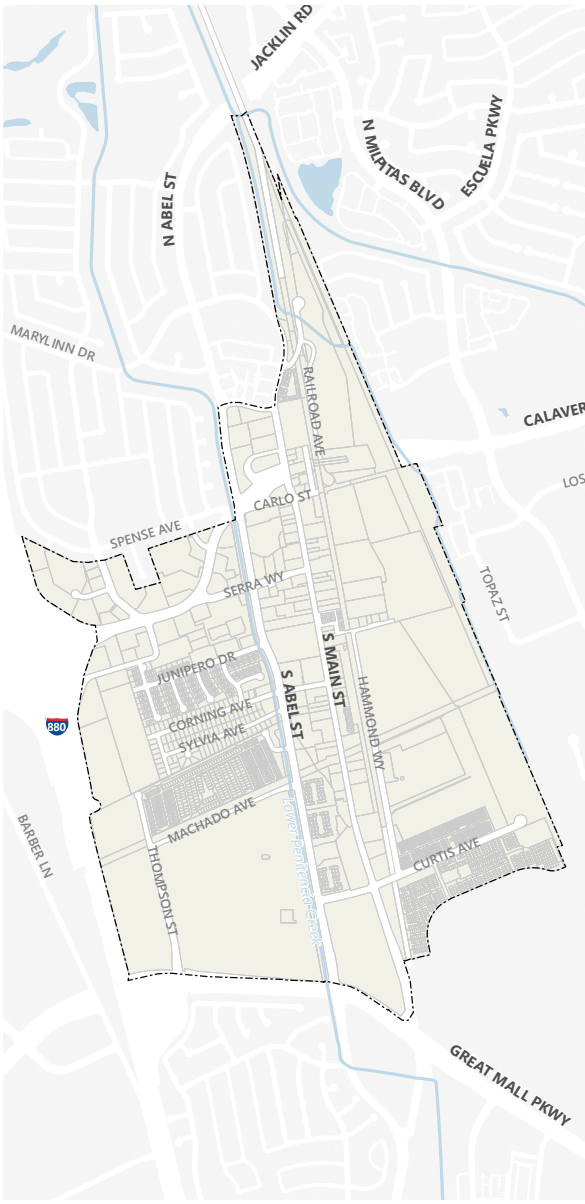
Appendix D

Gateway-Main Street Vehicle Miles Traveled for Environmental Review

WC21-3846

MILPITAS GATEWAY -
MAIN STREET SPECIFIC PLAN:

Vehicle Miles Traveled (VMT) for the Environmental Review



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ASCENT ENVIRONMENTAL
CITY OF MILPITAS

NOVEMBER 2024

FEHR PEERS

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1. Introduction and Project Description

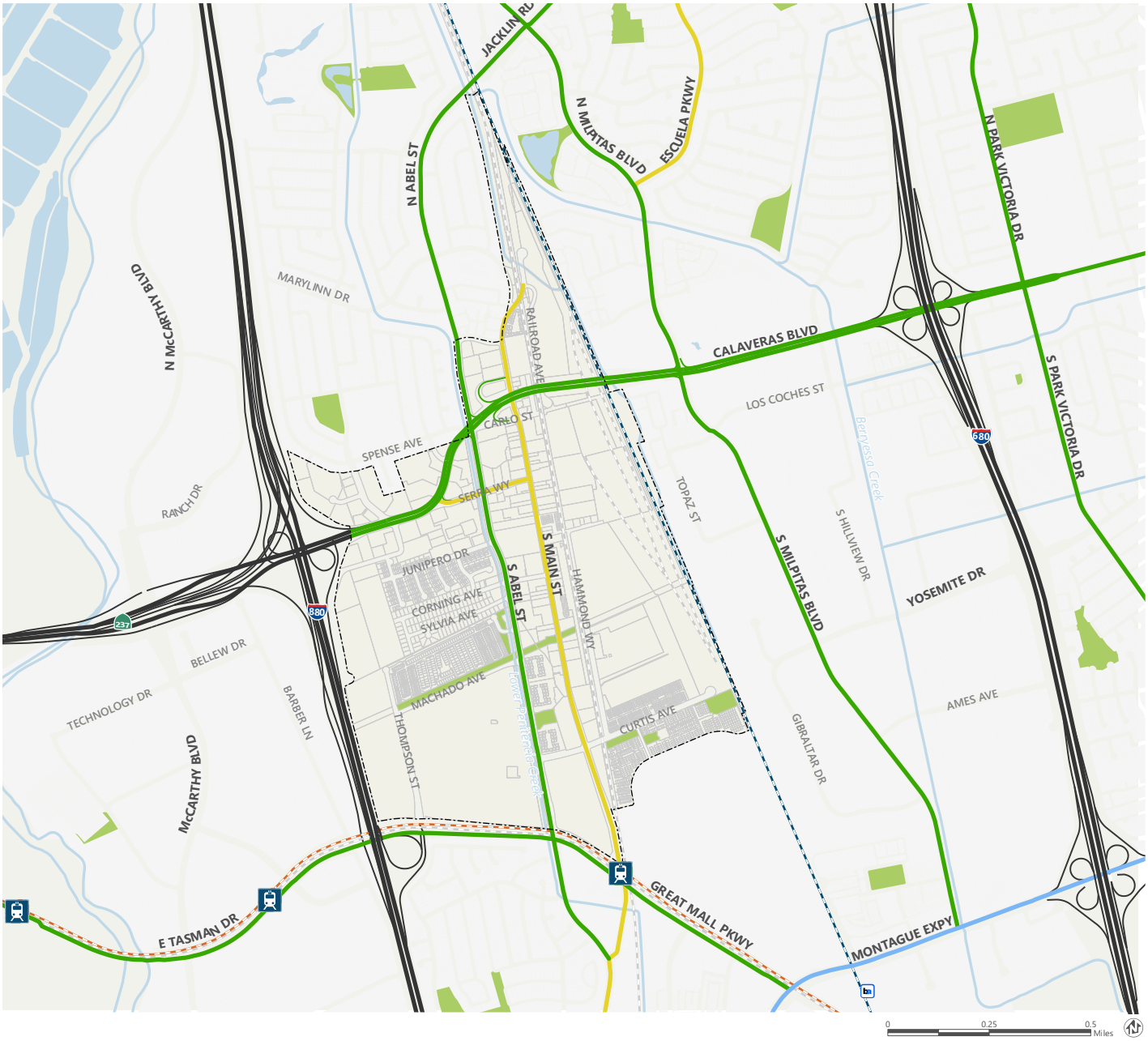
This report presents results of the vehicle miles traveled (VMT) analysis conducted to evaluate the environmental effects of the proposed Milpitas Gateway-Main Street Specific Plan (referred to as the Specific Plan). The Specific Plan includes a combination of land uses and revises the previously approved Midtown Specific Plan (adopted in 2002 and updated in 2010) included in Milpitas's General Plan. The Specific Plan results in an increase in dwelling units and a decrease in non-residential square footage compared to the Midtown Specific Plan. The Specific Plan boundaries have also expanded (including the area bounded by Calaveras Boulevard, S Abbott Avenue, Alvarez Common, and S Abel Street, and the residential area between the Great Mall and Curtis Avenue) from Midtown to focus on planning efforts to revitalize Main Street and Calaveras.

Figure 1 shows the Gateway-Main Street Specific Plan boundary and location within the City of Milpitas and the surrounding transportation network.

This chapter outlines the report purpose, project description, recent changes in the California Environmental Quality Act (CEQA) regarding transportation analyses, the analysis scenarios, and report organization.

1.1 Purpose

The primary purpose of this report is to present the VMT analysis for compliance with CEQA, including identification of potentially significant impacts and applicable recommended mitigation for inclusion in the Environmental Impact Report (EIR). Specifically, this report includes a VMT impact analysis. Project effects on the environment were evaluated following CEQA guidelines along with guidance from the City of Milpitas *Transportation Analysis Guidelines* (March 2022).



Data Source: Milpitas General Plan Update Existing Conditions Report, June 2018

Figure 1

Roadway Network

\\fpainc.local\Dfs-ent-data\Walnut Creek N Drive\PROJECTS_WC21\WC21-3846.00_Milpitas_MainSt-Gateway_SpecificPlan-EIR\Graphics\ADOBE\Fig01.ai

1.2 Project Description

The Gateway-Main Street Specific Plan Area (Specific Plan Area), formerly Midtown Milpitas, includes the historic commercial core of the City of Milpitas, centered on Main Street and the Calaveras Gateway at I-880. The Gateway-Main Street Specific Plan (Specific Plan) updates the vision, standards, and policies of the Midtown Specific Plan, first adopted in 2002 and last updated in 2010. It implements the General Plan vision to rebrand Midtown Milpitas to the Gateway-Main Street area, with a renewed focus on revitalizing Main Street as the city's historic core and improving Calaveras Boulevard as an important western gateway into the city.

The Specific Plan Area (or Plan Area) is located west of the Union Pacific Railroad (UPRR) line, as shown in Figure 1, and covers approximately 605 acres in the center of Milpitas. It encompasses Calaveras Boulevard, Main Street, and the former Midtown Milpitas area bordered by I-880 to the west, the UPRR tracks to the east, and Great Mall Parkway to the south. Two heavy rail lines, the UPRR freight line and Bay Area Rapid Transit (BART) commuter rail line, traverse the Plan Area to the east. The Santa Clara Valley Transportation Authority (VTA) operates light rail transit (LRT) service nearby, with an adjacent stop along Great Mall Parkway at Main Street; the stop and interconnecting bus lines serve the Plan Area.

