CITY OF MOUNTAIN VIEW

MULTI-MODAL TRANSPORTATION ANALYSIS HANDBOOK

Version 1.0 (February 2021)

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1. INTRODUCTION

1.1 Multi-Modal Transportation Analysis (MTA)

Multi-Modal Transportation Analysis (MTA) is a process of assessing transportation operational effects of a development project or plan, and identifying specific adverse effects relevant to the scope and size of the project. Any transportation improvements identified to address adverse effects will be included as Conditions of Approval. An MTA, therefore, establishes a nexus between project operational effects and proposed improvements.

An MTA also supports the following goals:

- Establishes consistency with the General Plan and Precise Plan goals and policies;
- Provides safe, efficient, accessible, and environmentally sound transportation and roadway systems for pedestrians, transit, bicycles, and vehicles;
- Ensures the transportation network is designed and built to serve the type, characteristic, and intensity of the surrounding land use;
- Encourages projects to reduce single occupancy vehicle use and increase mode share of walking, biking, carpooling, and transit; and
- Ensures transportation effects caused or exacerbated by the proposed project are identified, addressed and documented in the MTA.

1.2 MTA Handbook

The MTA Handbook establishes a clear and consistent technical approach to undertaking transportation analysis for projects in Mountain View. The MTA Handbook provides a methodology for assessing transportation operational effects of projects and associated operational improvements.

The MTA Handbook is based on the current City processes and state-of-practice in transportation planning and traffic engineering. The City expects these guidelines to result in studies that provide a comprehensive and accurate analysis of multi-modal transportation and traffic effects, which provide

valuable information for decision-makers and the public as the City reviews project proposals.

1.3 California Environmental Quality Act (CEQA) and Vehicle Miles Traveled (VMT)

All projects must comply with Vehicle Miles Traveled (VMT) thresholds established by the City to determine project-level impacts under the California Environmental Quality Act (CEQA). If a project is within the VMT thresholds, then no further VMT analysis is required. If a project exceeds the VMT thresholds, then a VMT analysis is required to assess transportation-related environmental impacts. A project may undertake a VMT analysis either concurrently with the MTA or separately as part of the CEQA environmental review process.

The methodology for the CEQA VMT Analysis was adopted by the Mountain View City Council on June 30, 2020 in accordance with Senate Bill 743 (SB 743) and the Governor's Office of Planning and Research (OPR) final guidance entitled, *Proposed Updates to the CEQA Guidelines* (which was certified on December 28, 2018).

More information on VMT Analysis is provided in **Appendices A** and **B**.

1.4 Mountain View Goals and General Plan Policies

The 2030 General Plan is the guiding document for the City's physical development and includes goals and policies that support and facilitate integrated land use and transportation planning. The General Plan also calls for performance measures and indicators for all modes of transportation and performance measurement criteria that optimize travel by each mode. The General Plan policies and Council Goals included in **Appendix D** support a transparent, organized Multi-Modal Transportation Analysis that facilitates a safe and balanced transportation network for all users; and integrates land use and transportation for a more sustainable future. Implementation of this MTA Handbook will result in recommendations and conditions that align with the 2030 General Plan vision.

1.5 Congestion Management Program (CMP)

In accordance with California Statute, Government Code 65088, Santa Clara County has established a Congestion Management Program (CMP). The intent

of the CMP legislation is to develop a comprehensive transportation improvement program among local jurisdictions that will reduce traffic congestion and improve land use decision-making and air quality. The Valley Transportation Authority (VTA) serves as the Congestion Management Agency (CMA) for Santa Clara County's CMP.

Mountain View, as a member agency, is required to conform to the CMP requirements for evaluating the transportation effects of land use decisions on the designated CMP roadway system. The program is established to address regional transportation issues across City boundaries. The MTA is intended to meet the CMP requirements by encouraging the development of transit-friendly, pedestrian-friendly, and bicyclist-friendly land use projects by implementing multi-modal transportation system performance measures in addition to monitoring intersection LOS. Projects should continue to assess their effects on the designated CMP roadway system using the most current version of the VTA *Transportation Impact Analysis Guidelines*, the VTA *Traffic Level of Service Analysis Guidelines*, and this Handbook.

1.6 Mountain View Vision Zero Policy

Vision Zero, codified in Council Policy K-24 (Appendix D), is the City's commitment to eliminate all fatal and severe injury traffic collisions by prioritizing street safety to ensure all road users—people who walk, bike, ride transit, and use motor vehicles are safe. Developments will be required to implement the principles outlined in the Vision Zero policy to help the City achieve the Vision Zero goals of safer streets for everyone.

1.7 Americans with Disabilities Act (ADA)

The ADA is a civil rights law that prohibits discrimination against individuals with disabilities in all areas of public life, including jobs, schools, transportation, and all public and private places that are open to the public.

2. DETERMINING WHEN AN MTA IS REQUIRED

As outlined in Appendix A, projects do not require VMT analysis if they are within a 110 *daily* trip threshold.

For the MTA, a project must generate at least 20 net new peak-*hour* trips to require completion of an MTA. In addition, the following types of projects require an MTA, as defined in Section 2.1:

- All medium or large projects (see Figure 1);
- Projects that generate approximately 20 net new peak hour trips or greater after credits for existing uses are applied;[1]
- Projects that propose a change in land use (e.g. industrial to residential);
- Projects located in the downtown or a Precise Plan area (specific study requirements may apply);
- Land use entitlements requiring discretionary approval by the City of Mountain View, which include, but are not limited to: annexations, general plan amendments, new or amended precise plans, zoning changes, conditional use permits introducing new or expanded business operations, and tentative maps; and
- Projects or transportation projects, as determined by the Public Works Director or designee.

The final determination of whether a project will require an MTA will be at the discretion of the Public Works Director or designee.

2.1 Project Size and Complexity

As indicated above, the size or complexity of a project will determine if an MTA is required as well as the appropriate study components. As displayed in Figure 1, the key consideration in defining project size or complexity related to transportation operational effects is the number of *peak-hour* trips that a project generates. Peak hour trips can be defined in relation to the a.m., p.m., or midday

[1] For existing occupied sites, daily trip credit can be applied to the proposed project estimated daily trip generation, to determine the net new trips the project generates. The estimation of existing site trip generation must include reasonable documentation that supports this assumption.

peak. For most projects, the MTA will evaluate one or both a.m. or p.m. peak travel periods; midday or 3:00 p.m. peak is typically used to evaluate school traffic.

CEQA VMT Analysis focuses on *daily* trips in order to estimate total VMT and greenhouse emissions associated with a project. The number of peak hour trips a project generates is based on the published rates included in the ITE Trip Generation Manual for the peak hour of specific land uses.

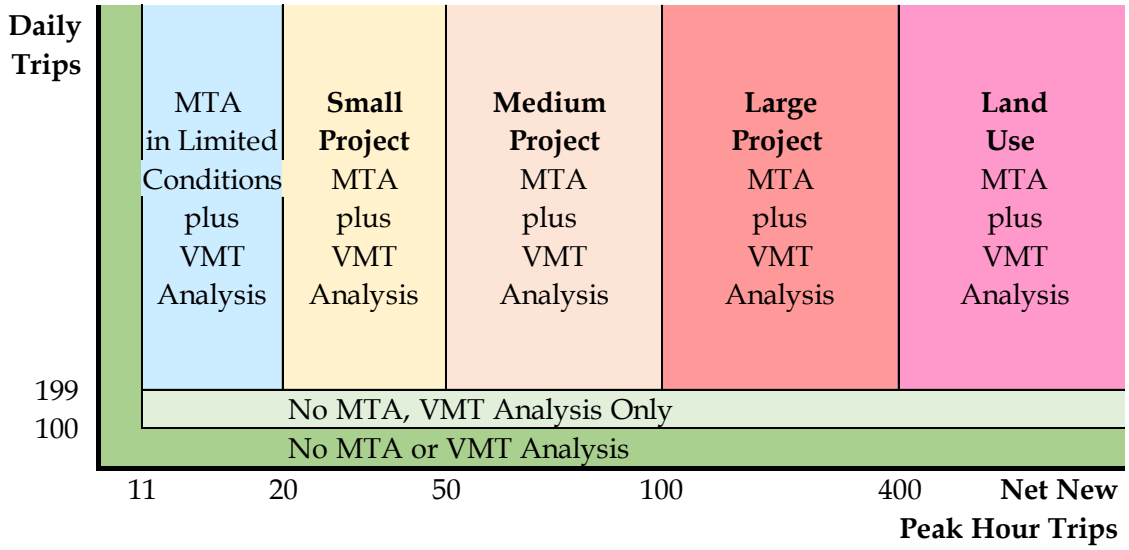


Figure 1: Analysis Requirements by Project Size[2]

For the MTA, there are eight (8) categories of transportation analysis requirements based on project size:

1. Very Small Projects with a VMT and MTA Exemption are projects that generate 110 or fewer daily trips or 11 or fewer peak hour trips.

2. Very Small Projects with an MTA Exemption are projects that generate 110 to 199 daily trips that are not screened. These projects would require VMT analysis only.

3. Small Projects with MTA Exemption except under limited conditions are projects that generate approximately 11 to 19 peak hour trips. Conditions where an MTA would be required include those listed above (including land use change, location within a Precise Plan area, discretionary approval, or as directed by Public Works Director).

[2] Large, Very Large, and Land Use projects also involve Congestion Management Program (CMP) analysis.

4. Small Projects are projects that generate approximately 20 to 49 peak-hour trips. These require VMT analysis plus a Small Project MTA.

5. Medium Projects are projects that generate approximately 50 to 99 peak-hour trips. These require VMT analysis plus a Medium Project MTA.

6. Large Projects are projects that generate approximately 100 to 399 peak-hour trips. These require VMT analysis plus Large Project MTA, including Congestion Management Program (CMP) analysis.

7. Very Large Projects include plans that generate approximately 400 or more peak-hour trips. These projects require VMT analysis plus Land Use MTA, including CMP analysis.

8. Land Use Plans include projects or plans that generate approximately 400 or more peak-hour trips. These plans or projects require VMT analysis plus Land Use MTA, including CMP analysis.

3. DETERMINING THE SCOPE OF THE STUDY

The size and location of a project will help determine the overall scope of the MTA. Smaller projects have less effect on the adjacent transportation network than larger projects and, therefore, require less extensive analysis.

3.1 Transportation Study Process

The MTA process will be initiated when an applicant submits a project, including the Transportation Information Worksheet, in accordance with the Application Submittal Requirements Checklist. The City will screen the project in order to determine the MTA type (see Figure 2) and whether or not VMT analysis is required. The City will then hire the Consultant to scope and undertake the MTA prior to the project hearing or final decision.[3]

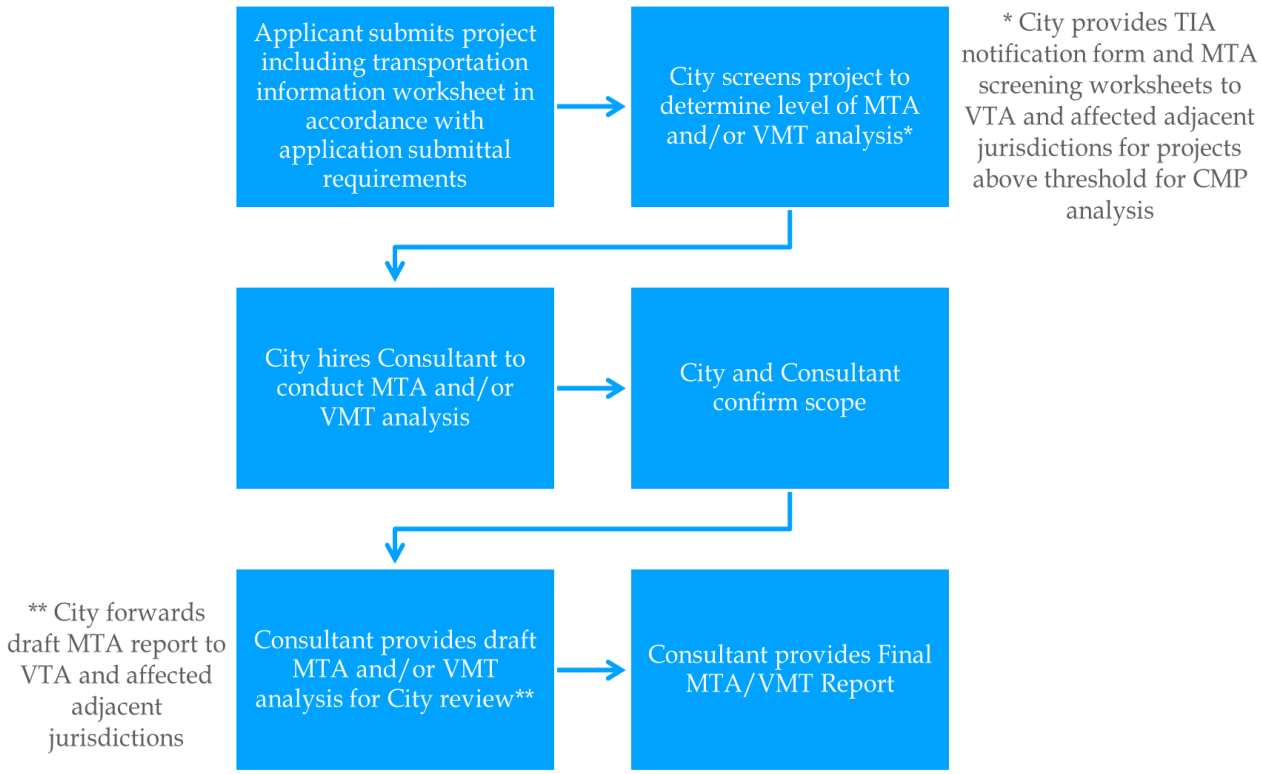


Figure 2: Transportation Analysis Process

Key steps in the MTA/VMT analysis process, along with questions to be addressed, are outlined in Table 1. As indicated in this table, the MTA will be

[3] Project referrals to VTA should be e-mailed to plan.review@vta.org.

based on the number of peak hour trips generated, while the VMT analysis will be required only if all four screening criteria are not met.

Table 1: Key Steps and Questions in the MTA and VMT Analysis Process

Step	Question	Response	Implications	Next Question
MTA Screen	1. How many peak hour trips are generated?	0-10	No MTA required	2a
		11-19	Small MTA in limited conditions	2a
		20-49	Small MTA	2a
		50-99	Medium MTA	2a
		100-399	Large MTA	2a
		400 or more	Land Use MTA	2a
VMT Screen	2a. Does project meet the low-VMT screen: i. Is project residential? AND ii. Does project have similar density and land use mix to surrounding uses? AND iii. Will project not lead to residential displacement?[4] AND iv. Is project located in a low VMT area?[5]	Yes	No VMT Analysis required	3a
		No	VMT Analysis may be required	2b

[4] Residential displacement refers to replacing naturally affordable housing with a fewer number of moderate- or high-income residential units.

[5] Low VMT areas are those with VMT 15 percent or greater below the Nine-County Bay Area regional average. Residential projects must compare to the residential map, while employment projects must refer to employment map. There are no low-VMT employment areas in Mountain View, so this criterion applies only to residential projects. Evaluate using Santa Clara Countywide VMT Evaluation Tool (VMT Tool) available at https://vmttool.vta.org (see Appendix A).

	2b. Does project meet transit-based screen: i. Is the project in a transit zone?[6] AND ii. Does project have Floor Area Ratio (FAR) of 0.75 or greater? AND iii. Is project consistent with Plan Bay Area? AND iv. Does project provide equal or less than parking required by the City? AND v. Will the project not lead to residential displacement?[2]	Yes	No VMT Analysis required	3a
		No	VMT Analysis may be required	2c
	2c. Does project have 100% affordable housing?	Yes	No VMT Analysis required	3a
		No	VMT Analysis may be required	2d
	2d. How many daily trips does project generate?[7]	0-109	No VMT Analysis required	3a
		110 or more	VMT Analysis required	3a
Conduct MTA if required	3a. Will project result in adverse effects?[8]	Yes	Improvements required	3b
		No	Improvements not required	4a
	3b. What improvements are required to reduce adverse effects?	Determined by MTA	List required improvements	3c
	3c. Will improvements eliminate adverse effects?	Yes	Confirm improvements eliminate adverse effects	4a
		No	Disclose adverse effects that remain after improvement	4a

[6] Transit zones are locations within one-half mile of a major transit stop or high-quality transit corridor, based on State definitions. Evaluate using VMT Tool.

[7] 110 daily trips is equivalent to 12 single family units, 20 multi-family units, or 10,000 square feet of employment.

[8] See Table 4 for Determination of Adverse Effects.

Determine VMT if required	4a. What is the baseline VMT for location?[9]	Appendix A	VMT per capita or employee	4b
	4b. Is the project VMT below the threshold?[10]	Yes	No Significant Impact	-
		No	Further analysis required	4c
	4c. Can VMT be reduced below threshold?[11]	Yes	Conditions of Approval	-
		No	Significant Impact	-

3.2 Analysis Components

The MTA for a project may include the components listed in Table 2.

Table 2: Transportation Study Components to be addressed in an MTA[12]

Small 20 to 49 peak hour trips (PHT)	Medium 50 to 99 PHT	Large 100 to 399 PHT	Land Use Plan 400+ PHT
1. Existing Conditions			
2. City Policy Conformance			
3. Site Access and Circulation a. Pedestrian access and circulation* b. Bicycle access and circulation* c. Vehicle access and circulation* d. Emergency and service vehicle access e. Loading areas			
4. VMT Analysis (if completed with MTA)			
5. Motor Vehicle Operations 5.1 Signalized Intersection Level of Service (LOS) a. Existing conditions b. Background conditions c. Project conditions d. Adverse traffic effects and multi-modal remedies		5. Motor Vehicle Operations 5.1 Signalized Intersection LOS* a. Existing conditions b. Background conditions c. Project conditions d. Cumulative conditions	

[9] Evaluate using VMT Tool.
[10] Threshold for residential projects is 15 percent below existing regional VMT per capital. Threshold for employment or office projects is 15 percent below existing regional VMT per employee. Evaluate using VMT Tool.
[11] Compile strategies and evaluate using VMT Tool.
[12] Additional scope requirements may apply as determined by Public Works Director or designee.

