presented in the attached tables **A-1** to **A-3**.)

- **Existing Gateway Volumes:** This represents existing gateway volumes calculated from the counts conducted at the North Bayshore gateways during the Spring 2020 traffic monitoring, with an estimated 24,295 employees (assuming a 1/2 percent vacancy rate) and 762 residents. Expressed as a rate, this equates to a daily rate of 3.12 vehicle trips per employee.
- **New Project Traffic:** This represents new daily vehicle trips generated by the project.
- **Existing Building Demolition Credit:** This represents daily vehicle trips generated by existing buildings on the project site. These trips will be removed with the demolition of the existing buildings.
- **Mixed-Use Vehicle Trip Reduction:** For the Gateway Master Plan, the “mixed-use trip reduction share” occurs because the additional residential opportunities in North Bayshore allows some current workers to live nearby. The addition of residential in North Bayshore creates a mode shift by allowing people who currently drive in to NBS to now walk, bike, or use a local shuttle. housing increases the diversity of the land use mix and therefore reduces existing gateway vehicle trips. This mixed-use vehicle trip reduction is needed to help accommodate additional development in North Bayshore.
- **Gateway Total Volume:** This is the total number of vehicle trips at the gateways, combining all of the factors listed above. As described earlier, for the full buildout of the NBPP, the total number of trips at the gateway equals the trip target.



Table 4: North Bayshore Gateway Volume with Project

Scenario	Daily Trips
Preferred Land Use Alternative	
Existing Gateway Volumes	78,370
New Project Traffic	18,790
Existing Building Demolition Credit	-2,350
Mixed-Use Trip Reduction	-2,010
<i>Gateway Total Volume</i>	92,800
Net New Gateway Traffic	14,430
No-Office Land Use Alternative	
Existing Gateway Volumes	78,370
New Project Traffic	17,240
Existing Building Demolition Credit	-2,350
Mixed-Use Vehicle Trip Reduction	-3,470
<i>Gateway Total Volume</i>	89,790
Net New Gateway Traffic	11,420

Note: Daily trips rounded to the nearest 10.
 Source: Fehr & Peers, 2021.

Service Population

Service population is the sum of the number of employees plus residents. **Table 5** shows the service population for the project site, North Bayshore area, the City of Mountain View, and Santa Clara County for each project alternative.



Table 5: Service Populations

Land Use	Existing Conditions	Existing with Preferred Land Use Alternative Conditions	Existing with No-Office Land Use Alternative Conditions
Project Site			
Employees ^{1,2} (A)	N/A	2,880	880
Residents ^{1,2} (B)	N/A	3,680	4,900
Service Population ^{1,2,3} (A + B = C)	N/A	6,560	5,780
North Bayshore			
Employees ¹ (A)	24,300	26,780	24,780
Residents ¹ (B)	760	4,440	5,660
Service Population ^{1,3} (A + B = C)	25,060	31,220	30,440
City of Mountain View			
Employees ¹ (A)	72,700	75,180	73,180
Residents ¹ (B)	74,820	78,500	79,720
Service Population (A + B = C)	147,520	153,680	152,900
Santa Clara County			
Employees ¹ (A)	951,020	953,500	951,500
Residents ¹ (B)	1,782,400	1,786,080	1,787,300
Service Population ^{1,3} (A + B = C)	2,733,420	2,739,580	2,738,800

Notes:

1. Rounded employees, residents, and service population to nearest 10.
2. The existing site service population is omitted under Existing Conditions because the existing land uses are too small and specialized that the Mountain View travel model is not an appropriate tool for evaluating the project sites Existing Conditions VMT.
3. Service population is defined as the sum of all residents and employees.

Source: Fehr & Peers, 2021.



Vehicle Miles Travel Estimation Methods

To understand the VMT forecasts and VMT impact analysis, this section defines important VMT terms and analysis methods. The Mountain View travel model was used to develop daily VMT forecasts for the following metrics:

- **Project-Generated VMT:** The sum of the VMT associated with travel from, to, and within a project site.
- **Project's Effect on VMT (within a selected geographic boundary):** An evaluation of the change in total vehicle travel within a defined geographic area boundary, compared between the no project and with project conditions. The boundary for a project's analysis will be selected based on project characteristics such as size and location.