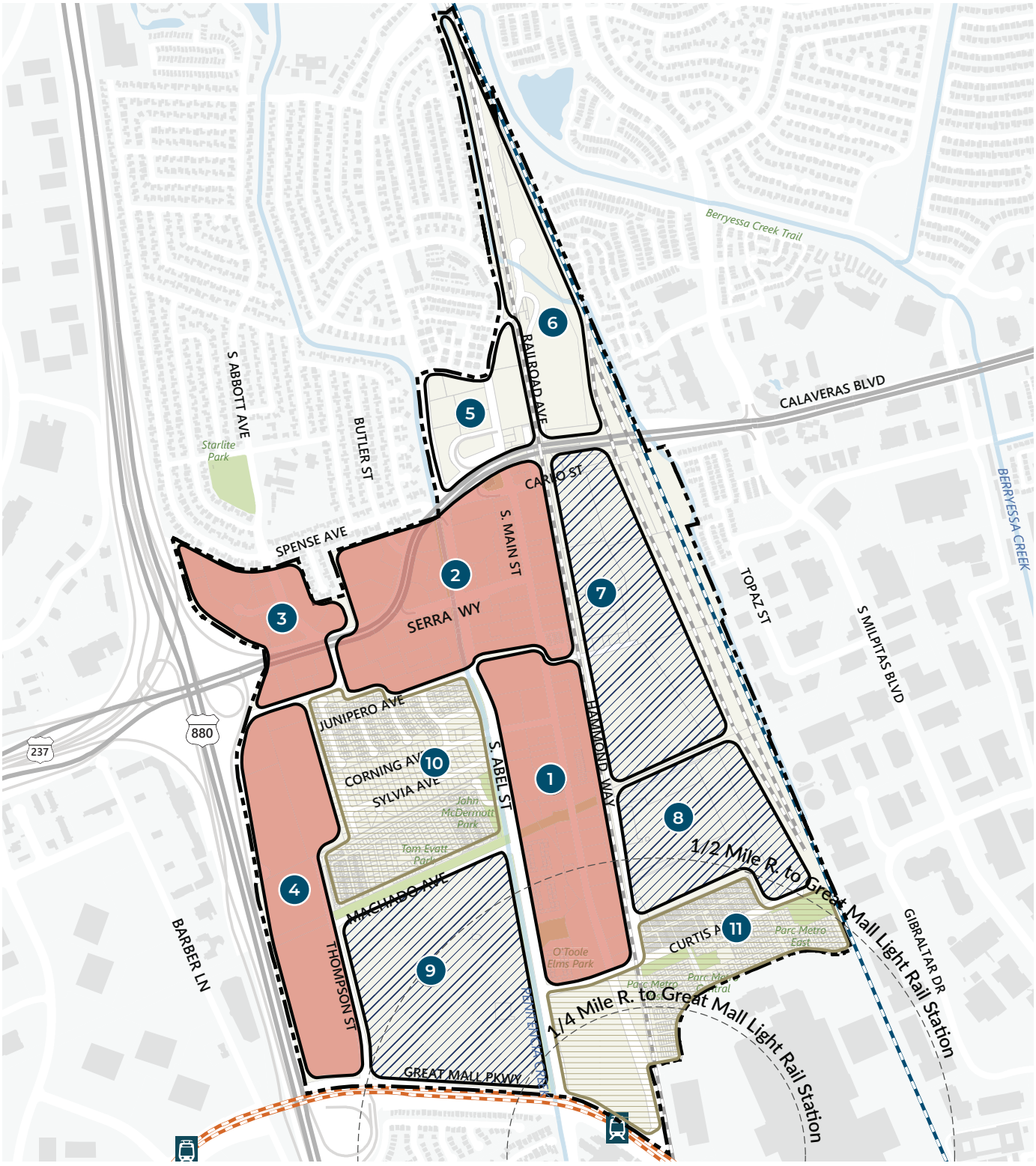
1.2.1 Districts

For planning purposes, the Plan Area has been organized into four priority focus areas: Main Street, Crossroads, Gateway, and Abbott districts, as shown in **Figure 2**. The Plan Area includes two other districts, the Library District and Creekside Industrial District, as well three urban reserve areas, the Elmwood Correctional Facility (Elmwood), the north Union Pacific Railroad yard (North Railyards), and the south Union Pacific Railroad yard (South Railyards). There are also existing single-family residential neighborhoods within and adjacent to the Plan Area, and those are considered neighborhood preservation areas.

1.2.2 Land Use Framework

The Specific Plan Land Use Framework is described in **Table 1**. The Land Use Framework implements the vision for the Specific Plan focus areas through a series of tailored and place-based Specific Plan zones, as well as existing applicable citywide zones and new Urban Reserve Areas. Areas not expected to change in land use or character will continue to be regulated through the existing land use and development regulations in the City of Milpitas Zoning Ordinance.

Compared to the Existing Conditions (2020), the Specific Plan would add 2,773 residential dwelling units and approximately 200,000 square feet of non-residential development. As presented in **Table 1**, the Gateway-Main Street Specific Plan proposes an additional 1,338 dwelling units in addition to the previously approved 1,435 dwelling units projected in the Milpitas 2040 General Plan for the Midtown Specific Plan. However, the Gateway-Main Street Specific Plan proposes reducing the non-residential square footage from the approximately 1.4 million square feet identified in the General Plan to about 200,000 square feet, accounting for greater mixed-use and redevelopment on existing sites.



Source: Ascent Environmental, August 2024

0 300' 600' 1,200'

FOCUS AREAS

1. Main Street District
2. Crossroads District
3. Gateway District

OTHER DISTRICTS

5. Library District
6. Creekside Industrial District

URBAN RESERVE AREAS

7. North Railyards District
8. South Railyards District
9. Elmwood District

EXISTING NEIGHBORHOODS

10. West of Abel Neighborhood
11. Curtis Neighborhood

Figure 2

Milpitas Gateway-Main Street Specific Plan Focus Areas

\\fpainc.local\Dfs-ent-data\Walnut Creek N Drive\PROJECTS_WC21\WC21-3846.00_Milpitas_MainSt-Gateway_SpecificPlan-EIR\Graphics\ADOBE\Fig02.ai

Similarly, **Table 2** shows the Gateway-Main Street Specific Plan results in about 6,500 more residents and 250 more employees than Existing Conditions.

Table 1: Specific Plan Land Use Comparison

Location	Existing Conditions (2020)	Midtown Specific Plan[1]	Project: Gateway-Main Street Specific Plan	Project – Existing[2]	
				Change	% Change
Residential Dwelling Units	2,403	3,838	5,176	2,773	215.4%
Non-Residential Square Footage	1,858,642	3,293,240	2,058,666	200,024	10.7%

Note:
1. In Milpitas 2040 General Plan
2. Change (Project – Existing) = Project Conditions column – Existing Conditions column.

Source: Fehr & Peers, June 2024.

Table 2: Specific Plan Population Comparison

Location	Existing Conditions (2020)	Midtown Specific Plan[1]	Project: Gateway-Main Street Specific Plan	Project – Existing[2]	
				Change	% Change
Residents	9,480	12,568	16,384	6,904	172.8%
Employees	4,642	7,898	5,541	899	19.4%

Note:
1. In Milpitas 2040 General Plan
2. Change (Project – Existing) = Project Conditions column – Existing Conditions column.

Source: Fehr & Peers, June 2024.

1.2.3 Mobility Overview

The Gateway-Main Street area lies between two freeways, I-880 and I-680 to the west and east, respectively. SR 237 turns into Calaveras Boulevard and runs through the area connecting the two freeways, and thus carries a significant amount of regional traffic, as shown in **Figure 3**. Abel Street serves as a north-south connector that runs through the area. Great Mall Parkway serves as an east-west connector that runs to the south of the area and has Class II Bike Lanes. The VTA Orange Line light rail system and VTA Bus Routes 44 and 66 run along Great Mall Parkway, as shown in **Figure 4**. The City's Simple Mobile Access to Reliable Transit (SMART) on-demand rideshare service supports VTA as a first/last mile connection within Milpitas. SMART has numerous stops within the Plan area, primarily along Main Street. There are existing Class I bike paths through O'Toole Elms Park and adjacent to Machado Avenue from Thompson Street to Hammond Way, as shown in **Figure 5**. The goal of the mobility framework is to promote the use of roadways by all modes of transportation, including walking, biking, shared-use micro-mobility, transit, and vehicles.

Proposed high level features of the Specific Plan promote the use of the roadways by all modes of transportation through multimodal community corridors, future streets and alleys to reduce block sizes and enhance walkability, reducing vehicle travel lane widths where possible, a proposed bikeway network and micromobility infrastructure, and central transit hubs and shuttle routes. Main Street from Railroad Avenue to Curtis Avenue is proposed to be a shared street. There are proposed Class I bike paths on Machado Avenue, Calaveras Boulevard, Abel Street, and Thompson Street. There are proposed Class II bike lanes on Curtis Avenue, Corning Avenue, Hammond Way, Sinnott Lane, and Carlo Street. There are proposed Class IV separated bikeways on Abbott Avenue and Serra Way. Micromobility hubs are proposed for locations along Main Street, west of Serra Way, and along Thompson Street shown in **Figure 5**.

