

***In-person participation by the public will be permitted.***

*Submit a written public comment prior to the meeting: Public comments submitted to [krashad@atwater.org](mailto:krashad@atwater.org) by 4:00 p.m. on the day of the meeting will be distributed to the Planning Commission and made part of the official minutes but will not be read out loud during the meeting.*

*Assistance will be provided to those requiring accommodations for disabilities in compliance with the Americans with Disabilities Act of 1990. Persons requesting accommodation should contact the City in advance of the meeting, and as soon as possible, at (209) 357-6241.*

# **CITY OF ATWATER PLANNING COMMISSION**

## **AGENDA**

Council Chambers  
750 Bellevue Road  
Atwater, CA 95301

**June 21, 2023**

CALL TO ORDER:

**6:00 PM**



INVOCATION:

**Invocation by Police Chaplin McClellan**

PLEDGE OF ALLEGIANCE TO THE FLAG:

ROLL CALL:

**Borgwardt\_\_\_\_, Kadach\_\_\_\_, Sanchez-Garcia \_\_\_\_\_, Sanders\_\_\_\_, Daugherty\_\_\_\_\_**

SUBSEQUENT NEED ITEMS: (The Planning Secretary shall announce any requests for items requiring immediate action subsequent to the posting of the agenda. Subsequent need items require a two-thirds vote of the members of the Commission present at the meeting.)

APPROVAL OF AGENDA AS POSTED OR AS AMENDED: (This is the time for the Commission to remove items from the agenda or to change the order of the agenda.)

**Staff's Recommendation:** Motion to approve agenda as posted or as amended.

APPROVAL OF MINUTES:

- a) May 17, 2023 – Regular Meeting
- b) June 1, 2023 – Special Meeting

**Staff's Recommendation:** Approval of minutes as listed.

PETITIONS AND COMMUNICATIONS: **None**

PUBLIC HEARINGS:

1. **Public Hearing to consider adopting a Resolution recommending to the City Council of Atwater approving a General Plan Amendment No. 23-06-0100 adopting The Merced County Association of Governments Thresholds and Implementation Guidelines.** (Applicant: City of Atwater)

**Staff's Recommendation:** Open the public hearing and receive any testimony given;

Close the public hearing;

Make a finding that the project is categorically exempt under California Environmental Quality Act (CEQA) guideline section 15308, "Actions by Regulatory Agencies for Protection of the Environment," and adopt Resolution No. 0225-23, making a recommendation that the City Council of Atwater approve General Plan Amendment No. 23-06-0100 adopting the Merced County Association of Governments Thresholds and Implementation Guidelines.

2. **Public hearing to consider adopting a resolution recommending City Council adopt a Zoning Ordinance Text Amendment No. 23-10-0100 Amending Chapter 17.43 "D-BD, Downtown Business District" and Chapter 17.63 "Parking Requirements" of the Atwater Municipal Code for parking requirements.** (Applicant: City of Atwater)

**Staff's Recommendation:** Open the public hearing and receive any testimony given from the public.

Close the public hearing;

Make a finding that the project is categorically exempt under California Environmental Quality Act (CEQA) guideline section 15061, (b)(3) the "Review for Exemption," and adopt Resolution No. PC 0230-23, Recommending that the City Council approve Zoning Ordinance Text Amendment No. 23-11-0100 amending Chapter 17.43 "D-BD," Downtown Business District" and Chapter 17.63 "Parking Requirements" of the Atwater Municipal Code for parking requirements.

REPORTS AND PRESENTATION FROM STAFF:

**1. Deputy City Manager / Community Development Director Verbal Updates**

COMMENTS FROM THE PUBLIC:

**NOTICE TO THE PUBLIC**

At this time any person may comment on any item which is not on the agenda. You may state your name and address for the record; however, it is not required. Action will not be taken on an item that is not on the agenda. If it requires action, it will be referred to staff and/or placed on a future agenda. Please limit comments to a maximum of three (3) minutes.

COMMISSIONER MATTERS:

**Planning Commissioner Comments**

ADJOURNMENT:

CERTIFICATION:

I, Kayla Rashad, Planning Commission Recording Secretary, do hereby certify that a copy of the foregoing Agenda was posted at City Hall a minimum of 72 hours prior to the meeting.

*Kayla Rashad*

\_\_\_\_\_  
Kayla Rashad,  
Planning Commission Recording Secretary

**SB 343 NOTICE**

*In accordance with California Government Code Section 54957.5, any writing or document that is a public record, relates to an open session agenda item and is distributed less than 72 hours prior to a regular meeting will be made available for public inspection in the General Services Department at City Hall during normal business hours at 750 Bellevue Road.*

*If, however, the document or writing is not distributed until the regular meeting to which it relates, then the document or writing will be made available to the public at the location of the meeting, as listed on this agenda at 750 Bellevue Road.*



*In compliance with the Federal Americans with Disabilities Act of 1990, upon request, the agenda can be provided in an alternative format to accommodate special needs. If you require special accommodations to participate in a Planning Commission meeting due to a disability, please contact the Planning Commission Secretary a minimum of five (5) business days in advance of the meeting at (209)812-1031. You may also send the request by email to*



# CITY OF ATWATER

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## PLANNING COMMISSION

### ACTION MINUTES

**May 17, 2023**

REGULAR SESSION: (Council Chambers)

*The Planning Commission of the City of Atwater met in Regular Session this date at 6:00 PM in the City Council Chambers located at the Atwater Civic Center, 750 Bellevue Road, Atwater, California; Chairperson Daugherty presiding.*

INVOCATION:

*Invocation by Chaplain Thomas*

PLEDGE OF ALLEGIANCE TO THE FLAG:

*The Pledge of Allegiance was led by Commission Member Sanchez-Garcia.*

ROLL CALL:

**Present:** *Planning Commission Members Borgwardt, Kadach, Sanchez-Garcia, Sanders, Daugherty*

**Absent:** *None*

**Staff Present:** *Battalion Chief Blaine, Chief Salvador, Deputy City Manager / Community Development Director Thompson, Recording Secretary Rashad, and Senior Planner Rashe.*

SUBSEQUENT NEED ITEMS:

*None*



APPROVAL OF AGENDA AS POSTED OR AS AMENDED:

***MOTION:*** *Planning Commission Member Kadach moved to approve the agenda as posted. The motion was seconded by Planning Commission Member Sanders and the vote was: Ayes: Planning Commission Members Borgwardt, Kadach, Sanchez-Garcia, Sanders, Daugherty; Noes: None; Absent: None. The motion passed.*

APPROVAL OF MINUTES:

a) April 19, 2023 – Regular Meeting

***MOTION:*** *Planning Commission Member Borgwardt moved to approve the minutes with a technical correction. The motion was seconded by Planning Commission Member Kadach and the vote was: Ayes: Planning Commission Members Borgwardt, Kadach, Sanders, Sanchez-Garcia, Daugherty; Noes: None; Absent: None. The motion passed.*

PETITIONS AND COMMUNICATIONS:

Request from Old Town Atwater for a “Broadway Beach Car Show” and temporary road closures. (Applicant: Old Town Atwater)

***Applicant Levi Ortega spoke regarding the outdoor event.***

***MOTION:*** *A roll call vote was done to approve the request from the Old Town Atwater for a Broadway Beach Car Show. The vote was: Ayes: Planning Commission Members Daugherty, Borgwardt, Sanders, Kadach, Sanchez-Garcia; Noes: None; Absent: None. The motion passed.*

Request from the 4<sup>th</sup> of July Committee for the “4<sup>th</sup> of July Parade,” Vendors at Ralston Park and temporary road closures. (Applicant: 4<sup>th</sup> of July Committee).

***The Applicant spoke regarding the 4<sup>th</sup> of July Celebrations.***

***MOTION:*** *A roll call vote was done to approve the request from the 4<sup>th</sup> of July Committee for a 4<sup>th</sup> of July Parade and Vendors at Ralston Park. The vote was: Ayes: Planning Commission Members Daugherty, Borgwardt, Sanders, Kadach, Sanchez-Garcia; Noes: None; Absent: None. The motion passed.*

Request from the Merced Running Club for the “Run for Independence” and temporary road closures. (Applicant: Merced Running Club)

***The Applicant spoke regarding their outdoor event.***

***MOTION:*** *A roll call vote was done to approve the request from the Merced Running Club for the Run for Independence. The vote was: Ayes: Planning Commission Members Daugherty, Borgwardt, Sanders, Kadach, Sanchez-Garcia; Noes: None; Absent: None. The motion passed.*

PUBLIC HEARINGS:

Public hearing to consider adopting a resolution approving a Tentative Parcel Map No. 22-09-0100 and Site Plan No. 22-09-0200 located West of Hazel Avenue, Atwater (APN: 003-160-026). (Applicant: AG-K Properties, LLC)

***Chairperson Daugherty opened the public hearing.***

***Senior Planner Rashe informed the Planning Commission Members that the applicant has postponed their submittal and will be bringing it back at a later date.***

***No one else came forward to speak.***

***Chairperson Daugherty closed the public hearing.***

***Chairperson Daugherty announced the withdrawal of this application and to move it to a later Planning Commission date.***

Public Hearing to Make An Environmental Finding That The Project Is Categorically Exempt Under California Environmental Quality Act (CEQA) and Adopting a Resolution Recommending City Council Designate a Two-Way Stop on Castle Street and Drakeley Avenue (Applicant: City of Atwater)

***Deputy City Manager/Community Development Director Thompson provided insight on this project.***

***Chairperson Daugherty opened the public hearing.***

***Chairperson Daugherty closed the public hearing.***

***Planning Commission Member Kadach inquired about a 4-way stop instead of a 2-way stop.***

***MOTION: Planning Commission Member Sanders moved to make a finding that the project is categorically exempt under the California Environmental Quality Act (CEQA) guideline section 15301, Class 1, "Existing Facilities;" and, Adopt Resolution No. PC 0229-23 Recommending City Council designate a Two-Way stop control at the intersection of Castle Street and Drakeley Avenue. The motion was seconded by Planning Commission Member Borgwardt and the vote was: Ayes: Planning Commission Members Kadach, Sanchez-Garcia, Borgwardt, Sanders, Daugherty; Noes: None; Absent: None. The motion passed.***

REPORTS AND PRESENTATIONS FROM STAFF:

***Deputy City Manager / Community Development Director Thompson spoke on the General Plan Update and the new consultant, “De Novo Group” who will attend the GPTAC meeting June 7<sup>th</sup>.***

COMMENTS FROM THE PUBLIC:

***Chairperson Daugherty opened the Public Comment.***

***Notice to the public was read.***

***Jim Price inquired about another fire station within the city due to the annexation and development of the Ferrari Ranch Project.***

***No one came forward to speak.***

***Chairperson Daugherty closed the public comment.***

COMMISSIONER MATTERS:

***Planning Commission Member Sanchez-Garcia expressed her excitement for the 4<sup>th</sup> of July events. She also expressed concern with fifth street near Mitchell Senior and adding speed bumps to help slow down traffic.***

***Planning Commission Member Kadach welcomed the new Chaplain. He also inquired about a speed sign on Virginia Street and Palora Ave and looking into Kansas Ave and doing a reevaluation during the spring.***

***Vice Chairperson Borgwardt inquired about officers for traffic patrol along Juniper Ave.***

***Planning Commission Member Sanders expressed concern with the pedestrian cross-walk lights along Bellevue Road and Fifth Street, and how the lights do not turn on.***

***Chairperson Daugherty expressed his concern with “Kids at play” signs in the roads, monuments/shrines in the roadways and on public sidewalks, the weeds in the alley behind Jacks-R-Better, and grading the roads on Hazel Ave along with the weeds covering the fire hydrants.***

ADJOURNMENT:

***Chairperson Daugherty adjourned the meeting at 6:55 PM.***

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Ron Daugherty, Chairperson

By: Kayla Rashad  
Recording Secretary



# CITY OF ATWATER

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## SPECIAL MEETING PLANNING COMMISSION

### ACTION MINUTES

**June 1, 2023**

REGULAR SESSION: (Council Chambers)

*The Planning Commission of the City of Atwater met in Special Session this date at 6:00 PM in the City Council Chambers located at the Atwater Civic Center, 750 Bellevue Road, Atwater, California; Chairperson Daugherty presiding.*

ROLL CALL:

**Present:** *Planning Commission Members Borgwardt, Kadach, Sanders, Daugherty*

**Absent:** *Planning Commission Member Sanchez-Garcia*

**Staff Present:** *Chief Salvador, Deputy City Manager / Community Development Director Thompson, Recording Secretary Rashad, and Senior Planner Rashe.*

PUBLIC COMMENT:

*Notice to the public was read.*

*No one came forward to speak.*

PUBLIC HEARINGS:

Consistency Determination that the proposed Five-Year Capital Improvement Program for fiscal years of 2023/24 through 2027/28 conforms to the goals and policies of the City's General Plan, as required by California Government Code section 65103 (c).

***Deputy City Manager / Community Development Director Thompson spoke regarding this public hearing item.***

***MOTION: Planning Commission Member Sanders moved to Make the determination that the proposed Five-Year Capital Improvements Program conforms to the goals and policies of the City's General Plan, as required by California Government Code sections 65103 (c). The motion was seconded by Planning Commission Member Borgwardt and the vote was: Ayes: Planning Commission Members Kadach, Borgwardt, Sanders, Daugherty; Noes: None; Absent: Planning Commission Member Sanchez-Garcia. The motion passed.***

**ADJOURNMENT:**

***Chairperson Daugherty adjourned the meeting at 6:17 PM.***

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Ron Daugherty, Chairperson

By: Kayla Rashad  
Recording Secretary



## PLANNING COMMISSION AGENDA REPORT

### PLANNING COMMISSION

Ron Daugherty, Chair  
Donald Borgwardt Mayra Sanchez-  
Garcia Harold Kadach Ileisha Sanders

**MEETING DATE:** June 21, 2023

**TO:** Chair and Commissioners

**FROM:** Greg Thompson, Deputy City Manager/Community Development Director

**SUBJECT:** Public hearing to consider adopting a Resolution recommending that the City Council of Atwater approve a General Plan Amendment adopting the Merced County Association of Governments Thresholds and Implementation Guidelines.

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### **RECOMMENDED COMMISSION ACTION:**

It is recommended that Planning Commission:

1. Open the public hearing and receive any testimony from the public;
2. Close the public hearing;
3. Make a finding that the project is categorically exempt under California Environmental Quality Act (CEQA) guideline section 15308, "Actions by Regulatory Agencies for Protection of the Environment," and adopt Resolution No. 0225-23, making a recommendation that the City Council of Atwater approve General Plan Amendment No. 23-06-0100 adopting the Merced County Association of Governments Thresholds and Implementation Guidelines.

#### **I. BACKGROUND:**

The City of Atwater General Plan (GP) was adopted on July 24, 2000. Several elements comprise the General Plan. One of the elements is the circulation element. The Circulation Element addresses transportation, from walking and bicycling to cars, planes, and trains. The purpose of the Circulation Element is to guide how the various means of transportation can work together and provide an efficient circulation system for the City of Atwater and its residents. One of the tools used to evaluate the circulation system in the GP is to conduct a Level of Service (LOS) analysis.

The LOS quantifies the operating conditions of roadways based on factors such as speed, travel time, maneuverability, delay, and safety. The LOS range from best identified as LOS A to the worst, which is identified as LOS F. LOS A represents under our GP represents “free flow,” in which individual vehicles are not affected by others on the roadway and do not need to wait for other traffic to move along a roadway or through an intersection; and, LOS F describes traffic as “stop-and-go” or “gridlock.” Generally, the number of vehicles attempting to use the roadway exceeds the number that can be accommodated, and traffic flow breaks down.

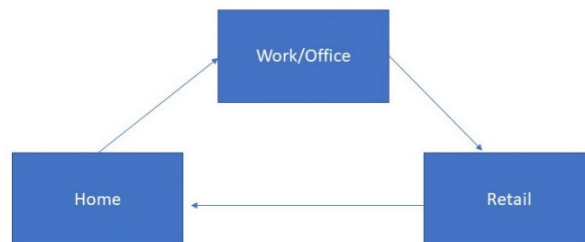
LOS wasn’t only used to evaluate the circulation system for the City; LOS was also used to evaluate the impacts of a project related to the traffic to determine if they were significant in regard to the California Environmental Quality Act (CEQA). However, on July 1<sup>st</sup>, 2020, Senate Bill (SB) 743 was enacted, implementing Vehicle Miles Traveled (VMT), replacing LOS for traffic impact studies to determine the traffic impacts to CEQA.

**II. ANALYSIS:**

Legislature has charged a course of long-term sustainability based on denser infill development, reducing the reliance on individual vehicles and improving mass transit to reduce greenhouse gas emissions; so, the criteria for determining the significance of transportation impacts must promote the reduction of greenhouse gas emissions. As a result, the Office of Planning and Research (OPR) and the California Natural Resources Agency concluded that VMT is the most appropriate metric to evaluate a project’s transportation impacts. The Merced County Association of Governments (MCAG) has prepared VMT Thresholds and Implementation Guidelines to implement VMT successfully. The Guidelines provide a regional guide for the seven jurisdictions: Merced County, the City of Atwater, Dos Palos, Gustine, Livingston, Los Banos, and Merced.

As previously stated, LOS quantifies the operating conditions of roadways based on factors such as speed, travel time, maneuverability, delay, and safety. In comparison, VMT focuses on the reduction of greenhouse gas emissions. LOS is also limited because it only focuses on project study area boundaries within the jurisdiction. VMT, on the other hand, evaluates a project’s impact by looking at Daily Average Trips (DAT) and the life cycle of the DAT (refer to Figure 1). This is to include trips outside of the project area and jurisdictional areas.