Project-generated VMT per service population is the metric used to evaluate how the project VMT changes (increases or decreases) between the without Project and with Project scenarios, considering both VMT increases due to growth and VMT reductions due to changes in travel behavior. Project-generated VMT per service population is used to evaluate if the VMT rate due to the Project is greater than a specified VMT threshold; however, it does not evaluate a Project's effect on VMT across an entire roadway system.² The Project's effect on VMT compares the changes in boundary VMT per service population between the Existing Conditions and Existing with Project Conditions. The analysis presented in this memorandum focuses on the VMT for all trip purposes and vehicle types (i.e., there is no separation of VMT by land use).

Project-Generated VMT per Service Population Estimation Method

The project-generated VMT is the VMT from all vehicle trips for all trip purposes and types. It is calculated by summing the "VMT from" and "VMT to" a specified area, as follows:

² An often-cited example of how a project can affect VMT is the addition of a grocery store in a food desert. Residents of a neighborhood without a grocery store have to travel a great distance to an existing grocery store. Adding a grocery store to that neighborhood will shorten many of the grocery shopping trips and reduce the total amount of VMT to/from the neighborhood. This concept is likely to occur with the addition of campus housing.



$$\text{Project Generated VMT} = (II + IX) + (II + XI) = 2 * II + IX + XI$$

- Internal-internal (II): The full length of all trips made entirely within the geographic area limits.
- Internal-external (IX): The full length of all trips with an origin within the geographic area and destination outside of the area.
- External-internal (XI): The full length of all trips with an origin outside of the geographic area and destination within the area.

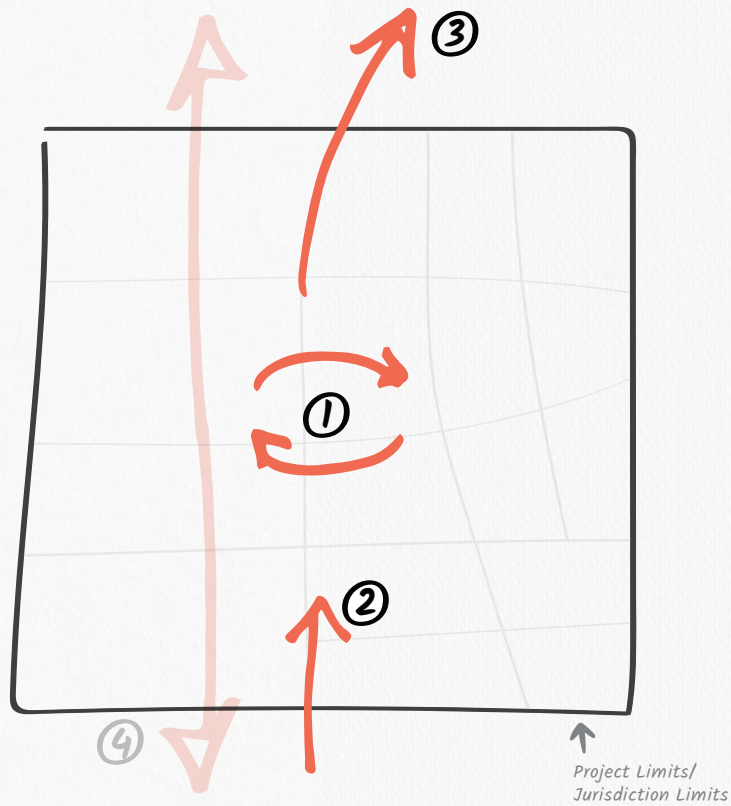
The intra-zonal VMT and VMT between traffic analysis zones, or TAZs, that are in the study area causes some double counting, which is an expected result when summing the trip end based VMT. To ensure a VMT rate is expressed properly (i.e., that the numerator and denominator include the generators of both trip ends of the VMT), the project-generated VMT is divided by the service population (residential population, employment population, plus student population), the generators of both trip ends of the VMT. The VMT estimates are also presented on a per service population basis to account for both the effects of population and/or employment growth and the effects of changes in personal travel behavior. For example, population growth may cause an increase in overall VMT, while travelers changing their behavior by using different travel modes or decreasing their vehicle trip lengths (such as a higher percentage of employees living and working in North Bayshore) would cause decreases in the amount of VMT that each person generates.