Small 20 to 49 peak hour trips (PHT)	Medium 50 to 99 PHT	Large 100 to 399 PHT	Land Use Plan 400+ PHT
5.2 Unsignalized Intersection Traffic Control 5.3 Heavy Vehicle Operations		e. CMP conformance (when required) i. Freeway analysis ii. ramp queuing analysis f. Adverse traffic effects and multi-modal remedies 5.2 Unsignalized Intersection Traffic Control 5.3 Heavy Vehicle Operations	
6. Traffic Calming and Neighborhood Intrusion			
7. Pedestrian Operations a. ADA compliance b. Plan consistency and pedestrian orientation c. Pedestrian network facilities d. Pedestrian Quality of Service (PQOS) map e. Adverse pedestrian effects f. Needed pedestrian improvements		7. Pedestrian Operations a. ADA compliance b. Plan consistency and pedestrian orientation* c. Pedestrian network facilities* d. PQOS evaluation* e. Adverse pedestrian effects* f. Needed pedestrian improvements*	
8. Bicycle Operations a. Plan consistency, bicycle parking and facilities b. Bicycle network facilities c. Bicycle Level of Traffic Stress (BLTS) map d. Adverse bicycle effects e. Needed bicycle improvements		8. Bicycle Operations* a. Plan consistency, bicycle parking and facilities b. Bicycle network facilities c. BLTS evaluation d. Adverse bicycle effects e. Needed bicycle improvements	
9. Transit Operations a. Plan consistency and transit orientation b. Transit facilities and services c. Adverse transit effects d. Needed transit improvements		9. Transit Operations* a. Plan consistency and transit orientation b. Transit facilities and services c. Transit travel time d. Adverse transit effects e. Needed transit improvements	

<table>
<tr><th>Small
20 to 49 peak hour trips (PHT)</th><th>Medium
50 to 99 PHT</th><th>Large
100 to 399 PHT</th><th>Land Use Plan
400+ PHT</th></tr>
<tr><td colspan="4">10. Parking</td></tr>
<tr><td colspan="3">N/A</td><td>11. Construction Impacts</td></tr>
<tr><td colspan="2">N/A</td><td colspan="2">12. Transportation Demand Management*</td></tr>
</table>

* For Large and Very Large Projects, this analysis is conducted to satisfy both City and CMP requirements.

3.3 Study Area

The MTA study area for the projects scope of the analysis is outlined in Table 3. Each travel modes applies specific methodologies and the appropriate area where a project will generate pedestrians, bicyclists, transit users, and automobile traffic. For pedestrian and bicycle modes of transportation, conditions will be considered in the immediate vicinity of the project, represented by the block faces associated with the project, while key performance metrics will be assessed for key routes throughout the study area. A block face includes all properties located on the same street block as the project site.

Table 3: Study Area for Multi-Modal Transportation Analysis

Mode of Travel	Study Focus	Study Area[13]
Pedestrian	Project vicinity and street orientation	0.5 mile
Bicycle	Project vicinity, direct routes to transit, and connection to closest bike lanes	2 miles
Transit	Transit routes and transit stops serving the project	2 miles
Automobile	Intersections with an estimated 10 vehicle trips per lane (VTA TIA Guidelines)	2 miles[14]

3.4 Criteria for Determining Adverse Effects

The intent of the MTA is to identify when a project's effect on the transportation system requires improvements to ensure safety and efficiency for all users. To assess projects, Table 4 outlines criteria for determining adverse effects on the transportation system. This list is a comprehensive list and may not apply to every project.

[13] Area may be reduced based on project size and likely extent of impacts.

[14] To conform to the CMP, large projects and land use plans may exceed the two-mile radius when applying the 10 vehicle trips per lane guidelines; therefore, projects may be required to study additional CMP intersections outside the two-mile radius.

Table 4: Criteria for Determining Adverse Effects

Transportation Focus	Determination of Adverse Effect or Operational Deficiency
Site Access and Circulation	1. Project designs for pedestrian, bicycle, and automobile on-site circulation, access, loading, and parking areas fail to meet City or industry standard design practices. 2. The project fails to provide adequate accessibility for services and delivery trucks on-site, including access to truck loading areas.
VMT	1. None of the City's VMT screening criteria (See Appendix A) apply to the project, and project VMT does not comply with the City's adopted thresholds of significance.
Motor Vehicle Operations	1. Project traffic causes intersection to degrade from LOS D to LOS E; or 2. For intersections already at LOS E, the addition of traffic causes the increase critical delay by 4 seconds and critical volume/capacity to increase 1 percent. For CMP intersections, the following apply: 1. Project traffic causes intersection to degrade from LOS E to LOS F; or 2. The addition of traffic causes increase in critical delay by 4 seconds and critical volume/capacity to increase 1 percent.
Heavy Vehicle Operations	1. A project fails to provide safe on-site accommodation of forecast truck traffic or temporary construction-related truck traffic. 2. The project adds 100 daily passenger vehicle trips (or equivalent—see FHWA Vehicle Classification) to an existing roadway that does not meet current City design standards (e.g., horizontal and vertical curves, lane and shoulder width, or similar).
Traffic Calming and Neighborhood Intrusion	1. A project meets the threshold set by the City's adopted Neighborhood Traffic Management Program (NTMP). 2. Traffic calming devices or other traffic control is identified in an adopted plan.

Transportation Focus	Determination of Adverse Effect or Operational Deficiency
	3. In conformance with the City's Vision Zero Policy, projects proactively implement traffic calming devices to meet the City's multi-modal and safety goals.
Pedestrian Operations	1. The project fails to provide accessible and safe pedestrian connections between buildings and adjacent streets and transit facilities. 2. A project disrupts existing or planned pedestrian facilities or conflicts with adopted City non-auto plans, guidelines, policies, or standards. 3. The project adds trips to an existing transportation facility (e.g., sidewalk) that does not meet current design standards. 4. The project increases vehicle trips to a roadway with a Pedestrian Quality of Service (PQOS) score of 3 or more. 5. For larger projects, the project does not result in improved Pedestrian Quality of Service (QOS) in the immediate vicinity and along routes to key destinations within the sphere of analysis.
Bicycle Operations	1. The project disrupts existing or planned bicycle facilities or conflicts with adopted City non-auto plans, guidelines, policies, or standards. 2. The project adds trips to an existing transportation facility (e.g. ,bikeway) that does not meet current design standards. The project increases vehicle trips to a roadway with a BLTS score of 3 or 4. 3. The project does not connect to the City's low-stress (LTS 1 to 2) bike network. 4. For larger projects, key network facilities (e.g., bikeways from project to major transit nodes) within the two-mile project sphere have a BLTS of 3 or 4.
Transit Operations	1. A project decreases the number of housing or jobs within one-half mile of existing active transit stop or transit corridor. This applies to all active transit stops in Mountain View. 2. The project disrupts existing or planned transit facilities and services or conflicts with adopted City non-auto plans, guidelines, policies, or standards.

Transportation Focus	Determination of Adverse Effect or Operational Deficiency
	3. For large projects, if the project results in transit delay on transit corridor travel time. 4. For larger projects, the project does not increase ridership on public transit services.
Parking	1. The project increases off-site parking demand in the project area. 2. The project proposes more parking than allowed by the City's Zoning Code. 3. The project parking results in significant spillover into adjacent neighborhoods. 4. Parking reduction—requires parking study to demonstrate effective parking management and adequate parking to serve project.
Construction Impacts	1. The construction of a project creates a temporary but prolonged impact due to lane closures, need for temporary signals, emergency vehicle access, traffic hazards to bike/pedestrians, damage to roadbed, truck traffic on roadways not designated as truck routes or designed for heavy trucks.

The City has adopted several guiding documents that should be prioritized to address adverse effects such as the Multimodal Improvement Plan (MIP) for CMP facilities; AccessMV (Comprehensive Modal Plan) for multi-modal or active transportation; Precise Plans, which include adopted transportation plans for specific areas of Mountain View; the Bicycle Transportation Plan; and the Pedestrian Master Plan. The proposed improvements in these plans can be used to address the adverse effects on intersection LOS, pedestrian, bicycle, and transit.

4. CONDUCTING A THOROUGH EVALUATION FOR DEVELOPMENT PROJECTS

More information on each component of the study is provided in the following sections.

4.1 Existing Conditions

This section should provide the project setting and an overall assessment of the area of the project and describe the existing transportation conditions within the City. The discussion should include an overall assessment of existing conditions and deficiencies of the roadway network; pedestrian, bicycle, and transit facilities to provide context for the project, but specific discussions should be included within the pedestrian, bicycle, and transit chapters (i.e., 4.3 Site Access and Circulation, 4.5 Motor Vehicle Operations, 4.7 Pedestrian Operations, 4.8 Bicycle Operation, and 4.9 Transit Operations).

4.2 City Policy Conformance

In addition to the General Plan and Council Policies, there are various codes, transportation plans, land use plans, and industry standards that define how development should be designed, what specific transportation infrastructure should be included, how analysis should be conducted, and what meets the City's legal requirements. The following documents outline many of the requirements for land development in the City of Mountain View:

- Mountain View City Code Chapter 36. Zoning;
- North Bayshore Precise Plan;
- El Camino Real Precise Plan;
- San Antonio Precise Plan;
- Downtown Precise Plan;
- East Whisman Precise Plan;
- Other Precise Plans;
- Multi-Modal Improvement Plan;

- Bicycle Transportation Plan;
- AccessMV: Comprehensive Modal Plan; and
- Pedestrian Master Plan.

Additionally, transportation plans developed at the Federal, State, regional, and County level are applicable in Mountain View. These plans include:

- California Transportation Plan 2040;
- Caltrans District 4 Bike Plan;
- MTC Plan Bay Area 2040;
- VTA Valley Transportation Plan 2040;
- VTA Countywide Bike Plan;
- VTA Pedestrian Access to Transit Plan;
- VTA TIA Guidelines;[15]
- VTA Pedestrian and Bicycle Technical Guidelines; and
- Highway Design Manual.[16]

[15] http://www.vta.org/sfc/servlet.shepherd/document/download/069A0000001frgIIAQ
[16] http://www.dot.ca.gov/design/manuals/hdm/chp1000.pdf

4.3 Site Access and Circulation

The goal of evaluating site access and circulation is to establish safe and efficient site access and circulation to and from a project by identifying potential conflicts and proposed solutions. This section evaluates the interface of a project with the public right-of-way and any adverse effect on the public right-of-way due to poor on-site circulation. The evaluation of the site access and circulation focuses on the site layout and should consider the following:

- Pedestrian access and circulation;
- Bicycle access and circulation;
- Vehicle access and circulation;
- Emergency vehicle and service vehicle access; and
- Loading areas.

4.3.1 Pedestrian Access and Circulation

The project shall review and evaluate site pedestrian access and circulation from the perspective of pedestrian convenience and safety. This evaluation will include street-oriented entrances, direct pathways to transit stops, active and transparent ground-floor uses, human-scale elements, pedestrian vistas, paseos, crossing conditions, and driveway treatments.

4.3.2 Bicycle Access and Circulation

The project shall review and evaluate site bicycle access and circulation from the perspective of convenience and safety of bicyclists. This evaluation will include bike access locations, direct and near-level routes to bike parking, high-visibility and secure bike parking near building entrances, and other amenities.

4.3.3 Vehicle Access and Circulation

The project shall review and evaluate vehicle trips entering and exiting the site at each driveway and parking garage entrance. Project vehicle traffic should consider street configuration, storage lengths, acceleration and deceleration lanes, and sight distance.

The project shall review and evaluate vehicle circulation and queuing within the parking garage or site access driveways, including directional driveway aisles, dead ends, tandem or valet parking, mechanical car stackers, robotic parking, and other apparatuses. Driveway widths and throat lengths will be considered in addition to turning movement volumes at site access points.

Driveway Operations

The project shall review and evaluate all site driveways and parking garage entrances to ensure driveway locations are safe, visible, and do not conflict with pedestrians or bicyclists, or bike facilities. Driveways should be minimized in both number and size. The MTA may evaluate driveways for the following:

- Location: Driveways should be a minimum of 150' from any intersection.
- Number: Driveways should serve approximately 300 to 600 peak-hour trips per driveway.
- Design: Design should be standard driveway (apron) or modified curb-return with ADA-accessible ramps. Modified driveways may be allowed for signalized entrances, large truck use such as warehouses or distribution centers with primary truck traffic, or ceremonial or major entrances to large developments.

Sight Distance

The analysis should ensure adequate sight distance for vehicles existing the site and pedestrian or bicycle traffic crossing the driveway or garage entrance. Parking garage support structures often block the line of sight of the adjacent sidewalks. A sight distance analysis will be required at the project driveway if there is a potential obstruction, or the driveway includes a horizontal or vertical curve.

The sight distance evaluation should be conducted in accordance with the *American Association of State Highway Transportation Officials* (AASHTO) standards. Additionally, the project shall evaluate compliance with *City Standard Provisions Driveway Pedestrian and Vehicular Triangle of Safety and the Corner/Intersection Visibility Traffic Safety Visibility Area.*

For parking garage entrances, especially where parking structures are proposed at the back of a driveway, sight distance evaluations should consider the intersection of vehicles accessing the parking garage with pedestrians and bicyclists crossing the driveway.

Traffic Gap Analysis

For projects located along busy arterials with no traffic control (signalized intersection), gap analysis may be required to ensure adequate gaps in traffic to accommodate project traffic and provide safe access. The analysis measures speed and volume of traffic on an existing roadway to determine whether existing gaps in traffic are available to provide safe access, typically left-turns from the project driveway, from the project onto the adjacent roadway.

4.3.4 Emergency and Service Vehicle Access

The project shall review and evaluate emergency vehicle and service vehicle access such as delivery, moving vans, and waste management trucks. An evaluation of a truck turning template and truck loading area(s) may be required. If the project proposes loading areas, the analysis should determine feasibility, location, and hours of operation, to ensure there are no conflicts with the public right-of-way or surrounding pedestrian, bicycle and transit facilities.

4.3.5 Loading Areas

The project shall review and evaluate passenger, freight, and delivery loading zones and circulation to ensure that all activity can be accommodated on-site. This analysis will include dimensions of project shuttle stops and truck loading areas.

4.4 Vehicle Miles Traveled (VMT) Analysis

The project shall undertake VMT analysis as required under CEQA requirements and outlined in Appendix A and Appendix B.

4.5 Motor Vehicle Operations

4.5.1 Signalized Intersection Level of Service (LOS)

Projects are required to conduct intersection operations analysis for motor vehicle traffic with and without the proposed project per the guidelines set forth in this document and confirmed by Public Works staff. Intersections are designated as City intersections or Congestion Management Program (CMP) intersections. City staff will provide any available intersection data from within the last two years for use in the analysis. Updated data may be required and will be requested in the project work scope.

An intersection operations analysis will require existing conditions traffic data, project trip generation, trip distribution, and trip assignment. These assumptions should be submitted with the proposed scope. The scenarios analyzed will be determined based on project size (see Table 1) and the discretion of the PWD or designee.

Trip Generation Estimates

Trip generation is an estimate of the number of vehicle trips generated by a project. The estimates are typically submitted by a traffic consultant for review and approval prior to commencing a transportation analysis. Trip generation estimates should be based on the *ITE Trip Generation Handbook* and proposed trip reductions should conform to the *VTA Transportation Impact Analysis (TIA) Guidelines*. However, per approval by City staff, trip generation estimates can also be generated by conducting trip generation studies, if necessary. This may be required for unusual, or specific land uses where ITE trip generation estimates do not apply.

Pass-by and Diverted Link Trips

Primary vehicle trips are trips attracted to a project where the project is the (primary) destination. Pass-by trips are intermediate stops on the way to a primary destination without diverting to another street to access a project. Diverted link trips are intermediate stops on the way to a primary destination that require diversion from one roadway to another to get to the site. Refer to the current version of the VTA TIA Guidelines for estimates of pass-by, primary, and diverted vehicle-trips for most retail use.

The percentage of pass-by and diverted link trips should be estimated based on data provided by ITE or surveys of similar land uses. San Diego Association of

Governments (SANDAG) also has published information on trip generation, primary, and diverted link trip estimates that may apply. The net new vehicle-trip generation estimates should be used to assign project trips to the roadway network and the appropriate pass-by and diverted link trips should be added or subtracted from the affected intersection turning movements but always included in the driveway trip estimates for a project.

Pass-by and diverted trips shall not be used as credits to determine the project size and scope unless uses are specifically exempted in the VTA TIA Guidelines.

Existing Uses

Vehicle-trip credits associated with existing use at the project site may be acceptable. Applying vehicle trip credits provides a more accurate estimate of net new vehicle traffic to be added to the existing roadway network. Coordinate with City staff for approval on any proposed existing site vehicle-trip credits.

Trip Generation Table

The trip generation table should always contain the following information:

- Project description: land use and size.
- Trip generation estimate and source.
- Trip reductions, including pass-by or diverted link trips, VTA mixed-use reductions or transit reductions, credit for existing site traffic.
- Trip reductions, including pass-by or diverted link trips, credit for existing site traffic, or the VTA TIA Guidelines approaches of Standard Reductions (e.g., proximity to transit or mixed-use), Target-Based Reductions, or Peer/Study-Based Reductions.
- Gross and net trip generation estimate.

Trip Distribution

A trip distribution is a forecast of the travel pattern of vehicles generated by a project. Trip distribution percentages should be included in the transportation analysis in a figure on an area map showing the location of the project and the surrounding transportation network. The trip distribution figure should show

trip percentages at gateways, on nearby freeway segments, and along major arterials that provide direct access to the project.

Trip distribution can be determined from zip code data, census data, market research, travel demand models, existing travel patterns, and/or locations of complementary land uses, and professional engineering judgment. Trip distribution assumptions should be consistent with similar land uses in the same areas in the City. The trip distribution figure should be submitted for review and approval prior to use.