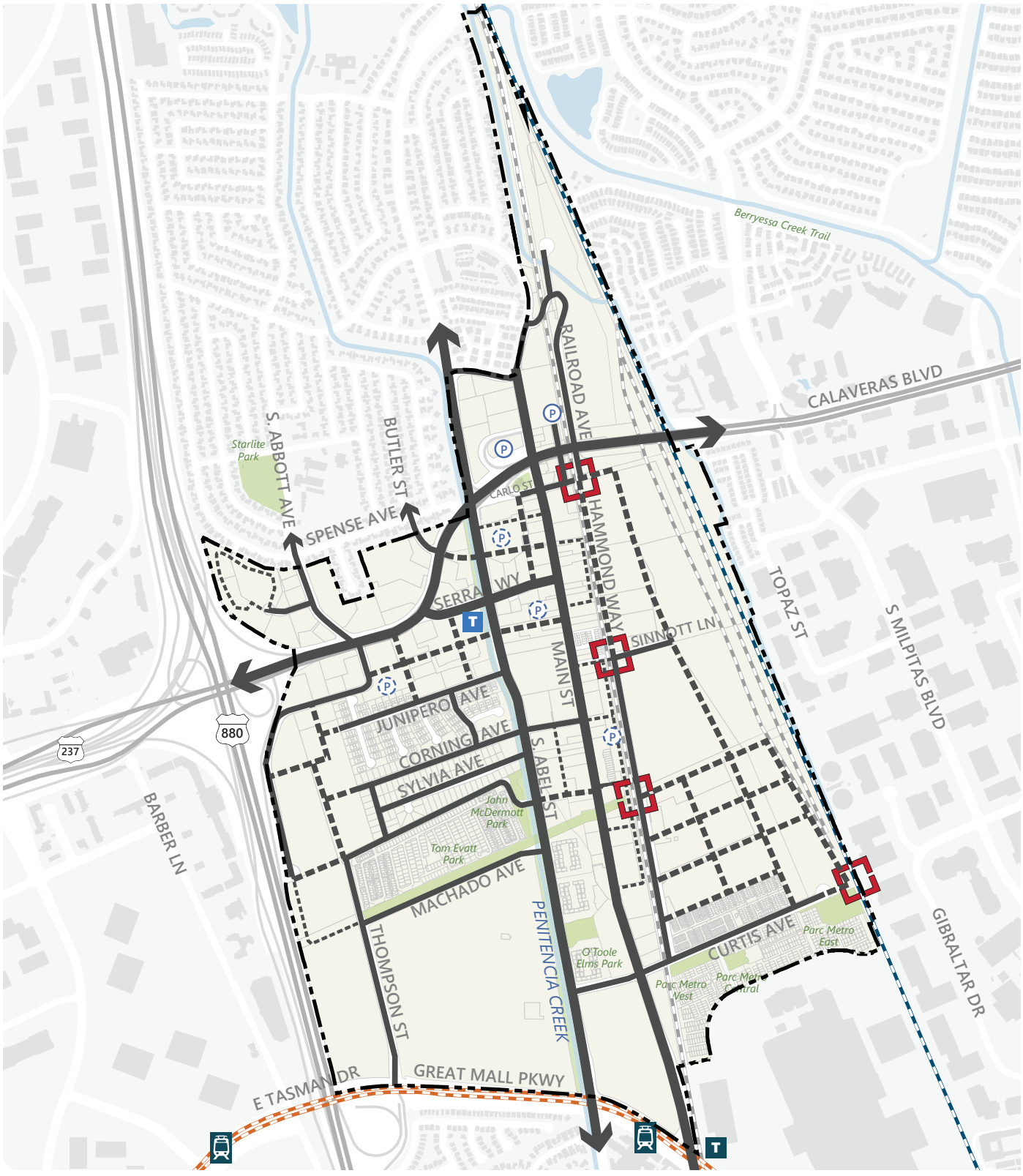
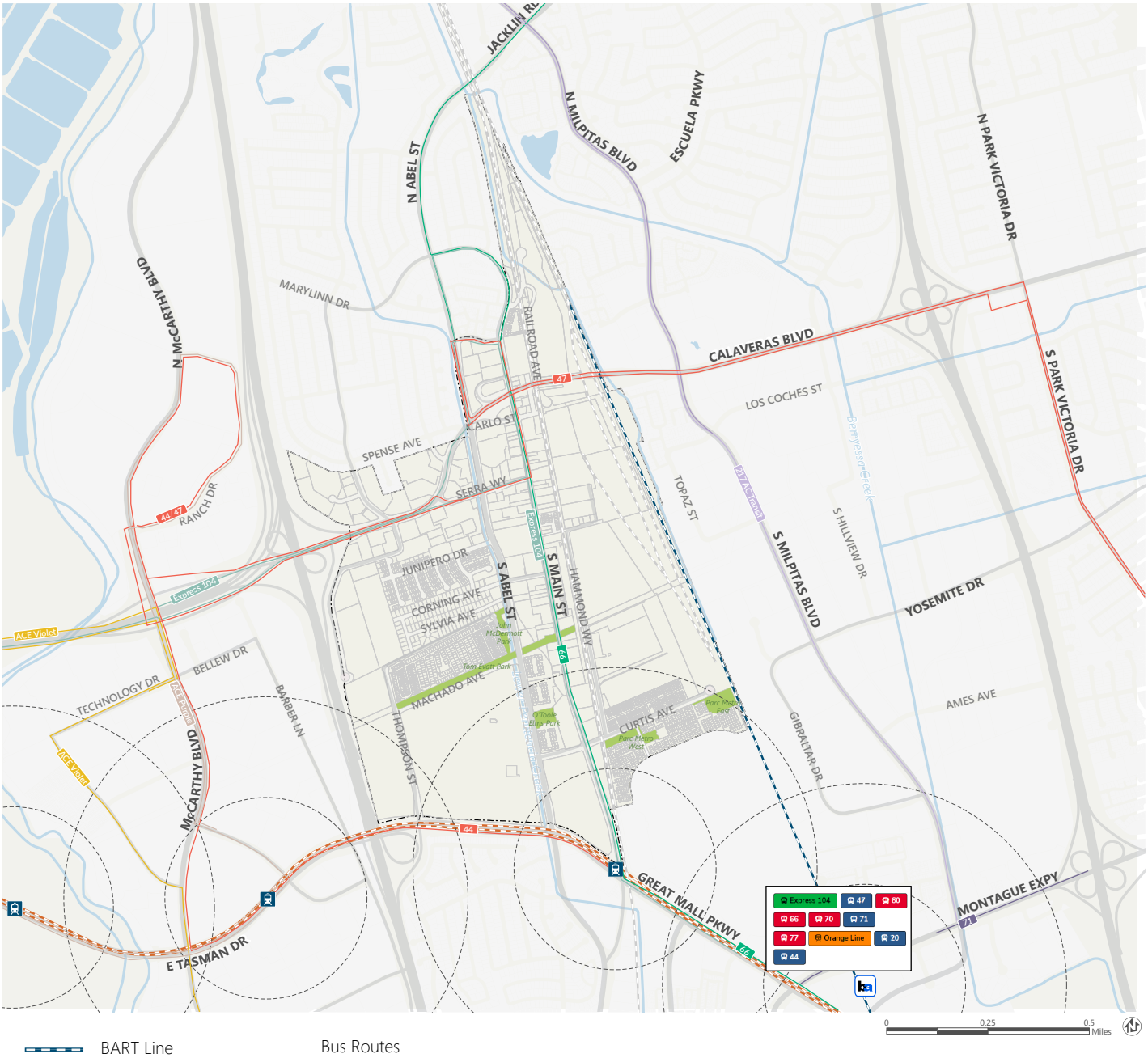


Figure 3

Mobility Framework



BART Line

Light Rail (Orange Line)

Railway

BART Station

Light Rail Stop

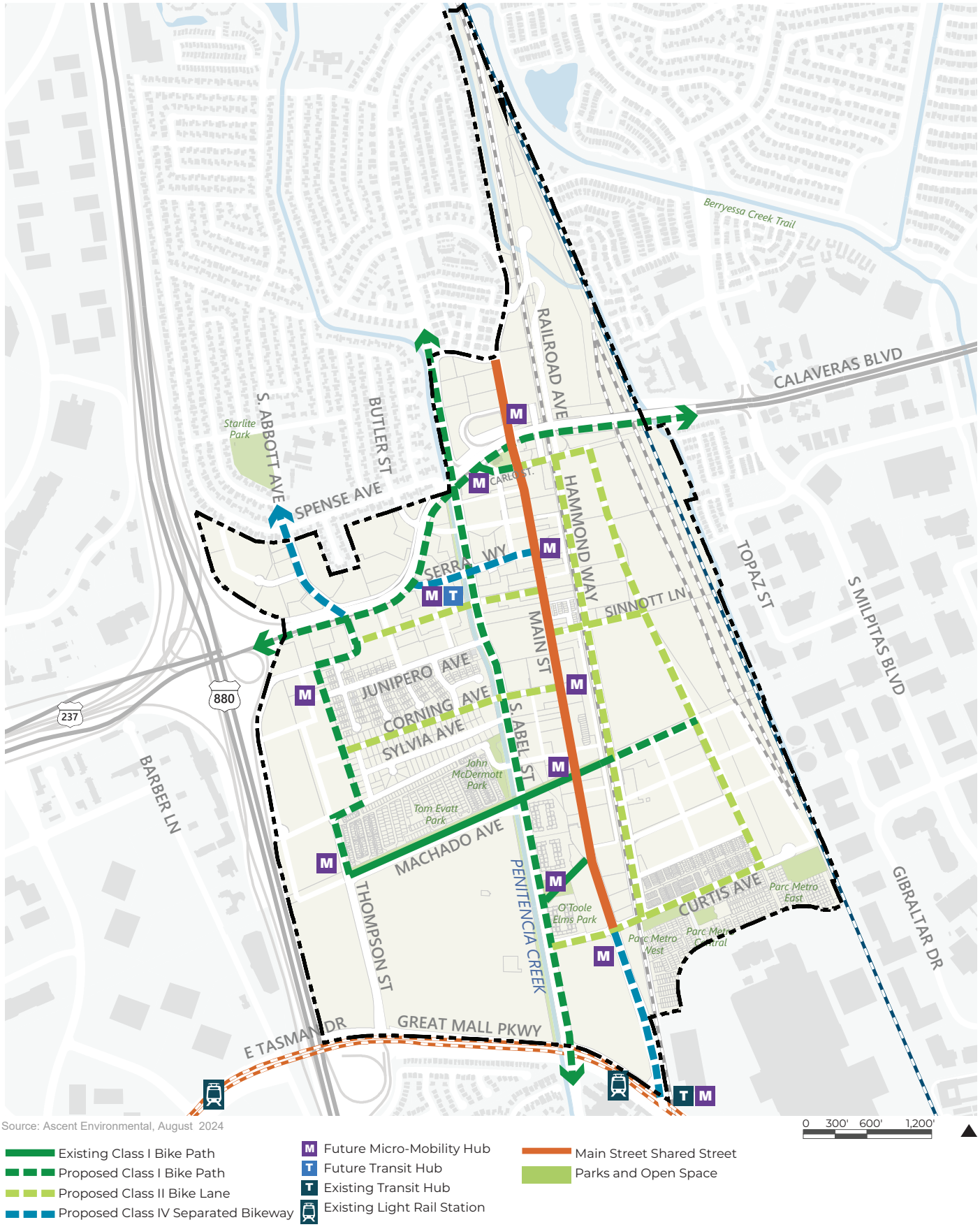
1/4 Mile and 1/2 Mile Radius of Light Rail Stops

Bus Routes

- 44/47
- 66
- 71
- Express 104
- 217 AC Transit
- ACE Purple
- ACE Violet

Figure 4

Transit Routes



Source: Ascent Environmental, August 2024

- Existing Class I Bike Path
- Proposed Class I Bike Path
- Proposed Class II Bike Lane
- Proposed Class IV Separated Bikeway
- M Future Micro-Mobility Hub
- T Future Transit Hub
- T Existing Transit Hub
- Existing Light Rail Station
- Main Street Shared Street
- Parks and Open Space

Figure 5

Bicycle and Micro-Mobility Framework

1.3 Recent Changes to CEQA Transportation Analysis

Senate Bill (SB) 743 changed how transportation impacts under CEQA are analyzed. SB 743 removed the use of automobile delay or traffic congestion for determining transportation impacts in environmental review. The latest *CEQA Statute & Guidelines* specify that VMT is the appropriate metric to evaluate transportation impacts (**Chapter 2** provides additional context). In short, SB 743 changes the focus of transportation impact analysis in CEQA from measuring impacts to drivers to measuring the impact of driving.

The Gateway-Main Street Specific Plan is a large project that will increase the density of dwelling units and reduce the non-residential square footage compared to the previously approved Midtown Specific Plan, which will influence the total VMT within Milpitas and nearby.

1.4 Analysis Scenarios

The VMT analysis includes the following study scenarios:

- **Scenario 1: Existing Conditions** – Existing (2020) travel characteristics.
- **Scenario 2: Cumulative Conditions** – Year 2040 travel behavior based on the 2040 travel model, *Plan Bay Area 2040* Association of Bay Area Governments (ABAG) land use projections, and planned and funded transportation system improvements noted in the *Valley Transportation Plan (VTP) 2040*. The Specific Plan area would reflect the approved General Plan (which includes the Midtown Specific Plan) land uses.
- **Scenario 3: Cumulative with Project Conditions** – Scenario 2 travel characteristics plus the replacement of the Midtown Specific Plan land uses with the Gateway-Main Street Specific Plan land uses.

1.5 Report Organization

This report is divided into five chapters:

- **Chapter 1 – Introduction and Project Description** discusses the report purpose, proposed project description, a description of recent changes to CEQA transportation analysis, a summary of the analysis scenarios, and report organization.
- **Chapter 2 – VMT Approach and Analysis Methods** discusses the approach for a comprehensive VMT assessment, the forecasting methods used to estimate total VMT per service population rate, and the project's effect on VMT using boundary VMT per service population.
- **Chapter 3 – Significance Criteria** lists the significance criteria used for the environmental impact analysis.
- **Chapter 4 – Vehicle Miles Traveled Forecasts** summarizes the VMT forecast methods including the City of Milpitas travel model overview.
- **Chapter 5 – Environmental Impacts and Mitigation Assessment** includes a VMT analysis.