Figure 1. Life Cycle of daily average trips





The VMT Thresholds and Implementation Guidelines guide Screening Criteria, VMT thresholds for development projects, transportation projects, land use plans, and mitigation strategies. By adopting the VMT Thresholds and Implementation Guidelines, the trip generation threshold for projects consistent with the City’s General Plan will be less than 1,000. For projects not consistent with the City’s General Plan, the threshold will be less than 500 trips. The trip generation provided by MCAG, as opposed to OPR’s recommendation of 110 ADT, is based on several analysis tools: the California Emissions Estimator Model (CalEEMod). The CalEEMod is a tool provided by the California Air Resources Board (CARB) and is accepted as the statewide standard to evaluate GHG emissions for CEQA assessment. The 110 ADT recommendation from OPR is not based on any analysis of GHG reduction but rather an exemption under CEQA. The MCAG VMT Thresholds and Implementation Guidelines will better suit the needs of the City and still promote the reduction of GHG.

It must be noted that although VMT has replaced LOS for the criteria of significance for traffic impacts in California, the City will continue to apply congestion-related conditions or requirements for land development projects through the planning approval process outside of CEQA Guidelines to continue the implementation of LOS.

**III. FISCAL IMPACTS:**

No negative fiscal impacts are anticipated with the approval of this project. This item has been reviewed by the Finance Department.

**IV. LEGAL REVIEW:**

This item has been reviewed by the City Attorney’s Office

**V. EXISTING POLICY:**

N/A

**VI. INTERDEPARTMENTAL COORDINATION:**

N/A

**VII. PUBLIC PARTICIPATION:**

The public hearing was adequately noticed and advertised for the regularly scheduled Planning Commission hearing. The public will have the opportunity to provide comments on this item prior to Planning Commission action.

**VIII. ENVIRONMENTAL REVIEW:**

Pursuant to the California Environmental Quality Act (CEQA), this project is categorically exempt under guideline section 15308, “Actions by Regulatory Agencies for Protection of the Environment,”

**IX. STEPS FOLLOWING APPROVAL:**

Following the recommendation to adopt Resolution No. PC 0225-23, the resolution will be brought before the City Council.

Prepared by: Samuel J. Rashe, Senior Planner

Submitted by: Greg Thompson, Deputy City Manager/Community Development Director

Attachments:

1. Resolution
2. Amended Chapter 3 Circulation Element
3. MCAG VMT Thresholds and Implementation Guidelines



## PLANNING COMMISSION OF THE CITY OF ATWATER

### RESOLUTION NO. PC 0225-23

**A RESOLUTION OF THE PLANNING  
COMMISSION OF THE CITY OF ATWATER  
RECOMMENDING THAT THE CITY COUNCIL  
APPROVE GENERAL PLAN AMENDMENT (GPA)  
NO. 23-06-0100; AMENDING THE CITY OF  
ATWATER GENERAL PLAN**

**WHEREAS**, at a duly noticed public hearing on June 21, 2023, the Planning Commission of the City of Atwater to amend the Circulation Element to require the use of Vehicle Miles Traveled (VMT) Thresholds and Guidelines when evaluating the environmental impacts of development projects under the California Environmental Quality Act (CEQA) and to adopt by reference the VMT Thresholds and Guidelines as recommended by the Merced County Association of Governments (MCAG); and,

**WHEREAS**, \_\_\_ person(s) spoke in favor of the GPA, \_\_\_ person(s) spoke in opposition of the GPA, and \_\_\_ written comment(s) have been submitted either in opposition or in favor of the General Plan Amendment; and,

**WHEREAS**, the proposed GPA No. 23-06-0100 would not have a detrimental effect on the health, safety, and welfare of the neighborhood nor have any adverse effect on the community; and,

**WHEREAS**, the Planning Commission has determined that the following findings can be made for GPA No. 23-06-0100:

1. That this project is exempt from CEQA review under CEQA guideline section 15308, "Actions by Regulatory Agencies for Protection of the Environment."
2. The public hearing for this General Plan Amendment was adequately noticed and advertised.
3. Adoption of the resolution will not have a detrimental effect on the health, safety, and welfare of the neighborhood or any adverse effects on the community.
- 4.

**NOW THEREFORE BE IT RESOLVED** that the recitals above are true and correct and hereby incorporated by reference. The Planning Commission does hereby approve Resolution No. 0225-23 recommending City Council adopt General Plan Amendment No. 26-06-0100 adopting the VMT Thresholds and Guidelines as recommended by MCAG.

1. The project is compliant with CEQA;
2. Consistent with the General Plan and Zoning;
3. Find no adverse effect on Public Health, Safety, and welfare;

The foregoing resolution is hereby adopted this 21<sup>st</sup> day of June, 2023.

**AYES:**

**NOES:**

**ABSENT:**

**APPROVED:**

\_\_\_\_\_  
**RONALD DAUGHERTY,  
CHAIRPERSON**

**ATTEST:**

\_\_\_\_\_  
**GREG THOMPSON,  
DEPUTY CITY MANAGER /  
COMMUNITY DEVELOPMENT DIRECTOR**

### **3. CIRCULATION**

**CIRCULATION ELEMENT**

**INTRODUCTION**

This Element of the General Plan describes the various means by which residents, businesses, and visitors in Atwater travel through the City. The most common means of transportation is the automobile (and trucks for business and industry). However, this Element deals with transportation in all its forms, including bicycles, walking, trains, and airplanes. The intent is to provide an overview of all the means of transport, and to show how these different methods can complement each other to make Atwater's circulation system work more efficiently.

The topics addressed in this Element are:

- Streets and Highways
- Goods Movement
- Parking
- Transit Service and Facilities
- Railroad Service
- Airports
- Bicycle Routes
- Pedestrian Facilities

Existing and future conditions, as well as goals and policies for each topic, are addressed individually in each section.

**STREETS AND HIGHWAYS**

**Regional Setting**



Figure 3-1, on the following page, shows the City of Atwater's relationship to the State highway system, nearby counties and major cities. Figure 3-2 shows the existing street system as of 1998; this map generally shows roads of Citywide significance. The City's highway network consists of State Route (SR) 99. Prominent City roadways include: Atwater Boulevard, Bellevue Road, Winton Way, Applegate Road, Buhach Road, Broadway, Shaffer Road, First Street, and Third Street. Outside the City limits, State Highway 140 forms the southern boundary of the Study Area, and State Highway 59 forms part of the Study Area's eastern boundary. Santa Fe Drive, a northwest-southeast route

between Merced and Winton, passes through the northeast portion of the City by the CAADC site. The roadway serves as a major access route to the former Castle Air Force Base for workers living in the Merced area.



The City is linked to Merced and Sacramento principally by SR 99. This route provides the only continuous northwesterly-southeasterly route through the City and is heavily used for regional travel. SR 99 is constructed to freeway standards. Approximately two miles of SR 99 are located within the City limits.

**Functional Classification System**

“Functional classification” is the process by which streets and highways are grouped into classes, or systems, according to the type of service they are intended to provide. Fundamental to this process is the recognition that individual streets and highways do not serve travel independently, but are instead parts of a larger network of roads which combine to serve the community's travel needs.

This section defines roadway classification systems currently used by the Federal Highway Administration (FHWA), the City, and local agencies. Since issues related to the classification of roadways range from funding to operational considerations, each agency has its own classification system. This section defines and clarifies the role of each system, and presents the classification system used for this Element of the General Plan.

It is necessary to determine how travel can be channelized along the street and highway system in a logical and efficient manner. Functional classifications define the channelization process by defining the area



**ATWATER WITHIN THE MERCED COUNTY REGION**

**Legend**

-  State Route
-  Arterial & Collectors

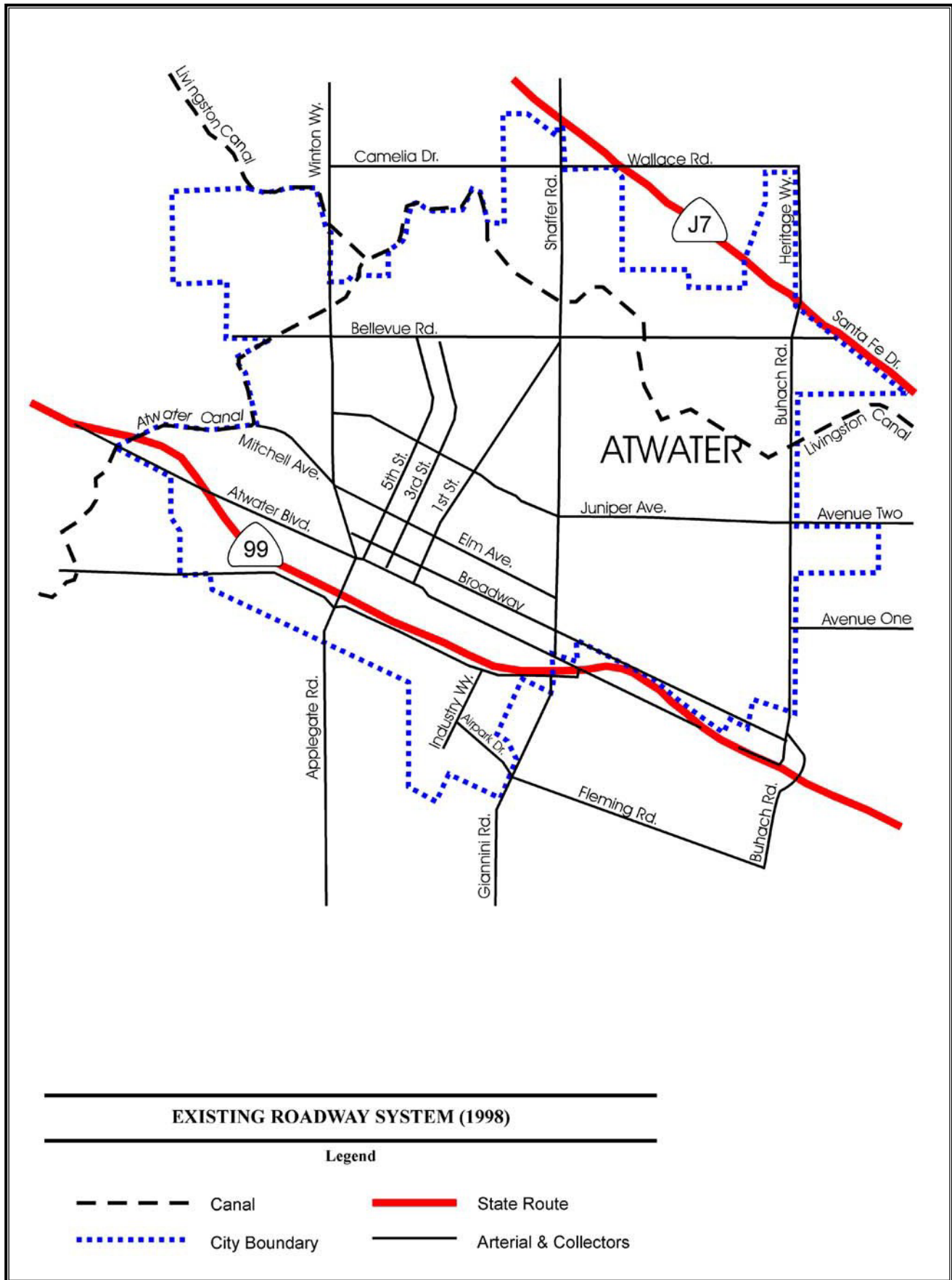


FIGURE 3-2  
EXISTING ROADWAY SYSTEM (1998)



## Circulation Element

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that a particular street or highway should service through a circulation network. Definitions of the roadway classifications used in this General Plan begin on this page.

### Federal Functional Classifications

Federal functional classifications for rural and urban areas, are shown below. Classifications which are applicable to Atwater are described in the next section.

#### *Rural*

Interstate and Other  
Principal Arterial  
Minor Arterials  
Major Collectors  
Minor Collectors

#### *Urban*

Interstate and Other  
Freeways and Expressways  
Other Principal Arterials  
Minor Arterials  
Collectors

### Roadway Classifications Used in This Element

To identify roadway infrastructure needs for the City to Year 2020 and beyond, several broad roadway classifications have been identified. The roadway classifications used in this document are consistent with functional classifications as defined by the Federal Highways Administration (FHWA) and California Department of Transportation (Caltrans).

Ⓒ *Freeways.* A freeway is a divided, limited access highway (access is provided at grade separated interchanges and vehicular crossing of these facilities is provided at grade separations). Freeways are designed to carry large volumes of traffic traveling long distances, although localized use of freeways in urban areas is considerable.

Caltrans designs and constructs all freeways to state design standards, and to federal standards if federal monies are being used to fund or partially fund the facility. Alignments and key design details such as interchange locations are determined in consultation with local and federal authorities when involved. Nothing actually precludes local jurisdictions from building their own freeways. However, Caltrans' State

Highway System contains virtually all candidate routes for freeways. The high cost of freeways has historically made it impractical for any agency other than Caltrans to construct new freeways.

Ⓒ *Expressways.* These roads carry traffic for relatively long distances (3 miles or longer) and provide direct access to the freeway system. Access from driveways and minor side streets is restricted. Major cross street intersections are signalized. Major intersection spacing is envisioned at ½ mile intervals or more.

Ⓒ *Major Urban Arterials.* These are roads within the Sphere of Influence that carry large volumes of traffic relatively long distances within or through an urban area. They also serve considerable local traffic traveling short distances. Along these roadways, priority is placed on through traffic mobility rather than access to fronting property, and direct access to individual fronting parcels is discouraged. A major arterial with fully controlled frontage access is also considered an expressway. Major urban arterials should be continuous through the urban community they serve and link to arterial routes in adjacent communities or the rural areas.

Ⓒ *Other Urban Arterials.* These are roads within the Sphere of Influence that carry moderately high volumes of long distance and local traffic. Although access to abutting property is permitted, priority is given to through traffic mobility.

Ⓒ *Urban Collectors.* These are roads within the Sphere of Influence intended to carry local traffic between the local street system and the arterial highway system. In urban areas collectors may serve average daily volumes in excess of 10,000 although volumes are normally less.

Ⓒ *Urban Local Roads.* These roads provide access to abutting property and link properties to the collector system.

Ⓒ *Rural Local Roads.* These roads provide access to property and activity nodes in sparsely settled areas of the City. All City roads not shown on the Circulation Element Map are considered standard local roads.

The intent of the functional classification system used here is to describe the intensity and character of traffic using each type of facility, the character of abutting uses, the priority placed on access to abutting property versus through traffic mobility, and roadway right-of-way standards. The City maintains standards for each of these roadway types which define the width of the right of way, width of pavement, sidewalk widths and locations, etc.

The intent of the Federal Functional Classification System is to identify what types of federal Transportation Equity Act for the 21st Century (TEA-21) funding each type of facility is eligible to receive.

**Existing Capacity Analysis**

Level of Service (LOS)

The first step toward development of a functional street and highway system is to thoroughly assess existing traffic conditions. To accomplish this task, existing segment level of service (LOS) analysis was conducted. LOS standards are used by City of Atwater, Caltrans, and local agencies to measure the street and highway system's performance. To determine the type and number of transportation projects that may be necessary to accommodate Atwater's expected growth, freeway, expressway, arterial, and collector facility LOS was assessed.

The General Plan Guidelines provides this definition, in part:

*"According to the Transportation Research Board's 1985 Highway Capacity Manual Special Report 209, level-of-service is a qualitative measure describing the efficiency of a traffic stream. It also describes the way such conditions are perceived by persons traveling in a traffic stream. Levels-of-service measurements describe variables such as speed and travel time, freedom to maneuver, traffic interruptions, traveler comfort and convenience, and safety."*

Levels of service range from the best (rated as LOS A) to the worst (rated as LOS F). LOS A represents free flow and excellent comfort for the motorist, while LOS F represents the situation in which highway capacity is exceeded. The various levels of service, as used in this General Plan, are

summarized below. (For a more technical description, please refer to the General Plan Environmental Impact Report).

LOS	Description
A	Represents "free flow," in which individual vehicles are not affected by others on the roadway and do not need to wait for other traffic to move along a roadway or through an intersection.
B	Other vehicles on the roadway begin to affect each other. Vehicles can travel at the speed they wish, but cannot always maneuver as they wish because of the presence of other vehicles.
C	The operation of individual vehicles begins to be significantly affected by other vehicles on the roadway.
D	Speed and freedom to maneuver are severely restricted; the roadway is becoming crowded.
E	The roadway is operating at near its maximum capacity; vehicles move at low speeds.
F	At this level, traffic is "stop-and-go" or "gridlock." Generally, the number of vehicles attempting to use the roadway exceeds the number that can be accommodated, and traffic flow breaks down.

According to the 1997 Highway Capacity Manual (HCM), LOS is categorized by two types of traffic flow: "uninterrupted" and "interrupted".

Uninterrupted flow facilities do not have fixed elements such as traffic signals that cause interruptions in traffic flow. An example of such a roadway is SR 99.

Interrupted flow facilities have fixed elements that cause an interruption in the flow of traffic, such as stop signs and signalized intersections. Examples of such roadways in Atwater include Winton Way and Bellevue Road, and other arterial and collector streets. Specific standards for LOS on "uninterrupted flow" and "interrupted flow" roadways are defined in the General Plan Environmental Impact Report.

An important goal is to maintain acceptable levels of service along the City's highways,



## Circulation Element

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streets, and roads network. To accomplish this, the City, Caltrans, and other local agencies adopt minimum levels of service in an attempt to control congestion that may result as new development occurs. According to goals, objectives, and policies described in this Element, the City's goal is to maintain acceptable levels of service along the highways, streets, and roads network. For purposes of this analysis, a minimum LOS of D was assumed along the City of Atwater street and highway system.