Trip Assignment

Trip assignment consists of assigning vehicle-trips to certain routes on the roadway system based on the trip distribution. Assignment of vehicle-trips should be based on existing and expected traffic volumes and patterns. Trip assignment forecasts from a travel demand model is recommended for long-term land use plans and large development projects where the implementation of the project is expected to occur over time (beyond five years).

Trip assignment figures should contain the project's vehicle traffic turning movement volumes at each study intersection and all other signalized intersections in the project vicinity. The figures must be submitted to the City for review and approval prior to use.

Study Scenarios

Existing Conditions

Existing intersection operations or level of service (LOS) of all study intersections should be included in the MTA to establish the transportation conditions prior to project implementation. Guidelines for data collection are later in this section.

Background Conditions

Background conditions LOS are typically described as existing intersection traffic volumes with any approved but not yet built projects added to establish the LOS at the study intersections with pending development. The background conditions provide an LOS assessment of conditions where multiple projects are being proposed. Since measuring intersection LOS is no longer a CEQA measure, this requirement may only apply to certain projects.

In addition to approved projects, any funded improvements should also be included in this scenario if applicable.

Project Conditions

The project vehicle trips are added to the background trip volumes to establish the level of service of the study intersections with the project traffic. An adverse effect at the study intersection can be based on the comparison between background LOS and project LOS.

Cumulative Conditions

The cumulative analysis is a comparison of background traffic (existing intersection traffic volumes plus approved but not yet built projects traffic volumes) with all of the anticipated traffic volumes from projects that have not been approved yet. This is a forecast of future intersection traffic, including the proposed project.

Study Intersections

If a project is estimated to add 10 or more vehicle-trips per hour per lane (see VTA TIA Guidelines) to a signalized intersection that meets any of the following conditions, the intersection is included in the intersection operations analysis (LOS):

- Designated Congestion Management Program (CMP) facility
- All signalized entrances or serving project access
- Intersections identified based on professional judgment by Mountain View Public Works staff

Not all intersections within two miles need to be studied. Intersections where project traffic does not meet the VTA guideline are not required to be studied. Additionally, intersections operating at LOS A, B, or C may not need to be studied. Unsignalized intersections may also be required to be studied. The final list of study intersections shall be approved by Mountain View staff.

Data Collection

New traffic count data may be requested by Mountain View staff if current data is not available. Count data should be no older than two years. New count data should be collected and processed by a traffic consultant as follows:

- Obtain new a.m. and p.m. peak hour vehicle count data for three consecutive hours during peak travel. Vehicle and bicycle counts by turning movement, pedestrian counts by crosswalk leg at all selected study intersections.

- Data collection should occur Tuesday through Thursday during nonholiday weeks and not during the summer when schools are not in session. Proposed data collection dates shall be approved by Mountain View staff.

- Weather conditions may affect the count data so data should be collected during dry weather conditions. Additionally, construction sites, traffic detours, or diversions can also affect the count data, so these conditions should be avoided as much as possible.

- Certain land uses may require data collection during nonstandard peak periods such as stadiums, movie theaters, and projects that have peak weekend traffic.

- The four highest consecutive 15-minute count intervals is used to determine the peak hour.

- New count data should be submitted to City staff for review and approval.

Intersection Operations (LOS)

Intersection operations analysis measures traffic operations and delay at signalized intersections and is usually expressed in LOS. The City's acceptable intersection operations standard is LOS "D" except in the Downtown and San Antonio areas, where the intersection operations standard is LOS "E." The standards used to measure intersection operations are described in Appendix D.

Intersection Operations Analysis Methodologies

Intersection operations analysis should be completed for all study intersections using the *Highway Capacity Manual* methodologies and the VTA *Traffic Level of Service Analysis Guidelines (2003)* or subsequent adopted updated standards. The analysis should include all study periods specified in the scope of work.

Adverse Intersection Operation Effects

An adverse effect on intersection operations occurs when the analysis demonstrates that a project would cause the operations standard at a study intersection to fall below LOS D with the addition of project vehicle trips when comparing either existing conditions (baseline) to project conditions or background conditions (baseline) to project conditions.

For CMP intersections, an adverse effect on an intersection operations occurs when the analysis demonstrates that a project would cause the operations at a CMP intersection to degrade from LOS E to LOS F; or the addition of traffic causes increase in critical delay by 4 seconds and critical volume/capacity to increase 1 percent.

For an intersection operating at LOS E or F under baseline conditions, an adverse effect is defined as:

- An increase in average critical delay by 4.0 seconds or more AND an increase in the critical volume-to-capacity (V/C) ratio of 0.010 or more; OR

- A decrease in average critical delay AND an increase in the critical V/C ratio of 0.010 or more.

Addressing Adverse Effects on Intersection Operations

There are three possible approaches to address adverse effects at signalized intersections:

- Reduce project vehicle-trips to eliminate the adverse effect and bring the intersections back to the background or baseline condition. The Santa Clara Countywide VMT Evaluation Tool (VMT Tool) can be used to select measures that would achieve the reduction of vehicle-trips.

- Construct improvements to the affected intersection or other roadway segments of the Citywide transportation system to improve operations provided the proposed improvements are consistent with Mountain View plans and policies and do not result in other impacts or adverse effects.

- Construct multi-modal improvements to increase transportation capacity for pedestrian, bicycle, and transit modes, and/or improve access to transit.

A project should prioritize improvements related to multi-modal transportation, particularly active transportation, parking measures, and/or TDM strategies; however, there are adverse effects where intersection operations may need additional left-turn or right-turn capacity or traffic signal phasing upgrades to accommodate vehicle traffic. In all cases, improvements that increase vehicle capacity must not have unacceptable effects on existing or planned transportation facilities. Unacceptable effects on existing or planned transportation facilities are described as the following:

- Inconsistency with the General Plan and other adopted plans and policies (see list of guiding documents in Chapter 1).

- Reduction of any physical dimension of a transportation facility below the minimum design standard per Complete Street Design Standards and other adopted engineering design standards.

- Deterioration in the quality of existing or planned transportation facilities, including pedestrian, bicycle, and transit systems and facilities as determined by the Public Works Director.

CMP Conformance Requirements

A CMP analysis is required for land use projects that generate 100 peak hour trips or more. Projects should assess effects on the designated CMP roadway system using the current version of the VTA Transportation Impact Analysis Guidelines, the VTA Traffic Level of Service Analysis Guidelines, and this Handbook. The following are the CMP conformance requirements:

Intersections:

A CMP intersection shall be included in a TIA if it meets any one of the following conditions:

1. The proposed development project is expected to add 10 or more peak hour vehicles per lane to any intersection movement;

2. The intersection is adjacent to the project; or

3. Based on engineering judgment, Lead Agency staff determines that the intersection should be included in the analysis. Study intersections should be selected without consideration for jurisdictional boundaries. The 10 or

more vehicles per lane requirement applies to any intersection movement (left turn, through, or right turn).

Freeway Segments:

A freeway segment shall be included in a TIA if it meets any one of the following conditions:

1. The proposed development project is expected to add traffic equal to or greater than 1 percent of the freeway segment's capacity;

2. The proposed development project is adjacent to one of the freeway segment's access or egress points; or

3. Based on engineering judgment, Lead Agency staff determines that the freeway segment should be included in the analysis.

The freeway segments analyzed in a TIA shall correspond to the segments included in the latest VTA CMP Monitoring and Conformance Report, which also correspond to Caltrans segment definitions.

Multi-Modal Evaluation and Site Access and Circulation

To satisfy CMP requirements, the MTA will include an analysis of transit, bicycle and pedestrian modes, as well as an analysis of project access and circulation. The requirements outlined in Sections 4.3 Site Access and Circulation, 4.7 Pedestrian Operations, 4.8 Bicycle Operations, and 4.9 Transit Operations satisfy the CMP conformance criteria.

Intersection Phasing and Queuing Analysis

An intersection phasing and queuing analysis may be required for the following instances:

- At signalized intersections where the intersection operations analysis indicates there will be an adverse effect;

- At other intersections or freeway ramps, based on proximity of the project to a freeway interchange, existing queuing spillback conditions, or localized conditions along a project's frontage.

Intersection Phasing Analysis

An intersection phasing analysis evaluates the added project vehicle trips to an existing traffic signal to determine if the existing phasing needs to be upgraded.

Left-Turn or Right-Turn Storage Analysis

Left-turn or right-turn storage analysis measures how many vehicle-trips a project would add to an existing left-turn or right-turn pocket. The determination for improving intersection operations or lengthening an existing pocket is based on a comparison between the existing pocket conditions with and without the project trips added. This determination should be made using the methodology outlined in the current version of the VTA TIA Guidelines (section on Queuing). If a previously approved project also studied the same pocket, then those project trips and/or improvements should be included in the analysis.

Adverse effects on queuing should be identified by comparing the calculated design queue to the available queue and pocket length. An adverse effect on queuing may be identified when the addition of project traffic causes or exacerbates existing conditions such that:

- Spill-back queues from left-turn lanes at intersections block through traffic
- Queues from an intersection that extend back affect a downstream intersection
- Queues from bottleneck locations such as lane drops affect intersection operations
- Spill-back queues from freeway ramps affect local street or freeway ramp operations
- Queues at intersections are proximate to freeway ramps

Right-turn pockets are typically adjacent to bike lanes or include bike sharrows. With the goal of a balanced transportation system, adverse effects on bicycles should be considered when proposing to lengthen right-turn pockets.

4.5.2 Unsignalized Intersection Traffic Control

Unsignalized intersection analysis may be required where intersections provide direct or indirect project access, or as determined by the Public Works Director or

designee. Evaluation of unsignalized intersections located within the study area are required to determine appropriate traffic control with or without the project. This may include stop control, signal control, and roundabout control. There are various evaluation methods for studying unsignalized intersection, including:

- Unsignalized LOS
- Traffic signal warrant studies
- Intersection stop warrants
- Traffic circle LOS
- Overall intersection operations
- Collision data analysis

Unsignalized intersection analysis indicates if improvements such as a new traffic signal, stop controls, median island modifications, traffic circle, pedestrian/bicycle improvements, etc., would be needed. The methodology and proposed traffic control devices for intersection operations and traffic control should conform to Highway Capacity Manual (HCM) and Manual on Uniform Traffic Control Devices (MUTCD).

Traffic Signal Warrant Study

Traffic signal warrant studies may be required when a project proposes a signalized entrance or has the potential to effect operations and safety at an existing unsignalized intersection near the project. For most intersections, only the peak-hour warrant will be required; however, the project may be required to perform other traffic signal warrants, if determined necessary.

Traffic signal warrant studies are required to conform to the *California Manual on Uniform Traffic Control Devices* (CA MUTCD) standards. Investigation of the need for a new traffic signal should include an analysis of factors related to the existing operations and safety at a study intersection and the potential to improve the conditions for different modes. The study may include an evaluation of the following traffic signal warrants:

- Warrant 1: Eight-hour vehicular volume
- Warrant 2: Four-hour vehicular volume
- Warrant 3: Peak hour
- Warrant 4: Pedestrian volume
- Warrant 5: School crossing
- Warrant 6: Coordinated signal system
- Warrant 7: Crash experience

- Warrant 8: Roadway network
- Warrant 9: Intersection near a grade crossing

A traffic signal warrant or warrants shall not, in itself, require the installation of a traffic signal. The Public Works Department will determine if a traffic signal is appropriate based on the traffic signal warrant study(ies) and other factors.

Uncontrolled Crossings

Well-designed midblock crossings provide many safety benefits to pedestrians when the crossing is placed in the right location. In areas where blocks are long, and signalization is less frequent, motorists have a tendency to increase vehicle speeds. For this reason, finding a suitable location for uncontrolled crossings will facilitate safer crossings to aid pedestrians in these situations.

When signalized intersections are not warranted or not recommended, there are obvious places for uncontrolled crossings that enhance neighborhood school routes and facilitate access to parks, community centers, and senior centers. With the growing emphasis on complete streets, active transportation, and walkable communities, uncontrolled crossings have become more common.

Figure 3: LED-Enhanced Pedestrian-Activated Flashers across Shoreline Boulevard

4.5.3 Heavy Vehicle Operations

For projects related to goods or materials movement, the project is required to identify the number of truck or heavy vehicle trips that will be generated, and assess the design facilities necessary to accommodate project truck traffic.

4.6 Traffic Calming and Neighborhood Intrusion

In Mountain View, traffic calming is proactively implemented with all development projects. The location and types of traffic calming devices or traffic control devices are specific to certain areas and conditions but may also be required based on adopted plans. Additional data collection may be required in an MTA. Some traffic calming devices such as bulb-outs, median refuges, etc., can be implemented by the project without conducting a study or as part of an approved precise plan.

The City's Neighborhood Traffic Management Program (NTMP) report can be found on the City website.[17] Traffic calming implementation as part of a development project will require a supermajority of residents in the neighborhood in support, as determined by a postcard survey conducted by the City. The requirement for a focused community meeting is waived.

[17] *https://www.mountainview.gov/civicax/filebank/blobdload.aspx?blobid=8822*

4.7 Pedestrian Operations

Projects will be evaluated for their ability to support and promote walking and for any adverse effect on the pedestrian network with the addition of project vehicle trips.

4.7.1 ADA Compliance

The evaluation shall address compliance with the Americans with Disabilities Act (ADA). A project may be required to construct or reconstruct ADA ramps or sidewalks, especially along project frontages, intersections, driveways, and in locations where there is significant pedestrian activity within the project's study area.

4.7.2 Plan Consistency and Pedestrian Orientation

The evaluation shall assess whether pedestrian conditions are consistent with all adopted plans and policies, including General Plan policies on pedestrian-oriented development (see **Appendix C**).

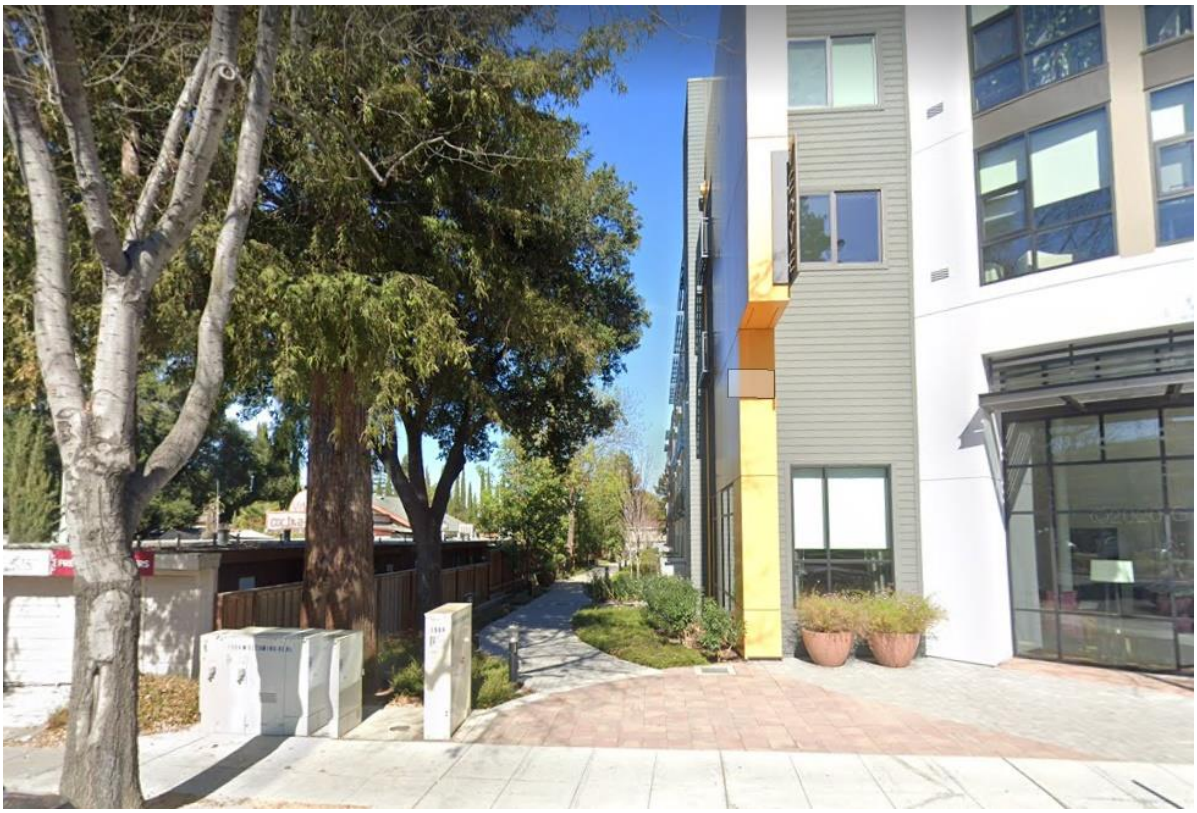


Figure 4: Paseos in Developments Improve Network Connectivity on El Camino Real

In assessing pedestrian orientation of a project, factors listed in **Appendix E** will be considered. These include:

- Land use density, mixed use, and proximity to destinations within walking distance;
- Transit orientation and proximity to high-quality transit;
- Network connectivity or the density and directness of streets and paths;
- Sidewalk continuity, completeness, and width;
- Street orientation, functional transparency, and eyes on the street;
- Crossing conditions, minimal driveway breaks, and buffering from traffic;
- Intrinsic and attractive wayfinding cues;
- Canopy trees, harmonious landscaping, and protection from the elements;
- Ground-floor activity, sense of enclosure, human-scaled development, and visual interest; and
- Pedestrian-related transportation demand management (TDM) strategies.

4.7.3 Pedestrian Network Facilities

The evaluation shall address pedestrian access to, from, and within the project, including an inventory of facilities and deficiencies for access within the site (i.e., from buildings on the site to the public sidewalks) and off-site (i.e., presence or absence of continuous sidewalks, safe crossings). On-site pedestrian access can be addressed as part of the Access and Circulation Element.

The evaluation will assess whether the project will have any effect on existing pedestrian facilities, pedestrian network connectivity, or other conditions. It will also assess whether the location of fire hydrants, streetlight poles, traffic signal cabinets and boxes, and other facilities affects pedestrian paths of travel. It will also evaluate the effects on pedestrians of any proposed addition, relocation, or reconstruction of sidewalks, curb ramps, streetlights, street trees, and other elements.