2. VMT Approach and Analysis Methods

This chapter provides an overview of SB 743 and the legal framework, and VMT assessment approach decisions and analysis methods.

2.1 Overview of Senate Bill 743 and Legal Framework

On September 27, 2013, Governor Jerry Brown signed SB 743 into law and started a process intended to fundamentally change transportation impact analysis as part of CEQA compliance. Specifically, the legislation directed the State of California's OPR to look at different metrics for identifying transportation impacts and make corresponding revisions to the *CEQA Statute & Guidelines*. The initial bill included two legislative intent statements (emphasis and bullets added):

- **New methodologies** under the California Environmental Quality Act are **needed for evaluating transportation impacts** that are better able to promote the state's goals of reducing greenhouse gas emissions and traffic-related air pollution, promoting the development of a multimodal transportation system, and providing clean, efficient access to destinations.
- More appropriately balance the needs of congestion management with statewide goals related to **infill development**, promotion of public health through **active transportation**, and **reduction of greenhouse gas emissions**.

These statements provided direction to OPR and lead agencies. For OPR, the direction is about what the new metrics should achieve. For lead agencies, the direction is about expected changes in transportation analysis (and related technical areas) and what factors to consider for significance thresholds.

To implement this intent, SB 743 contains amendments to current congestion management law that allow cities and counties to opt out of the LOS standards that would otherwise apply. SB 743 does not prevent a lead agency from continuing to analyze delay or LOS as part of other plans (e.g., a general plan), fee programs, or ongoing network monitoring. However, automobile delay as described by LOS is no longer considered a significant impact on the environment for purposes of CEQA. Lead agencies may still consider vehicle LOS outside of the CEQA process if they determine it is an important part of their transportation planning process. The most common applications will occur for jurisdictions wanting to use vehicle LOS to plan roadways in their general plans or determine nexus relationships for their impact fee programs. Jurisdictions can also continue to condition projects to build transportation improvements through the entitlement process in a variety of ways.

Following several years of draft proposals and related public comments, OPR settled upon VMT as the preferred metric for assessing passenger vehicle-related impacts and issued revised *CEQA Statute & Guidelines* in December 2018, along with a *Technical Advisory on Evaluating Transportation Impacts in*

CEQA (December 2018) (OPR *Technical Advisory*) to assist practitioners in implementing the *CEQA Statute & Guidelines* revisions. Under the revised *CEQA Statute & Guidelines*, vehicle LOS is no longer used to determine significant environmental impacts under CEQA, and analysis of a project's impacts will now be based on assessment of VMT.

The OPR *Technical Advisory* provides guidance and recommendations for SB 743 implementation. However, lead agencies must still make their own specific decisions about metrics, methods, thresholds, and mitigation. Further, the OPR guidance is primarily tied to statewide goals for greenhouse gas (GHG) reduction and does not attempt to balance or resolve potential conflicts between state and lead agency goals, such as those expressed in local agency general plans and/or climate action plans.

The use of VMT as a metric focuses on the total *amount* of driving, rather than the driving *experience*. This new view presents an impact filter intended to promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses. VMT can help identify how projects (land development and infrastructure) influence accessibility (i.e., access to places and people), noise, and emissions; thus, its selection as a metric is aligned with the objectives of SB 743.

Many jurisdictions find it useful to express VMT as an efficiency metric (e.g., VMT per person or VMT per employee). This form of the metric is unrelated to the level of activity in a particular location and more about how efficiently the people at that location travel. A project that contributes to a more efficient use of the transportation system would reduce the total VMT per person as compared to a no-project scenario. A commonly used efficiency metric is "total VMT per service population," in which the denominator, called "service population," includes all the variables that generate vehicle trips in the models that estimate VMT; in most instances, this will be the total number of all residents and employees in the analysis area or project. However, it may also include other categories of people, such as visitors or students, if those categories are used in the trip generation estimates in the model. Based on the background context outlined above, the remainder of this chapter provides information about key decisions the City of Milpitas staff made regarding VMT metrics, calculation methods, and impact thresholds.

2.2 Approach

Under CEQA, agencies must decide what constitutes a significant environmental impact. The *CEQA Statute & Guidelines* encourage local agencies to adopt thresholds of significance. The thresholds for VMT can be quantitative (i.e., a measured value such as the concentration of GHG emissions in the atmosphere) or qualitative performance standards (e.g., VMT on local streets) by which the agency can measure the relative magnitude of an impact caused by a project to determine if the project's impacts are significant. In fact, the new *CEQA Statute & Guidelines* Section 15064.3(b)(4) empower lead agencies to choose the most appropriate VMT methods for transportation impact analysis:

> *Methodology. A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household, or in any other measure. A lead agency may use*

> *models to estimate a project's vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section.*

The City of Milpitas updated their *Transportation Analysis Guidelines* in March 2022 to provide guidance for CEQA-compliant transportation analyses pursuant to SB 743 for all projects in the city. Considering the information and options provided in the *Transportation Analysis Guidelines*, city staff chose to prepare a comprehensive VMT assessment to evaluate the effect of this large land use project. The comprehensive VMT assessment (i.e., VMT including all vehicle trips, vehicle types, and trip purposes without separation by land use) presented in this report considers the project's long-term effect on VMT[1] based on direct and indirect impacts under cumulative conditions. This VMT approach was prepared by transportation engineers and support staff with a strong understanding of CEQA practice and a focus on consistency and compliance with *CEQA Statute & Guidelines*.

The OPR *Technical Advisory* provides a blueprint for organizing key decisions regarding SB 743 methods: the decisions listed later in this section follow the basic structure of the OPR *Technical Advisory*. The OPR *Technical Advisory* recommends considering a project's short-term, long-term, and cumulative effects on VMT but provides limited recommendations on how to prepare a comprehensive VMT assessment for large land use projects.

City staff considered the substantial evidence presented in the OPR *Technical Advisory* and the *Transportation Analysis Guidelines* to make key decisions about the VMT forecasting model, VMT accounting methods, calculation of the baseline and cumulative regional VMT estimates, and VMT thresholds required for a comprehensive analysis.

The inclusion of a project's effects on VMT for retail projects in the OPR *Technical Advisory* is one of the reasons the analysis presented here includes all trip purposes and vehicle types, without separation of VMT by land use, and an evaluation of a project's effects on VMT (i.e., total project-generated VMT per service population and boundary VMT).

The expectations of a CEQA impact analysis to provide a complete picture of the VMT effects on the environment are highlighted within the *CEQA Statute & Guidelines* in the following sections.

[1] This is in contrast with the OPR *Technical Advisory* recommendation to use partial VMT for transportation impact analysis (Governor's Office of Planning and Research, *Technical Advisory: On Evaluating Transportation Impacts in CEQA*, pages 15 and 16). Using partial VMT for project generated VMT screening may not tell the full story of the project's benefits. For example, mixed-use projects help reduce VMT by shortening vehicle trip lengths or reducing vehicle trips because of the convenience of walking, bicycling, or using transit between project destinations. A comprehensive VMT analysis is a more complete evaluation.

- **CEQA Guidelines – Expectations for Environmental Impact Analysis**
  - § 15003 (F) = fullest possible protection of the environment…
  - § 15003 (I) = adequacy, completeness, and good-faith effort at full disclosure…
  - § 15125 (C) = EIR must demonstrate that the significant environmental impacts of the proposed project were adequately investigated…
  - § 15144 = an agency must use its best efforts to find out and disclose…
  - § 15151 = sufficient analysis to allow a decision which intelligently takes account of environmental consequences…

All of these suggest that completeness and accuracy is important when judging an adequate analysis. Furthermore, to understand the effects of a project, VMT inputs for air quality, GHG emissions, and energy consumption already require a comprehensive analysis of total "project-generated" VMT and "project's effect on VMT" using local or regional travel forecasting models:

- **Total (project-generated) VMT per service population (Direct/Project Impacts)**: The sum of the "VMT from" and "VMT to" and within a specific geographic area are divided by the sum of the number of residents and employees in the same geographic area.
- **Project's effects on VMT per service population (Cumulative Impacts)**: An evaluation of the change in travel between Without and With Project Conditions on all roadways within a geographic area under Cumulative Conditions divided by the sum of the number of residents and employees in the same geographic area.

Both total VMT and the project's effects on VMT are needed to fully account for VMT effects that may include changes to VMT generation from neighboring land uses. The importance of a comprehensive analysis using all VMT per service population and that considers a project's effects on VMT is that land use projects can influence the routing of existing trips and the VMT generation of surrounding land uses.[2]

2.2.1 Summary of VMT Methods Decisions

Implementation of a comprehensive VMT assessment requires certain methodological decisions. The following steps were taken to establish SB 743 VMT thresholds:

- Select a VMT calculation tool
  - Use the City of Milpitas's version of the Santa Clara Valley Transportation Authority (VTA) - City/County of Governments of San Mateo County (C/CAG) Bi-County Travel Model (City of Milpitas- Travel Model)
- Select the VMT accounting method(s)

[2] Typical CEQA practice focuses on environmental effects that occur on a typical weekday, so all references to VMT in this document are intended to mean VMT that occurs on a typical weekday.

- Total (project-generated) VMT per service population (Direct/Project Impacts): The sum of the VMT within the specified geographic area (internal-internal trips), "VMT from" the specified geographic area (internal-external trips), and "VMT to" the specified geographic area (external-internal trips), divided by the sum of the number of residents and employees, in the same geographic area.
- Home-based (project generated) VMT per resident (Direct/Project Impacts): The sum of the VMT generated by light-duty vehicles that start or end from a residential land use within the specified geographic area (internal-internal trips), "VMT from" the specified geographic area (internal-external trips), and "VMT to" the specified geographic area (external-internal trips), divided by the sum of the number of residents in the same geographic area.
- Home-based work (project generated) VMT per employee (Direct/Project Impacts): The sum of the VMT generated by light-duty vehicles that start or end from an employment land use within the specified geographic area (internal-internal trips), "VMT from" the specified geographic area (internal-external trips), and "VMT to" the specified geographic area (external-internal trips), divided by the sum of the number of employees in the same geographic area.
- Project's effects on VMT per service population (Cumulative Impacts): An evaluation of the change in travel between Without and With Project Conditions on all roadways within a geographic area under the Cumulative Conditions scenario, divided by the sum of the number of residents and employees in the same geographic area.