To determine the existing LOS for each segment along the street and highway network, segment LOS was estimated using the Modified HCM-Based LOS Tables ("Florida Tables"). The Florida Tables consider the capacity of individual street and highway segments based on numerous roadway variables: design speed, signalized intersections per mile, number of lanes, and saturation flow. These variables were identified and applied to reflect existing traffic LOS conditions in the General Plan Study area. A complete description of the Modified Tables and the variables applied to calculate segment LOS is included in the General Plan Environmental Impact Report.

### Vehicle Miles Traveled (VMT)

In 2013, Senate Bill (SB) 743 was enacted, implementing Vehicle Miles Traveled (VMT) analysis as a replacement for the LOS metric for traffic impact studies, in determining traffic impacts for projects analyzed under the California Environmental Quality Act (CEQA). While LOS measures the capacity of street intersections, highway interchanges, and roadway segments to accommodate traffic (measured in terms of the delay additional traffic would cause), VMT measures "door-to-door" greenhouse gas impacts generated by drivers who will be using the proposed project. Land use projects which will have a significant impact under CEQA are now required to use VMT for analyzing such transportation impacts. State law also still authorizes this General Plan to define LOS for different community roadways, and continue to use LOS as part of land use review processes outside of CEQA and in determining whether a project is consistent with local land use policies.

The Legislature has charted a course of long-term sustainability based on denser infill development, reducing the reliance of individual vehicles and improving mass transit with the goal of reducing greenhouse gas emissions. Accordingly, the criteria for determining the significance of transportation impacts must specifically promote the reduction of greenhouse gas emissions. As a

result, the Office of Planning and Research (OPR) and the California Natural Resources Agency concluded that VMT is the most appropriate metric to evaluate a project's transportation impacts.

The Merced County Association of Governments (MCAG) has prepared guidelines for VMT Thresholds and Implementation. The guidelines provide a regional guide for the seven jurisdictions consisting of Merced County, the City of Atwater, Dos Palos, Gustine, Livingston, Los Banos, and Merced. That document provides a detailed discussion on implementing the CEQA VMT metric, the substantial evidence standard, and an explanation of establishing the "Region," VMT screening criteria, and VMT analysis thresholds.

The City will adopt by reference and follow the recommendations as outlined in the MCAG VMT Thresholds and Implementation Guidelines, as amended from time to time.

The City will require VMT analysis of projects that are not screened out. Using the County of Merced as the region for analysis purposes, the MCAG Travel Demand Model is recommended for evaluating VMT projects.

Several options for VMT mitigation measures for development projects which may not meet the recommended significance thresholds are provided in the MCAG VMT Thresholds and Implementation Guidelines. Additionally, implementation of a future VMT mitigation bank, VMT mitigation exchange, and/or VMT impact fee are potential future regional VMT mitigation mechanisms. The City should continue exploring these and other options with its regional partners.

Although VMT has replaced LOS for the criteria of significance for traffic impacts in the state of California, the City will continue to apply congestion-related conditions or requirements for land development projects through planning approval process outside of CEQA Guidelines in order to continue the implementation of LOS.

### **Existing Traffic Counts and Roadway Geometrics**

Traffic volumes used to develop LOS calculations were obtained from MCAG and the City of Atwater, and various local agencies. Traffic volumes were available from these agencies for years 1990 through 1998. To reflect 1998 traffic along the existing street and highway system in the City, traffic counts from years other than 1998 were adjusted by three percent (3%) per year, a rate of increase consistent with historical annual growth rates for vehicle trips in the City of Atwater.

Roadway geometrics were obtained from information provided in the 1998 Regional Transportation Plan (RTP), from the Merced County Association of Governments (MCAG) and City staff, and from a field review conducted by Valley Research and Planning Technologies (VRPA). These geometrics were applied to establish existing segment LOS. Figure 3-3 shows the existing traffic counts for segments of the City's street and highway system. Figure 3-4 shows the Level of Service which currently results from these traffic levels on the Atwater roadway system.

### **Existing Level of Service**

A street and highway segment is defined as: "a stretch of roadway often located between signalized or controlled intersections." The HCM-Based LOS analysis is based on a calculation of the Average Annual Daily Traffic (AADT) and other variables, such as the number of lanes and signalized intersections along a street segment.

Results of the segment analysis show that street and highway segments within the City of Atwater are currently operating at LOS A through F. One segment, SR 99 between Buhach and Shaffer, is operating at LOS F. Thus, this highway segment falls short of City of Atwater's, Caltrans', and other affected local agencies' minimum LOS standards. Maximum AADT volumes in the City occur along this segment with approximately 63,276 vehicle trips per day. The identification of this deficient segment provides an opportunity for City of Atwater, MCAG, Caltrans, and other affected local agencies to focus on street and highway and other improvement projects that will improve over time the LOS on that segment and in the City as a whole.

Severe prolonged congestion, LOS E, is not encountered along any other roadway segments, as indicated on Figure 3-4. Moderate traffic congestion (LOS D) occurs at one location, Atwater Boulevard between Winton and Shaffer. Based upon this assessment, it can be further assumed that intersections located along the street segments are operating at LOS D or better. In addition, freeway ramps connecting to the deficient segment along SR 99 are likely operating at deficient levels of service (LOS E or F).

### **Future Roadway Conditions**

Figure 3-5 shows projected average daily traffic volumes for the Year 2020 on principal roadways in Atwater, based on development of the City according to the policies of this General Plan. Resulting Level of Service (LOS), assuming the development of the City's ultimate roadway system (described later in this Element) are shown in Figure 3-6. (Note: Further detail on the development of these projections can be found in the General Plan Environmental Impact Report and the detailed traffic analysis prepared for that document.)

Figure 3.3: Existing (1998) Average Daily Traffic

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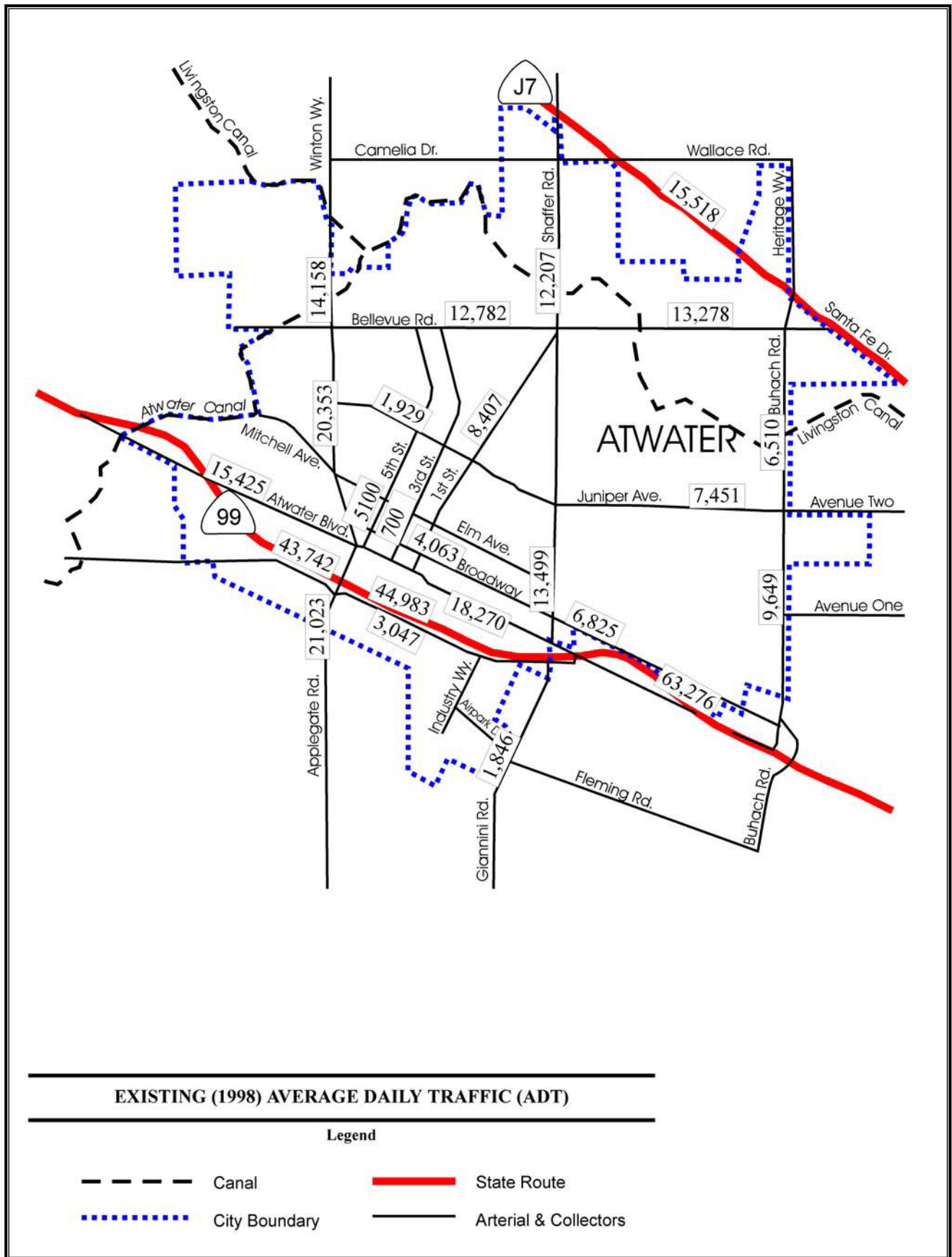


FIGURE 3-3  
EXISTING (1998) AVERAGE DAILY TRAFFIC (ADT)



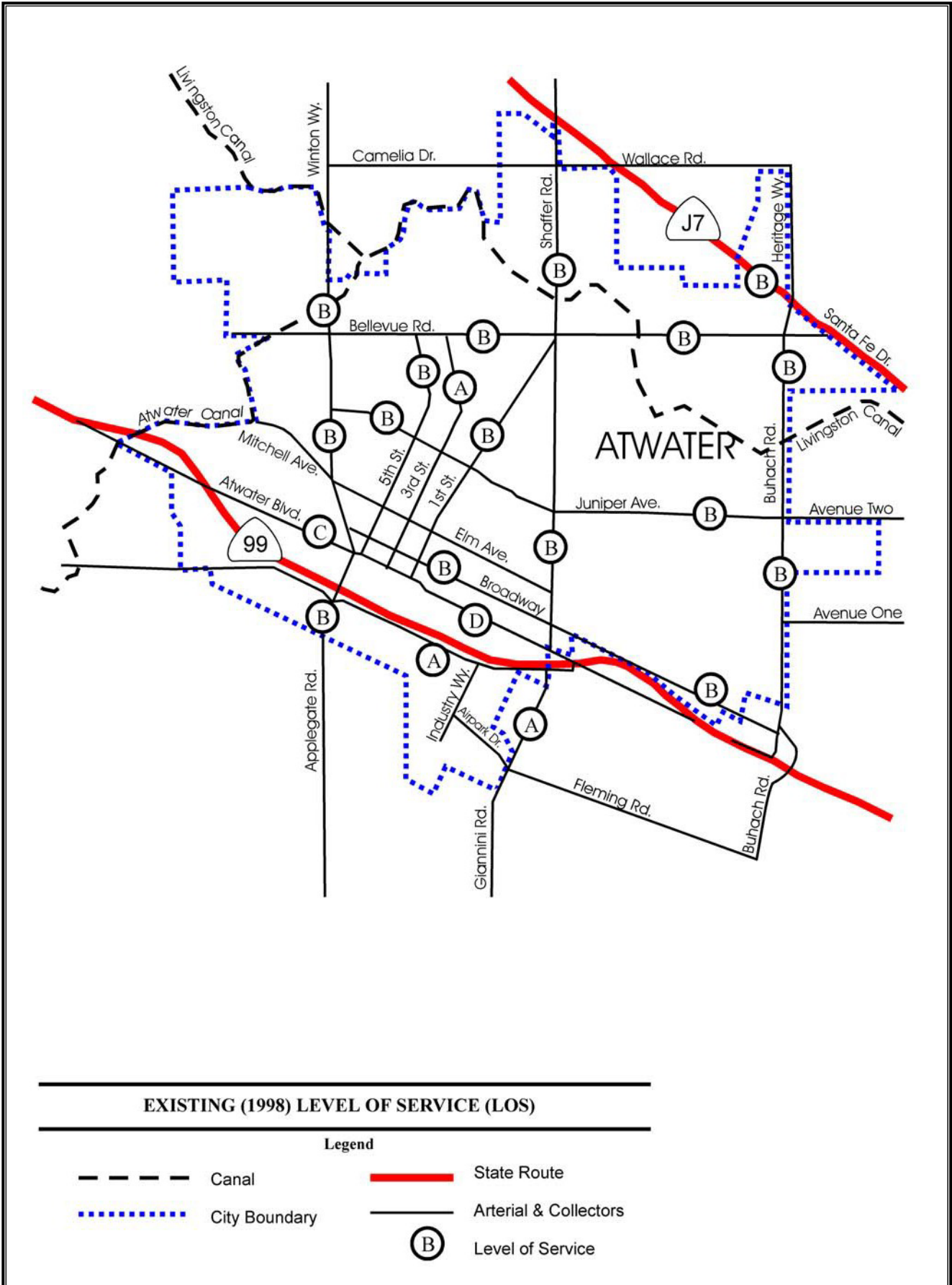
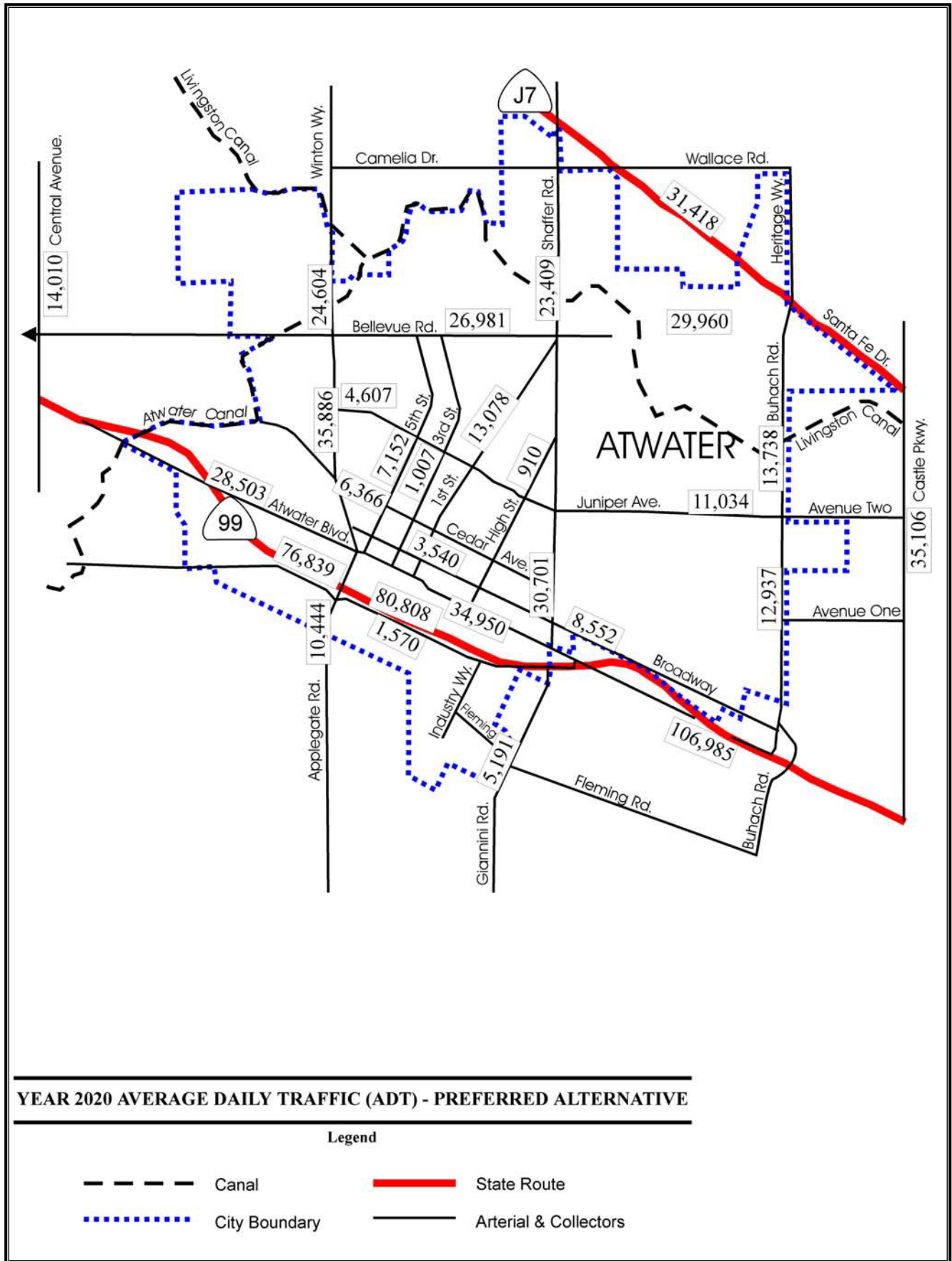


FIGURE 3-4  
EXISTING LEVEL OF SERVICE (LOS)