Pedestrian Safety

The project will be required to assess whether the project is likely to have any adverse effect in relation to the City's Vision Zero policy. This assessment will include whether the project will be required to address roadways or intersection conditions where the project's added vehicle, pedestrian, or bicycle trips exacerbate or create an adverse condition in relation to potential for severe collisions.

Access to Transit

The analysis will address pedestrian access from the project to nearby major transit stops and high-quality transit services, including an inventory of facilities and deficiencies for access within the site (i.e., building entrances/exits to public sidewalks) and off-site (i.e., presence/absence of continuous sidewalk and safe crossings to access transit). This analysis will include any proposed improvements to pedestrian and bicycle access to transit stops, or to address adverse effects on pedestrian and bicycle access to transit stops that result from the project.

4.7.4 Pedestrian Quality of Service

Projects shall evaluate pedestrian quality of service at the project and routes between the project and key destinations, including transit stops and schools within 0.5 mile of the project. This evaluation will consider the potential of the project to degrade pedestrian quality of service within this area.

As established in the Comprehensive Modal Plan, Pedestrian Quality of Service (PQOS) encompasses various factors, including:

- Land use density, land use mix, and proximity to a variety of nearby amenities or pedestrian attractors;
- Network connectivity, intersection density, and block length;
- Continuity or gaps in the network or sidewalks and pedestrian facilities;
- Crossing conditions and number of motor vehicle travel lanes; and
- Speed and volume of motor vehicle traffic.

A PQOS assessment will be required for all large projects and land use plans. For this analysis a PQOS metric should be used that encompasses all of the above five

variables and has been included in City of Mountain View, VTA, MTC, or Caltrans plans or guidelines. For example, the City's custom PQOS metric could be utilized. This PQOS metric includes WalkScore, which serves as a proxy for variables related to proximity and connectivity. A PQOS score of 1 indicates the best possible quality for pedestrians, while a PQOS score of 5 indicates the worst possible quality for pedestrians. Alternatively, PQOS metrics listed in the current version of the VTA TIA Guidelines that encompass all of the above parameters could be utilized.

For small and medium-size projects, the PQOS maps in **Appendix F** (or equivalent updated maps on the City's GIS portal) can be used to establish existing PQOS scores for Mountain View streets. The evaluation will consider whether the project will add vehicle trips to key corridors within the pedestrian sphere with a PQOS score of 3, 4, or 5.

This information will be used to develop proposed modifications to pedestrian-related infrastructure in order to optimize conditions for pedestrians.

4.7.5 Adverse Pedestrian Effects

The pedestrian evaluation shall include any adverse effects attributed to the project and also the benefits of the project and proposed modifications to pedestrian infrastructure, pedestrian access; and conformance to existing plans and policies. The project shall identify any existing or planned pedestrian facilities that may be affected by the project. For this analysis, the focus will be on maintaining or enhancing connectivity, completing network gaps, and removing barriers. The project shall also disclose evaluation and documentation of project features (such as road widening) with likely adverse effects on pedestrians (longer crossing time, etc.).

4.7.6 Needed Pedestrian Improvements

The project shall evaluate needed improvements at new and existing pedestrian facilities. Improvements might include elements such as sidewalks, paths, bulb-outs, trail connections, streetlights, pedestrian-scale lighting, high-visibility crosswalks, LED-enhanced signs, and school signs. The evaluation shall address proposed actions to improve pedestrian access or to address adverse effects on pedestrian access that result from the project.

Figure 5: Wide Sidewalks Integrated with Development Frontage on Castro Street

Figure 6: High-Quality Sidewalk Provided with Development on Castro Street

4.8 Bicycle Operations

The project will be evaluated for the project's ability to support and promote bicycling and any adverse effect on the bicycle network associated with the addition of project vehicle trips.

4.8.1 Plan Consistency, Bicycle Parking, and Facilities

The project will assess whether proposed bicycle conditions are consistent with all adopted plans and policies. This will include assessment of the proposed supply of short-term and long-term bicycle parking, and consideration of whether this bicycle parking is sufficient, consistent with City standards and VTA Bicycle Technical Guidelines, well-lit and well-positioned near building entrances.

The evaluation will also consider other bicycle facilities such as the availability of showers, lockers, bicycle fix-it stations, shared bikes, and TDM programs such as bicycle or wellness subsidies, bike safety education, and encouragement events.

4.8.2 Bicycle Network Facilities

The evaluation will address bicycle access to, from, and within the project, including an inventory of facilities and deficiencies for access within the site (i.e., from buildings on the site to bikeways) and off-site (i.e., presence/absence of bikeways). The evaluation will address access from existing bicycle facilities to the project site or proposed bike parking area, including whether bicyclists are required to dismount or rider through long driveways of areas with major vehicle or pedestrian conflicts. On-site bicycle access may be addressed in the Access and Circulation element.

The evaluation will identify any existing or planned bicycle facilities that may be affected by the project. The evaluation will also identify any improvements to existing bicycle facilities proposed by the project. The focus of this evaluation will be on maintaining or enhancing network connectivity, improving route directness, and filling gaps in the network of low-stress facilities.

Bicyclist Safety

Bicycle evaluation will include any adverse conditions in relation to the City's Vision Zero policy that result from increased vehicle trips. In support of Vision Zero, the project may be required to address roadways or intersection conditions where the project's added vehicle, pedestrian, or bicycle trips exacerbate or create an adverse condition in relation to potential for severe collisions.

4.8.3 Bicycle Level of Traffic Stress

The evaluation will consider whether implementation of the project is likely to degrade Bicycle Level of Traffic Stress (LTS).

Bicycle LTS refers to the perceived comfort and safety of roads and bikeway facilities from the perspective of cyclists. As displayed in Table 5, Bicycle LTS scores range from 1 to 4, with LTS 1 and LTS 2 being "low stress" and LTS 3 and LTS 4 being "high stress."

AccessMV, Mountain View's Comprehensive Modal Plan, assessed Bicycle LTS for street and bikeway segments Citywide using a methodology is adapted from the Mineta Transportation Institute (MTI)'s report on *Low-Stress Bicycling and Network Connectivity*.[18] This methodology incorporates information on the following variables:

- Number of through lanes or street width;
- Posted speed limit or prevailing vehicle speeds;
- Presence and type of bicycle facility, including Class IV protected bikeways;
- Presence of traffic signal;
- Presence of crossing islands; and
- Conditions on intersecting segments.

Results of the Comprehensive Modal Plan's Citywide assessment are included in **Appendix G**.

[18] Mekuria, Maaza C., Peter G. Furth, and Hilary Nixon, (2012). *Low-Stress Bicycling and Network Connectivity*. San Jose, California: Mineta Transportation Institute.

Table 5: Criteria for Determining Bicycle Level of Stress

Level	User Suitability	Description
LTS 1	All Ages and Abilities	Presenting little traffic stress and demanding little attention from cyclists, and attractive enough for a relaxing bike ride. Suitable for almost all cyclists, including children trained to safely cross intersections. On links, cyclists are either physically separated from traffic, or are in an exclusive bicycling zone next to a slow traffic stream with no more than one lane per direction, or are on a shared road where they interact with only occasional motor vehicles (as opposed to a stream of traffic) with a low speed differential. Where cyclists ride alongside a parking lane, they have ample operating space outside the zone into which car doors are opened. Intersections are easy to approach and cross.
LTS 2	Interested but Concerned	Presenting little traffic stress and, therefore, suitable to most adult cyclists but demanding more attention than might be expected from children. On links, cyclists are either physically separated from traffic, or are in an exclusive bicycling zone next to a well-confined traffic stream with adequate clearance from a parking lane, or are on a shared road where they interact with only occasional motor vehicles (as opposed to a stream of traffic) with a low speed differential. Where a bike lane lies between a through lane and a right-turn lane, it is configured to give cyclists unambiguous priority where cars cross the bike lane and to keep car speed in the right-turn lane comparable to bicycling speeds. Crossings are not difficult for most adults.
LTS 3	Somewhat Confident	More traffic stress than LTS 2, yet markedly less than the stress of integrating with multilane traffic, and, therefore, welcome to many people currently riding bikes in American cities. Offering cyclists either an exclusive riding zone (lane) next to moderate-speed traffic or shared lanes on streets that are not multilane and have moderately low speed. Crossings may be longer or across higher-speed roads than allowed by LTS 2, but are still considered acceptably safe to most adult pedestrians and cyclists.
LTS 4	Highly Confident	A level of stress beyond LTS 3.

A BLTS assessment shall be required for all large projects and land use plans. For this analysis a BLTS metric should be used that encompasses all of six variables listed above and has been included in City of Mountain View, VTA, MTC, or Caltrans plans or guidelines. For example, the City's adjusted version of the MTI Bicycle LTS metric could be utilized.

For large projects or land use projects or plans, the evaluation of Bicycle LTS shall be applied to the project site as well as corridors within a two-mile locus of the project. Analysis will address existing and future Bike LTS on bike routes between the project and key destinations that include major transit stops, downtown, and the low-stress bike network within the two-mile sphere of the project. The number of routes to be analyzed will be based on the size of project and estimated trip generation. The determination of adverse effects will include any reduction in BLTS as well as any additional vehicle trips on routes with BLTS 3 or 4.

For small and medium-size projects, BLTS analysis will assess whether the project is adding vehicle trips to bike routes having an existing BLTS of 3 or 4. This analysis may utilize the existing conditions BLTS maps in **Appendix C** in order to identify a project's adverse effects on streets with BLTS scores of 3 or 4 within the project's bicycle study area. Additionally, the evaluation should also include the project's adverse effect on study intersections with BLTS 3 or BLTS 4 (see map of intersection BLTS).

Figure 7: Class IV Protected Bikeway along South Castro Street

4.8.4 Adverse Bicycle Effects

The evaluation should include any adverse effects attributed to the project and also the benefits of the project and proposed modifications to bicycle infrastructure and access.

4.8.5 Needed Bicycle Improvements

The evaluation should also address proposed actions to improve bicycle access or to address adverse effects on bicycle access that result from the project.

Figure 8: Two-Way Class IV Cycle Track with Development on Charleston Road

4.9 Transit Operations

Projects will be evaluated for their ability to support and promote transit operations and ridership and for any adverse effect on transit operations with the addition of project vehicle trips. The focus of this evaluation is on maintaining or enhancing transit service speed, on-time performance, access to high-quality services, and public transit ridership.

4.9.1. Plan Consistency and Transit Orientation

The evaluation shall assess whether the project is consistent with plans and policies, including General Plan policies on encouraging transit-oriented development (TOD) (see **Appendix C**). In assessing transit-oriented development, key elements include:

- Proximity to high-quality transit corridors or major transit stops;
- Land use density;
- Land use diversity; and
- Pedestrian-oriented project and street design.

4.9.2. Transit Facilities and Services

The evaluation shall identify any existing or planned transit facilities and services that may be affected by the project, including high-quality transit services and major transit stops. This assessment shall identify all existing publicly accessible transit services, including all rail services, with stops within one-half mile of the project (or one mile of the project for Downtown and San Antonio stations). For each service, the evaluation will present information on the following service features:

- Distance between the transit stop and the project;
- Service type (bus, light rail, shuttle, Caltrain);
- Route character (rapid,[19] limited stop, local);
- Service span (hours of service);
- Peak period headway;
- Off-peak headway;
- Status as high-quality transit service or otherwise.

[19] Rapid services are services with travel times comparable to driving (end-to-end travel time of 125 percent of the equivalent driving trip or better).

The assessment shall also identify service features for first- and last-mile service options to connect the project to Downtown Mountain View Caltrain station, San Antonio Caltrain station, light rail stations, and/or El Camino Real major transit stops.

In addition, the assessment shall disclose:

- Potential demand for public transit services;
- Any temporary or permanent reduction of transit service quality or availability;
- Any temporary or permanent effects on transit user interface such as relocation, reconstruction, or closure of a transit stop or vacation of a roadway used by transit;
- Mechanisms for promoting public transit usage such as provision of universal transit passes and/or parking cash-out programs; and
- Proposed contributions to build-out of transit stop improvements or a planned transit priority corridor project.

Additionally, the evaluation will consider proximity of a project to rail infrastructure such as an at-grade crossing (vehicular or pedestrian) or electric power substation.

Figure 9: Transit Stop Along Castro Street

4.9.3. Transit Travel Time

For large projects, the evaluation will include assessment of any potential reduction in transit travel speed resulting from additional vehicular trips associated with the project. The methodology for assessing transit travel time will conform to VTA Guidelines or other staff approved methodology on evaluating transit delay.

4.9.4. Adverse Transit Effects

All projects shall be assessed for adverse effects on transit facilities and services. Projects that add vehicle trips to mixed-flow transit corridors shall also be assessed for adverse effects on transit facilities and services.

A project may result in an adverse effect on transit if the project decreases the number of housing units or jobs within one-half mile of existing major transit stop

or high-quality transit corridor unless the proposed project has a positive effect on transit. A project will also result in an adverse effect on transit if it is likely to reduce transit travel speed or increase delay to transit without commensurate transit priority treatments. Additionally, a project will result in an adverse effect on transit if it is likely to reduce ridership on publicly accessible public transit services within half a mile of the project.

4.9.5. Needed Transit Improvements

Projects may propose enhancements or improvements to transit services, transit facilities (transit stop improvements) as part of frontage improvements, or to address adverse effects on existing transit systems or facilities.

If an existing or planned transit stop is located along the project frontage, transit stop improvements may be required as part of the project's frontage improvements. The project sponsor should work with the City and transit provider on current and future operations, and logistics of improvements. Please contact bus.stop@vta.org in advance to coordinate.

If a large project is found to have an adverse effect on transit operations based on transit delay, the project should work with the City and transit provider (such as VTA and MV TMA) to identify feasible transit priority measures (e.g., transit signal priority, queue jump lanes, transit bulb-outs, dedicated bus lanes, etc.) near the affected facilities and/or propose fair-share contribution to any applicable projects that improve transit operations such as those implemented a districtwide level. The project may also work with the public transit provider to subsidize transit operations such as more frequent services along existing routes.

For services located more than one-half mile away from Mountain View Caltrain station, San Antonio Caltrain station, or El Camino Real, the project should also identify mechanisms for facilitate first- and last-mile access to high-quality transit services (such as bikeway or pedestrian improvements).

Figure 10: Transit Station Facilities Built with Development on Charleston Road

4.10 Parking

The evaluation of off-street parking may be required to identify the number of parking spaces provided by a project and whether the proposed parking is consistent with Mountain View Zoning Code.

If the project does not meet the parking requirements, TDM measures may be required to reduce the number of vehicles generated by the project. Additionally, strategies may be required to ensure that vehicle trip or vehicle ownership generated from a proposed project will not create parking spillovers into adjacent streets.

Projects may be required to evaluate nearby neighborhoods for potential parking intrusion by doing the following:

- Conducting a parking survey on identified streets prior to implementing the project;
- Conducting a parking survey on identified streets approximately six (6) to twelve (12) months after the project is occupied; and
- Implementing a parking plan as recommended by the City based on the survey results. The parking plan may include establishing and subsidizing a Residential Parking Permit Program (RPP), installing parking control signs, and other parking management actions.

Parking Reductions

Reductions in parking requirements can be useful trip reduction mechanisms and are supported in specific circumstances for projects in Mountain View. Generally, projects proposing more parking than that required by the City may cause significant VMT transportation impacts.

Several Precise Plans and other City zoning documents allow for parking reductions for development projects. Parking reductions are typically processed through a use permit in compliance with Section 36.48 (Conditional Use Permit), but may also be granted administratively through Minor Planned Community Permit entitlements in Precise Plans. The process for granting a parking reduction requires the following materials to be reviewed and approved by the Planning Division:

- Business and Operations Description Statement
- Parking Reduction Justification Letter
- Transportation Demand Management (TDM) strategies documentation.

Projects at sites with shared parking may also qualify for parking reductions. Parking facilities may be shared if multiple uses cooperatively establish and operate the facilities and if these uses generate parking demands primarily during different hours than the remaining uses. The applicant shall apply for a use permit and provide documentation (i.e., shared parking use analysis) to the satisfaction of the Zoning Administrator, substantiating the reasons for the requested shared parking reduction. Shared parking may only be approved if:

- A sufficient number of spaces are provided to meet the maximum cumulative parking demand of the participating uses at any time;

- Satisfactory evidence, as deemed by the Zoning Administrator, has been submitted by the parties operating the shared parking facility regarding the nature of the uses and the times when the uses operate, so as to demonstrate the lack of potential conflict between them; and

- Additional documents, covenants, deed restrictions or other agreements as may be deemed necessary by the Zoning Administrator are executed to ensure that the required parking spaces provided are maintained and used as approved for the life of the nonresidential development.

As a condition of approval for use permit entitlements for parking reductions, the Zoning Administrator may hold a duly noticed public hearing to remedy parking shortage or operational issues that may result.

4.11 Construction Impacts

Projects are required to evaluate and disclose construction impacts as part of the approval process. This includes identifying any potential road closures or diversion, any traffic control planned for future construction activity, location of construction entrance(s), and employee parking plan (location).

Automobile level of service (LOS) can be used to evaluate temporary construction impacts and measure effects of street closures, diversions, and effectiveness of detours. To the extent possible, operational analysis should include information about project construction schedule and include anticipated duration, hours of operation, and any haul routes, construction traffic, traffic control plans, closure or relocation of transit stops, full or partial street closures, and construction entrances, especially where adjacent to residents and businesses.

Evaluation of construction impacts should also include measures to maintain pedestrian, bicycle, and transit access during construction.

4.12 Transportation Demand Management (TDM)

TDM programs are one of the recommended options to reduce project vehicle trips. There are a multitude of TDM measures the City supports to reduce vehicle trips, increase pedestrian, bicycle and transit use, and improve the environment surrounding the project. The Mountain View General Plan requires inclusion and implementation of TDM measures to reduce vehicle dependency and encourage active transportation (Policy LUD 17.2).

All TDM Plans shall include monitoring, reporting, compliance, and funding for the life of the project and will become part of the conditions of approval. Some of the TDM measures may overlap with CEQA transportation mitigation measures. Annual trip monitoring reports shall be submitted to the Community Development Department for approval.