- Calculate the baseline and cumulative regional VMT estimates
  - The analysis presented here uses VMT from all trip purposes and vehicle types (i.e., there is no separation of VMT by land use) for Santa Clara County or region (defined as Santa Clara County, Alameda County, and San Mateo County) with a baseline set as Existing Conditions VMT on all roadways in Santa Clara County and in the region, and cumulative set as VMT on all roadways in Santa Clara County and in the region under Cumulative Conditions (refer to the VMT Accounting Methods sections for detailed descriptions).
- Set the VMT threshold(s)
  - The threshold to be applied in assessing project-specific impacts is 15% below the existing total VMT per service population rate, home-based VMT per resident rate, and home-based work VMT per employee rate for the county. (Refer to **Table 3** and **Table 4** in **Chapter 3** for additional details about this threshold.)
  - The threshold to be applied in assessing cumulative impacts (project's effect on VMT) is no change in the cumulative conditions (future) boundary VMT per service population for the region. (Refer to **Table 3** and **Table 5** in **Chapter 3** for additional details about this threshold.)

For direct impacts, total VMT per service population is the metric used to evaluate how the project VMT changes (increases or decreases) between the Without Project and With Project scenarios, considering

both VMT increases due to growth and VMT reductions due to changes in travel behavior. Total VMT per service population is used to evaluate if the VMT rate due to the project (i.e., the direct impacts) is greater than a specified VMT threshold; however, it does not evaluate a project's effect on VMT on the entire roadway system,[3] which is evaluated as part of the cumulative analysis.[4]

Regarding the cumulative analysis, the Specific Plan land use changes are minor in the context of the regional residential population and employment; therefore, it is to be expected that the project's effect on VMT (cumulative impact) would have localized VMT effects. Therefore, the project's effect on VMT, as evaluated by the cumulative effects of the project's land use and transportation changes, compares the changes in boundary VMT per service population[5] between the Cumulative Condition and the Cumulative with Project Condition. Each scenario is described in **Chapter 1**.

For the reasons listed above, the analysis presented in this report focuses on the VMT for all trip purposes and vehicle types without separation of VMT by land use. For the project analysis, the total project-generated VMT threshold was developed using the Existing Conditions total VMT for the region because the net increase in residents would be within Milpitas. As a result, most of the Specific Plan total VMT would be within the region and, therefore, impacts assessed against the regionwide baseline is the most appropriate assessment of the project's direct impact. Like the total VMT baseline rate, the boundary VMT baseline uses the regionwide boundary VMT to evaluate the project's effects on VMT because the project effects are likely to be localized near the Specific Plan area and within the region.

2.3 VMT Accounting Methods

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

- **Project Generated VMT**: The sum of VMT associated with travel from, to, and within a project site.
- **Project's Effect on VMT (within a selected geographic boundary)**: An evaluation of the change in total vehicle travel within a defined geographic area boundary, compared between the Without Project and With Project conditions. The boundary for a project's analysis will be selected based on project characteristics such as size and location.

Project generated VMT per service population is the metric used to evaluate how the project VMT changes (increases or decreases) between the Without Project and With Project scenarios, considering

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

[4] For this analysis, service population is defined as the sum of all residents and employees.

[5] Boundary VMT captures all VMT on a roadway network within a specified geographic area, including local trips plus inter-regional travel, which does not have an origin or destination within the area.

both VMT increases due to growth and VMT reductions due to changes in travel behavior. As noted earlier, project generated VMT per service population is used to evaluate if the VMT rate due to the project is greater than a specified VMT threshold; however, it does not evaluate a project's effect on VMT across an entire roadway system. The project's effect on VMT compares the changes in boundary VMT per service population between the Cumulative Condition and Cumulative with Project Conditions. The analysis presented in this report focuses on the VMT for all trip purposes and vehicle types (i.e., there is no separation of VMT by land use).

2.3.1 Project Generated VMT

The project generated VMT is calculated by summing the "VMT within" the specified geographic area (internal-internal trips), "VMT from" the geographic area (internal-external trips), and "VMT to" the geographic area (external-internal trips), as follows:

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

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

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

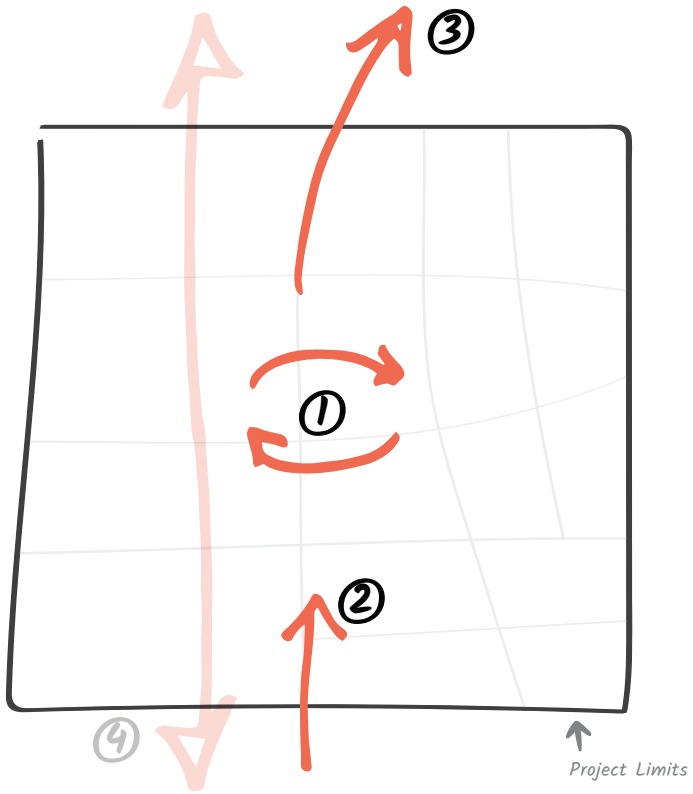
2.3.2 Project's Effect on VMT (Using Boundary VMT)

A project's effect on VMT is evaluated using the boundary VMT, which captures all VMT on the roadway network within a specified geographic area, including local trips plus inter-regional travel that does not have an origin or destination within the study area. The geographical boundary method only considers traffic within the physical limits of the selected study area and does not include the impact of vehicles once they travel outside the area limits. The use of boundary VMT is a more comprehensive evaluation of the potential effects of a project because it captures the combined effect of new VMT, shifts in existing VMT to/from other neighborhoods, and/or shifts in existing traffic to alternate travel routes or modes. The

boundary VMT is also divided by the service population (sum of residents and employees) to account for the effects of population and/or employment growth and the effects of changes in personal travel behavior within the specified geographic area.

Figure 6 presents a representation of both project generated VMT and boundary VMT. Both metrics are needed for a comprehensive evaluation of a project's VMT effects.

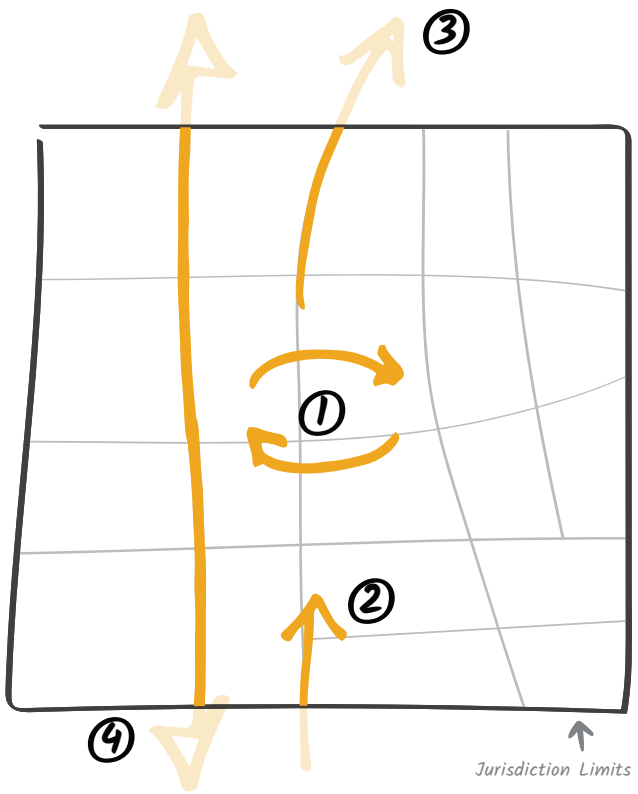
Total VMT
(Project Generated VMT)



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

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

Project Effect on VMT
(Boundary VMT)



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

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

Figure 6

Measuring Vehicle Miles Traveled (VMT)

3. Significance Criteria

The detailed impact criteria for VMT and other transportation-related items are described below. The project's potential impacts are presented in **Chapter 5**.

3.1 VMT Significance Criteria

The *Transportation Analysis Guidelines (TA Guidelines)* provides guidance for the preparation of CEQA-compliant transportation impact analyses pursuant to SB 743 and is the reference guide for this transportation analysis.

The VMT impact analysis presented in this report considers the project's direct impacts relative to total VMT per service population, home-based VMT per resident, and home-based per employee as well the project's long-term effect on VMT using boundary VMT per service population evaluated under Cumulative Conditions. The project would result in a VMT-related impact as described below in **Table 3**.

Table 3: VMT Significance Thresholds

Impact Category	Significance Threshold	Calculated Numeric Threshold for Project
Project Impact	The threshold for assessing project-specific impacts is 15% below the existing total VMT per service population rate of 29.88 miles.	The project would result in a significant project-specific impact if the project total VMT per service population under Cumulative with Project Conditions is greater than 25.40 miles.
	The threshold for assessing project-specific impacts is 15% below the existing home-based VMT per resident rate of 13.97 miles.	The project would result in a significant project-specific impact if the project home-based VMT per resident under Cumulative with Project Conditions is greater than 11.87 miles.
	The threshold for assessing project-specific impacts is 15% below the existing home-based work VMT per employee rate of 16.84 miles.	The project would result in a significant project-specific impact if the project home-based work VMT per employee under Cumulative with Project Conditions is greater than 14.31 miles.
Project Effect	The threshold for assessing cumulative impacts is no change in the Cumulative Conditions (future) boundary VMT per service population for 2040.	The project would result in a significant cumulative impact if it causes the cumulative regionwide daily boundary VMT per service population to be greater than 13.40 miles.

Source: City of Milpitas *Transportation Analysis Guidelines,* March 2022, and Fehr & Peers, 2024.

Each of these criteria is discussed further below.

3.1.1 Project-Generated VMT Impact Thresholds and Impact Criteria

As discussed in the VMT Approach and Analysis Methods chapter (**Chapter 2**), the significance threshold for determining the project's direct impact is a total VMT per service population rate that is 15% below the Existing Conditions total VMT per service population for the county (Santa Clara County). The threshold applied in this analysis is 15% below the existing total VMT per service population of 29.88, which, as shown in **Table 4**, is the existing total VMT of 92,685,100 divided by the service population of 3,101,410. This results in a total VMT per service population threshold of 25.40 miles (29.88 miles * 85% = 25.40 miles).

The significance threshold for determining the project's direct impact is a home-based VMT per resident rate that is 15% below the Existing Conditions home-based VMT per resident threshold for the county (Santa Clara County). The threshold applied in this analysis is 15% below the existing home-based VMT per resident of 13.97, which, as shown in **Table 4,** is the existing home-based VMT of 27,937,530 divided by the resident population of 1,999,110. This results in a home-based VMT per resident threshold of 11.87 miles (13.97 miles * 85% = 11.87 miles).