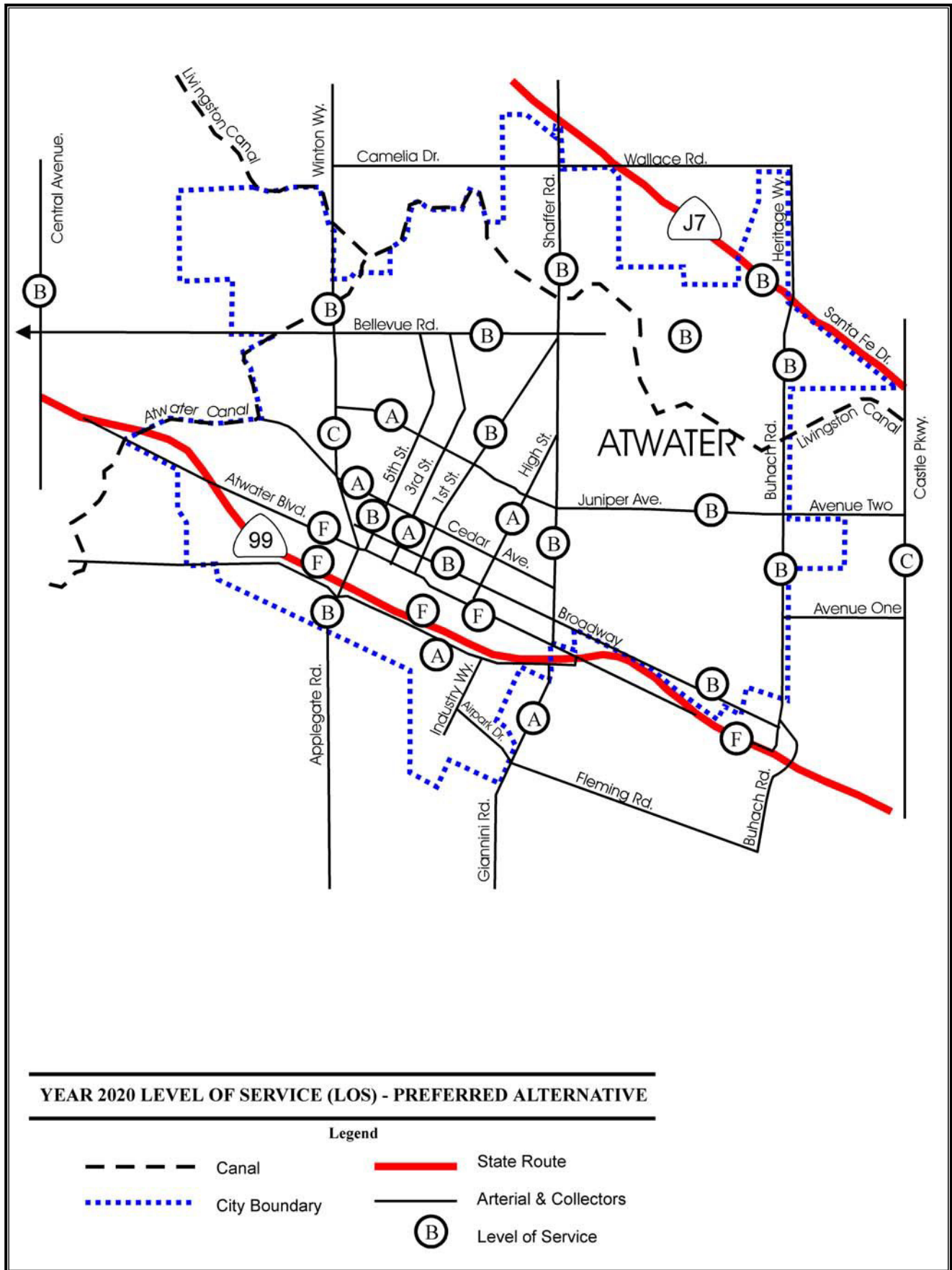


FIGURE 3-6  
PROJECTED FUTURE (2020) LEVEL OF SERVICE

Many highways in the vicinity of the City of Atwater experience the highest traffic volumes on weekends, particularly in the summer, as a result of recreational travel. This situation is likely to continue since minor recreation facilities are located within Merced County and in Fresno County to the south. Within Merced County, these generators include: Merced Falls, Lake Yosemite, San Luis Reservoir, three National Wildlife Refuges, and various public parks. Roadway segments likely to experience significant weekend activity during summer months include SR 99.

A discussion of improvements to the City's roadway network to accommodate projected increases in traffic begins after Figure 3-6.

### Future Roadway Construction

Based on the assessment of current and future highway needs as discussed in this Circulation Element, and the City's transportation goals, objectives, policies, and issues of concern, a series of responsive transportation improvements have been proposed for incorporation in the Circulation Element. These projects are summarized in Table 3-1. Figure 3-7, the Circulation Plan, shows a map of the ultimate roadway system.

All segments of the designated freeways and arterials contained in the improvement program have been classified according to the level of the improvement that may be required to accommodate projected future traffic levels by the Year 2020.

### Major Regional Transportation Improvement Projects

In addition to the local improvements shown in Table 3-1, a regional study (the "SR 99 Major Investment Study" or "SR 99 MIS") identified that the following major roadway improvements will be needed to accommodate increases in traffic which will result primarily from regional traffic (that is, trips on these roadways which for the most part begin and end outside Atwater).

The SR 99 MIS studied four alternatives plus a no build alternative. The alternative recommended by the study includes the following improvements within or adjacent to the City's Study area:

- Expansion of SR 99 within the Merced/Atwater area from the present four lanes to eight lanes along the existing alignment, and connection to a six-lane system outside the area.
- Upgrade of the Castle Parkway between SR 99 and Santa Fe Avenue to four lanes. Construction of a new interchange on SR 99 that connects to the Parkway, and a two-lane arterial south of the new interchange. Construction of an interchange at Castle Parkway and Santa Fe Avenue is proposed.
- Improvements to the SR 99/Applegate Road and SR 99/Shaffer Road interchanges.
- Eventual removal of the SR 99/Buhach Road interchange.
- Construction of a four-lane freeway and interchange at SR 99 and Westside Boulevard west of the City. Later addition of two lanes to freeway.
- Extension of Bellevue Road to the new interchange at SR 99 and Westside Boulevard is also anticipated to provide a new northern entrance into the City.

The costs of all the transportation system improvements recommended in the MIS are estimated to be \$403.6 million. A total of \$139.7 million, coming from federal, state, and local funding sources, has been identified as available for these improvements. The costs of these improvements were broken down by those generated by "regional" traffic and those generated by "local" traffic. This distinction is important, since projects for regional traffic are eligible for federal and state funds, while local traffic projects must be funded by local programs.

Proposed SR 99 improvements in the Atwater area would likely attract federal and state funding. However, the Castle Parkway would have to rely on mostly local funding, with only limited state help. The total estimated cost for the Castle Parkway project is \$13 million.

Among the implementation measures contained in the MIS is the placement of a half-cent transportation sales tax measure on the ballot and the development of a county-wide impact fee system. These measures are considered to provide the most equitable



## Circulation Element

**Table 3-1  
Recommended Roadway Improvements**

Roadway	Limits	Improvements	LOS
SR 99	Buhach to Shaffer	Increase to 8 lanes	LOS D
SR 99	Shaffer to Winton	Increase to 6 lanes	LOS D
SR 99	Winton to NW City Limits	Increase to 6 lanes	LOS D
Atwater Boulevard	Wedel to Winton	Increase to 4 <sup>1</sup> lanes	LOS B
Atwater Boulevard	Winton to Shaffer	Increase to 4 <sup>1</sup> lanes	LOS B

<sup>1</sup> While additional right-of-way will not be feasible to accommodate the necessary widening of Atwater Boulevard, several alternatives should be explored that would provide existing right-of-way for additional travel lanes within the two segments affected by LOS deficiencies including:

- Ⓒ Removal of on-street parking resulting in minor restriping of the existing facility to accommodate additional lanes in both directions;
- Ⓒ Reconfiguration of existing intersections through the use of raised medians, etc.; and
- Ⓒ Traffic Systems Management (TSM) strategies (at major intersections that would enhance traffic flow without requiring additional right-of-way).

means of funding the local share of projects. In addition to the commercial and business park uses proposed west of the City, this General Plan introduces additional areas of commercial and business park land uses just east of Atwater's City limits. Castle Parkway is classified as an expressway between Santa Fe Drive and SR 99. Therefore, access will be limited in accordance with this functional classification. Trips generated by the new land uses adjacent to Castle Parkway will be serviced by Parkway frontage roads and will ultimately access the Parkway via the primary east-west corridors in the area.

The MIS Report is the most recent document that has been produced, which provides an overview of anticipated regional projects including those associated with development of the University Access System. Development of these improvements will be pursued by the City of Atwater. The City will also continue to coordinate with Caltrans and MCAG as future plans are developed or refined. The City's Circulation Element may also be augmented or modified as necessary on a periodic basis to incorporate improvements that are identified in future studies and plans that are adopted on a regional basis.

### Streets and Highways Goals and Policies

The following Goal and Policies are related to the development of the City's ultimate roadway system.

**GOAL CIRC-1.** Maintain adopted Level of Service (LOS) for City streets and intersections.

**Policy CIRC-1.1** Establish and maintain a minimum LOS of D for all arterial and collector streets within the City.

**Policy CIRC-1.2.** Establish intersection LOS standards when more specific intersection traffic data becomes available.

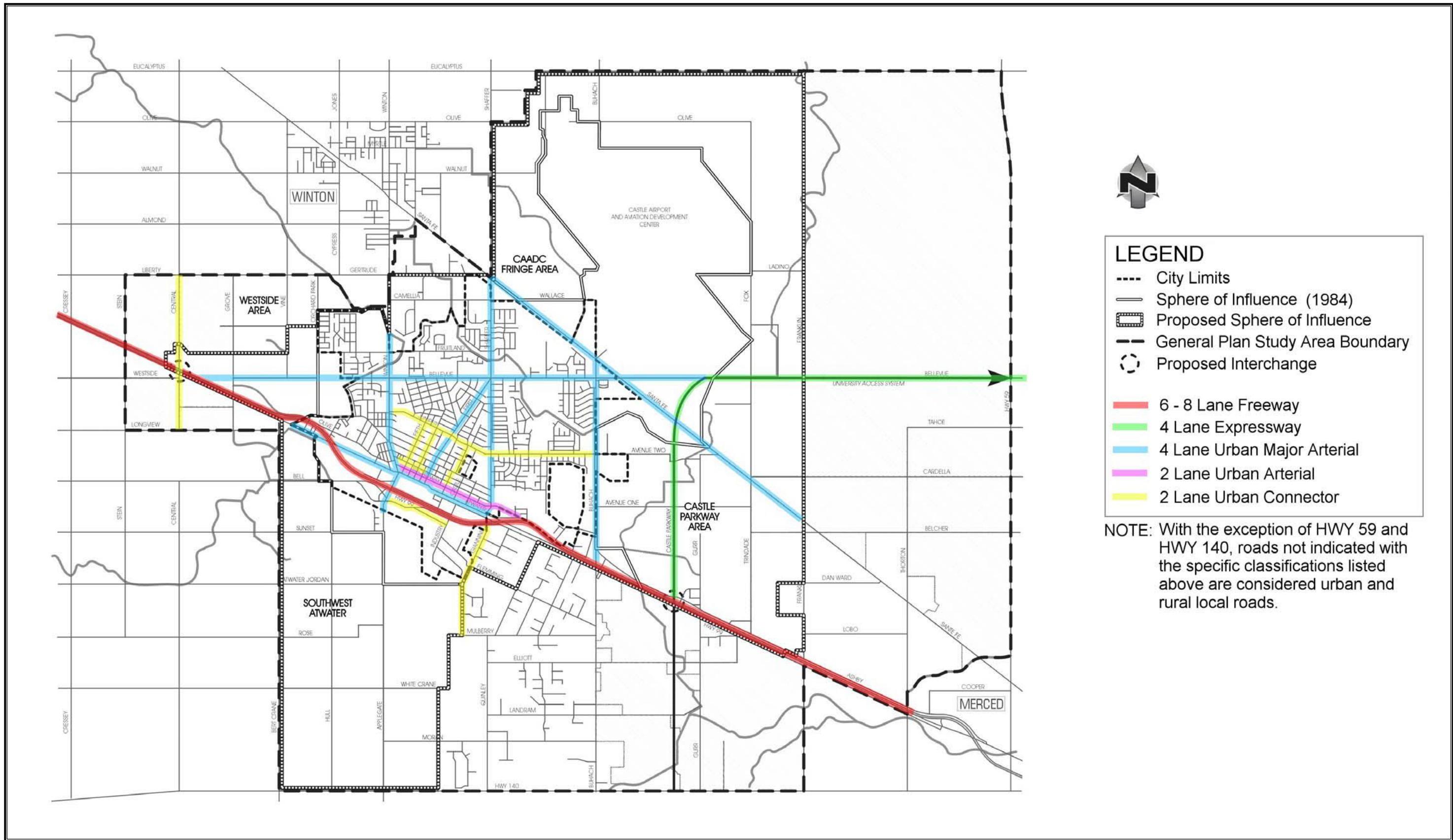
**Policy CIRC-1.3.** Design roadway improvements and evaluate development projects using established LOS and VMT standards.

**Policy CIRC-1.4** Develop the City's roadway system in conformance with the planned roadway system shown on the Circulation Plan (Figure 3-7) and the City's adopted cross section standards.

**Policy CIRC-1.5** Implement the recommendations as outlined in the MCAG VMT Thresholds and

**Implementation Guidelines.**





**Policy CIRC-1.5** Access for land uses adjacent to Castle Parkway will be provided by frontage roads which parallel the Parkway. Direct access to the Parkway will be limited to the primary east-west corridors in the area.

**Implementation Program CIRC-1.a.** Monitor levels of service, along with physical condition of streets and traffic accident patterns, and program improvements as needed through the City's Capital Improvements Program.

**GOAL CIRC-2** Creation of a comprehensive financing strategy for local roadway improvements.

**Policy CIRC-2.1** Consider financing strategies required to implement the "local" traffic portion of the Merced/Atwater Corridor Major Investment Study (MIS).

**Policy CIRC-2.2** Provide "fair share" City funding for regional transportation improvements at a level equal to the contribution of Atwater-generated traffic on the roadway or intersection. Seek regional, state, or other funding for improvements whose need is generated by traffic originating outside Atwater.

**GOAL CIRC-3** Support efforts to improve vehicular connections between Atwater and the UC Merced access system.

**Policy CIRC-3.1** Support efforts to obtain funding for the projects proposed in the MIS and any subsequent documents approved on a regional basis.

**Policy CIRC-3-2** Explore improvements to other roadways connecting the City with UC Merced.

**GOAL CIRC-4** Creation of new entrances into Atwater north of the Applegate interchange.

**Policy CIRC-4.1** Support efforts to implement the projects proposed in the MIS, which includes improvements to the 99/Applegate interchange, extension of Bellevue Road to the west, and the creation of a new interchange at SR 99/Westside Boulevard.

**Policy CIRC-4.2** Support the implementation of the Atwater Redevelopment Agency's Implementation Plan, which includes improvements to the Applegate interchange.

**GOODS MOVEMENT**



"Goods Movement" refers to the shipping by truck of raw materials and finished products for commercial and industrial uses. In Atwater, goods movement occurs primarily in connection with agricultural and industrial uses. Since agriculture is a relatively mature industry in the City, overall truck traffic generated by agricultural uses should remain stable in the future.

However, relocation and replacement of individual agricultural processing plants and other new industries can significantly alter both regional and localized patterns and concentrations of truck traffic within the City's Sphere of Influence. As healthy industrial growth is expected within the City, the scale of industrial-related truck traffic will continue to increase. According to the 1998 RTP, approximately 20-30 percent of all traffic along SR 99 is comprised of trucks.

Because the use of roadways by trucks is part of the overall roadway system's use, no specific goals or policies for this issue are included here. Implementation of Goal CIRC-1 and its related policies will address future goods movement needs.

**PARKING**



When vehicles are driven, they must eventually be parked, whether for storage, security, or while visiting stores, businesses, or residences.

While parking shortages can be an issue in some communities, negatively affecting businesses or making residential areas less desirable, this issue has not been identified as a concern in Atwater. In general, sufficient parking is available for most of the City's residential areas and businesses. Any



## Circulation Element

parking issues which are identified in the Downtown area will be addressed in the Specific Plan that is being prepared for that area.

**GOAL CIRC-5** Provide sufficient parking for all commercial, industrial, residential, and other uses, either off-street or on-street as appropriate.

**Policy CIRC-5.1** Require that all new development provides sufficient on- or off-street parking to meet the standards of the City's Zoning Code or any other applicable planning document (such as the Downtown Specific Plan).

### TRANSIT SERVICES AND FACILITIES



The City of Atwater is a part of the public transit system called Merced County Transit, also known as The Bus. The Bus is Merced County's only countywide provider of public transit service. The Bus provides basic public transportation service to 17 cities and communities in Merced County, including Atwater. Figure 3-8 illustrates the existing bus routes in Atwater. Two bus routes serve the City. One route goes from Santa Fe Drive to the downtown along Broadway Avenue before turning north on Winton Way. The other route also starts from Santa Fe Drive, then runs along Bellevue Road before reaching Winton Way. Both routes stop in Merced and Winton, and one route continues on to Livingston. Connections can be made to other Merced County communities.

The City also provides a dial-a-ride paratransit service. Greyhound Bus Lines provides bus service from Atwater to state and national destinations to the north and south. There is no terminal in the City; the nearest one is in Merced. A "flag" stop does exist in the City, which buses visit whenever passengers are present.

**GOAL CIRC-6** Ensure convenient and affordable public transit for all Atwater residents to destinations within the City and to nearby communities and destinations, such as UC Merced.

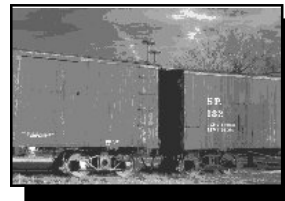
**Policy CIRC-6.1** Cooperate with Merced County Transit to provide bus service in all areas of Atwater.

**Policy CIRC-6.2** In urban areas, ensure that no residences are more than 1 mile from a bus stop; where feasible, provide bus stops no more than ½ mile from residences.

**Policy CIRC-6.3** Require new development to provide right of way and construct shelters for bus stops as determined to be necessary by the City of Atwater and the Merced County Transit.