Project's Effect on VMT Estimation Method (Using Boundary VMT)

As noted earlier, the Project's effect on VMT, is evaluated using the boundary VMT, which captures all VMT on the roadway network within a specified geographic area, including local trips plus interregional travel that does not have an origin or destination within the area. The geographical boundary method only considers traffic within the physical limits of the selected study area and does not include the impact of vehicles once they travel outside the area limits. The use of boundary VMT is a more comprehensive evaluation of the potential effects of the Project because it captures the combined effect of new VMT, shifting existing VMT to/from other neighborhoods, and/or shifts in existing traffic to alternate travel routes or modes. The boundary VMT is also divided by the service population (sum of residents, employees, and students) to account for the effects of population and/or employment growth and the effects of changes in personal travel behavior within the specified geographic area.

Figure 1 presents a representation of both project-generated VMT and boundary VMT. Both metrics are needed for a comprehensive evaluation of a project's VMT effects.

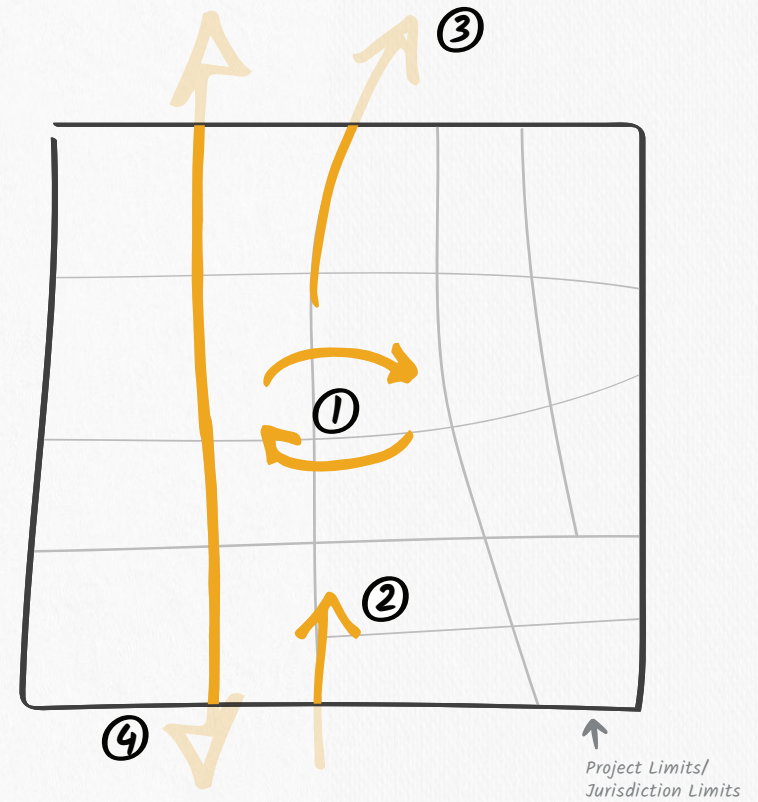
Project Generated VMT



- ① 2x Internal to Internal (2xII) VMT
- ② External to Internal (XI) VMT
- ③ Internal to External (IX) VMT
- ④ External to External (XX) VMT

Notes: External to External (XX) trips (shown as transparent arrow 4) are excluded from this VMT metric. Adjustments to project generated VMT made to include the full length of trips that leave the jurisdiction to capture inter-jurisdiction travel.

Project Effect on VMT (Boundary VMT)



- ① Internal to Internal VMT
- ② External to Internal (XI) VMT
- ③ Internal to External (IX) VMT
- ④ External to External (XX) VMT

Notes: Boundary VMT is all the VMT on the streets within the Project Limits / Jurisdiction Limits. Transparent portions of arrows 2, 3 and 4 are not included in the VMT metric.