TDM programs can be used for the following transportation-related impacts or adverse effects:

1. VMT mitigation
2. Adverse intersection operations
3. Adverse effect on Mountain View streets with PQOS 3 through 5.
4. Adverse effect on Mountain View streets with BLTS 3 and 4.
5. Ensure parking reduction compliance.

Successful TDM programs can reduce traffic congestion, improve air quality, conserve energy, improve community health and fitness levels, promote urban livability, solve parking problems, enhance community safety, provide affordable transportation, and provide transportation options in all areas of a city.

The most effective and successful approaches to transportation demand management draw on the combined power of a range of strategies to achieve the aforementioned objectives. Common strategies include:

- Membership in Transportation Management Associations (TMAs);

- Pedestrian-oriented design elements, such as paseos, shortened pedestrian crossings, wide sidewalks, and street trees;

- Bicycle-friendly facilities and environments, including trail or bikeway improvements, secure bike storage areas, and showers;
- Public transit strategies such as improvements to stop or station infrastructure, universal transit passes, transit pass subsidies, and first-/last-mile options;
- Shared mobility options such as bike share, car share, and carpool;
- TDM coordination strategies, including education programs, encouragement events, and emergency ride home;
- Flex-time schedules and work-from-home programs; and
- Commuter subsidies, peak-hour congestion pricing, parking cash-out, and unbundled parking.

4.13 Other Relevant Analyses

Other types of analyses that may be requested in the MTA include:

- Evaluating existing median island, modifications to an existing median island, or evaluating a proposed median island with the project traffic.
- New median island required by the project.
- Acceleration or deceleration lanes (typically along expressways).
- Average Daily Traffic (ADT) volumes and speeds.
- Drive-through use—adequate stacking, sight distance at driveways, etc.
- Emergency vehicle access (on private property).

APPENDIX A: CEQA TRANSPORTATION ANALYSIS

All projects are subject to the California Environmental Quality Act (CEQA). CEQA transportation analysis requires an evaluation of a project's potential impacts related to VMT and other significance criteria. This section provides the significance criteria, screening criteria, thresholds of significance, and methodologies of the analysis to be used in transportation analysis reports and CEQA documents for development projects. If required, a project's CEQA VMT analysis should be conducted concurrently with other analysis in the MTA.

Significance Criteria

In accordance with the Office of Planning and Research (OPR) updates to the CEQA Guidelines, a project could have a significant transportation impact on the environment if it:

a. Conflicts with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle lanes, and pedestrian paths;

b. Conflicts or is inconsistent with CEQA Guidelines Section 15064.3 (Subdivision (b)(1);

c. Substantially increases hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); and

d. Results in inadequate emergency access.[20]

Vehicle Miles Traveled (VMT)

On June 30, 2020, the City of Mountain View adopted a new transportation policy (Resolution No. 18484, Series 2020) establishing Vehicle Miles Traveled as the methodology for evaluating potential transportation impacts of new developments to comply with the CEQA. Figure 1 outlines the transportation analysis process (inclusive of VMT and MTA elements) and aligns the VMT CEQA small project exemption (110 daily trips) with the MTA exemption. In addition, the policy also establishes other exemption criteria as follows:

[20] *https://resources.ca.gov/CNRALegacyFiles/ceqa/docs/2018_CEQA_FINAL_TEXT_122818.pdf*

CEQA Project Screening Criteria

Projects shall be presumed to have a less-than-significant transportation impact if they meet any of the following screening criteria:

- **Small Project Screening**: Single-family residential development of 12 units or fewer, multi-family residential development of 20 units or fewer, or office developments of 10,000 square feet or less. These figures are equivalent to the 110-daily-trip threshold.

- **Map-Based Screening**: Residential and employment land use projects located in areas of low VMT, defined as exhibiting VMT that is 15 percent or greater below the existing Nine-County Bay Area regional reference average VMT. Reference average VMT per capita or per employee baseline values are obtained from VTA and may be amended periodically to reflect the best available data and most relevant base year. See Heat Maps (Figures 10 and 11) below.

- **Transit Screening**: All projects located within one-half mile of a major transit stop, or a stop along a high-quality transit corridor, pursuant to State definitions for such facilities, unless any of the following factors are exhibited by the project:

    - Floor Area Ratio (FAR) of less than 0.75;

    - Inconsistent with the applicable Sustainable Communities Strategy (SCS);

    - Provides more parking than required by the jurisdiction; or

    - Replaces affordable housing with a fewer number of moderate or high-income residential units.

- **Affordable Housing Screening**: Projects with 100 percent affordable housing.

Transportation Impact Level of Significance

In addition, the policy establishes:

- The Nine-County Bay Area regional reference average VMT baseline and a 15 percent threshold of significance for both residential and office projects.

- Retail projects which result in a net increase in total VMT is a significant VMT impact; however, retail projects determined by the City to be local-serving are serving are presumed to have a less than significant impact on VMT. Retail projects

larger than 50,000 square feet may be considered regional-serving and would be subject to the retail threshold of significance.

- Mixed-Use and All Other Project Types: Each land use within a mixed-use project, and all other project types, shall be evaluated independently by applying the most appropriate threshold of significance to each land use type being proposed.

Except for the small projects as defined above, all projects are required to conduct an MTA in addition to satisfying the VMT requirements.

Determining When VMT Analysis is Required

Generally, VMT analysis is required for all projects where the above screens do not apply, and if there is sufficient reason to believe the project would result in an increase in VMT. The State Technical Advisory notes projects replacing existing VMT-generating land uses, which result in a net overall decrease in VMT, have a less-than-significant transportation impact. Alternatively, if the project leads to a net overall increase in VMT, then the project VMT should be evaluated. Therefore, it may be necessary to measure the VMT for the both existing site and the proposed development project to determine whether the proposed development project leads to a change in overall VMT. This would be applicable for regional projects or projects that are required to measure total VMT.

The Santa Clara Countywide VMT Evaluation Tool (VMT Tool) can be used to evaluate most residential, office, and industrial projects.[21] However, for evaluation of transportation impacts from projects of other land uses, use of a travel demand model may be more appropriate to measure VMT than the VMT Tool. Therefore, for most projects that require the travel demand model, existing site vehicle trips should be used to determine net increase in VMT rather than whether VMT analysis is required.

Residential Displacement

Projects resulting in residential tenant displacement are required to conduct a VMT analysis even if the project is presumed to have a less than significant transportation impact by the VMT criteria above. This analysis should take into account the increased VMT from the displaced residents and use a travel demand model or other method to evaluate VMT.

[21] VMT Tool is available at: https://vmttool.vta.org. Additional guides, including VMT Evaluation Tool FAQs, are available at: https://www.vta.org/programs/congestion-management-program/technical-resources#accordion-vehicle-miles-traveled-analysis-of-land-use-projects.

Sustainable Communities Strategy

If a project is deemed inconsistent with the applicable Sustainable Communities Strategy (Plan Bay Area), then an evaluation should be conducted to determine if the inconsistency indicates a significant impact on VMT.

Significant VMT Impacts

If a project is not screened by the VMT criteria above and exhibits VMT that does not comply with the applicable threshold of significance, then there is a significant transportation impact. This impact must be mitigated to a less than significant level. If impact mitigation to an acceptable level is not possible, an environmental document must be prepared in accordance with CEQA.

Methodology

Development Projects

The screening and impact evaluation should be conducted for the following types of development projects:

- Residential projects. Single-family housing, multi-family housing, and affordable housing.

- Office projects. General office and medical office.

- Industrial projects. Light industrial, manufacturing, warehousing/self-storage, and government office uses shall be treated as office for screening and analysis.

- Retail projects. General retail, furniture store, pharmacy/drugstore, supermarket, bank, health club, restaurant, auto repair, home improvement superstore, discount store, movie theater, and hotel/motel land uses.

The following identifies screening criteria and thresholds of significance used to determine if other types of land uses occasionally reviewed by Mountain View would result in significant impacts as it relates to VMT:

- Public Services. Public services (e.g., police, fire stations, libraries, community centers, public utilities) do not generally generate substantial VMT. Instead, these land uses are often built in response to development from other land uses (e.g., office and residential) and typically serve local communities. Therefore, these land uses can be evaluated using the retail thresholds.

- Public Schools, Colleges/Universities. These land uses generate relatively short trips, primarily local trips and does generate substantial VMT; therefore, the retail screening may be large enough to screen additions, modifications or expansions of students to existing land uses. Alternatively, the VMT analysis can focus on the employment aspect only.

- Schools and Religious Uses. VMT impacts of religious and school uses will be determined on a case-by-case basis. Religious and school uses that are small in scale and are shown to primarily serve the immediate community can be considered local serving uses and, therefore, can be potentially screened out from further VMT analysis. For school and religious uses that are large in scale and are expected to attract people from a broader area, impacts would need to be further evaluated. The project would result in significant VMT impact if the project results in a net increase in daily VMT.

- Event Centers and Regional Entertainment Venues, Sports Complexes. Trips associated with these land uses are typically discretionary trips made by individuals, which may be substitute or new trips. For these land uses, a detailed customized VMT analysis would most likely be required to determine if the project attracts regional trips. For these land uses, the project would result in significant VMT impact if the project results in a net increase in daily VMT.

VMT Heat Maps

The VMT heat maps use color to represent the four ranges of VMT levels. The heat maps for Mountain View indicate how far residents and employees are traveling during a typical day. Figures 10 and 11 show Mountain View VMT per capita and per employee. The heat maps also indicate the baseline and threshold VMT for Mountain View for residential projects and employment projects.

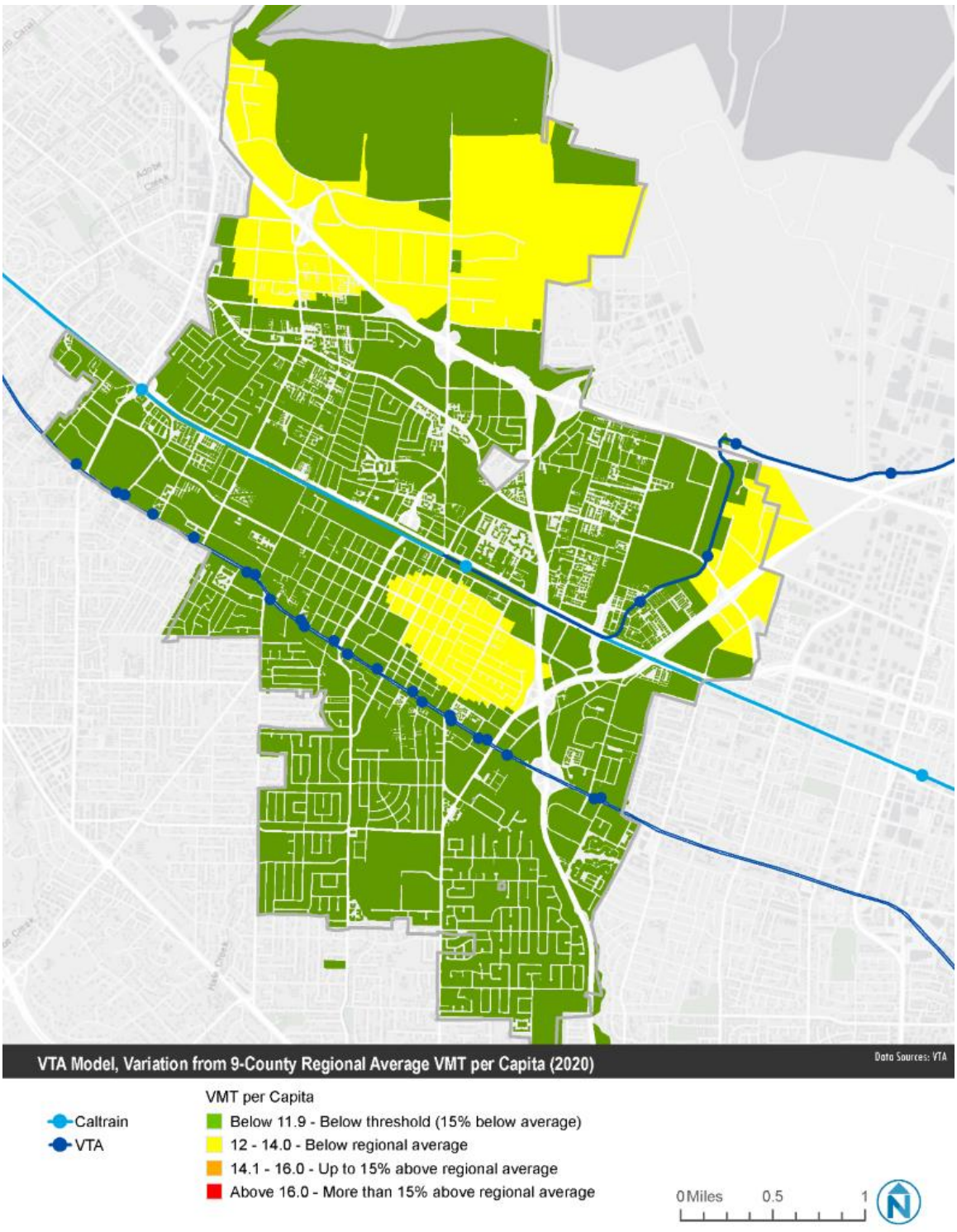


Figure 11: Mountain View VMT Per Capita

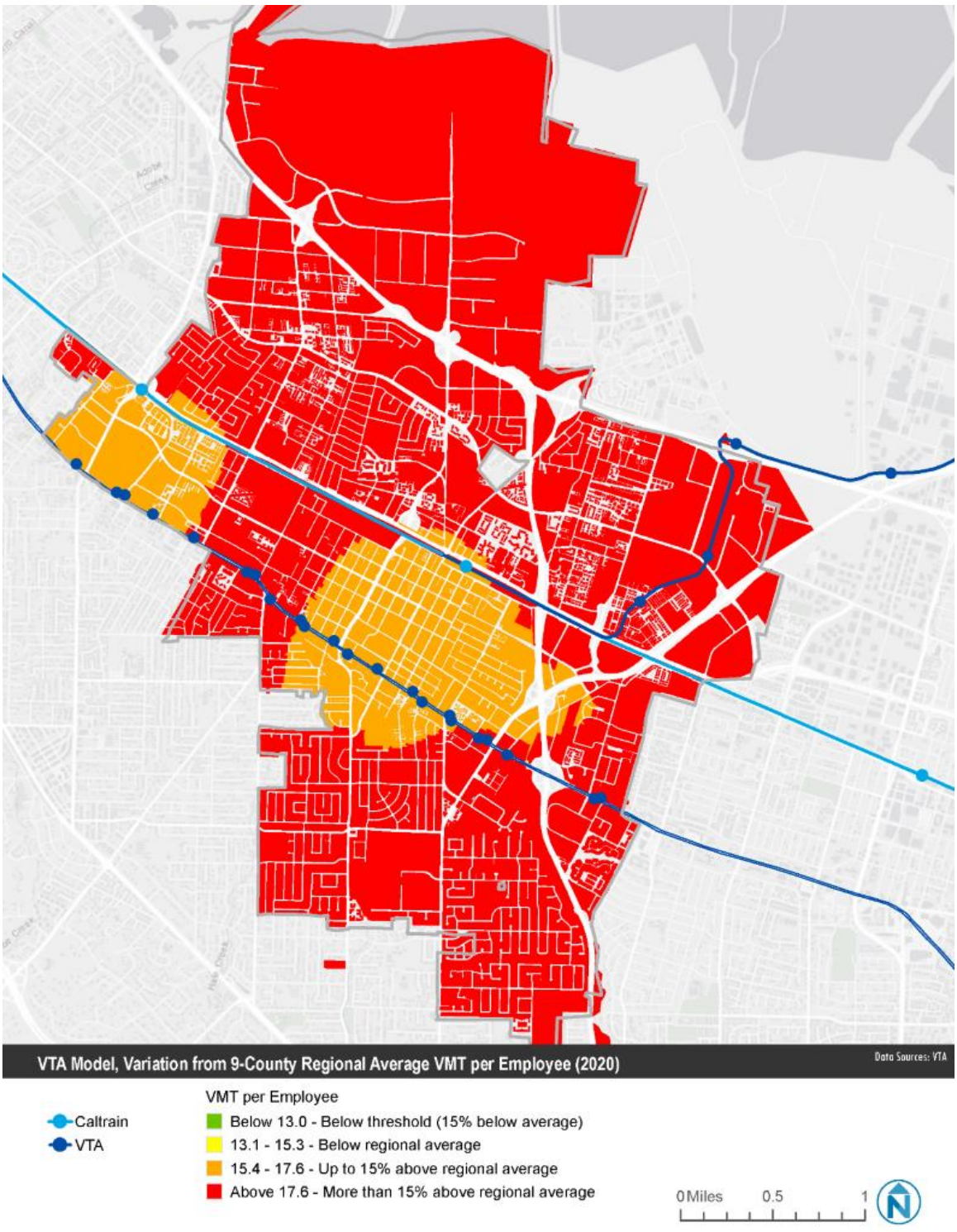


Figure 12: Mountain View VMT per Employee

Map-Based Screening

The heat maps above also indicate areas where the VMT is already at the threshold. The map-based screening allows residential and employment projects in these low VMT areas to be presumed to have a less than significant impact on VMT and, therefore, to be screened from further VMT analysis.

City staff will make the determination whether the project will require a VMT analysis during entitlement review. In general, projects consistent with the map based screening requirements should:

a. Be compatible with surrounding development and not require significant new utility improvements; and

b. Not lead to residential displacement, defined roughly as having a fewer number of moderate- or high-income residential units replace a higher number of naturally affordable units.

Transit Screening Boundaries

The heat maps also indicate the areas where projects located within one-half mile of a major transit stop, or a stop along a high-quality transit corridor as defined in the State guideline are presumed to have a less than significant impact on VMT. See "Project Screening Criteria" above for necessary project requirements to qualify for transit screening. Figure 13 indicates the areas of Mountain View that are within the one-half-mile buffer from transit, overlaid on the residential heat map.