The significance threshold for determining the project's direct impact is a home-based work VMT per employee rate that is 15% below the Existing Conditions home-based work VMT per employee threshold for the county (Santa Clara County). The threshold applied in this analysis is 15% below the existing home-based work VMT per employee of 16.84, which, as shown in **Table 4,** is the home-based work VMT of 18,561,410 divided by the service population of 1,102,300. This results in a home-based work VMT per employee threshold of 14.31 miles (16.84 miles * 85% = 14.31 miles).

Table 4: Project Generated VMT Threshold

	Project Generated VMT Threshold
Total VMT per Service Population Threshold	
Total Vehicle Miles Traveled (A)[1]	92,685,100
Service Population (B)[1,2]	3,101,410
Total VMT per Service Population (A/B = C)	29.88
Total VMT per Service Population Threshold (C*85% = D)	**25.40**
Home-Based VMT per Resident Threshold	
Home-Based Vehicle Miles Traveled (A)[1]	27,937,530
Residents (B)[1,2]	1,999,110
Home-Based VMT per Resident (A/B = C)	13.97
Home-Based VMT per Resident Threshold (C*85% = D)	**11.87**
Home-Based Work VMT per Employee Threshold	
Home-Based Work Vehicle Miles Traveled (A)[1]	18,561,410
Employees (B)[1,2]	1,102,300
Home-Based Work VMT per Employee (A/B = C)	16.84
Home-Based Work VMT per Employee Threshold (C*85% = D)	**14.31**

Notes:
1. Rounded service population and VMT to nearest 10.
2. Service population is defined as the sum of all residents and employees.

Source: Fehr & Peers, 2024.

Therefore, the project would cause a significant project-generated VMT impact if the Specific Plan total VMT per service population under Cumulative with Project Conditions is greater than 25.40 miles, if the Specific Plan home-based VMT per resident under Cumulative with Project Conditions is greater than 11.87 miles, or if Specific Plan home-based work VMT per employee under Cumulative with Project Conditions is greater than 14.31 miles.

3.1.2 Project's Effect on VMT Thresholds and Impact Criteria

The impact threshold for the project's effect on VMT, or the project's cumulative impact, is the regional[6] boundary VMT per service population, or 13.40 miles (see **Table 5**).

[6] The region is defined as Santa Clara County, Alameda County, and San Mateo County.

Table 5: Project's Effect on VMT (Boundary VMT) Cumulative Threshold

	Boundary VMT Threshold
Boundary Vehicle Miles Traveled (A)[1]	111,997,600
Service Population (B)[1,2]	8,357,810
Boundary VMT per Service Population (A/B = C)	13.40
Boundary VMT per Service Population Threshold (C)	**13.40**

Notes:
1. Rounded service population and VMT to nearest 10.
2. Service population is defined as the sum of all residents and employees.

Source: Fehr & Peers, 2024.

Therefore, the project's effect on VMT would result in a significant cumulative impact if it causes the cumulative regionwide daily boundary VMT per service population to be greater than 13.40 miles.

4. Vehicle Miles Traveled Forecasts

The City of Milpitas Travel Model was used to develop daily VMT and traffic forecasts for the Milpitas Gateway-Main Street Specific Plan. VMT forecasts were prepared for the SB 743 VMT assessment.

4.1 Daily VMT Forecasts

This section summarizes the project generated VMT and boundary VMT forecasts for the Gateway-Main Street Specific Plan under the four study scenarios.

4.1.1 Total Project Generated VMT Forecasts

The total project generated VMT forecasts for the Specific Plan presented in **Table 6** is the expected VMT growth "budget" established by the Specific Plan land use growth assumptions. The Specific Plan's project-generated VMT grows at a slower rate than its service population, and thus the Specific Plan total VMT per service population rate decreases with the introduction of the Specific Plan. This downward trend in the total VMT per service population in the Specific Plan Area is an important observation: it means Milpitas could consider the results of a baseline total VMT per service population sufficient for some land use project types. The full table comparing Existing, Cumulative, and Cumulative with Project Conditions can be found in Attachment A.

The Specific Plan's home-based VMT grows slower than its resident population, and thus the Specific Plan home-based VMT per resident rate decreases with the introduction of the Specific Plan. Between Existing and Cumulative Conditions, the Santa Clara County home-based VMT per resident rate decreases.

The Specific Plan's home-based work VMT decreases more than its employee population, and thus the Specific Plan home-based work VMT per employee rate decreases with the introduction of the Specific Plan. Between Existing and Cumulative Conditions, the Santa Clara County home-based work VMT per employee rate increases.

Table 6: Project Generated VMT Forecasts

Land Use	Existing Conditions[3]	Cumulative with Project Conditions
Milpitas Gateway-Main Street Specific Plan[1]		
Total Project Generated VMT (A)	362,160	536,440
Service Population (B)	14,122	21,925
Total VMT per Service Population (A/B = C)	25.65	24.47
Home-Based VMT (X)	99,410	171,770
Residents (Y)	9,480	16,384
Home-Based VMT per Resident (X/Y = Z)	10.49	10.48

Home-Based Work VMT (X)	182,090	107,360
Employees (Y)	4,642	5,541
Home-Based Work VMT per Employee (X/Y = Z)	39.23	19.38
Santa Clara County[2]		
Total Project Generated VMT (A)	92,685,100	114,809,550
Service Population (B)	3,101,410	3,935,270
Total VMT per Service Population (A/B = C)	29.88	29.17
Home-Based VMT (X)	27,937,530	34,148,330
Residents (Y)	1,999,110	2,594,170
Home-Based VMT per Resident (X/Y = Z)	13.97	13.16
Home-Based Work VMT (X)	18,561,410	23,249,540
Employees (Y)	1,102,300	1,341,110
Home-Based Work VMT per Employee (X/Y = Z)	16.84	17.34

Notes: Population values rounded to nearest 10.
1. TAZs included in this summary: 35, 252, 281, 283, 284, 301, 305, 313, 314, 315, 320, 321.
2. TAZs included in this summary: 1-1490.
3. Existing Conditions represent 2020 conditions, which was interpolated from the 2015 base year and 2040 horizon year.

Source: City of Milpitas Travel Model land use summary prepared by Fehr & Peers, 2024.

4.1.2 Boundary VMT Forecasts

Boundary VMT is a VMT metric that measures VMT on a jurisdiction's roadway system and is presented in **Table 7**. Boundary VMT is then divided by the service population (sum of all residential population and employment population) to calculate boundary VMT per service population. The South Bay Region's boundary VMT per service population slightly decreases with the introduction of the Specific Plan. The change in boundary VMT with the introduction of the Specific Plan captures the effect of shifting VMT due to new connections with project land uses (e.g., increased housing density) and VMT efficiency of land use in the project's location.

Table 7: Boundary VMT Forecasts

Land Use	Cumulative Conditions[1]	Cumulative with Project Conditions
South Bay (Santa Clara County + Alameda County + San Mateo County)		
Total Project Generated VMT (A)	111,997,600	111,890,030
Service Population (B)	8,357,810	8,359,030
Total VMT per Service Population (A/B = C)	13.40	13.39

Notes: Population values rounded to nearest 10.
1. Cumulative Conditions represent 2040 conditions.

Source: City of Milpitas Travel Model land use summary prepared by Fehr & Peers, 2024.

4.2 City of Milpitas Travel Model

The City of Milpitas Travel Model was used to develop the VMT forecasts for this study. A description of the City of Milpitas travel model, land use inputs, and transportation network inputs are discussed in the following sections.

4.2.1 City of Milpitas Travel Model Documentation

The project uses the City of Milpitas Travel Model received from Kittelson & Associates for the Milpitas Metro Specific Plan, which is based on the Santa Clara Valley Transportation Authority (VTA) -/ City/County of Governments of San Mateo County (C/CAG) Bi-County Travel Model. This version of the City of Milpitas Travel Model uses 2015 as its base year, and 2040 as its cumulative horizon year. To reflect 2020 as the base year for the analysis, the model was interpolated between 2015 and 2040. Kittelson had updated the model to include the full buildout of the Milpitas General Plan (which includes the Midtown Specific Plan) and Milpitas Metro Specific Plan in 2040.

The City of Milpitas Travel Model includes the regional roadways and major arterials of the nine-county Bay Area, the Association of Monterey Bay Area Governments (AMBAG) region (Santa Cruz County, Monterey County, and San Benito County), and portions of the San Joaquin Valley. It also contains additional transportation network detail and refined transportation analysis zones (TAZs)[7] in San Mateo County and Santa Clara County. The City of Milpitas Travel Model land use inputs are based on Association of Bay Area Governments (ABAG) 2017 land use projections (*Plan Bay Area 2040* land use projections), 2010 Census socio-economic data (with some additional refinements in 2019), and a future regional transportation infrastructure consistent with *Plan Bay Area 2040* (July 2017). The City of Milpitas Travel Model has a 2040 horizon year.

The TAZ size influences the types of streets vehicle traffic is typically assigned to. For the City of Milpitas Travel Model, an arterial or minor arterial is the lowest street level traffic is assigned to because the TAZ structure in Milpitas has moderate detail. The City of Milpitas Travel Model has a mode share model that can be used to express changes in mode share.

The future year City of Milpitas Travel Model is used to develop forecasts for Cumulative (2040) Conditions and includes projected growth to Year 2040. Planned and funded roadway improvements associated with the *Valley Transportation Plan (VTP) 2040* (adopted in October 2014) are also included. VTP projects near the City of Milpitas include the following:

- BART Silicon Valley: The Berryessa Extension (VTP ID: T1)
- BART Silicon Valley: The Santa Clara Extension (VTP ID: T2)
- BART Berryessa Connector (VTP ID: T6)

[7] Transportation analysis zones, also referred to as TAZs, are small geographic areas within the City of Milpitas Travel Model. As defined by *NCHRP Report 716, Travel Demand Forecasting: Parameters and Techniques,* TRB, 2012, "TAZ boundaries are usually major roadways, jurisdictional borders, and geographic boundaries and are defined by homogeneous land uses to the extent possible."

- Tasman Express Light Rail Improvement Project (Long T) (VTP ID: T11)
- I-880 Express Lanes: Alameda County line to US 101 (VTP ID: H7)
- I-680 Express Lanes: Calaveras Boulevard to Montague Expressway (VTP ID: H14)
- Calaveras Boulevard Widening (VTP ID: R6)
- South Milpitas Blvd. from Calaveras Boulevard to Montague Expressway Bicycle Path and Sidewalk on east side (1.5 miles) (VTP ID: B84)
- South Milpitas Boulevard SMART Corridor (VTP ID: S17)

The City of Milpitas Travel Model has four time periods to address travel during congested morning and evening peak periods and uncongested mid-day and midnight time periods. During congested times, the average trip length and speed of travel change.