Figure 1
Measuring Vehicle Miles Traveled (VMT)



Vehicle Miles Traveled

The results of the project-generated VMT and project's effect on VMT are presented in **Table 6** and **Table 7**, respectively, for the three scenarios.

Project-Generated VMT

The project-generated VMT per service population trends show that for each geographic scale (e.g., North Bayshore, City of Mountain View, and Santa Clara County) the rate is decreasing. This reduction in the project-generated VMT rate demonstrates the combined benefit of adding housing to North Bayshore, smaller-than-typical parking ratio per the North Bayshore Precise Plan, and increased transportation demand management effectiveness for office development. In North Bayshore, the project-generated VMT rate would be reduced by 28.7% from Existing Conditions to the Existing Conditions with the Preferred Project Alternative Conditions. The Existing with No-Office Land Use Alternative Conditions shows an even greater reduction in the project-generated VMT rate of 32.7%. This reduction in project-generated VMT rates is less pronounced (smaller percent reduction from Existing Conditions) at the City of Mountain View, and Santa Clara County levels.



Table 6: Project-Generated VMT Assessment

Item	Existing Conditions	Existing with Preferred Land Use Alternative Conditions	Existing with No-Office Land Use Alternative Conditions
Project Site			
Vehicle Miles Traveled ^{1,2} (A)	N/A	136,280	108,920
Service Population ^{1,2} (B)	N/A	6,560	5,780
VMT per Service Population ^{1,2,3} (A/B = C)	N/A	20.8	18.8
North Bayshore			
Vehicle Miles Traveled ¹ (A)	1,019,420	905,960	835,410
Service Population ^{1,3} (B)	25,060	31,220	30,440
VMT per Service Population (A/B = C) (Percent Change) ⁴	40.7	29.0 (-28.7%)	27.4 (-32.7%)
City of Mountain View			
Vehicle Miles Traveled ¹ (A)	5,073,560	4,951,520	4,876,380
Service Population ^{1,3} (B)	147,520	153,680	152,900
VMT per Service Population (A/B = C) (Percent Change) ⁴	34.4	32.2 (-6.4%)	31.9 (-7.3%)
Santa Clara County			
Vehicle Miles Traveled ¹ (A)	55,564,530	55,463,160	55,401,120
Service Population ^{1,3} (B)	2,733,420	2,739,580	2,738,800
VMT per Service Population (A/B = C) (Percent Change) ⁴	20.3	20.2 (-0.5%)	20.2 (-0.5%)

Notes:

1. Rounded service population and VMT to nearest 10.
2. The existing site land uses are omitted under Existing Conditions because the existing land uses are too small and specialized that the Mountain View travel model is not an appropriate tool for evaluating the project site Existing Conditions VMT.
3. Service population is defined as the sum of all residents and employees.
4. Percent change = (Project Scenario – Existing Conditions)/Existing Conditions * 100%.

Source: Fehr & Peers, 2021.



Project's Effect on VMT

Citywide and Countywide project effect on VMT shows that the project would reduce VMT on the roadway system within the City of Mountain View and Santa Clara County. The boundary VMT per service population reduction from Existing Conditions for the Existing with Preferred Land Use Alternative Conditions is 5.0 % and for the Existing with No-Office Land Use Alternative Conditions the reduction is 4.3%. With the addition of this project, the total amount of VMT occurring within the City boundaries would decline slightly.

Table 7: Project's Effect (Boundary) VMT Assessment

Item	Existing Conditions	Existing with Preferred Land Use Alternative Conditions	Existing with No-Office Land Use Alternative Conditions
City of Mountain View			
Boundary Vehicle Miles Traveled ¹ (A)	2,047,700	2,034,070	2,026,360
Service Population ^{1,2} (B)	147,520	153,680	152,900
Boundary VMT per Service Population (A/B = C) (Percent Change) ³	13.9	13.2 (-5.0%)	13.3 (-4.3%)
Santa Clara County			
Boundary Vehicle Miles Traveled ¹ (A)	37,552,290	37,500,380	37,434,070
Service Population ^{1,2} (B)	2,733,420	2,739,580	2,738,800
Boundary VMT per Service Population (A/B = C) (Percent Change) ³	13.7	13.7 (-0.0%)	13.7 (-0.0%)

Notes:

1. Rounded service population and VMT to nearest 10.
2. Service population is defined as the sum of all residents and employees.
3. Percent change = (Project Scenario – Existing Conditions)/Existing Conditions * 100%.