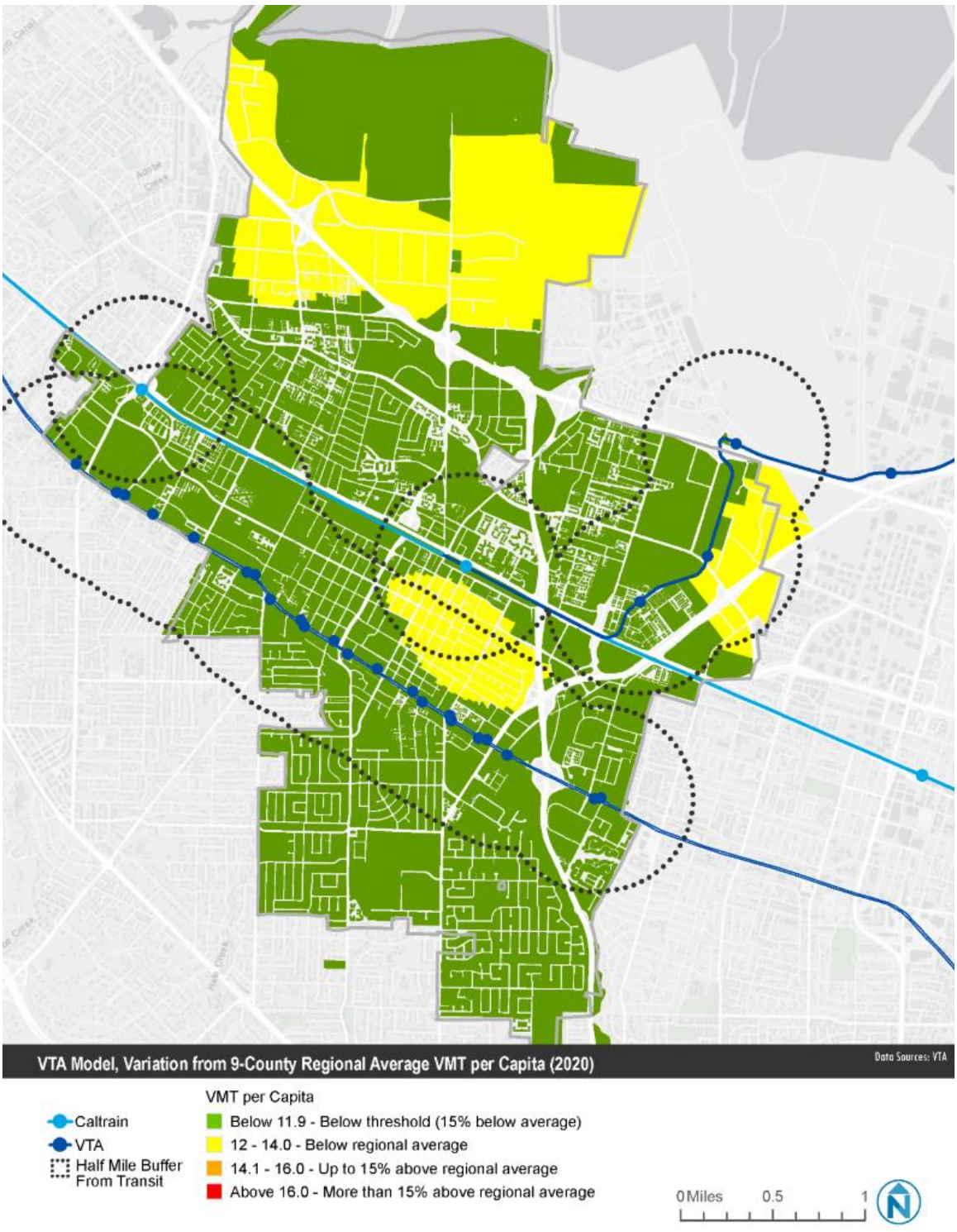


Figure 13: Heat Map with Transit Proximity Screen on Mountain View VMT Per Capita

Figure 14 indicates the areas of Mountain View within the one-half-mile buffer from transit, overlaid on the employment heat map.

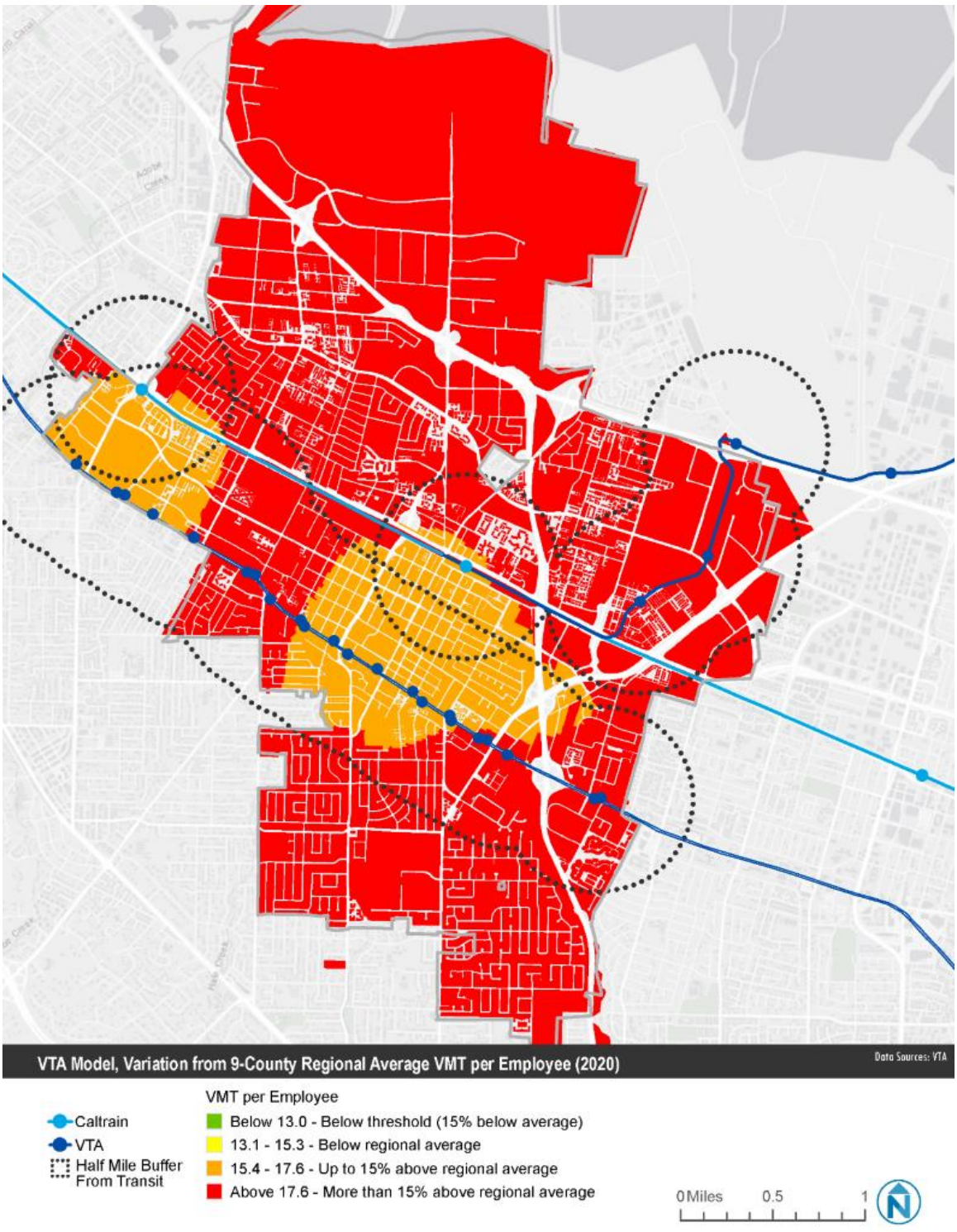


Figure 14: Heat Maps with Transit Proximity Screen on Mountain View VMT per Employee

Project VMT Analysis

Most projects that require a VMT analysis will use one of the following methods for assessing a project's VMT:

1. Santa Clara Countywide VMT Evaluation Tool
2. Travel Demand Model

Santa Clara Countywide VMT Evaluation Tool (VMT Tool)

The VMT Tool, available on the VTA's website, assesses a project's potential VMT based on the project description, location, and other attributes. For most residential, and employment projects, the VMT Tool is the approved method to calculate VMT.

Using the VMT Tool

The steps for evaluating VMT are straightforward. The VMT Tool asks for the inputs and provides three VMT measurements: existing area VMT, project VMT with no TDM measures, and project VMT with TDM measures. The tool will also identify when projects are screened out within the transit area or by virtue of its location in a low VMT area. If a project needs mitigation to meet the City's threshold, the VMT Tool contains approved VMT mitigation strategies and their relative effectiveness on reducing VMT for the project. The VMT Tool will also produce a summary report which includes the project description, all the inputs, the three VMT levels, and any mitigations. This summary report should be included in the appendix of any project requiring a VMT analysis.

VMT Mitigation

The mitigations for VMT reduction are available within the VTA Tool. The mitigations were approved based on substantial evidence and documentation of their effectiveness. Mitigation is organized in four tiers:

- Tier 1— Project Characteristics. Although it may be difficult to revise a project during environmental review, Tier 1 strategies allow the user to increase the project density, diversity of land uses, and add affordable and/or below-market-rate housing to the residential and employment projects to reduce VMT.

- Tier 2—Multi-Modal Network Improvements. These improvements include implementing bicycle lanes, improving the pedestrian network, implementing traffic calming, increasing transit accessibility, and improving network connectivity. These improvements require coordination with Mountain View staff and additional studies (signal warrant studies, traffic calming studies, etc.) to determine feasibility.

Consultants should prioritize public improvements included in the City's approved plans which contain various transportation improvements to bicycle, pedestrian, and roadway facilities as VMT mitigation. (See above for list of adopted plans and policies.)

- Tier 3—Parking. Parking strategies shown to effectively reduce VMT include reduced parking, increased bike parking or end-of-trip bike facilities. In order to be most effective, the areas surrounding the projects with reduced parking should have parking permit programs.

- Tier 4—Travel Demand Management (TDM) There are a multitude of TDM measures to reduce VMT. The VMT Tool includes all allowable TDM measures and their relative effectiveness. Based on the percentage of participation selected by the user, the VMT Tool calculates the resulting VMT reduction. The various TDM measures in the VMT Tool include school carpool programs, bike-sharing programs, car-sharing programs, trip reduction marketing/educational campaigns, parking cash-out, subsidized transit, telecommuting, alternative work schedules, shuttles, pay to park, ride-sharing, unbundled parking, and subsidized vanpools.

While the VMT Tool lists potential VMT reduction measures, care must be taken by the user in selecting which measures to apply. The user should carefully consider the research supporting each VMT reduction measure to determine the efficacy of the potential VMT mitigation and its applicability to the project and local context. The user should also contact the jurisdiction in which the project is located to confirm the proposed measures with agency staff. Furthermore, the user should understand what VMT reduction strategies, if any, may have already been captured in the VTA travel demand model to avoid double-counting.

Travel Demand Models

For large land use plans, very large projects, projects that exceed the residential or office size measurable by the VMT Tool, projects that can potentially shift travel patterns, and projects located in areas where the average VMT has not been established in Mountain View, the VMT Tool would not be adequate or capable of evaluating VMT. For those projects, a travel demand model may be required based on a preliminary review of the project. For projects requiring modeling, the consultant should coordinate with Mountain View staff during the scoping process.

TDM Programs for VMT Mitigation

TDM Programs that mitigate VMT impacts shall be included in the CEQA documents, Mitigation Monitoring Report (MMRP), and/or Conditions of Approval. Projects are

required to demonstrate in an annual monitoring report that the TDM targets or conditions are met. TDM monitoring reports should be submitted annually or as required to the Community Development Department for review.

APPENDIX B: VMT ANALYSIS REQUIREMENT CHECKLIST

VMT Screening Checklist

Project Description (proposed square footage, number of residential units, any existing uses:

_____

_____

Project Location: _____

VMT Analysis Requirement Checklist: Project does not require VMT Analysis if it meets one of the following screening criteria:

Screening Category Criteria	Yes	No
1. Very Small Project Screening (110 or fewer daily trips): Project screened if answer yes to any of the following:		
SFR 12 units or fewer?		
MFR 20 units or fewer?		
Office developments 10,000 sf or less?		
Other land uses generating 110 daily trips or less?		
2. Local-Serving Retail Screening: Retail project screened if answer yes.		
Commercial Retail 50K or less?		
3. Location-Based Screening: Reference heat maps for both Transit and Map-based screenings.		
Transit Proximity Screening—Is the project located within Transit Proximity boundary?		
If yes, then project must meet all the following, if applicable.		
Floor Area Ratio (FAR) of less than 0.75;		
Consistent with Sustainable Communities Strategy (SCS);		
Meets but does not exceed parking required by Mountain View City Code;		
Does not replace affordable housing with a fewer number of moderate or high-income residential units; and		
Proposes 100 percent affordable housing.		

Screening Category Criteria	Yes	No
4. Map-Based Screening: Project screened if answer yes to all the following:		
Located in areas of low VMT (Already 15% below baseline)?		
Compatible with surrounding development and does not require significant new utility improvements?		
Does not lead to residential displacement, defined roughly as having a fewer number of moderate- or high-income residential units replaced a higher number of naturally affordable units?		

VMT Determination: _____

The Heat Maps with Transit Screening Boundary is provided below. Use to determine if project is within transit screening boundary or qualifies for the map-based screening.

APPENDIX C: KEY GENERAL PLAN POLICIES AND COUNCIL PRIORITIES

Table 6: Key General Plan Policies

GENERAL PLAN POLICIES[22]	DESCRIPTION
Performance Measurement MOB 8.1: Multi-Modal performance measures. MOB 8.2: Level of service.	• Develop performance measures and indicators for all modes of transportation, including performance targets that vary by street type and location. • Ensure performance measurement criteria optimize travel by each mode.
Planning Process LUD 1.1 Efficient and effective processes. LUD 1.2 Accessibility. LUD 1.3 Community involvement. LUD 1.5 Development review process.	• Regulate development through efficient, effective and transparent review processes. • Make public meetings and documents open and accessible to all segments of the population. • Encourage the community to be active and engaged in community planning and development processes, and promote collaboration among key stakeholders to provide input during the planning process. • Use the City's development review process to ensure well-designed projects.
Public Spaces LUD 8.2: Streets friendly to bicyclists and pedestrians. LUD 8.3: Enhanced publicly accessible bicycle and pedestrian connections. LUD 8.5: Pedestrian and bicycle amenities.	• Encourage a network of streets friendly to bicyclists and pedestrians that create a safe and comfortable environment and include convenient amenities and features. • Encourage new and existing developments to enhance publicly accessible bicycle, pedestrian, and transit connections. • Encourage attractive pedestrian and bicycle amenities in new and existing developments, and ensure that roadway improvements address the needs of pedestrians and bicyclists.
Integrated Development LUD 9.2: Compatible transit-oriented development. LUD 9.3: Enhanced public space.	• Encourage transit-oriented development that is compatible with surrounding uses and accessible to transit stations. • Ensure that development enhances public spaces through these measures:

https://www.mountainview.gov/civicax/filebank/blobdload.aspx?blobid=10702

GENERAL PLAN POLICIES[22]	DESCRIPTION
LUD 9.4: Enhanced pedestrian activity. LUD 19.1 Land use and transportation.	- Encourage strong pedestrian-oriented design with visible, accessible entrances and pathways from the street. - Encourage pedestrian-scaled design elements such as stoops, canopies and porches. - Encourage connections to pedestrian and bicycle facilities. - Locate buildings near the edge of the sidewalk. - Encourage design compatibility with surrounding uses. - Locate parking lots to the rear or side of buildings. - Encourage building articulation and use of special materials to provide visual interest. - Promote and regulate high-quality sign materials, colors and design that are compatible with site and building design. - Encourage attractive, water-efficient landscaping on the ground level. • Ensure commercial development enhances pedestrian activity through these strategies: - Encourage the first level of the building to occupy a majority of the lot's frontage, with exceptions for vehicle and pedestrian access. - Allow for the development of plazas and dining areas. - Encourage the majority of a building's ground-floor frontage to provide visibility into the building by incorporating windows and doors. - Require that ground-floor uses be primarily pedestrian-oriented. - Ensure pedestrian safety and access when designing parking areas and drive-through operations. - Minimize driveways. • Encourage greater land use intensity and transit-oriented developments within a one-half mile of light rail transit stations.
Complete Streets MOB 1.2: Accommodating all modes.	• Plan, design, and construct new transportation improvement projects to safely accommodate the needs of pedestrians, bicyclists, transit riders, motorists, and persons of all abilities.

GENERAL PLAN POLICIES[22]	DESCRIPTION
MOB 1.3: Pedestrian and bicycle placemaking. MOB 1.4: Street design. MOB 1.6: Traffic calming.	• Promote pedestrian and bicycle improvements that improve connectivity between neighborhoods, provide opportunities for distinctive neighborhood features, and foster a greater sense of community. • Ensure street design standards allow a variety of public and private roadway widths. • Provide traffic calming, especially in neighborhoods and around schools, parks and gathering places.
Walkability MOB 2.1: Broad accessibility. MOB 3.1: Pedestrian network. MOB 3.2: Pedestrian connections. MOB 3.3: Pedestrian and bicycle crossings. MOB 3.4: Avoiding street widening.	• Improve universal access within private developments and public and transit facilities, programs, and services. • Provide a safe and comfortable pedestrian network. • Increase connectivity through direct and safe pedestrian connections to public amenities, neighborhoods, village centers, and other destinations throughout the City. • Enhance pedestrian and bicycle crossings at key locations across physical barriers. • Preserve and enhance Citywide pedestrian connectivity by limiting street widening as a means of improving traffic flow.
Accessibility Policy MOB-1.5 Goal MOB-2 Policy MOB-2.1	• Public Accessibility. Ensure all new streets are publicly accessible. • Transportation networks, facilities, and services accessible to all people. • Broad accessibility. Improve universal access within private developments and public and transit facilities, programs and services.
Bike-ability MOB 4.1: Bicycle network. MOB 4.2: Planning for bicycles. MOB 4.4: Bicycle parking standards.	• Improve facilities and eliminate gaps along the bicycle network to connect destinations across the City. • Use planning processes to identify or carry out improved bicycle connections and bicycle parking. • Maintain bicycle parking standards and guidelines for bicycle parking and storage in convenient places in private development to enhance the bicycle network.
Greenhouse Gas Emissions MOB 9.2: Reduced vehicle miles traveled.	• Support development and transportation improvements that help reduce greenhouse gas emissions by reducing per capita vehicle miles traveled.