4.2.2 Model Input Adjustments

For the purpose of this VMT analysis, the baseline (2015) City of Milpitas Travel Model land use and population were updated by Kittelson & Associates to reflect the development of the Milpitas General Plan (which includes the Midtown Specific Plan) and Metro Specific Plan in the City of Milpitas. In addition, the Year 2040 City of Milpitas Travel Model was updated to reflect the full buildout of the Milpitas General Plan and Metro Specific Plan.

4.2.2.1 Including Inter-Regional Travel for VMT Analysis

The OPR *Technical Advisory* cites the importance of not truncating (i.e., ending or omitting a trip outside off the geographic boundary; truncating has the effect of shortening a trip to/from a destination) trip lengths based on travel forecasting model or political boundaries:

> ***Considerations for All Projects***. *Lead agencies should not truncate any VMT analysis because of jurisdictional or other boundaries, for example, by failing to count the portion of a trip that falls outside the jurisdiction or by discounting the VMT from a trip that crosses a jurisdictional boundary. CEQA requires environmental analyses to reflect a "good faith effort at full disclosure." (CEQA Statute & Guidelines, § 15151.) Thus, where methodologies exist that can estimate the full extent of vehicle travel from a project, the lead agency should apply them to do so. Where those VMT effects will grow over time, analyses should consider both a project's short-term and long-term effects on VMT.* (Quote from page 6 of the *Technical Advisory: On Evaluating Transportation Impacts in CEQA*, December 2018).

The City of Milpitas Travel Model extends south beyond the Bay Area regional boundary into the AMBAG region (Santa Cruz County, Monterey County, and San Benito County) and east into San Joaquin County. However, the travel model stops at the Bay Area regional boundary and does not include inter-regional travel to Mendocino County, Lake County, Yolo County, and Merced County, which shortens the vehicle travel to those counties. This truncation results in a lower total project generated VMT estimate for the region and Santa Clara County and affects baseline regional or county baseline VMT values used to establish VMT thresholds.

The California statewide travel demand model (CSTDM) was used to estimate and forecast trip lengths that occur outside the City of Milpitas Travel Model boundary. These trip lengths have been appended to the external stations[8] (refer to **Table 8**) and are reflected in the VMT estimates and forecasts contained in this analysis.

Table 8: External Station Adjustments at Bay Area Regional Boundary

External Station (Connecting County)	Distance (Miles)
SR 1 – Mendocino County	9.4
US 101 – Mendocino County	48.4
SR 29 – Lake County	21.4
I-505 – Yolo County	101.2
SR 113 – Yolo County	12.9
I-80 – Yolo County	39.2
SR 12 – San Joaquin County	No adjustment made to these external station distances because the City of Milpitas Travel Model area incudes San Joaquin County.
SR 4 – San Joaquin County	
I-205 – San Joaquin County	
SR 152 – Merced County	162.9
SR 25 – San Benito County	No adjustment made to these external station distances because the City of Milpitas Travel Model area incudes San Benito County.
US 101 – San Benito County	
SR 152 – Santa Cruz County	No adjustment made to these external station distances because the City of Milpitas Travel Model area incudes Santa Cruz County.
SR 17 – Santa Cruz County	
SR 9 – Santa Cruz County	
SR 1 – Santa Cruz County	

Notes: External station adjustments rounded to nearest tenth of a mile.
Source: California statewide travel demand model (CSTDM) was used to develop the external station adjustments.
Fehr & Peers, 2024.

[8] External stations are located on the major transportation routes into and out of the City of Milpitas Travel Model boundary. These stations are used to load traffic generated from and/or destined to locations outside of the City of Milpitas Travel Model boundary.

5. Environmental Impacts and Mitigation Assessment

This section describes the analysis methods, assumptions, and results used to identify potential significant impacts of the proposed project on the transportation system per the significance criteria described in **Section 5.1.1**. Transportation/traffic impacts are described and assessed, and mitigation measures are recommended for impacts identified as significant.

5.1 VMT Analysis

This section presents an analysis of the project's impacts relative to VMT. Both direct (project-generated) and cumulative (project's effect) VMT impacts were evaluated. Direct VMT impacts were evaluated using total VMT per service population rate, home-based VMT per resident rate, and home-based work VMT per employee rate of the Specific Plan under Cumulative with Project Conditions. Indirect and cumulative VMT impacts were evaluated using boundary VMT per service population under Cumulative with Project Conditions. The results of the project-generated VMT and project's effect on VMT analyses are presented in **Table 9** and **Table 10**, respectively.

5.1.1 Total Project Generated VMT Assessment

The results of the project generated VMT analysis is presented in **Table 9** below and determined as follows:

- For the Cumulative (2040) with Project Conditions, the Specific Plan would generate 536,440 daily total VMT, or 24.47 miles on a per service population basis. This value would be about 4% less than the VMT threshold (25.40 total VMT per service population) and would be considered a **less-than-significant** impact.
- For the Cumulative (2040) with Project Conditions, the Specific Plan would generate 171,770 home-based VMT, or 10.48 miles on a per resident basis. This value would be approximately 12% less than the VMT threshold (11.87 home-based VMT per resident) and would be considered a **less-than-significant** impact.
- For the Cumulative (2040) with Project Conditions, the Specific Plan would generate 107,360 home-based work VMT, or 19.38 miles on a per employee basis. This value would be approximately 35% more than the VMT threshold (14.31 home-based work VMT per employee) and would be considered a **significant** impact.

Implementation of the proposed Specific Plan would result in excessive home-based work VMT per employee under Cumulative (2040) with Project Conditions due to employment growth planned within the city and would be considered a ***significant*** impact.

Table 9: Total Project-Generated VMT Assessment

	Total Project Generated VMT
Total VMT per Service Population	
Total Project Generated Vehicle Miles Traveled (A)[1]	536,440
Service Population (B)[1,2]	21,925
Total Project Generated VMT per Service Population (A/B = C)	24.47
Initial Impact Assessment for Total VMT per Service Population	
Total VMT per Service Population Threshold	25.40 (4% below the threshold)
(Initial Impact Conclusion)	Less-Than-Significant
Home-Based VMT per Resident	
Home-Based VMT (A)[1]	171,770
Residents (B)[1,2]	16,384
Home-Based VMT per Resident (A/B = C)	10.48
Initial Impact Assessment for Home-Based VMT per Resident	
Home-Based VMT per Resident Threshold	11.87 (12% below the threshold)
(Initial Impact Conclusion)	Less-Than-Significant
Home-Based Work VMT per Employee	
Home-Based Work VMT (A)[1]	107,360
Employees (B)[1,2]	5,541
Home-Based Work VMT per Employee (A/B = C)	19.38
Initial Impact Assessment for Home-Based Work VMT per Employee	
Home-Based Work VMT per Employee Threshold	14.31 (35% greater than threshold)
(Initial Impact Conclusion)	**Significant**

Notes:
1. Rounded service population and VMT to nearest 10.
2. Service population is defined as the sum of all residents and employees.

Source: Fehr & Peers, 2024.

5.1.1.1 VMT Mitigation

This finding accords with the Milpitas General Plan, which describes an impact for the home-based work VMT per employee. A goal of the *Milpitas General Plan* (March 2021) is to provide a transportation system that minimizes vehicle miles traveled (VMT) (Goal CIR-1).

VMT mitigation effectiveness depends on its scale (how much VMT the mitigation acts on) and its ability to reduce VMT in different VMT reduction programs. The biggest effects of VMT mitigation actions (and resultant emissions reductions) derive from statewide or region-wide policies that increase the cost, or

reduce the convenience, of using vehicles. Other region-wide actions include improving land use location efficiency and infrastructure investments that support transit, walking, and bicycling. While there are many VMT mitigation actions that can influence VMT and emissions, individual site level VMT mitigation actions (such as TDM measures) typically have the smallest effect on VMT reductions because they are applied to new VMT generated by new buildings, while region-wide level programs have the greatest effect on VMT reduction. Additionally, the available research indicates that the effectiveness of TDM measures varies substantially depending on the context in which they are applied. TDM is most effective in urban areas where urban character (land use and built environment) and land use mix are most supportive of vehicle trip reduction. TDM programs are less effective in suburban areas where the built environment and transportation network are more dispersed and where modes are typically limited to personal vehicles. **Figure 7** presents a conceptual illustration of the relative importance of scale.

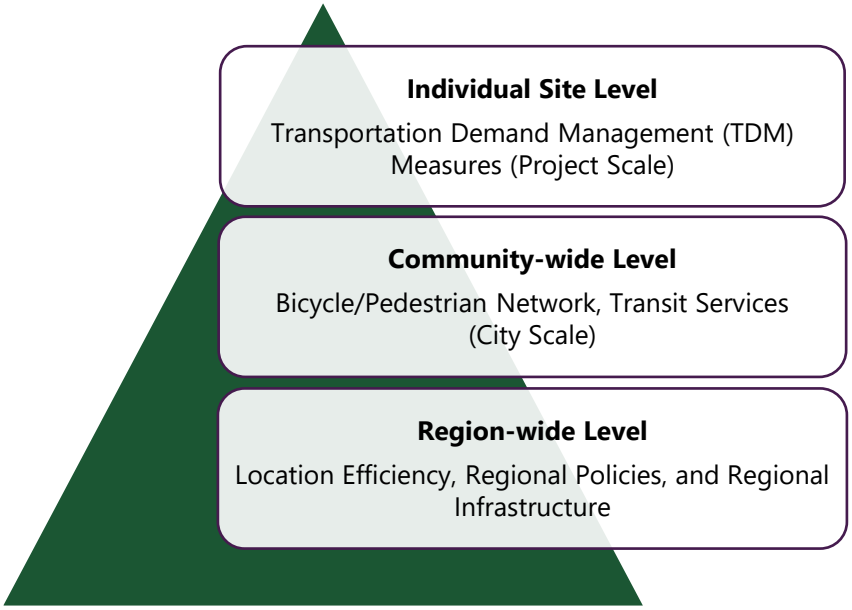


Figure 7: Transportation-Related GHG Reduction Measures

Due to these individual site level implementation barriers, ad-hoc project-by-project mitigation is less effective at reducing VMT compared with larger scale community-wide level and region-wide VMT mitigation actions. The City of Milpitas would require implementation of individual site level, community-wide, and region-wide VMT mitigation actions to reduce VMT. These mitigation actions may be implemented through TDM programs, a transportation management association (TMA) that runs a community-wide VMT mitigation actions, a VMT mitigation program, in-lieu fee programs, and other land use project conditions to reduce VMT.

The current standard for calculating VMT reduction efficacy from TDM strategies is the California Air Pollution Control Officers Association (CAPCOA) 2021 *Handbook for Analyzing GHG Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity*. The handbook quantifies the effects of

numerous land use and design strategies including travel incentives and disincentives. Feasible home-based work VMT reduction measures for this project are listed below. The estimated reduction in VMT come from California Air Pollution Control Officers Association (CAPCOA) *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity* (August 2021). The CAPCOA VMT reductions presented below are associated with the affected project population. All employers would be required to implement the project-level VMT reduction measures, and coordinate with the relevant agencies for the community- and regional-level VMT reduction measures.