Source: Fehr & Peers, 2021.



Summary of the NBPP VMT Assessment

A North Bayshore Precise Plan (NBPP) VMT assessment described in the *North Bayshore Precise Plan with Residential – Vehicle Miles Traveled Estimates* (May 2017) memorandum used the project-generated VMT metric (referred to as total VMT in the previous memorandum) to describe the effects of adding housing in North Bayshore.³ The results of the NBPP VMT assessment showed that the NBPP increased absolute VMT for all geographies analyzed, but decreased the VMT rate within the North Bayshore area. These results support the concept that providing housing near jobs increases the likelihood that trips can remain within a local area, thus shortening travel distances and increasing residents' ability to accomplish some travel needs by walking, cycling, or using short-distance transit. Further they help us to understand the cumulative change in NBPP VMT once this project and the rest of the North Bayshore Precise Plan is constructed.

The Gateway Master Plan described in this memo is predominantly residential. Over time, there will be even more residential and more office uses added to the NBPP area as developed. This will likely cause an increase in the overall amount of VMT generated in the North Bayshore area; however, the rate of VMT generated per service population should still be reduced as compared to Existing Conditions, due to the added housing, smaller-than-typical parking ratios, and increased TDM effectiveness.

Attachments

Tables

Table A-1	Existing Conditions (Spring 2020)
Table A-2	Preferred Land Use Alternative
Table A-3	No-Office Land Use Alternative

³ The NBPP VMT assessment assumed roughly equal distribution of the 9,850 residential units among Joaquin, Shorebird, and Pear neighborhood areas. The Gateway Master Plan shifts most of the residential from the Pear to the Joaquin neighborhood area. This move of the residential would not have a substantive effect on the NBPP VMT assessment because the vehicle travel from either neighborhood is equidistant.