GENERAL PLAN POLICIES[22]	DESCRIPTION
Roadway Efficiency MOB 10.1: Efficient auto infrastructure.	• Strive to maximize the efficiency of existing automobile infrastructure and manage major streets to discourage cut-through traffic on neighborhood streets.

Table 7: Council Goals, Fiscal Year 2019-2020

COUNCIL GOALS FY2019-20[23]	DESCRIPTION
Council Goal III Comprehensive and Innovative Transportation Strategies to Achieve Mobility, Connectivity, and Safety for People of all Ages	• Continue to develop a comprehensive modal plan that would involve the VTA, Caltrain, major employers, etc., and include a funding mechanism. • Continue to implement the Vision Zero Policy/Program. • Continue the Citywide SB 743 Implementation (California Environmental Quality Act Level of Service Vehicle Miles Traveled Change).

Table 8: Key Vision Zero Priorities

COUNCIL POLICIES[24]	DESCRIPTION
Vision Zero Council Policy K-24	• Principle 1: Loss of life from traffic collisions is unacceptable and often preventable. • Principle 2: Humans are inherently vulnerable, and the transportation system should be designed to protect human life to the extent feasible. • Principle 3: Human error is inevitable and unpredictable, and the transportation system should be designed to anticipate error so that the consequence of a collision is not severe injury or death.

[23] *https://www.mountainview.gov/council/goals.asp#sgoals*

[24] *http://laserfiche.mountainview.gov/WebLink/DocView.aspx?id=230607&dbid=0&repo=City Documents*

APPENDIX D: LEVEL OF SERVICE (LOS) STANDARDS FOR SIGNALIZED INTERSECTIONS

Standard	Description	Average Delay (seconds/vehicle)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	10.0 or less
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 and 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 and 35.0
D	Operations with longer delay due to a combination of unfavorable progression, long cycle lengths, and high volume-to-capacity (V/C) ratios. Individual cycle failures are noticeable.	35.1 and 55.0
E	Operations with high delays indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	55.1 and 80.0
F	Operations with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	Higher than 80.0

APPENDIX E: GUIDANCE ON PEDESTRIAN-ORIENTED DEVELOPMENT

The following provides guidance to provide more detail on pedestrian-oriented development as described under General Plan Policies (such as LUD 9.2, LUD 9.3, and LUD 9.4).

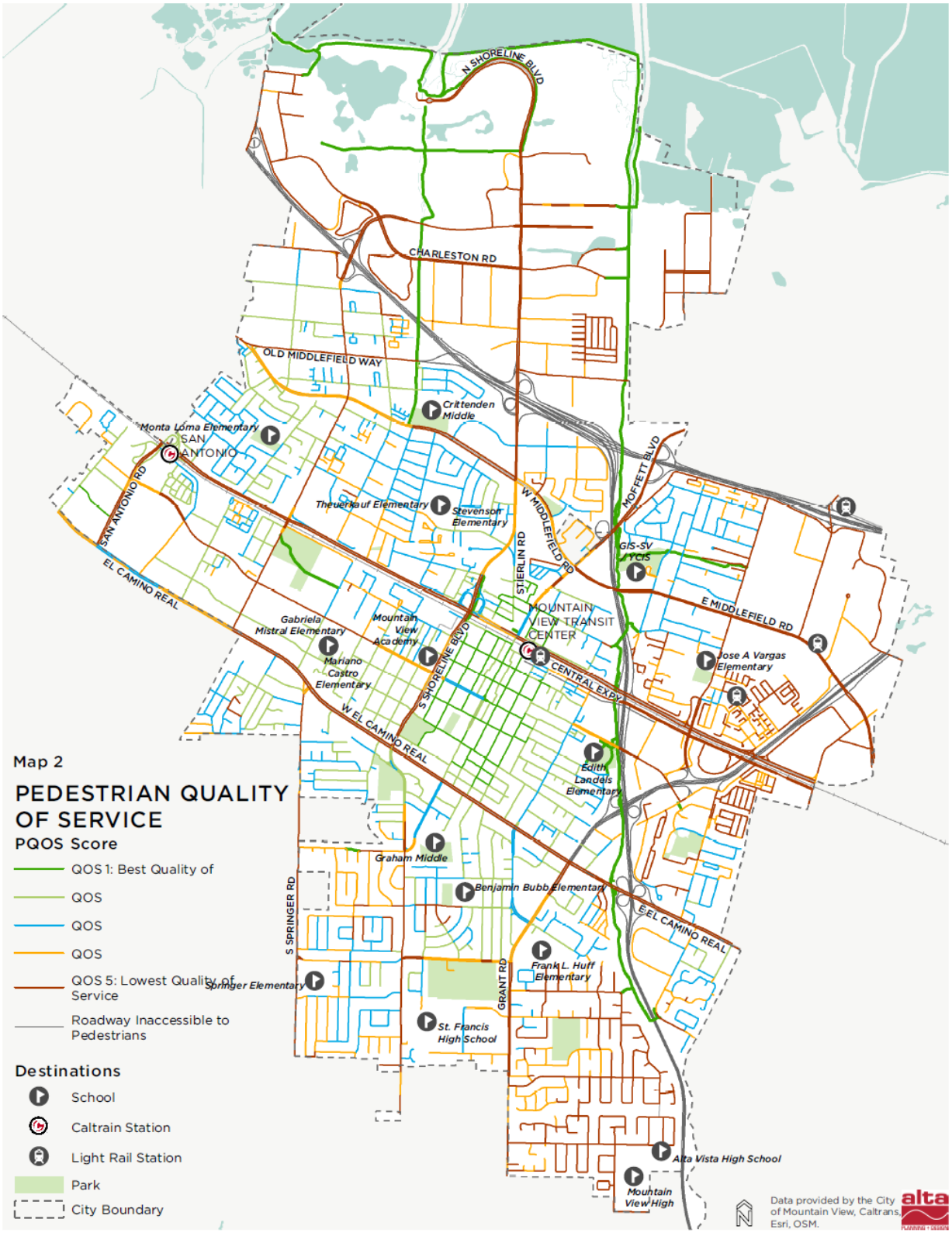
Key Questions	Elements	Details
Destinations within walking distance?	Land use density	Increased density is associated with increased destinations.
	Mixed use	A mix of uses within a development allows internal trip capture.
	Complete communities	A mix of shopping, housing, employment, recreation within a neighborhood, or high walk score.
Transit proximity?	Availability of high-quality transit	Rail station or two transit services with 15-minute headway in peak.
	Walking distance to transit	Walking distance is less than one-half mile to LRT or high-quality transit stops, or less than one mile for Downtown Mountain View or San Antonio station.
Network connectivity?	Fine-grained network	Network of sidewalks/paseos equivalent to 400' block length.
	Path directness	Network facilities provide direct paths between key destinations.
	Permeability	Pedestrian permeability is provided for superblocks via publicly accessible paseos and connections to key pedestrian routes or trails; security features do not damage permeability.
Complete sidewalks?	Sidewalks continuity	There are no gaps in the sidewalk network.
	Sidewalks accessibility	Sidewalks are smooth, and curb ramps are provided.
	Sidewalk maintenance	Sidewalks are kept free from debris and tripping hazards.
	Sidewalk width	Sidewalks are 5' wide, or 12' in high-pedestrian-traffic areas.

Key Questions	Elements	Details
Protection from traffic?	Comfortable crossing facilities	Crossings are well-located, well-lit, highly visible, and encourage motorists to slow at conflict points.
	Buffer from traffic	Furniture or landscaping buffer is provided between sidewalk and traffic; a parking lane may also create a buffer from traffic.
	Minimal driveway cuts	The width and number of driveway interruptions is minimized.
Wayfinding cues?	Intrinsic wayfinding	Intrinsic wayfinding to key destinations and venues is provided by landmarks and well-designed corridor vistas.
	Pedestrian-oriented wayfinding	Attractive wayfinding encourages walking access and provides information on pedestrian routes and distances to key destinations.
Oriented toward the street?	Doors and windows on street	Residential uses have individual front doors on the sidewalk; front doors of all land uses are oriented toward the street, not interior/parking; pedestrian access from the sidewalk is dignified and attractive.
	Functional transparency	Windows are transparent, not glass-covered walls or paint-covered glass; Sidewalk shopfronts have at least 75% transparency.
	Eyes on the street	Up to about 5 floors of density corresponds to more eyes on street, which enhances pedestrian safety and comfort.
Protection from the elements?	Shade trees	Trees create a street canopy and provide shade along sidewalks.
	Avoidance of wind tunnels	Sidewalk or paseo design does not funnel prevailing winds.
	Harmonious landscaping	Attractive water-efficient landscaping includes native plants and reflects local habitat and identity.
Enclosure?	Height: width of 1:1.33 to 1:3	A ratio of building height to wall-to-wall street width of 1:4 or lower results in sense of exposure
	Street trees for setback land uses	Tree height and street width can be used for set back uses.
Ground-floor activity?	Presence of intermediaries	Balconies, porches, stoops, canopies, seating and planters are provided between the public and private realms.

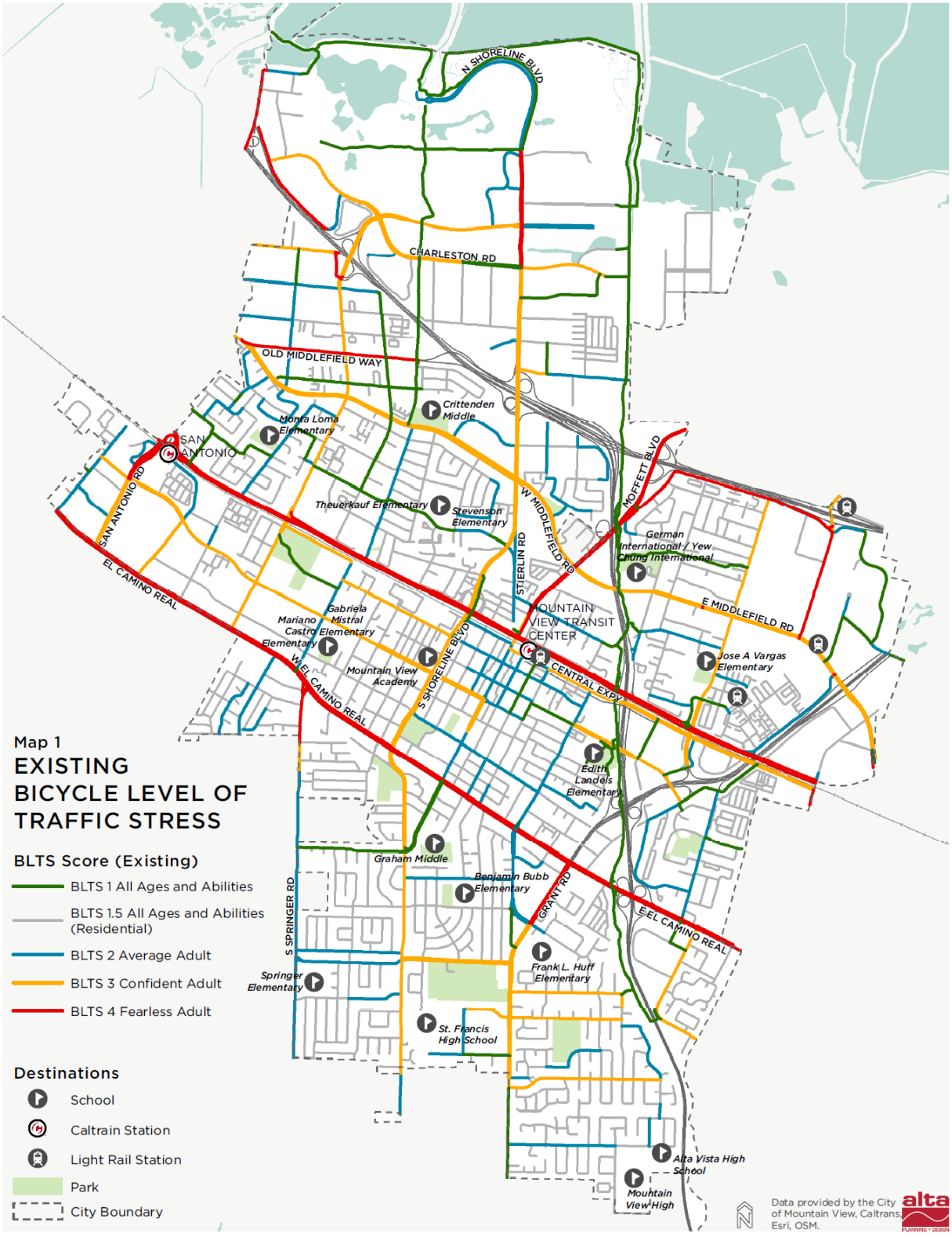
Key Questions	Elements	Details
	Active ground-floor uses	Retail, eating or active uses surround courtyards or plazas; ground-floor parking is wrapped with retail or active uses; ground-floor parking is at the rear or side of buildings; there are no parking-only ground floors.
	Eye-height interest	Doors, windows, balconies, and intermediaries are within 4' to 6' of the ground, and not above pedestrians' heads
	Legible uses	Windows, doors, café seating and front porches provide visibility and allow pedestrians to understand the building's ground floor activities.
Visual interest?	Building vistas	Key views of buildings are well-designed and active e.g., street corners, cornices, front doors, and terminating vistas
	Corridor vistas	Corridors and internal pathways are designed to provide attractive vistas, visibility, and intrinsic wayfinding.
	Continuous street frontage	"Gap tooth" development with surface parking between buildings is avoided.
	Consistency	Consistent awning heights or ground floor ceiling heights are provided.
	Varied street frontage	There are varied building ages, designs, and colors; there are no blank walls along the sidewalk.
Pedestrian-friendly security?	Context-sensitive security	Security features provide some visibility and do not damage pedestrian experience; large blank walls or high hedges are avoided.
	Pedestrian-scale lighting	Pedestrian-scale lighting is provided along pedestrian routes and spaces.
Human scale?	Buildings are human-scale	Bulky buildings may be stepped to create human-scaled frontage.
	Gathering spaces	Larger developments have highly visible gathering spaces with seating, landscaping, eating places, and art.
	Human-scaled art	Public art and water features are whimsical, functional, and interactive, rather than monumental.

Key Questions	Elements	Details
High-quality design?	Design fits with local character	More decorative treatments are needed in historic downtown.
	Quality materials	High-quality materials are used.
	Art integrated in design	Art may be integrated into design of development
	No billboards	Walls and windows are not covered with billboards; signs do not cover more than 25% of transparent glass
TDM?	TDM coordination	TDM coordinator provides information on transit services and pedestrian routes, and coordinates programs such as walk or bike-to-work days, walking school buses or bike trains
	Parking and incentives	Development is not overparked, and parking is unbundled, priced or parking cash-out provided

APPENDIX F : MOUNTAIN VIEW PQOS MAPS (2020)



APPENDIX G: MOUNTAIN VIEW BLTS MAPS (2020)



APPENDIX H: MULTI-MODAL ANALYSIS REQUIREMENT CHECKLIST

Project Description (proposed square footage, unit, including any existing use):

_____

Project Location: _____

Trip Generation Rates:

Project Description	ITE Code	Unit/ SF (Ksf)	AM TGR	AM PHT	PM TGR	PM PHT
				0	0	0
				0		0
				0		0
Existing Uses				0		0
				0		0
Net New Trips				0		0

Estimated Project Trips: _____

Does the project propose:	**Check all that apply**
20 net new peak hour trips?	
Medium, large projects that generate 50 or more peak hour trips?	
Change land use?	
Special Circumstances? (As determined by Public Works Director or designee)	
Located in the downtown or Precise Plan area?	
Misc.	

MTA Determination: _____

Components to be addressed in an MTA: Circle selected size

Small **20 to 49 peak-hour trips (PHT)**	**Medium** **50 to 99 PHT**	**Large** **100 to 399 PHT**	**Land Use Plan** **400+ PHT**

1. Existing Conditions

2. City Policy Conformance

3. Site Access and Circulation
   a. Pedestrian access and circulation
   b. Bicycle access and circulation
   c. Vehicle access and circulation
   d. Emergency and service vehicle access
   e. Loading areas

4. VMT Analysis (if completed with MTA)

5. Motor Vehicle Operations
5.1 Signalized Intersection Level of Service (LOS)
   a. Existing conditions
   b. Background conditions
   c. Project conditions
   d. Adverse traffic effects and multi-modal remedies
5.2 Unsignalized Intersection Traffic Control
5.3 Heavy Vehicle Operations

5. Motor Vehicle Operations
5.1 Signalized Intersection LOS
   a. Existing conditions
   b. Background conditions
   c. Project conditions
   d. Cumulative conditions
   e. CMP conformance
   f. Adverse traffic effects and multi-modal remedies
5.2 Unsignalized Intersection Traffic Control
5.3 Heavy Vehicle Operations

6. Traffic Calming and Neighborhood Intrusion

7. Pedestrian Operations
   a. ADA compliance
   b. Plan consistency and pedestrian orientation
   c. Pedestrian network facilities
   d. Pedestrian Quality of Service (PQOS) map
   e. Adverse pedestrian effects
   f. Needed pedestrian improvements

7. Pedestrian Operations
   a. ADA compliance
   b. Plan consistency and pedestrian orientation
   c. Pedestrian network facilities
   d. PQOS evaluation
   e. Adverse pedestrian effects
   f. Needed pedestrian improvements

Small 20 to 49 peak-hour trips (PHT)	Medium 50 to 99 PHT	Large 100 to 399 PHT	Land Use Plan 400+ PHT
8. Bicycle Operations a. Plan consistency, bicycle parking and facilities b. Bicycle network facilities c. Bicycle Level of Traffic Stress (BLTS) map d. Adverse bicycle effects e. Needed bicycle improvements		8. Bicycle Operations a. Plan consistency, bicycle parking and facilities b. Bicycle network facilities c. BLTS evaluation d. Adverse bicycle effects e. Needed bicycle improvements	
8. Transit Operations a. Plan consistency and transit orientation b. Transit facilities and services c. Adverse transit effects d. Needed transit improvements		8. Transit Operations a. Plan consistency and transit orientation b. Transit facilities and services c. Transit travel time d. Adverse transit effects e. Needed transit improvements	
	10. Parking		
	N/A		11. Construction Impacts
	N/A		12. Transportation Demand Management

Comments:_____

_____

_____

APPENDIX I: SAMPLE MTA SCOPES

MTA Work Products will follow the same format as the MTA Scopes with the addition of an Executive Summary which provides a summary of operational deficiencies and recommended operational improvements.