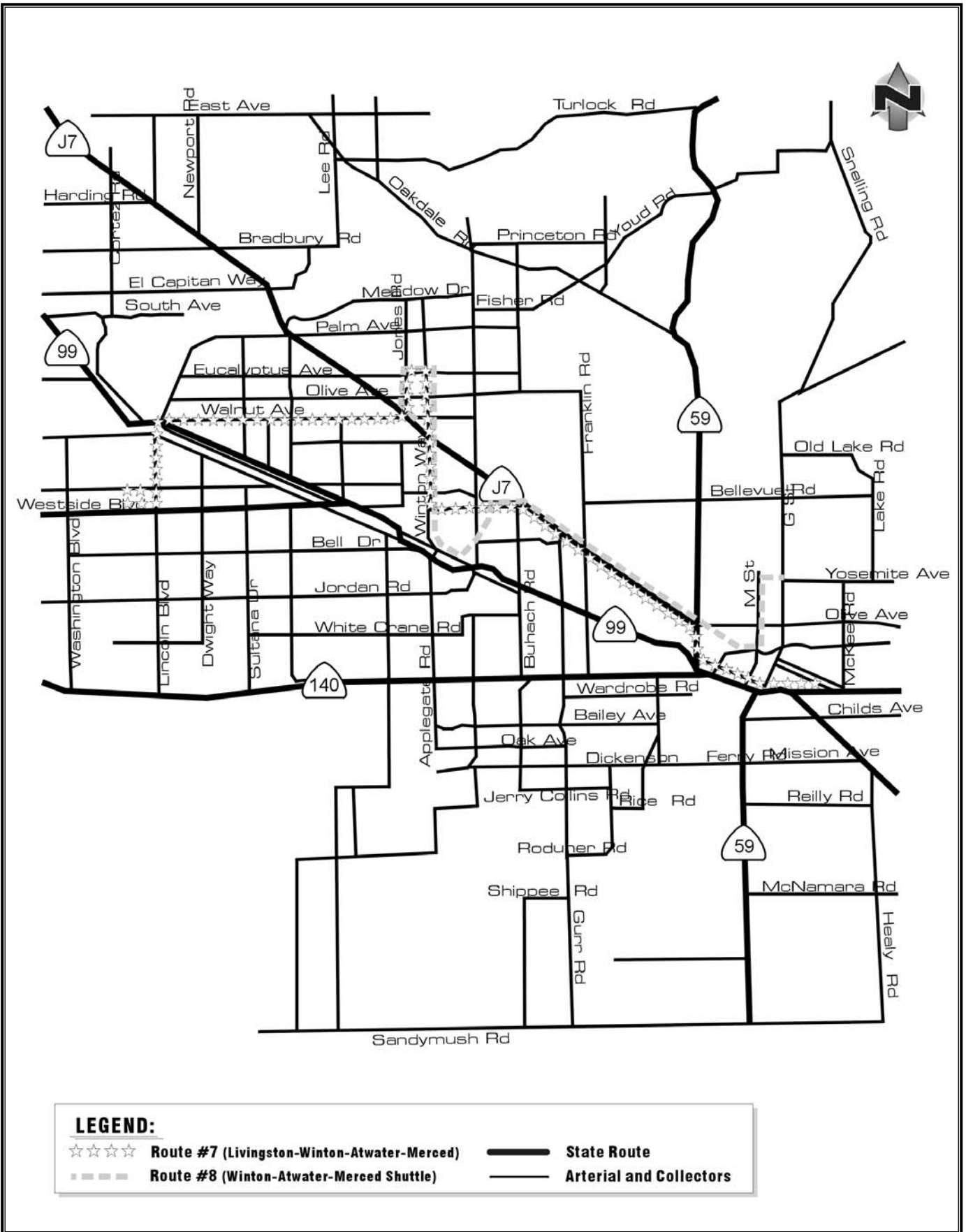
**Implementation Program CIRC-6.3.a** Forward all major or large-scale residential and commercial development applications to Merced County Transit for their review and recommendations regarding the location of bus stops, shelters, or related features.

### RAILROAD SERVICE



The Union Pacific Railroad, the Burlington Northern & Santa Fe Railroad (BN&SF), and the San Joaquin Valley Railroad all provide freight service to the City. They connect the City to major markets within California (the San Francisco Bay Area, Sacramento, and Los Angeles) and to other destinations north and east. Freight terminals and service to specific industries are located throughout the City. Though the railroads are reluctant to provide information on the amount of freight originating in the City, it is likely that the predominant mode for freight movements in the City will continue to be by truck in the foreseeable future. This is certainly the trend expected for raw agricultural commodities moving to packing and processing facilities.

There is no direct passenger rail service to the City. AMTRAK passenger service is available in nearby Merced. The City of Merced and Merced County receive service along AMTRAK's San Joaquin route, with four trains each day connecting northern and southern California. A fifth train was recently



## Circulation Element

approved for operation along this route. Currently, the BN&SF line is the present route for AMTRAK service. There had been efforts between the City and Southern Pacific to facilitate the use of the current Union Pacific tracks for AMTRAK trains. The Merced Council of Governments (MCAG) had made this rerouting an objective to be achieved by 1995. To date, however, no action has been taken.

### AIRPORTS



Until 1995, civilian air travel

needs in Atwater were served by Atwater Municipal Airport, a basic utility public airport located south of Highway 99 adjacent to the wastewater treatment plant. Flights from this airport, which had a runway 2,450 feet long, were limited to small private propeller planes flown for recreational purposes. Approximately 45 airplanes were based at the airport, a number which approached airport capacity. Because of the closure of Castle Air Force Base and its conversion to civilian use, the Atwater Municipal Airport was closed in 1995. It has since been converted to the Atwater Business Park.

The City obtained access to the former Castle Air Force Base after it was closed in September 1995. It is now called the Castle Airport and Aviation Development Center (CAADC). The CAADC site contains an 11,800-foot runway, one of the longest in California. As part of base operations, the

runway once accommodated bombers and tankers. The aviation portion of the site is now being operated as a general aviation airport for civilian use. The City of Atwater, along with Merced County and the City of Merced, have formed a Joint Powers Agency (JPA) to explore the different uses for this site. Currently, the use most favored by the City of Atwater is a diversified general aviation facility and business center. A diversified facility could include private aviation, commercial passenger service, aviation maintenance, aviation educational, and agriculture/air cargo. The vast space of this airport is conducive to the reuse of the facilities.



A Feasibility Study/Master Plan has been

prepared for the airport. The Master Plan proposes the reuse of the airfield as a civil airport specializing in aviation-related manufacture and repair. Should growth continue in the Atwater/Merced area, the airport may serve air passenger and commuter traffic. According to the Negative Declaration prepared for the Castle Airport in 1995, some or all of the aircraft that are based at other airports in the region are expected to relocate to Castle Airport, possibly up to 103 aircraft in the first year of operations. The federal EIS stated that the Atwater Municipal Airport would likely close with the reuse of the Castle airfield, which it subsequently did. It also mentioned that the Merced and Turlock airports may close under the Commercial Aviation Alternative, which was not the preferred alternative in the EIS. However, the Castle Airport Negative Declaration stated that the Merced Municipal Airport is expected to continue to provide air service to the region for the immediate future.

*For goals and policies related to airport safety*

*near CAADC, please refer to the Safety Element of this General Plan.*

*For goals and policies related to civilian reuse of CAADC, please refer to the Land Use Element of this General Plan.*

*For goals and policies related to noise generated at CAADC, please refer to the Noise Element of this General Plan.*



**BICYCLES**



Bicycles are not currently considered a major mode of travel in the City. However, with the onset of air quality attainment strategies and congestion management,

bicycling is considered an effective alternative mode of transportation that can help to improve air quality and reduce the number of vehicles traveling along congested facilities.

The City of Atwater is in the process of adopting a Regional Bike Plan. The bicycle network consists of three classes of bikeways, according to the following design standards established by Caltrans:

- Ⓒ **Class I - Bicycle Paths.** Bike paths that are separated from vehicle traffic, pedestrians, and transit, and are primarily for the use of bicyclists.
- Ⓒ **Class II - Bicycle Lanes.** Bike lanes that provide cyclists exclusive to semi-exclusive use of the roadway, sharing facilities with motor vehicles and pedestrians. Bike lanes have identification signage, pavement stencils, striping, and minimum width requirements.
- Ⓒ **Class III - Bicycle Routes.** Bike routes that are shared facilities, usually with motor vehicles, on streets where bicycle use is secondary. Bicycle Route signs are required to be placed periodically along the route and at changes of direction.

Class I bikeways are located along:

- Ⓒ Buhach Road (Green Sands Avenue - Bellevue Avenue).
- Ⓒ Broadway/Green Sands (Shaffer Road - Buhach Road).
- Ⓒ Bellevue Road (Winton Way - Buhach Road).
- Ⓒ Winton Way (Bellevue Road - Juniper Avenue).
- Ⓒ Juniper Avenue (Sierra Madre Drive - Buhach Road).
- Ⓒ Shaffer Road (Bellevue Road - Camelia Drive).

- Ⓒ Atwater Boulevard (SR 99 - Station Avenue).

Class II bikeways are located along:

- Ⓒ Railroad Avenue (North of Bert Crane Road - Station Avenue).
- Ⓒ Santa Fe Drive (Avenue Two - Winton Way).
- Ⓒ Winton Way (Fruitland Avenue - Santa Fe Drive).

Class III bikeways are located along:

- Ⓒ Fruitland Avenue (Winton Way - Shaffer Road).
- Ⓒ Juniper Avenue (Liberty Street - Sierra Madre Drive).
- Ⓒ Avenue Two (Buhach Road - Santa Fe Drive).
- Ⓒ Terri Drive (Shaffer Road - Bromwell Avenue).
- Ⓒ Fortuna Avenue (Shaffer Road - Bromwell Avenue).
- Ⓒ Elm Avenue ( 1<sup>st</sup> Street - Shaffer Road)
- Ⓒ Clinton Avenue (Shaffer Road - Almador Terrace).
- Ⓒ Bridgewater Street (Juniper Avenue - Bellevue Road).
- Ⓒ Almador Terrace (Broadway - Clinton Avenue).
- Ⓒ Bromwell Avenue (Terri Drive - Bellevue Road).
- Ⓒ Shaffer Road (Juniper Avenue - Terri Drive).
- Ⓒ High Street (Juniper Avenue - Menlo Street).
- Ⓒ 1<sup>st</sup> Street (Broadway - Elm Avenue).
- Ⓒ Liberty Street (Juniper Avenue - Mitchell Avenue).
- Ⓒ Mitchell Avenue (Liberty Street - Willow Street).
- Ⓒ Willow Street (Mitchell Avenue - Olive Avenue).
- Ⓒ Olive Avenue (Willow Street - Maple).
- Ⓒ Maple (Willow Street - Atwater Boulevard).

The bicycle plan provides for connections between major urban and recreational facilities within the City. This plan is expected to be satisfactory for the foreseeable future.



## Circulation Element

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**GOAL CIRC-7** Development of an interconnected system of bikeways and trails throughout Atwater.

**Policy CIRC-7.1** Consider bicycle circulation in the review of all proposed public and private development and infrastructure projects. Require that all public and private projects conform with the adopted Regional Bike Plan.

**Policy CIRC-7.2** Require that all public and private projects conform with the Regional Bike Plan. Require that the cost of bicycle lanes (including on- and off-street facilities) be paid by private development for those facilities located within a proposed development project.

### PEDESTRIAN FACILITIES



Pedestrian facilities within the immediate vicinity of schools and recreational facilities are also important components of the non-motorized transportation system. Pedestrian circulation facilities within and around

school and recreational areas, in the form of sidewalks built to current City standards, are provided where they are appropriate and enhance the safety of those who choose to walk to and from their destination.

**GOAL CIRC-8** Provide a safe and efficient pedestrian circulation system which connects residential areas, schools, and commercial areas with parking lots and public transportation.

**Policy CIRC-8.1** Require new public and private development and infrastructure projects to include sidewalks or on-site pedestrian features.

**Policy CIRC-8.2** Ensure that pedestrian circulation within commercial development projects is considered and that safe walkways separated from parking stalls and drive aisles are provided.

*For policies related to land use patterns which encourage pedestrian use, please refer to the Land Use Element of this General Plan.*

# VMT THRESHOLDS AND IMPLEMENTATION GUIDELINES



**LSA**

September 2022



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# VMT THRESHOLDS AND IMPLEMENTATION GUIDELINES



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September 2022

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## EXECUTIVE SUMMARY

Senate Bill (SB) 743, which became effective July 1, 2020, changes the way transportation impacts are determined in California Environmental Quality Act (CEQA) documents. SB 743 replaces the metric for determining transportation impacts using motor vehicle delay and Level of Service (LOS) to Vehicle Miles Traveled (VMT) in CEQA traffic impact studies. As a result of the SB 743 final rulemaking and the implementation deadline of July 1, 2020, the Merced County Association of Governments (MCAG) has prepared this document as a regional guide for the seven member jurisdictions - Merced County and the cities of Atwater, Dos Palos, Gustine, Livingston, Los Banos, and Merced. The member jurisdictions can adopt the recommendations in the regional guidelines as appropriate based on their individual circumstances, such as growth policies and economic development goals.

This document provides a detailed discussion on implementing the CEQA VMT metric as applicable to the MCAG member jurisdictions. Substantial evidence and explanation on establishing the “Region,” VMT screening criteria, and VMT analysis thresholds are also described. The following topics establish the steps for preparation of VMT analysis. Each topic is discussed in more detail further in this report.

- **Definition of ‘Region’:** Merced County is recommended as the region for VMT analysis purposes.
- **Standardized Screening Methods:** Projects within a Transit Priority Area that meet additional requirements, local-serving retail projects up to 50,000 square feet (sf), residential, office, industrial, or mixed-use projects within low-VMT generating areas, projects with 100 percent affordable housing units, and projects that are consistent with the jurisdiction’s General Plan and generate fewer than 1,000 daily trips may be screened out from the need for a VMT analysis. Additionally, projects that are not consistent with the jurisdiction’s General Plan but generate fewer than 500 daily trips may also be screened out from a VMT analysis.
- **Appropriate VMT Significance Thresholds for Development Projects, Transportation Projects, and Community/General Plans:** For all projects (except retail), a significance threshold of 86 percent of the existing regional average of the respective VMT metric is recommended. For retail projects, a significance threshold of no net increase in VMT is recommended. For mixed use projects, the VMT thresholds are based on the respective thresholds for the various land use components. For transportation projects, net increase in induced VMT is recommended as the significance threshold. Finally, for land use plans, the existing regional average VMT per capita, VMT per employee, and/or VMT per service population is recommended as the threshold of significance.
- **Feasible Mitigation Strategies:** A list of VMT mitigation measures applicable to development projects, transportation projects, and plans in the context of the MCAG member jurisdictions is provided for projects which may not meet the recommended significance thresholds. Additionally, implementation of a future VMT mitigation bank, VMT mitigation exchange, and/or VMT impact fee are discussed as potential future regional VMT mitigation mechanisms.

MCAG recommends the use of the MCAG Travel Demand Model (TDM) for VMT analysis purposes. The MCAG TDM is the sub-regional travel demand model applicable to jurisdictions within Merced County for evaluating project VMT. The appropriate use of the MCAG TDM for VMT calculations is further elaborated in subsequent chapters of this document.





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## ABBREVIATIONS AND ACRONYMS

ADT	Average Daily Trips
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CO <sub>2</sub> e	Carbon Dioxide Equivalent
EIR	Environmental Impact Report
EO	Executive Order
GHG	Greenhouse Gas
GWP	Global Warming Potential
HOT	High-Occupancy Toll
HOV	High-Occupancy Vehicle
HQTA	High-Quality Transit Area
ITE	Institute of Transportation Engineers
LOS	Level of Service
MCAG	Merced County Association of Governments
MPO	Metropolitan Planning Organization
MT	Metric Ton
NCST	National Center for Sustainable Transportation
OPR	Governor’s Office of Planning and Research
PRC	Public Resources Code
RTP	Regional Transportation Plan
SB	Senate Bill
SCS	Sustainable Communities Strategy
sf	Square foot/Feet
SOC	Statement of Overriding Considerations
TA	Technical Advisory
TDM	Travel Demand Model
TPA	Transit Priority Area
VMT	Vehicle Miles Traveled





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## 1.0 INTRODUCTION

Senate Bill (SB) 743, which became effective July 1, 2020, changes the way transportation impact assessments are conducted in California Environmental Quality Act (CEQA) documents. Most notably, rulemaking in support of SB 743 replaces motor vehicle delay, as measured by Level of Service (LOS), with Vehicle Miles Traveled (VMT) as the metric for use in CEQA transportation impact assessments.

In January 2019, the Natural Resources Agency and the Governor’s Office of Planning and Research (OPR) codified SB 743 into the Public Resources Code (PRC) and the *State CEQA Guidelines*.

OPR published a Technical Advisory (TA) in December of 2018, as a resource to guide the assessment of the VMT metric, establish thresholds of significance, and recommends mitigation measures. The laws and rules governing the CEQA process are contained in the CEQA statute (PRC Section 21000 and following), the *State CEQA Guidelines* (California Code of Regulations, Title 14, Section 15000 and following), published court decisions interpreting CEQA, and locally adopted CEQA procedures. The TA is intended as a reference document; it does not have the weight of law. However, any decision to deviate from the TA recommendations should be supported by substantial evidence.

The State of California is committed to reducing greenhouse gas (GHG) emissions and achieving long-term climate change goals. As a means for achieving statewide sustainability and climate goals, California legislation is focused on reducing VMT to achieve statewide climate goals. Over the last 40 years, across the state, VMT has far exceeded that of the state’s population increase during the same period. Transportation is the single largest sector contributing to California’s GHG emissions. Approximately 41 percent of statewide GHG emissions are generated by the transportation sector, primarily passenger cars and light-duty trucks (see Figure 1, following page). State mandates pertaining to GHG emissions include reducing the number of single-occupancy vehicle trips and the length of vehicle trips.