Table A-1: Existing (Spring 2020)							
Table A-1: Existing (Spring 2020)							
	Daily	AM In	AM Out	AM Total	PM In	PM Out	PM Total
All Land Uses: Person Trips							
Existing Residential Trips (363 DUs)	2,726	41	154	195	145	87	232
Additional Residential Trips (0,000 DUs)	0	0	0	0	0	0	0
Existing Employment Trips (24,295 Employees)	99,367	10,780	1,543	12,323	1,887	9,171	11,058
Additional Employment Trips (0,000 Employees)	0	0	0	0	0	0	0
Total Person Trips	102,093	10,821	1,697	12,518	2,032	9,258	11,290
All Land Uses: Mixed-Use Reduction							
Mixed-Use Reduction (Daily: 5.0%, AM: 8.1%, PM: 9.9%)							
Residential (Daily: 21.2%, AM: 49.1%, PM: 33.9%)	-578	-20	-76	-96	-49	-30	-79
Employment (Daily: 4.6%, AM: 7.4%, PM: 9.4%)	-4,527	-798	-114	-912	-177	-862	-1,039
External Person Trips							
External Residential Person Trips	2,148	21	78	99	96	57	153
External Employment Person Trips	94,840	9,982	1,429	11,411	1,710	8,309	10,019
Residential Land Use: Mode Choice							
External Residential - Mode Choice							
SOV+Trucks (Daily: 80.6%, AM: 75.8%, PM: 76.5%)	1,732	17	58	75	72	45	117
HOV (Daily: 15.4%, AM: 18.2%, PM: 18.3%)	330	4	14	18	17	11	28
Transit/Shuttle (Daily: 2.2%, AM: 4.0%, PM: 3.9%)	47	0	4	4	5	1	6
Active (Daily: 1.8%, AM: 2.0%, PM: 1.3%)	39	0	2	2	2	0	2
Conversion to Vehicle Trips							
SOV+Trucks (Vehicle = 1 Person)	1,732	17	58	75	72	45	117
HOV Occupancy (Daily: 2.00, AM: 2.00, PM: 2.00)	165	2	7	9	9	5	14
External Residential Vehicle Trips [A]	1,897	19	65	84	81	50	131
Employment Land Use: Mode Choice							
External Employment - Mode Choice							
SOV+Trucks (Daily: 74.1%, AM: 59.9%, PM: 56.9%)	70,276	5,670	1,169	6,839	1,115	4,587	5,702
HOV (Daily: 11.4%, AM: 10.8%, PM: 16.2%)	10,812	1,138	95	1,233	400	1,221	1,621
Transit/Shuttle (Daily: 12.5%, AM: 25.4%, PM: 22.2%)	11,855	2,765	136	2,901	139	2,086	2,225
Active (Daily: 2.0%, AM: 3.8%, PM: 4.7%)	1,897	409	29	438	56	415	471
Conversion to Vehicle Trips							
SOV+Trucks (Vehicle = 1 Person)	70,276	5,670	1,169	6,839	1,115	4,587	5,702
HOV Occupancy (Daily: 2.00, AM: 2.18, PM: 2.15)	5,406	517	48	565	200	555	755
External Employment Vehicle Trips [B]	75,682	6,187	1,217	7,404	1,315	5,142	6,457
All Land Uses: Final Vehicle Trip Calculations							
Transit/Shuttle Trips - Conversion to Vehicles - Occupancy (Daily: 15.0, AM: 18.3, PM: 14.5)							
External Transit Vehicles [C]	793	104	55	159	60	94	154
Gateway Total Vehicles [A+B+C]	78,372	6,310	1,337	7,647	1,456	5,286	6,742
Over Capacity Calculations (Adopted NBPP Capacity)							
Gateway Capacity	N/A	6,980	1,120	8,100	1,780	6,160	7,940
Number of Trips Over Capacity	N/A	-670	217	-453	-324	-874	-1,198
Percent Over Capacity (%)	N/A	-10%	19%	-6%	-18%	-14%	-15%
Over Capacity Calculations (NBPP With Residential Capacity)							
Gateway Capacity	N/A	6,300	1,990	8,290	2,310	5,720	8,030
Number of Trips Over Capacity	N/A	10	-653	-643	-854	-434	-1,288
Percent Over Capacity (%)	N/A	0%	-33%	-8%	-37%	-8%	-16%
External Vehicle Trips Growth Over Existing							
External Residential Vehicle Trips Growth	0	0	0	0	0	0	0
External Employment Vehicle Trips Growth	0	0	0	0	0	0	0
External Transit Vehicle Growth	0	0	0	0	0	0	0
All Vehicle Growth	0	0	0	0	0	0	0