Project-Level VMT Reduction Measures

1. Employ marketing and encouragement strategies to promote non-drive-alone travel: This measure encompasses the aspects of typical TDM programs that rely on providing customized information and incentives to encourage use of transportation alternatives in place of single occupancy vehicles. The process is typically a residential-based approach for each community. This measure could reduce employee commute / home-based work VMT up to 4%.
2. Encourage telecommuting and alternative work schedules: This measure relies on effective Internet access and speeds to individual project sites/buildings to provide the opportunity for telecommuting. The effectiveness of the measure depends on the ultimate building tenants and this should be a factor when considering the potential VMT reduction (while this measure certainly reduces commute-related VMT, recent research has shown that total VMT from telecommuters can exceed VMT from non-telecommuters).
3. Require employer-based shuttle or vanpool service: This measure involves working with individual employers or building managers to offer shuttle services. For large employers with corporate campuses, this may include running private shuttles to and from neighborhoods where employees live. For smaller employers, or buildings with multiple employer tenants, it may involve a shuttle connecting to regional transit, such as a Caltrain station, funded through an organization such as a Transportation Management Association (TMA). This measure could reduce employee commute / home-based work VMT up to 7%.

Community-Level VMT Reduction Measures:

4. Provide ridesharing programs: This measure focuses on encouraging carpooling and vanpooling by project site/building tenants and has similar limitations to encouraging telecommuting and alternate work schedules measure earlier. This measure could reduce employee commute / home-based work VMT up to 8%.
5. Implement car-sharing program: This measure reduces the need to own a vehicle or reduces the number of vehicles owned by a household by making it convenient to access a shared vehicle for trips where vehicle use is essential. Examples include programs such as ZipCar, Car2Go, and Gig. This measure could reduce home-based work VMT up to .15%.
6. Implement Bikeshare, Electric Bikeshare, and Scootershare Program: This measure will establish a bikeshare and scootershare program. The projects provide users with on-demand access to bicycles, electric pedal assist bicycles, and electric scooters for short-term rentals. The Specific Plan identifies micromobility strategies such as a study to consider integrating micromobility hubs and potentially consider integrating car-share services and mode shifts with transit. They

encourage mode shift from vehicles to bicycles and scooters, displacing VMT and thus reducing GHG emissions. These three programs could reduce VMT up to .02%, .06%, and .07%, respectively.

7. Implement on-street market pricing for parking: This measure focuses on implementing a pricing measure for parking by pricing all on-street parking in central business districts, employment centers, and retail centers. Priced parking would encourage "park once" behavior and may also result in area-wide mode shifts. This measure is recommended as a future action in the Specific Plan. This measure could reduce home-based work VMT up to 30%.

Regional-Level VMT Reduction Measures:[9]

8. Increase transit service frequency and speed: This measure focuses on improving transit service convenience and travel time competitiveness with driving. Given existing land use density in Milpitas, this measure may be limited to traditional commuter transit where trips can be pooled at the start and end locations, or it may require new forms of demand-responsive transit service. A demand-responsive service could be provided as subsidized trips by contracting private transportation network companies (TNCs) or taxi companies. The Specific Plan could allocate curb space for SMART. Alternatively, a public transit operator could provide subsidized service but would need to improve on traditional cost effectiveness. Note that implementation of this measure would require regional or local agency implementation, substantial changes to current transit practices, and would not likely be applicable for individual development projects. This measure could reduce VMT by up to 11.3%.

The VMT reduction measures listed above were developed in consultation with City staff. These VMT reduction measures are complementary to those identified in the Specific Plan organized by implementation scale. Several factors, including costs, feasibility, and effectiveness, were considered when developing this list of VMT reduction measures.

When determining the VMT reduction needed, other available evidence related to VMT trends in California was considered; specifically, CARB's *2017 Climate Change Scoping Plan Update*[10] and *2022 Scoping Plan Update,*[11] which assumes all regions in the state will meet the GHG reduction targets set in their Regional Transportation Plans and Sustainable Communities Strategies (RTP/SCS). Thus far, there is no indication that all regions are meeting those targets, and vehicular travel in California (at least prior to the COVID-19 pandemic) has been increasing rather than decreasing over the past several years (see CARB's *Improved Program Measurement Would Help California Work More Strategically to Meet Its Climate Change Goals*, February 2021, and CARB's *2018 Progress Report: California's Sustainable Community and Climate Protection Act*, November 2018). The *2020 Mobile Source Strategy* (California Air Resources Board

[9] Regional-level VMT Reduction Measures include Location Efficiency, Community-wide and Regional Policies, and Community-wide and Regional Infrastructure.

[10] California Air Resources Board's *2017 Climate Change Scoping Plan Update: The Strategy for Achieving California's 2030 Greenhouse Gas Target* (January 2019)

[11] California Air Resources Board's *2022 Scoping Plan Update* (November 2022)

2021) also acknowledges the challenge of VMT reduction and states, "Without additional policy intervention, VMT may continue to rise."

Further, the VMT reduction needed does not account for any future increases in the use of TNCs (such as Uber and Lyft) or commercial delivery services, nor does it envision the potential for development of autonomous vehicles or any other emerging transportation innovations. These emerging transportation innovations will alter the effectiveness of VMT mitigation action, some increasing VMT reduction effectiveness while others decrease VMT reduction effectiveness.

Based on the discussion above, there is growing evidence that demonstrates the challenge of reducing VMT when background conditions are contributing to higher VMT generation rates, suggesting greater action is needed by the state to meet the state's GHG and VMT reduction goals. Without further action by the state to discourage vehicle travel (i.e., increasing the cost of driving and providing provisions for bus services to avoid congestion delays) while reducing the barriers or constraints that prevent more efficient use of vehicles and greater use of transit, walking, and bicycling, VMT trends are unlikely to reverse, regardless of the steps and measures the City implements through its Land Use map and General Plan transportation policies. The Specific Plan includes a comprehensive approach to reducing VMT through implementation of numerous policies and actions, that through this Specific Plan establishes a land use map that prioritizes higher density development near transit stations. However, in order to reduce VMT to a less than significant level, the City must rely on additional assistance from regional and state-level agencies to affect major changes in driving patterns and behaviors throughout the greater Bay Area region. The biggest effects of VMT mitigation actions (and resultant emissions reductions) derive from statewide or region-wide policies that increase the cost, or reduce the convenience, of using vehicles. The City of Milpitas cannot effectively or practically implement statewide or region-wide policies, other than to be supportive of and complimentary to these efforts in the City's General Plan and Specific Plan, which the City has done, as described above. There are no additional feasible mitigation strategies available to the City to reduce this impact to a less than significant level. As a result, the VMT impacts associated with employment-based uses allowed by the proposed Specific Plan would be considered **significant and unavoidable**.

5.1.2 Project's Effect on VMT Analysis (Cumulative Analysis)

5.1.2.1 Project's Effect on VMT Assessment (using Boundary VMT)

To evaluate the project's effect on VMT between the Cumulative Condition and Cumulative with Project Condition, the boundary VMT for the region (i.e., Santa Clara County, Alameda County, and San Mateo County) is divided by the service population (sum of all residential population and employment population). The change in boundary VMT captures the combined effect of:

- shifts in existing VMT due to land use and transportation network changes in the region,
- shifts in existing traffic to alternate travel routes or modes, and
- new VMT from additional land use development in the region.

The Cumulative Condition for the area is presumed to be the full buildout of the Milpitas General Plan, which includes the Midtown Specific Plan, whereas in the Cumulative with Project Condition the Midtown Specific Plan is replaced by the Gateway-Main Street Specific Plan. As shown in **Table 10**, this analysis evaluated whether the project would result in an increase in the regionwide boundary VMT from Cumulative Conditions to Cumulative with Project Conditions. The boundary VMT per service population slightly decreases from Cumulative Conditions to Cumulative with Project Conditions. The regional impact threshold for the project's effect on VMT is the regionwide Cumulative Conditions boundary VMT per service population of 13.40 miles per service population.

Under Cumulative with Project Conditions the regionwide boundary VMT per service population is 13.39, which is below the applicable threshold of 13.40. Therefore, the impact of the project's effect on VMT under Cumulative with Project Conditions would be ***less-than-significant***.

Table 10: Project's Effect (Boundary) VMT Assessment

	Cumulative Condition	Cumulative with Project Condition
South Bay Area[1]		
Boundary Vehicle Miles Traveled (A)[1]	111,997,600	111,890,030
Service Population (B)[1,2]	8,357,810	8,359,030
Boundary VMT per Service Population (A/B = C)	13.40	13.39
Boundary VMT per Service Population Threshold		13.40
(Initial Impact Conclusion)		Less-Than-Significant

Notes:
1. Rounded service population and VMT to nearest 10.
2. Service population is defined as the sum of all residents and employees.

Source: Fehr & Peers, 2024.

Attachment A: Project Generated VMT Forecasts

Table A-1: Project Generated VMT Forecasts

Land Use	Existing Conditions[3]	Cumulative Conditions[4]	Cumulative with Project Conditions
Milpitas Gateway-Main Street Specific Plan[1]			
Total Project Generated VMT (A)	362,160	685,920	536,440
Service Population (B)	14,122	20,466	21,925
Total VMT per Service Population (A/B = C)	25.65	33.52	24.47
Home-Based VMT (X)	99,410	127,030	171,770
Residents (Y)	9,480	12,568	16,384
Home-Based VMT per Resident (X/Y = Z)	10.49	10.11	10.48
Home-Based Work VMT (X)	182,090	142,120	107,360
Employees (Y)	4,642	7,898	5,541
Home-Based Work VMT per Employee (X/Y = Z)	39.23	17.99	19.38
Santa Clara County[2]			
Total Project Generated VMT (A)	92,685,100	114,828,140	114,809,550
Service Population (B)	3,101,410	3,933,820	3,935,270
Total VMT per Service Population (A/B = C)	29.88	29.19	29.17
Home-Based VMT (X)	27,937,530	34,047,470	34,148,330
Residents (Y)	1,999,110	2,590,350	2,594,170
Home-Based VMT per Resident (X/Y = Z)	13.97	13.14	13.16
Home-Based Work VMT (X)	18,561,410	23,245,810	23,249,540
Employees (Y)	1,102,300	1,343,460	1,341,110
Home-Based Work VMT per Employee (X/Y = Z)	16.84	17.30	17.34

Notes: Population values rounded to nearest 10.

1. TAZs included in this summary: 35, 252, 281, 283, 284, 301, 305, 313, 314, 315, 320, 321.
2. TAZs included in this summary: 1-1490.
3. Existing Conditions represent 2020 conditions, which was interpolated from the 2015 base year and 2040 horizon year.
4. Cumulative Conditions represent 2040 conditions (Midtown Specific Plan).

Source: City of Milpitas Travel Model land use summary prepared by Fehr & Peers, 2024.