This document provides a guide and substantial evidence for Merced County Association of Governments (MCAG) and its member jurisdictions in setting the thresholds of significance for CEQA transportation studies. The report is organized into the following seven chapters:

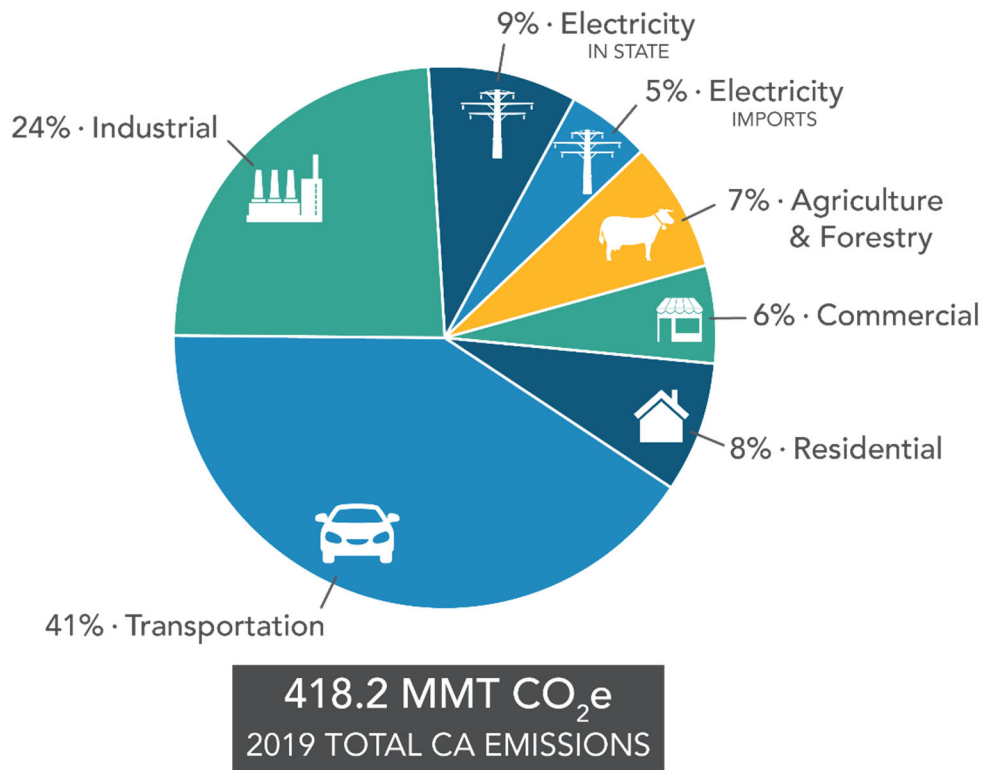
- **Chapter 1 – Introduction:** This chapter establishes the purpose and objective of this report.
- **Chapter 2 – Definition of Region:** This chapter describes the comparative geographic baseline of a region for analysis purposes.
- **Chapter 3 –Screening Criteria:** OPR acknowledges that certain projects are either low VMT generators, or, by virtue of their location, would have a less than significant impact. This chapter provides the recommended screening criteria to identify potentially exempt projects.
- **Chapter 4 –VMT Threshold Analysis for Development Projects:** This chapter identifies the VMT thresholds of significance, which would result in a significant CEQA impact. The actual VMT metric (either an efficiency rate or total VMT) is described. The process of VMT analysis is also described in this chapter.
- **Chapter 5 – VMT Threshold Analysis for Transportation Projects:** This chapter describes the methodology used to evaluate significant CEQA impacts associated with transportation projects.





Many non-capacity capital projects may be presumed to have a less than significant impact. Capacity-enhancing transportation projects may produce significant VMT impacts and would therefore be subject to a comprehensive VMT analysis including an induced travel assessment.

- **Chapter 6 – VMT Threshold Analysis for Land Use Plans:** This chapter provides guidance and substantial evidence to support the threshold recommendation for land use plans and CEQA transportation analyses by MCAG member jurisdictions.
- **Chapter 7 – VMT Mitigation Strategies:** The discussion provided in this chapter is intended as a reference and guide for use in the identification of feasible VMT mitigation options that may be used to offset project-related VMT impacts. It should be noted that this discussion is not intended to represent a full list of VMT mitigation measures available or feasible to the MCAG member jurisdictions. As in previous CEQA practice, it is generally the lead agency who identifies mitigation measures to offset the specific project-related impacts identified in an environmental document.



Source: <https://ww2.arb.ca.gov/ghg-inventory-data>

**Figure 1: 2019 GHG Emissions in California by Economic Sector**





## 2.0 DEFINITION OF REGION: VEHICLE MILES TRAVELED CONTEXT

To quantify a project’s impact related to the VMT metric, a geographic context must be established. In the motor vehicle delay-based (LOS) analyses, a project study area is the geographic context for measuring a project’s traffic impacts. A project study area is generally determined by the incremental increase in traffic generated by the project and the project’s potential to create travel delays in the area. This generally includes intersections and roadway segments where the project would add a prescribed number of peak-hour trips. Lead agencies typically limit the LOS-based project study area boundaries within their jurisdictions.

Unlike delay-based LOS analyses, VMT produces a regional impact that is not defined by roadway, intersection, or jurisdictional boundaries. OPR acknowledges this in its TA (page 6), which states:

*“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.”*

The majority of trips are commute and shopping trips occurring between residential, office, and retail uses. Therefore, pursuant to the OPR TA, the recommendations for VMT thresholds for the three primary land use types (residential, office, and retail) are based on a comparison to a *regional average*. OPR does not explicitly define the regional average, and instead, recommends:

1. *In cases where the region is substantially larger than the geography over which most workers would be expected to live, it might be appropriate to refer to a smaller geography, such as the county, that includes the area over which nearly all workers would be expected to live. (page 16)*
2. *For residential projects in unincorporated county areas, the local agency can compare a residential project’s VMT to (1) the region’s VMT per capita, or (2) the aggregate population weighted VMT per capita of all cities in the region. (page 15)*

In most of urbanized areas throughout the state, the county boundary is selected as the region for purposes of VMT analysis. The primary attribute considered is that the regional definition includes the majority of the trip origins and/or destinations within that region. The denominator of all subsequent land development VMT analyses will include the vast majority of all home-based trips as the comparative.

The geographic boundary needs to contain the majority of trips that either originate in or are destined to the jurisdiction boundary. To determine this boundary, a review of the regional or sub-regional travel demand model data that includes MCAG and its member jurisdictions, was evaluated.

Mobility, as related to vehicle travel, can be studied using a trip-based approach or a tour-based approach. A trip-based approach calculates VMT as individual trips to and from the project. On the other hand, a tour-based approach considers a chain of linked trips that includes the project as a trip. The State supports the trip-based approach and states “When available, tour-based assessment is ideal because it captures travel behavior more comprehensively. But where tour-based tools or data

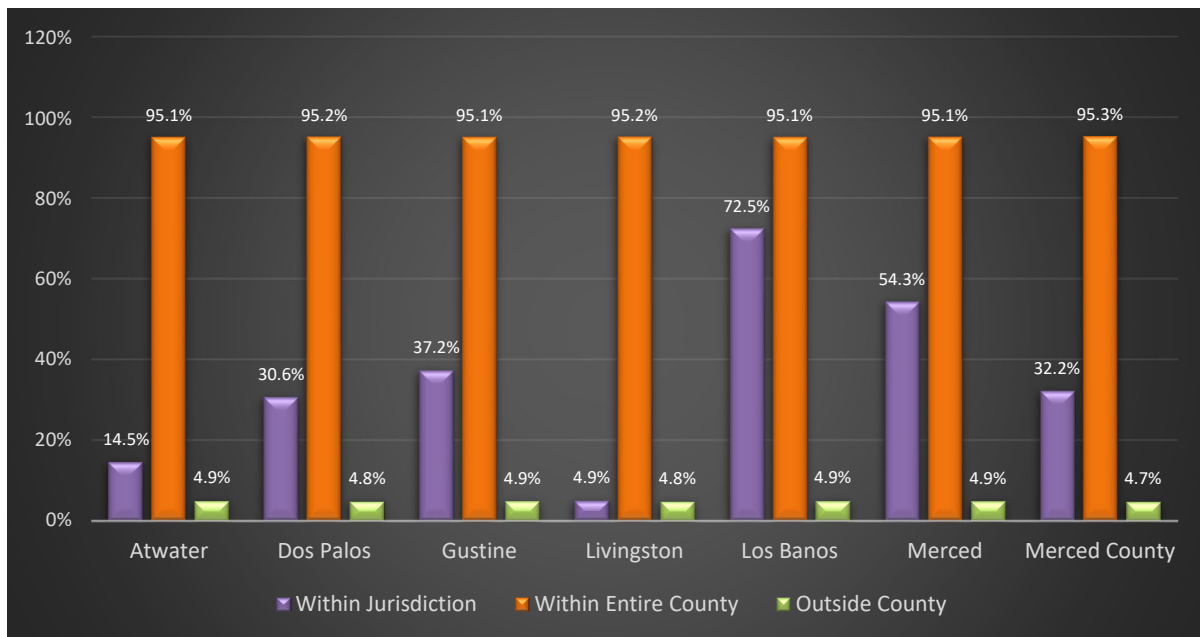




are not available for all components of an analysis, a trip-based assessment of VMT serves as a reasonable proxy.” (OPR TA page 5)

The MCAG Travel Demand Model (TDM) is the sub-regional model for the County. This model is applicable to jurisdictions within Merced County, including the unincorporated county for evaluating project VMT. This model is also trip-based and was used to evaluate the typical ‘trip catchment areas’ for the MCAG member jurisdictions. Additionally, consistent with the OPR TA, only trips having origins or destinations or both within the specific jurisdiction were considered for this analysis. External pass-through trips were not considered as these are not required for the analysis.

As illustrated in Figure 2, based on the analysis using the MCAG TDM, individual MCAG member jurisdictions have a variable percentage of trips contained within themselves, but, for all the jurisdictions, approximately 95 percent or more trips are contained within Merced County. The remaining four to five percent trips travel beyond the County boundary.



**Figure 2: Share of Total Trips Having Origins/Destinations within Individual Jurisdictions, within Entire Merced County, or Outside the County (2015 MCAG TDM)**

Therefore, Merced County is an appropriate ‘region’ for VMT analysis purposes because for all the MCAG member jurisdictions, majority of the trips (approximately 95 percent) are contained within this distinct area.





### 3.0 SCREENING CRITERIA

The TA acknowledges that certain activities and projects may result in a reduction of VMT and GHG emissions and may therefore be assumed to produce a less than significant transportation impact. Due to a presumption of less than significant impact as accepted by OPR, a variety of projects may be screened out of SB 743-related VMT analysis requirements.

#### 3.1 DEVELOPMENT PROJECTS

For development projects, screening factors may include a project’s size, location, proximity to transit, and trip-making potential. One or more of the following project attributes may be presumed to produce a less than significant VMT impact:

- The project is within 0.5 mile (mi) of a transit priority area or a high-quality transit area and is consistent with the Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS), has a floor area ratio (FAR) equal or greater than 0.75, does not provide an excessive amount of parking, or does not reduce the number of affordable residential units. In accordance with SB 743, “transit priority areas” are defined as “an area within one-half mile of a major transit stop that is existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program. A Major transit stop means: “a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service of 15 minutes or less during the morning and afternoon peak commute periods.” A high-quality transit area or corridor is a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.

Figure 3 depicts transit priority areas within Merced County, including high-quality transit areas (within 0.5 mile of a major transit stop) served by The Bus (Merced’s Regional Transit System) with service intervals of 15 minutes or less. Projects proposed in these areas may be presumed to have a less-than-significant transportation impact unless the project is inconsistent with the RTP/SCS, has an FAR less than 0.75, provides an excessive amount of parking, or reduces the number of affordable residential units.

- The project includes local-serving retail with a combined area of less than 50,000 square feet (sf).
- Redevelopment projects that result in an equal or net reduction in VMT may be considered to have less than significant VMT impact. A net reduction in VMT would occur if the land use proposed by the project would generate less VMT than the existing land use.
- The project includes 100 percent affordable housing units.
- A project consistent with the jurisdiction’s General Plan may be successfully screened if the project would generate fewer than 1,000 average daily trips (ADT), while a project not consistent with the jurisdiction’s General Plan may be screened if the project would generate fewer than 500 ADT (See section 3.1.1 below.)
- Institutional/government and public service uses that support community health, safety and welfare may also be screened from subsequent CEQA VMT analysis. These facilities (e.g., police stations, fire stations, government offices, utilities, public libraries, community centers, and refuse stations) would be a part of the community and, as public services, the VMT would be







accounted for within the community. Any other similar use not included in the list can be approved on a case-by-case basis by the local jurisdiction as applicable. As such, these uses would result in reduction in total VMT due to the proximity of these services within the community. Additionally, many of these facilities would generate fewer than 1,000 ADT and/or use vehicles other than passenger-cars or light-duty trucks. These other vehicle fleets are subject to regulation outside of CEQA, such as the California Air Resources Board (CARB) and the San Joaquin Valley Air Pollution Control District.

- Local parks, daycare centers, student housing projects on or adjacent to a college campus, local-serving gas stations, banks, and K–12 public schools.
- Projects located in areas with low VMT may be screened out from further CEQA analysis. The TA acknowledges that residential and office projects located in areas having a low VMT, (which incorporate features such as density, mix of uses, transit accessibility), tend to exhibit similarly low VMT. Also, areas that are mapped as low VMT areas do not need to prepare a detailed VMT analysis. Therefore, residential, office, industrial, or mixed-use projects that are consistent with the lead agency’s General Plan and located within low VMT areas (using the MCAG VMT Screening Tool<sup>1</sup> and applying appropriate thresholds) may be presumed to have similar low VMT profiles and could be screened out from the need for further VMT analysis. It should be noted that if a project constitutes a General Plan Amendment or Zone Change, such projects will be evaluated on a case-by-case basis. Figures 4, 5, and 6 illustrate the VMT per capita, VMT per employee, and VMT per service population screening maps for the region.
- The 2022 *State CEQA Guidelines* Section 15007 (c) states that “if a document meets the content requirements in effect when the document is sent out for public review, the document shall not need to be revised to conform to any new content requirements in Guideline amendments taking effect before the document is finally approved.” Therefore, if a development/land use plan/transportation project is already cleared by a certified Environmental Impact Report (EIR) or an adopted Negative Declaration/Mitigated Negative Declaration, then subsequent projects that are consistent with the approved project will not require a new VMT analysis.

### 3.1.1 Average Daily Trips (ADT) Threshold

Although OPR recommends 110 ADT as an appropriate threshold, this number is not based on any analysis of GHG reduction potential but, rather, on a CEQA categorical exemption. Under Section 15301(e)(2) of the *CEQA Guidelines*, existing facilities, including additions to existing structures of up to 10,000 sf are exempt from CEQA review if the project is located in an area where public infrastructure is available to allow for maximum planned development and the project is not located in an environmentally sensitive area.

Similar adjustments have been successfully implemented in other jurisdictions. The justification for the increase in the proposed screening threshold based on reduction of GHG emissions, is further described below.

<sup>1</sup> MCAG VMT Screening Tool: [Link Forthcoming](#)





According to OPR, projects have a linear increase in trip generation with respect to the building footprint. Specifically, between 110 and 124 daily vehicle trips are anticipated per 10,000 sf. Based on this assumption, OPR recommends 110 ADT as the screening threshold.

The California Emissions Estimator Model (CalEEMod) is a tool provided by CARB and is accepted as the statewide standard to evaluate air quality and GHG emission impacts for CEQA assessment. As such, CalEEMod was used to characterize the effect of changes in project-related ADT to the resulting GHG emissions. To account for geographical relevance to project location, LSA calculated trip lengths from the MCAG TDM. The trip lengths were calculated for various project types and trip purposes. Table A shows the resulting annual VMT and GHG emissions produced by incremental ADT for single-family residential projects.

**Table A: Representative VMT and GHG Emissions from CalEEMod**

Average Daily Trips (ADT)	Annual Vehicle Miles Traveled (VMT)	Vehicular GHG Emissions (Metric Tons of CO <sub>2</sub> e per year)	Total Project GHG Emissions (Metric Tons of CO <sub>2</sub> e per year)
200	711,204	306.48	370.20
300	1,083,739	467.02	564.22
400	1,422,408	612.96	740.41
500	1,794,944	773.50	934.43
600	2,167,479	934.04	1,128.27
750	2,675,482	1,152.95	1,392.73
1,000	3,589,887	1,547.00	1,868.68
1,500	5,384,831	2,320.50	2,803.11

Source: CalEEMod version 2020.4.0.

CalEEMod = California Emissions Estimator Model; GHG = Greenhouse Gas; CO<sub>2</sub>e = carbon dioxide equivalent

A common GHG emissions threshold is 3,000 metric tons (MT) of carbon dioxide equivalent<sup>2</sup> (CO<sub>2</sub>e) per year. As shown in Table A, a project with an ADT lower than 1,500 would generally be expected to have a total project emission of less than 3,000 MT CO<sub>2</sub>e/year. LSA conducted this exercise for several other land uses to identify appropriate GHG screening thresholds. Table B shows the potential maximum GHG screening thresholds (up to 3,000 MT) for these land uses.