Bold values indicate units of VEHICLE trips

Table A-2: Preferred Land Use Alternative							
Table A-2: Preferred Land Use Alternative							
	Daily	AM In	AM Out	AM Total	PM In	PM Out	PM Total
All Land Uses: Person Trips							
Existing Residential Trips (363 DUs)	2,726	41	154	195	145	87	232
Additional Residential Trips (2,100 DUs)	13,797	210	861	1,071	819	462	1,281
Existing Employment Trips (24,295 Employees plus 100 KSF retail/entertainment)	99,367	10,780	1,543	12,323	1,887	9,171	11,058
Additional Employment Trips (1,946 Employees plus 200 KSF retail/entertainment)	13,255	978	187	1,165	344	1,000	1,344
Total Person Trips	129,145	12,009	2,745	14,754	3,195	10,720	13,915
All Land Uses: Mixed-Use Reduction							
Mixed-Use Reduction (Daily: 8.6%, AM: 12.6%, PM: 14.2%)							
Residential (Daily: 23.3%, AM: 43.2%, PM: 36.4%)	-3,850	-108	-439	-547	-351	-200	-551
Employment (Daily: 6.5%, AM: 9.8%, PM: 11.5%)	-7,320	-1,146	-169	-1,315	-257	-1,169	-1,426
External Person Trips							
External Residential Person Trips	12,673	143	576	719	613	349	962
External Employment Person Trips	105,302	10,612	1,561	12,173	1,974	9,002	10,976
Residential Land Use: Mode Choice							
External Residential - Mode Choice							
SOV+Trucks (Daily: 70.8%, AM: 61.1%, PM: 65.3%)	8,974	110	329	439	360	268	628
HOV (Daily: 13.5%, AM: 14.5%, PM: 15.5%)	1,709	26	78	104	85	64	149
Transit/Shuttle (Daily: 6.1%, AM: 10.8%, PM: 9.7%)	773	3	75	78	85	8	93
Active (Daily: 9.6%, AM: 13.6%, PM: 9.6%)	1,217	4	94	98	83	9	92
Conversion to Vehicle Trips							
SOV+Trucks (Vehicle = 1 Person)	8,974	110	329	439	360	268	628
HOV Occupancy (Daily: 2.00, AM: 2.04, PM: 2.07)	855	12	39	51	43	29	72
External Residential Vehicle Trips [A]	9,829	122	368	490	403	297	700
Employment Land Use: Mode Choice							
External Employment - Mode Choice							
SOV+Trucks (Daily: 71.8%, AM: 58.1%, PM: 55.6%)	75,594	5,864	1,213	7,077	1,244	4,857	6,101
HOV (Daily: 12.0%, AM: 11.1%, PM: 16.8%)	12,679	1,240	117	1,357	487	1,357	1,844
Transit/Shuttle (Daily: 14.1%, AM: 26.6%, PM: 23.1%)	14,836	3,062	178	3,240	176	2,363	2,539
Active (Daily: 2.1%, AM: 4.1%, PM: 4.5%)	2,193	446	53	499	67	425	492
Conversion to Vehicle Trips							
SOV+Trucks (Vehicle = 1 Person)	75,594	5,864	1,213	7,077	1,244	4,857	6,101
HOV Occupancy (Daily: 2.00, AM: 2.18, PM: 2.14)	6,340	564	59	623	244	617	861
External Employment Vehicle Trips [B]	81,934	6,428	1,272	7,700	1,488	5,474	6,962
All Land Uses: Final Vehicle Trip Calculations							
Transit/Shuttle Trips - Conversion to Vehicles - Occupancy (Daily: 15.0, AM: 15.5, PM: 12.2)							
External Transit Vehicles [C]	1,041	115	99	214	108	107	215
Gateway Total Vehicles [A+B+C]	92,804	6,665	1,739	8,404	1,999	5,878	7,877
Over Capacity Calculations (Adopted NBPP Capacity)							
Gateway Capacity	N/A	6,980	1,120	8,100	1,780	6,160	7,940
Number of Trips Over Capacity	N/A	-315	619	304	219	-282	-63
Percent Over Capacity (%)	N/A	-5%	55%	4%	12%	-5%	-1%
Over Capacity Calculations (NBPP With Residential Capacity)							
Gateway Capacity	N/A	6,300	1,990	8,290	2,310	5,720	8,030
Number of Trips Over Capacity	N/A	365	-251	114	-311	158	-153
Percent Over Capacity (%)	N/A	6%	-13%	1%	-13%	3%	-2%
External Vehicle Trips Growth Over Existing							
External Residential Vehicle Trips Growth	7,932	103	303	406	322	247	569
External Employment Vehicle Trips Growth	6,252	241	55	296	173	332	505
External Transit Vehicle Growth	248	11	44	55	48	13	61
All Vehicle Growth	14,432	355	402	757	543	592	1,135