I-1 Small Project Sample MTA Scope

1. Complete Project Description
Provide a summary of the proposed project, location and surrounding areas. Include any specifics that would help assess the project such as being within a transit area, precise plan, or downtown. Refer to the MTA Handbook for further direction on analysis requirements and methodology.

2. City Policy Conformance
Reference all applicable policies including the General Plan. Projects located downtown or in Precise Plan areas should be evaluated based on requirements in the respective plans.

3. Existing Conditions
Describe project setting, overall assessment of the area of the project, and describe the existing transportation conditions within the City.

4. Site Access and Circulation
Address site access and circulation with a focus on site plan, availability of ADA facilities, proposed multi-modal access and circulation, including driveway locations, internal circulation, loading, etc.

- Existing conditions
  - Existing street conditions along the project frontage including presence of any utilities, hydrants, and street trees which may be affected by the project.
- Proposed project conditions
  - Latest site plan
  - Pedestrian access and circulation, including street-oriented entrances, pathways to transit, driveway treatments
  - Bicycle access and circulation, including routes to bike parking, secure parking near entrances
  - Vehicle access and circulation, including driveway and garage entrance operations, sight distance evaluation, and traffic gap analysis
  - Emergency and service vehicle access, including truck turning templates
  - Loading areas, including shuttle stops and truck loading areas

5. Vehicle Miles Traveled
If applicable, calculate vehicle miles traveled using the Santa Clara Countywide VMT Evaluation Tool.

6. Motor Vehicle Operations

Trip Generation and Assignment

Provide Trip Generation discussion with estimated trips for daily trips, a.m. and p.m. peak-hour trips, including:

- Any proposed trip credits for the existing land use, transit, and/or mixed-use credits
- Trip generation table

Provide project trip assignment and distribution discussion and include a map for each estimate.

Intersection Evaluation

Using the estimated trip generation, assignment and distribution, list the intersections to be studied within the two-mile study area. Small projects will typically require few intersection using the 10-car rule (VTA TIA Guidelines).

- Study Intersection Map
  - Traffic count data requirements
- Analysis scenarios—Provide LOS operational analysis for the following scenarios:
  - Existing Conditions
  - Existing plus Background
  - Existing plus Background plus Project
- Proposed improvements to address adverse effects on study intersections
- Feasibility drawings for all proposed improvements
- Intersection Operations—Include any evaluation on the following;
  - Turn pocket, phasing, signal warrant studies
  - Unsignalized intersection evaluation

7. Traffic Calming

- Existing Conditions—Evaluate conditions for potential traffic calming, which could include connections to nearby parks, schools, transit stations and stops.
- Project Conditions—Evaluate project conditions that may cause or exacerbate existing neighborhood cut-through, speeding, etc.
- Feasibility drawings for all proposed improvements
- Additional data collection may be required.

8. **Pedestrian Operations**

- Existing Conditions
  - Pedestrian Study Area—Describe the pedestrian frontages within one-half-mile pedestrian study area and include the presence of sidewalk, condition of sidewalk
- Project Conditions
  - Confirm ADA compliance
  - Provide checklist of pedestrian orientation based on Key Questions and Contributing Factors from Appendix E.

    - Compare project trip distribution to the PQOS map to determine whether the project adds trips to street with a PQOS 3, 4, or 5.
- Proposed improvements
    - Outline proposed improvements to address adverse effects on streets with PQOS 3, 4, or 5
    - Improvements may also address issues identified in the pedestrian orientation checklist.
- Feasibility drawings will be provided for all proposed improvements.

9. Bicycle Operations

- Existing Conditions
    - Bicycle Study Area—describe the existing bicycle facilities and environment within the two-mile bicycle study area and include any planned bicycle facilities included in the City's adopted plans.
- Project Conditions
    - Confirm consistency with City standards and VTA Bicycle Technical Guidelines.
    - BLTS Map Evaluation—This evaluation compares the project trip distribution to the Existing Conditions BLTS map to determine whether the project adds trips to street with a PQOS 3 or 4.
- Proposed improvements
    - Outline proposed improvements to address adverse effects on streets with PQOS 3 or 4.
- Feasibility drawings will be provided for all proposed improvements.

10. Transit Operations

- Existing Conditions
    - Describe the existing transit conditions include frequency, span, proximity, and availability to the project.
    - Provide transit map showing location of transit stops relative to project site.
- Project Conditions
    - Evaluate the project's access to transit and any proposed improvement.
    - Evaluate whether project effect on transit; whether project implementation will hinder or harm access to transit.
    - Transit Density—Compare existing sites conditions to project site conditions to ensure the density of the project does not decrease within the one-half-mile area closest to the nearest transit stop.
- Proposed Improvements to address adverse effects on Transit.
- Feasibility drawings for all proposed improvements.

11. Parking

- Existing Conditions—Describe existing parking conditions along the project frontages.
- Project Conditions

- Describe proposed parking conditions including project parking, parking management strategies, and project's effect on existing parking surrounding the site.
- Compare the proposed parking requirement with the zoning code parking requirement.
- Outline proposed improvements to address adverse effects on surrounding parking.

I-2 Medium Project Sample MTA Scope

1. Complete Project Description
Same as Small Project Sample MTA Scope
2. City Policy Conformance
Same as Small Project Sample MTA Scope
3. Existing Conditions
Same as Small Project Sample MTA Scope
4. Site Access and Circulation
Same as Small Project Sample MTA Scope
5. Vehicle Miles Traveled
Same as Small Project Sample MTA Scope
6. Motor Vehicle Operations
Same as Small Project Sample MTA Scope, plus:

- Intersection Evaluation for medium projects will typically require more intersections using the 10-car rule (VTA TIA Guidelines).

7. Traffic Calming
Same as Small Project Sample MTA Scope
8. Pedestrian Operations
Same as Small Project Sample MTA Scope
9. Bicycle Operations
Same as Small Project Sample MTA Scope
10. Transit Operations
Same as Small Project Sample MTA Scope
11. Parking
Same as Small Project Sample MTA Scope, plus:

- Feasibility drawings for all proposed improvements

I-3 Large Project Sample MTA Scope

1. Complete Project Description
Same as Small Project Sample MTA Scope, plus:
- Include a location map relative to Mountain View.

2. City Policy Conformance
Same as Small Project Sample MTA Scope

3. Existing Conditions
Same as Small Project Sample MTA Scope

4. Site Access and Circulation
Same as Small Project Sample MTA Scope, plus:
- Project context: specific transportation requirements based on adopted land use plans.

5. Vehicle Miles Traveled
Same as Small Project Sample MTA Scope

6. Motor Vehicle Operations
Same as Small Project Sample MTA Scope, plus:
- Intersection Evaluation for large projects will typically require more intersections using the 10-car rule (VTA TIA Guidelines).
- Analysis scenarios include Cumulative Conditions, which includes all projects in progress under this scenario.
- Congestion Management Program (CMP) Conformance is required for all projects that generate 100 or more peak hour trips.
    - Include all CMP intersections where the project add 10 cars or more. This may include intersections outside the two-mile vehicle study area.
    - Include freeway analysis as required in the VTA TIA Guidelines.
    - Include any other analysis requirements to comply with the CMP such as queuing analysis at CMP intersections.
- Proposed improvements include improvements to meet the CMP requirements.
- Feasibility drawings include improvements to meet CMP requirements.

7. Traffic Calming
Same as Small Project Sample MTA Scope

8. Pedestrian Operations
Same as **Very Large** Project Sample MTA Scope

9. Bicycle Operations
Same as **Very Large** Project Sample MTA Scope

10. Transit Operations
Same as **Very Large** Project Sample MTA Scope

11. Parking
Same as Small Project Sample MTA Scope, plus:

- Parking Study within the two-mile study area (minimum) to identify existing parking conditions and any adverse effect or additional demand caused by the project.
- Proposed improvements to address the project's adverse effects on surrounding parking, including increasing demand for public parking and/or removal of public parking.

12. Travel Demand Management

A TDM Plan may be required, including items included in the Very Large Sample MTA Scope.

I-4 Very Large Project or Land Use Plan Project Sample MTA Scope

Land Use Plans typically do not have the level of design to conduct specific MTA analysis. Multiple project sites are usually within the project boundaries and are usually developed as individual projects (applications) rather than one or two large projects. For that reason, individual projects may require a focused MTA to evaluate the site during the approval process. However, Land Use plans can establish overall transportation goals, design elements, street functionality, complete pedestrian and bicycle networks within the project boundaries, and transit connectivity. Furthermore, land uses planning can facilitate the design and implementation of a complete multi-modal transportation network to serve the project.

1. Complete Project Description

Same as Small Project Sample MTA Scope, plus:

- Include a location map relative to Mountain View, and the region.
- Although the MTA is not typically used for CEQA transportation analysis, land use plans can establish methodology for determining a project's fair share based on a more comprehensive area wide transportation plan.

2. City Policy Conformance

Same as Small Project Sample MTA Scope, plus:

- Refer to the MTA Handbook for a comprehensive list of guiding documents.
- Include all adopted transportation plans within the area of the project in the report.

3. Existing Conditions

Same as Small Project Sample MTA Scope

4. Site Access and Circulation

Same as Small Project Sample MTA Scope, plus:

- Project context-specific transportation requirements based on adopted land use plans.

5. Vehicle Miles Traveled

Same as Small Project Sample MTA Scope

6. Motor Vehicle Operations

Travel Demand Model

- Run travel demand model to establish current conditions and forecast future conditions.
    - Include traffic conditions from surrounding cities.
    - Provide Trip Generation discussion and include overall jobs/housing proposed by the project.
    - Include any vehicle trip generation information, if available.
- Provide project trip assignment and distribution discussion and include any maps. Again, using travel demand model, this information may be high level.

Intersection Evaluation

The travel demand model provides roadway volumes for existing conditions, project conditions and future conditions. This information can be used to generate intersection level of service; however, project-specific MTA can supplement this evaluation and

address any adverse effects. Alternatively, the project can propose roadway improvements and a plan for implementation as individual projects are proposed.
Using the estimated trip generation, assignment, and distribution, list the intersections to be studied within the study area. The study area should be defined based on the project boundaries. Land Use projects will typically require more intersections using the 10-car rule (VTA TIA Guidelines). Additionally, projects that generate 100 or more peak-hour trips are required to conform to the VTA's Congestion Management Program.

- Study Intersection Map
    - Traffic count data requirements
    - Intersection data is typically used to validate the model
- Analysis scenarios—Provide LOS operational analysis for the following scenarios:
    - Existing Conditions
    - Existing plus Background
    - Existing plus Background plus Project
    - Cumulative Conditions—include all projects in progress under this scenario
- CMP Conformance—CMP requirements evaluate regional transportation facilities
    - Include all CMP intersections where the project adds 10 cars or more. This may include intersections outside the two-mile vehicle study area.
    - Include freeway analysis as required in the VTA TIA Guidelines
    - Include any other analysis requirements to comply with the CMP such as queuing analysis at CMP intersections.
- Provide proposed improvements:
    - To address adverse effects on study intersections.
    - To meet the CMP requirements
- Feasibility drawings for all proposed improvements
- Intersection Operations—Include evaluation on the following:
    - Turn pocket, phasing, signal warrant studies
    - Unsignalized intersection evaluation

7. Traffic Calming

- Existing Conditions—All projects evaluate conditions for potential traffic calming; this could include connections to nearby parks, schools, transit stations, and stops.
- Project Conditions:
    - Propose improvements to improve active transportation within the plan area, especially areas where added project traffic potentially conflicts with project-generated pedestrian and bicycle traffic.
    - Propose improvements to promote and encourage active transportation such as enhanced crosswalks, traffic circles, bike ramps, etc.
    - Evaluate the project conditions that may cause or exacerbate existing neighborhood cut-through, speeding, etc.
- Include feasibility drawings for all proposed improvements
- Additional data collection may be required

8. Pedestrian Operations

- Existing Conditions:
  - Pedestrian Study Area—Describe the pedestrian frontages within the one-half-mile pedestrian study area and include the presence of sidewalk, condition of sidewalk, and any planned pedestrian improvements.
  - Pedestrian Orientation—Conduct a technical assessment of the existing pedestrian public facilities and deficiencies as it relates to the potential development sites within the project boundaries.
- Project Conditions
  - Confirm ADA compliance.
  - Provide checklist of pedestrian orientation based on Key Questions and Contributing Factors from Appendix E.
  - Evaluate potential conflicts with adopted pedestrian plans.
  - PQOS evaluation—Conduct a PQOS evaluation for streets within the one-half-miles study area based upon methodology described in Section 4.7.4 of the MTA Handbook.
  - Conduct analysis to determine whether the added project traffic degraded or exacerbated existing PQOS on the evaluated roadways.
  - Evaluate whether the project results in improved Pedestrian Quality of Service (QOS) in the immediate vicinity and along key routes within the sphere of analysis.
  - Provide Pedestrian-Oriented Development principles and other Mountain View guiding documents to integrate development sites with the planned multi-modal transportation network.
- Proposed improvements
  - Outline proposed improvements to address adverse effects on streets with PQOS 3, 4, or 5.
  - Improvements may also address issues identified in the pedestrian orientation checklist or pedestrian plans.
  - Outline proposed improvements to implement Pedestrian-Oriented Development goals, including site design recommendations such as number of driveways, access to transit, bicycle facilities, and multi-modal connectivity.
- Feasibility drawings will be provided for all proposed improvements.

9. Bicycle Operations

- Existing Conditions
  - Bicycle Study Area—describe the existing bicycle facilities and environment within the bicycle study area (study area based on the project boundaries) and include any planned bicycle facilities.
- Project Conditions
  - Confirm consistency with City standards and VTA Bicycle Technical Guidelines.

  - Evaluate potential conflicts with adopted bicycle plans.
  - BLTS Evaluation—Conduct a BLTS evaluation for streets within the two-mile bicycle study area based on the methodology outlined in Section 4.8.3 of the MTA Handbook.
  - Conduct analysis to determine whether the added project traffic degraded or exacerbated existing BLTS on the evaluated streets.
  - Evaluate whether the project connects to the City's low-stress (LTS 1–2) bike network.
- Proposed improvements
  - Outline proposed improvements to address adverse effect of added project traffic that degrades existing BLTS to 3 or 4.
  - Outline proposed improvements to address adverse effects added project traffic to streets with BLTS 3 or 4.
- Include Feasibility for all proposed improvements

10. Transit Operations

- Existing Conditions
  - Describe the existing transit conditions include proximity and availability to the project.
  - Provide Transit map showing location of transit stops relative to project site.
- Project Conditions
  - Evaluate the project's access to transit and any proposed improvement to transit.
  - Evaluate the project's effect on transit; whether project implementation will hinder or harm access to transit.
  - Include any disruption to transit service and or areas within VTA or other jurisdiction (UPRR, CPUC) that would require coordination or encroachment permits.
  - Transit Density—This evaluation compares existing site conditions to project site conditions to ensure the density of the project does not decrease within the one-half-mile area closest to the nearest transit stop.
  - Transit Delay Analysis—Conduct quantitative analysis to evaluate the project's effect on transit travel time.
- Proposed Improvements to address adverse effects on transit, transit travel time.
- Include Feasibility drawings for all proposed improvements.

11. Complete Streets Evaluation

- Existing Conditions
  - Conduct a technical assessment of the existing street network within and surrounding the project area.
- Project Conditions
  - Apply complete street principles to street network to achieve a multi-modal transportation network that addresses the project needs.

- Provide street cross-sections and feasibility drawings.

12. Parking

- Existing Conditions—Describe existing parking conditions within and surrounding the project boundaries
- Project Conditions
    - Describe proposed parking conditions including project parking and projects effect on existing parking surrounding the site.
    - Compare the proposed parking requirement with the overall parking and transportation goals of the land use plan.
    - Evaluate MV Parking strategies and goals for the project area and develop a plan for parking densities that meet the overall project goals.
    - Parking Study within the two-mile study area (minimum) to identify existing parking conditions and any adverse effect or additional demand caused by the project.
- Proposed improvements to address the project's adverse effects on surrounding parking, including increasing demand for public parking and/or removal of public parking.

13. Construction

- Existing Conditions
    - Evaluate existing conditions surrounding the project site, including an evaluation of available truck routes, sensitive areas, etc.
- Project Conditions
    - Evaluate project conditions during construction, including the following:
        - Proposed haul route
        - Location of construction entrance
        - Hours of construction
        - Parking areas for construction vehicles and workers
        - Proposed partial or full street closures and traffic control
        - Proposed project staging areas
        - Conceptual drawings of site layout, construction entrance, etc.
        - Conceptual drawings of temporary lane closures, temporary signals, etc.

14. Transportation Demand Management

Provide a TDM Plan that may be required to include the following elements:

- Land Use Density, Diversity, Proximity to Transit, and Affordable Housing
- TDM Coordination
- TDM Communications and Outreach
- TMA Membership and Services
- Work From Home Program and On-Site Amenities
- Parking Management: parking reduction, permit programs, parking-cash-out, parking pricing, unbundled parking
- Mobility as a Service and Financial Incentives

- Transit Passes and Subsidies
- Bike Share and Bike Commuter Program
- Car Share
- Emergency Ride Home
- Shuttles and Public Transit Strategies
- TDM Monitoring: on-site and in surrounding neighborhood