While OPR recommends 110 ADT as the VMT screening threshold, the GHG analysis above concludes that projects with up to 1,500 ADT could be potentially screened out from VMT analysis. As a conservative approach, the MCAG *VMT Thresholds and Implementation Guidelines* document recommends a daily trip threshold of 1,000 ADT be applied to projects that are consistent with the lead agency’s General Plan. However, for projects that are not consistent with the lead agency’s General Plan, a screening threshold of 500 ADT may be applied. A sample list of size of projects

<sup>2</sup> CO<sub>2</sub>e is a concept developed to provide one metric that includes the effects of numerous GHGs. The global warming potential (GWP) of each GHG characterizes the ability of each GHG to trap heat in the atmosphere relative to another GHG. The GWPs of all GHGs are combined to derive the CO<sub>2</sub>e.





generating fewer than 1,000 and 500 daily vehicle trips that would be eligible to be exempt from a VMT analysis are included in Table C.

**Table B: CO<sub>2</sub>e Emission Rates by Land Use Type**

Land Use	Units	Total MTCO <sub>2</sub> e per year	Annual MTCO <sub>2</sub> e per DU or TSF
Single-Family Residential	170 DU	2,996.95	17.63
Low-Rise Multifamily Residential	247 DU	2,991.46	12.11
Mid-Rise Multifamily Residential	349 DU	2,994.91	8.58
Office	240 TSF	2,992.16	12.47
Warehouse	614 TSF	2,998.41	4.88
Light Industrial	361 TSF	2,992.96	8.29
Hotel	309 Rooms	2,998.56	9.70
Medical Office	86 TSF	2,971.57	34.55
Hospital	125 Beds	2,986.23	23.89
Shopping Center	43 TSF	2,946.34	68.52
Strip Mall	83 TSF	2,999.79	36.14

Source: California Emissions Estimator Model (CalEEMod) version 2020.4.0.  
DU = Dwelling Units; TSF = Thousand Square Feet; CO<sub>2</sub>e = carbon dioxide equivalent

**Table C: VMT Screening Thresholds for Sample Land Uses**

Land Use	Size of Projects (Requiring a GPA)	Size of Projects (Not Requiring a GPA)
Single-Family Residential <sup>1</sup>	53 DU	106 DU
Low-Rise Multifamily Residential <sup>2</sup>	74 DU	148 DU
Mid-Rise Multifamily Residential <sup>3</sup>	110 DU	220 DU
Office	46.125 TSF	92.250 TSF
Warehouse	292.397 TSF	584.795 TSF
Light Industrial	102.669 TSF	205.338 TSF
Hotel	62 Rooms	125 Rooms
Medical Office <sup>4</sup>	13.888 TSF	27.777 TSF
Hospital	22 Beds	44 Beds

Notes: DU = Dwelling Units; TSF = Thousand Square Feet  
Project sizes have been determined based on trip generation rates obtained from the ITE *Trip Generation Manual* (11<sup>th</sup> Edition).

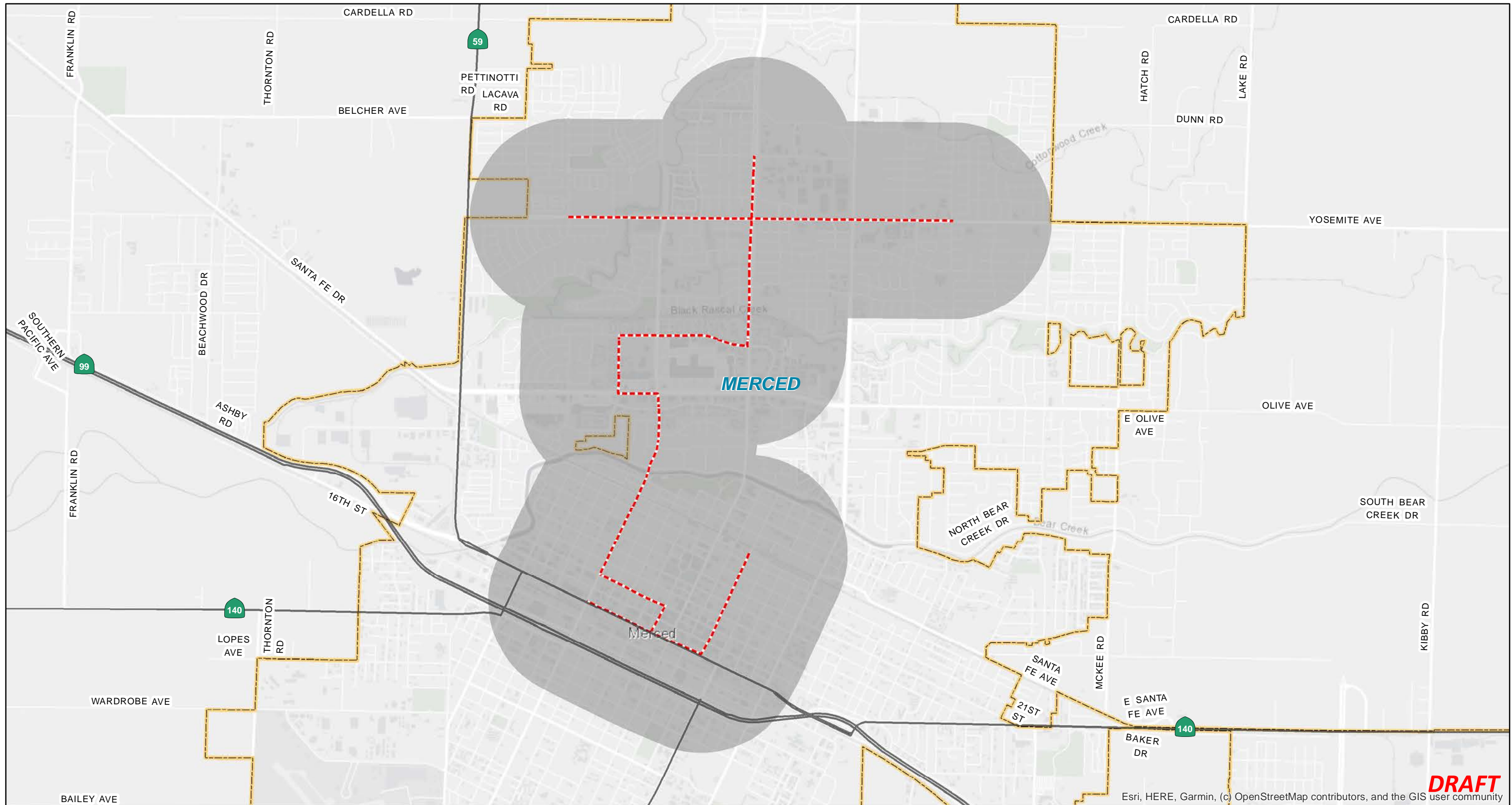
- <sup>1</sup> The project sizes have been provided for single-family detached residential only.
- <sup>2</sup> The project sizes have been provided for low-rise multifamily residential (not close to rail transit) only.
- <sup>3</sup> The project sizes have been provided for mid-rise multifamily residential (not close to rail transit) only.
- <sup>4</sup> The project sizes have been provided for stand-alone medical office buildings only.





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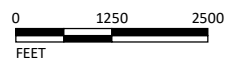




LSA

LEGEND

- City of Merced
- High Quality Transit Corridor
- High Quality Transit Area



SOURCE: MCAG

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Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

FIGURE 3

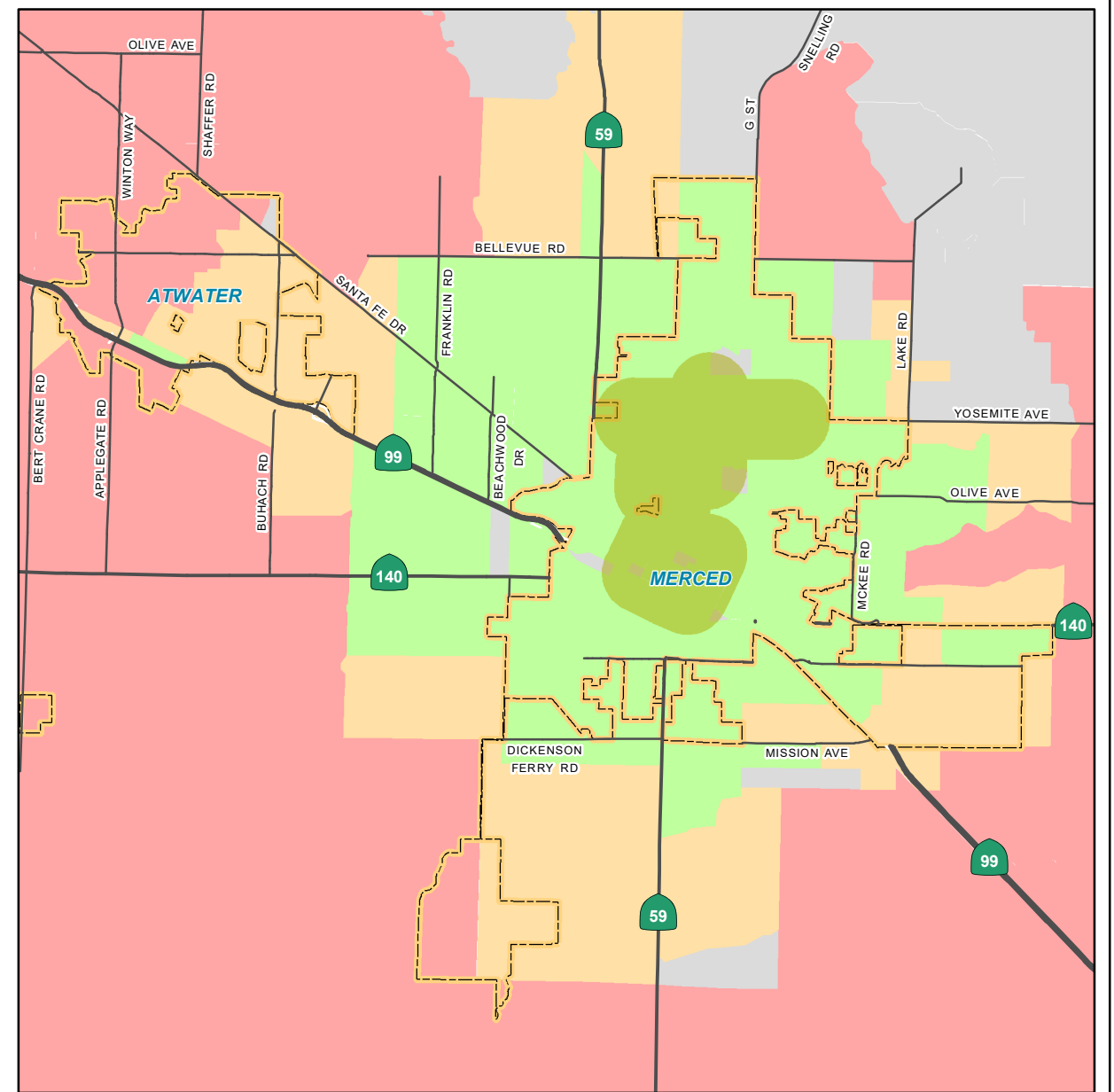
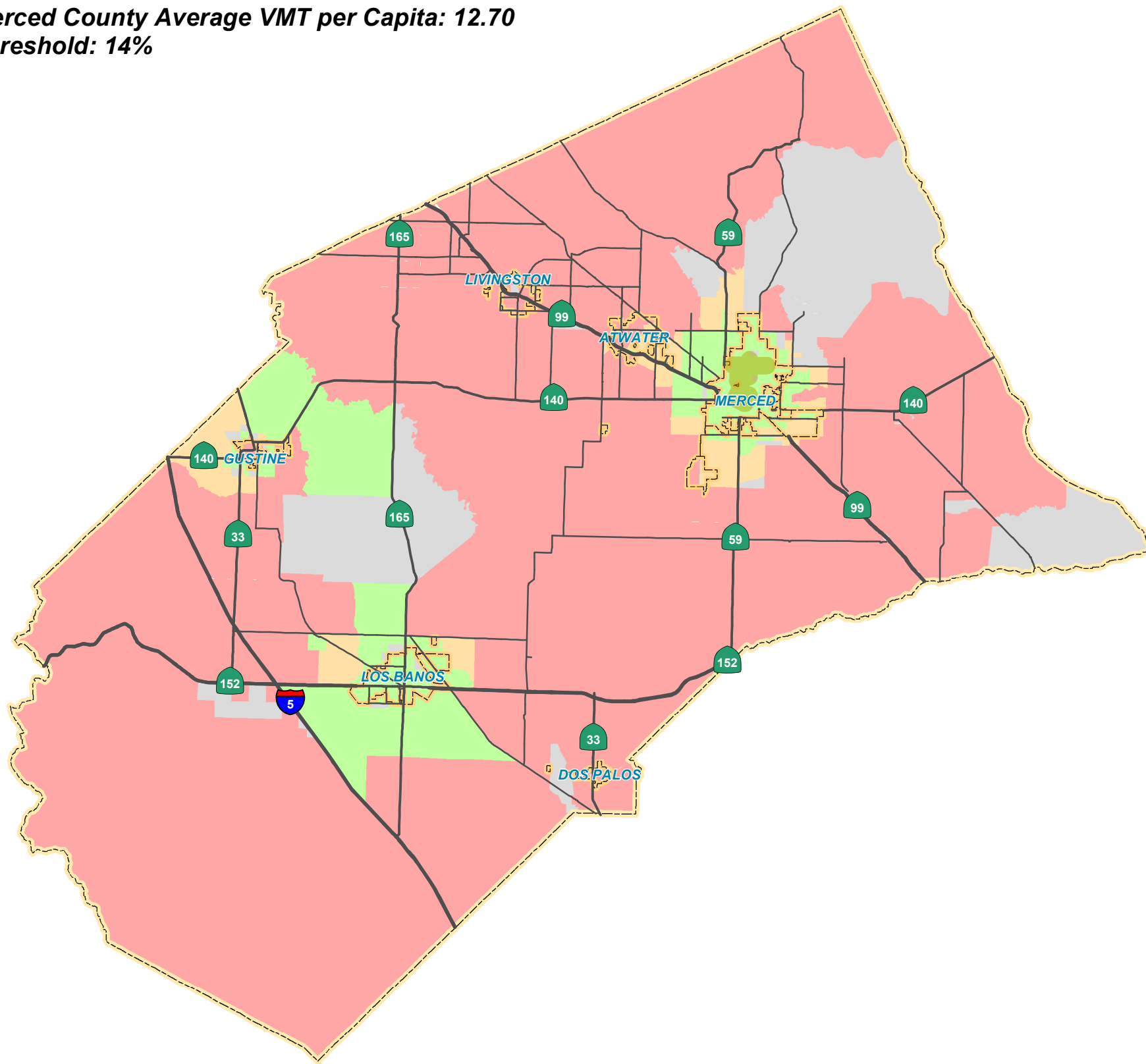


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**Merced County Average VMT per Capita: 12.70**  
**Threshold: 14%**



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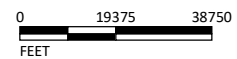
LSA

LEGEND

- County of Merced Boundary
- MCAG City Jurisdictions Boundary
- High Quality Transit Area

VMT per Capita

- No Population
- Less than 10.92
- 10.92 - 12.70
- Greater than 12.70



SOURCE: MCAG Travel Demand Model 2015 Base Year

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FIGURE 4

Merced County Association of Governments  
 VMT Thresholds and Implementation Guidelines  
 VMT per Capita Screening Map for Merced County