Bold values indicate units of VEHICLE trips

Table A-3: No-Office Land Use Alternative

Table A-3: No-Office Land Use Alternative							
	Daily	AM In	AM Out	AM Total	PM In	PM Out	PM Total
All Land Uses: Person Trips							
Existing Residential Trips (363 DUs)	2,726	41	154	195	145	87	232
Additional Residential Trips (2,800 DUs)	18,396	280	1,148	1,428	1,092	616	1,708
Existing Employment Trips (24,295 Employees plus 100 KSF retail/entertainment)	99,367	10,780	1,543	12,323	1,887	9,171	11,058
Additional Employment Trips (-0,054 Employees plus 200 KSF retail/entertainment)	5,127	92	61	153	189	245	434
Total Person Trips	125,616	11,193	2,906	14,099	3,313	10,119	13,432
All Land Uses: Mixed-Use Reduction							
Mixed-Use Reduction (Daily: 10.2%, AM: 14.3%, PM: 15.9%)							
Residential (Daily: 23.9%, AM: 42.4%, PM: 35.9%)	-5,048	-136	-552	-688	-444	-252	-696
Employment (Daily: 7.4%, AM: 10.7%, PM: 12.5%)	-7,733	-1,158	-171	-1,329	-260	-1,177	-1,437
External Person Trips							
External Residential Person Trips	16,074	185	750	935	793	451	1,244
External Employment Person Trips	96,761	9,714	1,433	11,147	1,816	8,239	10,055
Residential Land Use: Mode Choice							
External Residential - Mode Choice							
SOV+Trucks (Daily: 70.8%, AM: 61.1%, PM: 65.4%)	11,382	142	429	571	466	347	813
HOV (Daily: 13.5%, AM: 14.3%, PM: 15.4%)	2,168	34	100	134	110	81	191
Transit/Shuttle (Daily: 6.1%, AM: 10.9%, PM: 9.7%)	981	4	98	102	110	11	121
Active (Daily: 9.6%, AM: 13.7%, PM: 9.6%)	1,543	5	123	128	107	12	119
Conversion to Vehicle Trips							
SOV+Trucks (Vehicle = 1 Person)	11,382	142	429	571	466	347	813
HOV Occupancy (Daily: 2.00, AM: 2.06, PM: 2.08)	1,084	15	50	65	55	37	92
External Residential Vehicle Trips [A]	12,466	157	479	636	521	384	905
Employment Land Use: Mode Choice							
External Employment - Mode Choice							
SOV+Trucks (Daily: 73.1%, AM: 59.7%, PM: 56.5%)	70,767	5,502	1,151	6,653	1,161	4,521	5,682
HOV (Daily: 11.7%, AM: 10.9%, PM: 16.5%)	11,290	1,111	100	1,211	438	1,219	1,657
Transit/Shuttle (Daily: 13.2%, AM: 25.5%, PM: 22.4%)	12,736	2,702	146	2,848	156	2,093	2,249
Active (Daily: 2.0%, AM: 3.9%, PM: 4.6%)	1,968	399	36	435	61	406	467
Conversion to Vehicle Trips							
SOV+Trucks (Vehicle = 1 Person)	70,767	5,502	1,151	6,653	1,161	4,521	5,682
HOV Occupancy (Daily: 2.00, AM: 2.18, PM: 2.14)	5,645	505	50	555	219	554	773
External Employment Vehicle Trips [B]	76,412	6,007	1,201	7,208	1,380	5,075	6,455
All Land Uses: Final Vehicle Trip Calculations							
Transit/Shuttle Trips - Conversion to Vehicles - Occupancy (Daily: 15.0, AM: 15.0, PM: 11.6)							
External Transit Vehicles [C]	914	102	95	197	110	95	205
Gateway Total Vehicles [A+B+C]	89,792	6,266	1,775	8,041	2,011	5,554	7,565
Over Capacity Calculations (Adopted NBPP Capacity)							
Gateway Capacity	N/A	6,980	1,120	8,100	1,780	6,160	7,940
Number of Trips Over Capacity	N/A	-714	655	-59	231	-606	-375
Percent Over Capacity (%)	N/A	-10%	58%	-1%	13%	-10%	-5%
Over Capacity Calculations (NBPP With Residential Capacity)							
Gateway Capacity	N/A	6,300	1,990	8,290	2,310	5,720	8,030
Number of Trips Over Capacity	N/A	-34	-215	-249	-299	-166	-465
Percent Over Capacity (%)	N/A	-1%	-11%	-3%	-13%	-3%	-6%
External Vehicle Trips Growth Over Existing							
External Residential Vehicle Trips Growth	10,569	138	414	552	440	334	774
External Employment Vehicle Trips Growth	730	-180	-16	-196	65	-67	-2
External Transit Vehicle Growth	121	-2	40	38	50	1	51
All Vehicle Growth	11,420	-44	438	394	555	268	823

Bold values indicate units of VEHICLE trips