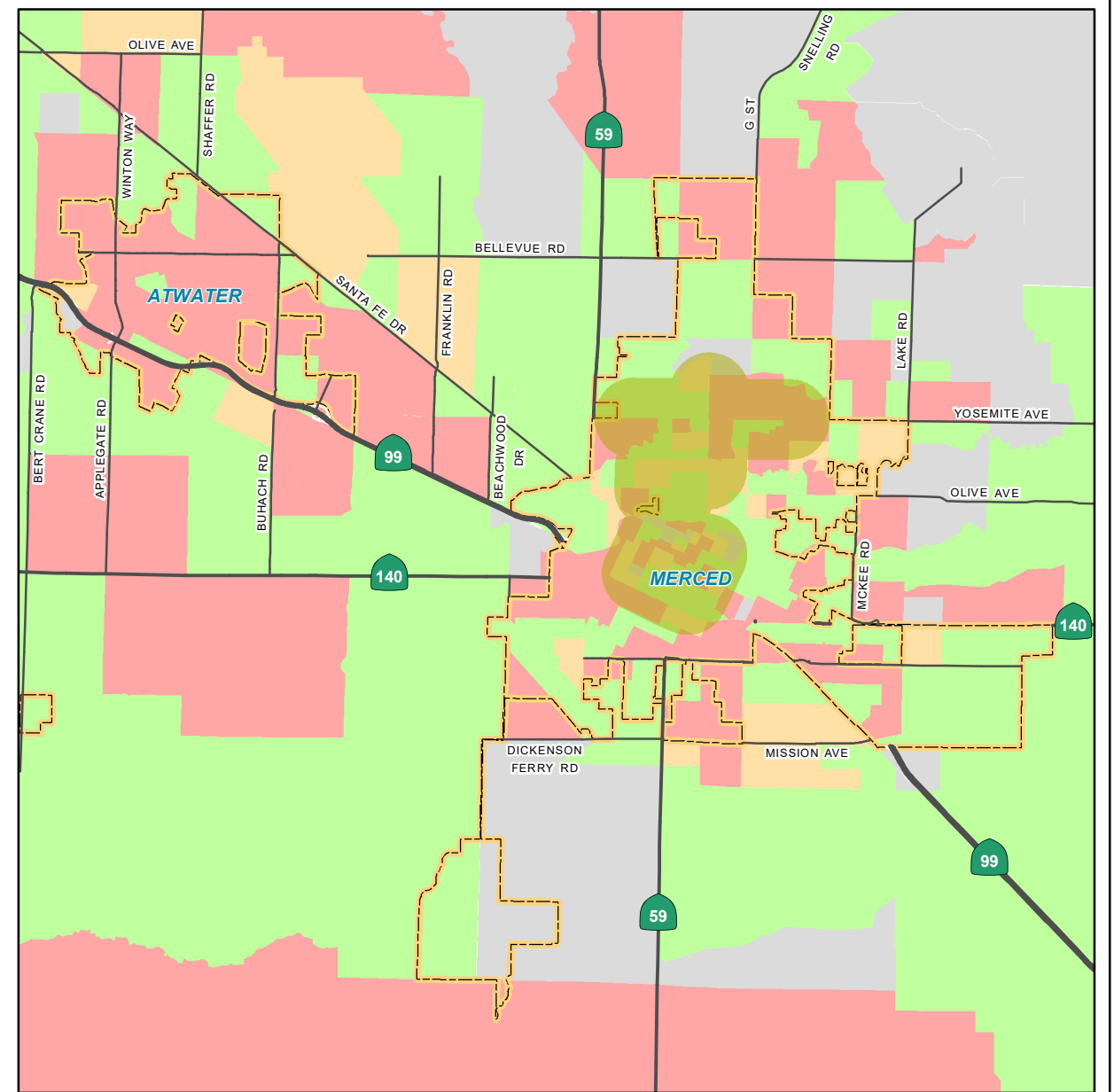
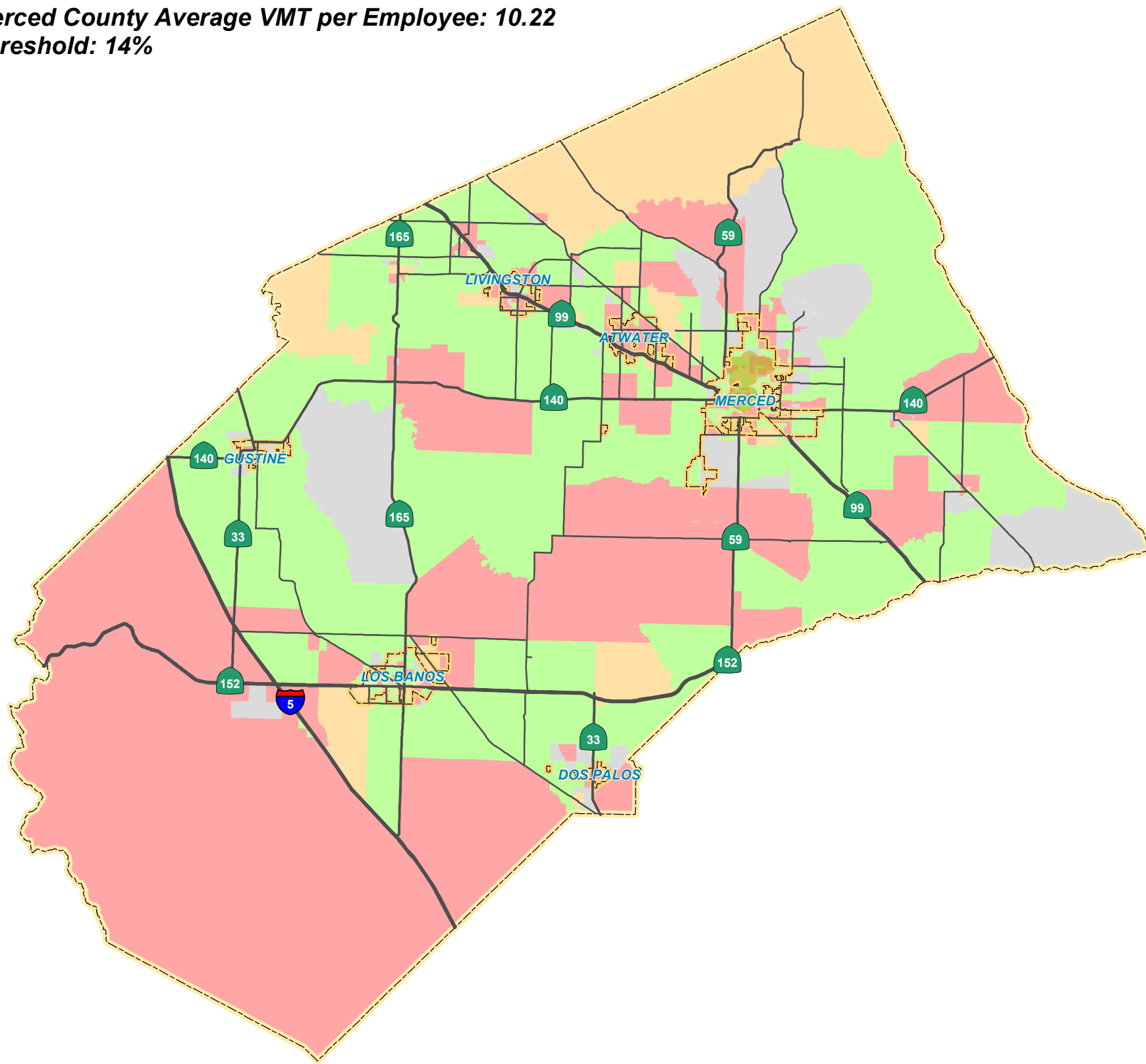


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**Merced County Average VMT per Employee: 10.22**  
**Threshold: 14%**



**DRAFT**

LSA

LEGEND

- County of Merced Boundary
- MCAG City Jurisdictions Boundary
- High Quality Transit Area

VMT per Employee

- No Employment
- Less than 8.79
- 8.79 - 10.22
- Greater than 10.22



SOURCE: MCAG Travel Demand Model 2015 Base Year

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FIGURE 5

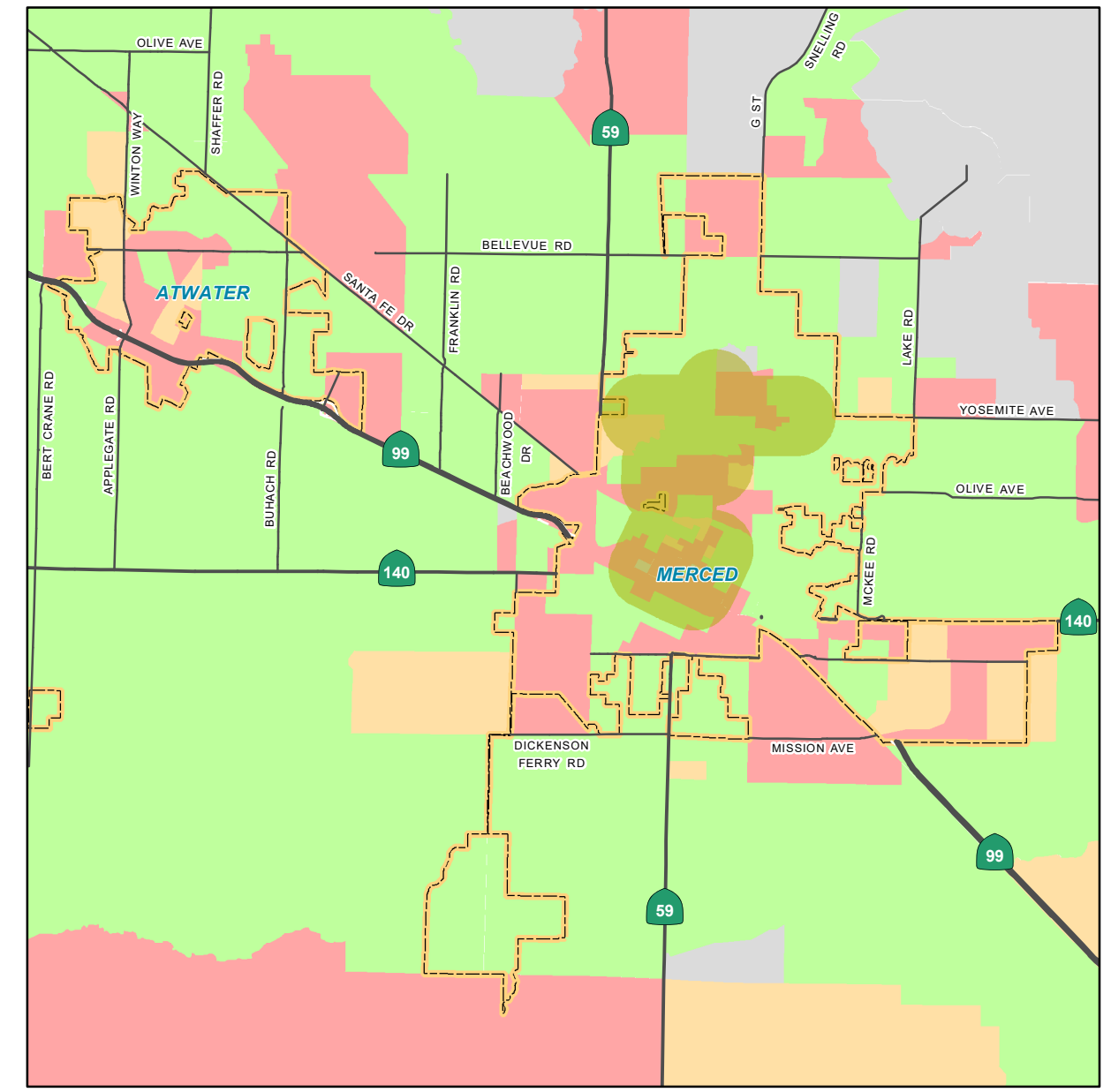
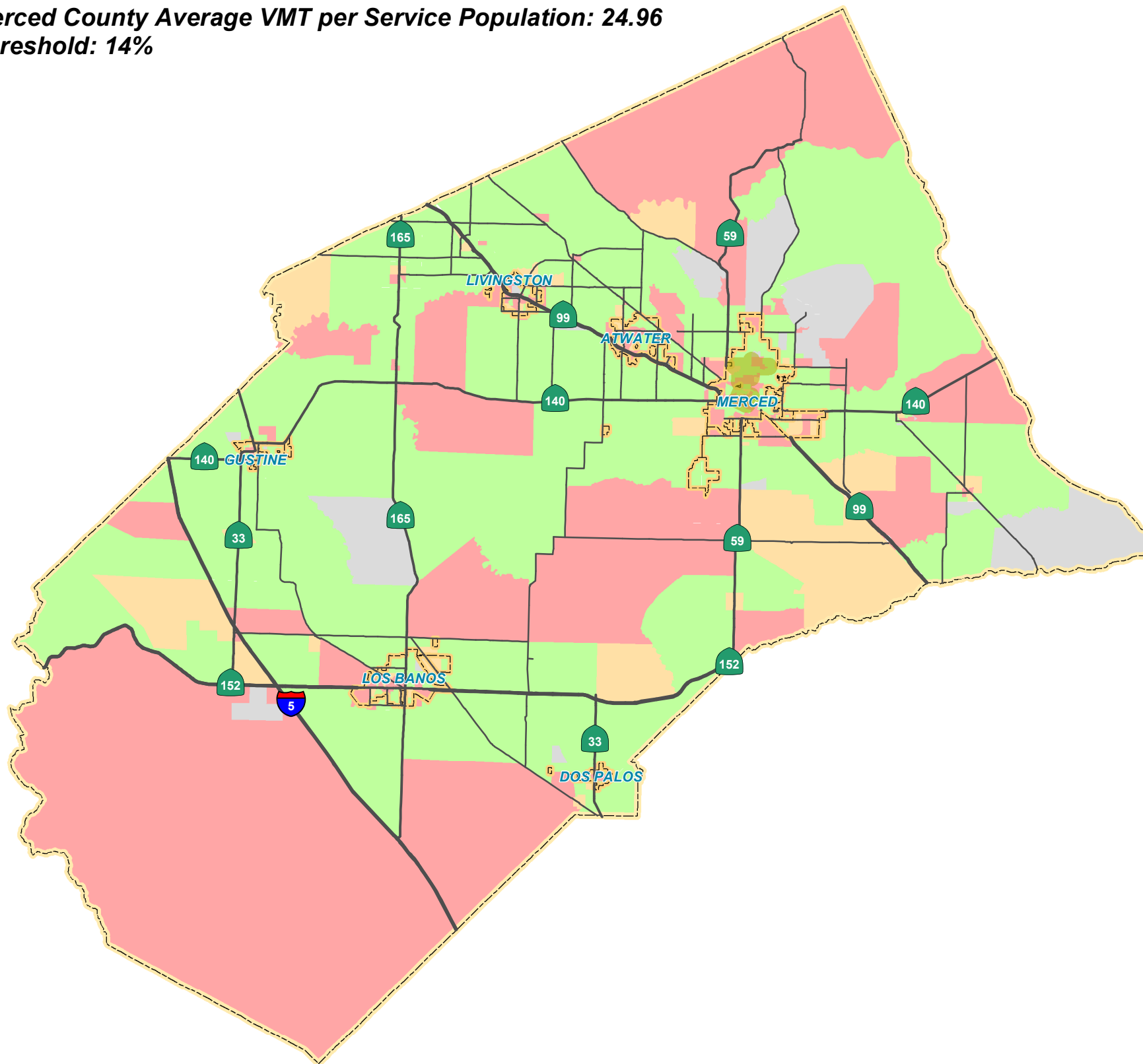
Merced County Association of Governments  
 VMT Thresholds and Implementation Guidelines  
 VMT per Employee Screening Map for Merced County



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**Merced County Average VMT per Service Population: 24.96**  
**Threshold: 14%**

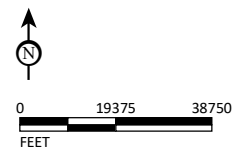


**DRAFT**

LSA

- LEGEND**
- County of Merced Boundary
  - MCAG City Jurisdictions Boundary
  - High Quality Transit Area

- VMT per Service Population**
- No Population or Employment
  - Less than 21.47
  - 21.47 - 24.96
  - Greater than 24.96



SOURCE: MCAG Travel Demand Model 2015 Base Year  
 I:\MCN2201\Report\fig6\_VMT\_SP\_14.mxd (9/23/2022)

FIGURE 6

Merced County Association of Governments  
 VMT Thresholds and Implementation Guidelines  
 VMT per Service Population Screening Map for Merced County



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### 3.2 TRANSPORTATION PROJECTS

Transportation projects refer to capital improvement projects that relate to roadway widening, roadway infrastructure improvements, active transportation projects or operational improvements. The primary attribute to consider with transportation projects is the potential to increase vehicle travel demand, also referred to as ‘induced travel.’ While the lead agency has discretion to continue to use a delay-based LOS analysis for CEQA disclosure of transportation projects, changes in vehicle travel must be quantified. To comply with SB 743, the lead agency may solely use VMT analysis for CEQA disclosure of transportation impacts, but may also require a LOS analysis for design, traffic operations, and safety purposes to comply with the lead agency’s General Plan Circulation Element. The TA identifies the types of transportation improvement projects that would not likely lead to a substantial or measurable increase in vehicle travel and which would, therefore, not require further VMT analysis. These include the following:

- Rehabilitation, maintenance, replacement, safety, and repair projects designed to improve the condition of existing transportation assets (e.g., highways; roadways; bridges; culverts; Transportation Management System field elements such as cameras, message signs, detection, or signals; tunnels; transit systems; and assets that serve bicycle and pedestrian facilities) that do not add additional motor vehicle capacity.
- Roadside safety devices or hardware installation such median barriers and guardrails.
- Roadway shoulder enhancements to provide “breakdown space,” dedicated space for use only by transit vehicles, to provide bicycle access, or to otherwise improve safety, but which will not be used as automobile vehicle travel lanes.
- Addition of an auxiliary lane of less than 1 mile in length designed to improve roadway safety.
- Installation, removal, or reconfiguration of traffic lanes that are not for through traffic, such as left-turn, right-turn, and U-turn pockets, two-way left-turn lanes, or emergency breakdown lanes that are not utilized as through lanes.
- Addition of roadway capacity on local or collector streets, provided the project also substantially improves conditions for pedestrians, cyclists, and, if applicable, transit.
- Conversion of existing general-purpose lanes (including ramps) to managed lanes or transit lanes, or changing lane management in a manner that would not substantially increase vehicle travel.
- Addition of a new lane that is permanently restricted for use only by transit vehicles.
- Reduction in the number of through lanes.
- Grade separation to separate vehicles from rail, transit, pedestrians, or bicycles, or to replace a lane in order to separate preferential vehicles (e.g., high-occupancy vehicles [HOV], high-occupancy toll [HOT] lane traffic, or trucks) from general vehicles.
- Installation, removal, or reconfiguration of traffic control devices, including Transit Signal Priority features.





- Installation of traffic metering systems, detection systems, cameras, changeable message signs, and other electronics designed to optimize vehicle, bicycle, or pedestrian flow.
- Timing of signals to optimize vehicle, bicycle, or pedestrian flow.
- Installation of roundabouts or traffic circles.
- Installation or reconfiguration of traffic calming devices.
- Adoption of or increase in tolls.
- Addition of tolled lanes, where tolls are sufficient to mitigate VMT increase.
- Initiation of a new transit service.
- Conversion of streets from one-way to two-way operation with no net increase in the number of traffic lanes.
- Removal or relocation of off-street or on-street parking spaces.
- Adoption or modification of on-street parking or loading restrictions (including meters, time limits, accessible spaces, and preferential/reserved parking permit programs).
- Addition of traffic wayfinding signage.
- Rehabilitation and maintenance projects that do not add motor vehicle capacity.
- Addition of new or enhanced bike or pedestrian facilities on existing streets/highways or within existing public rights-of-way.
- Addition of Class I bike paths, trails, multi-use paths, or other off-road facilities that serve non-motorized travel.
- Installation of publicly available alternative fuel/charging infrastructure.
- Addition of passing lanes, truck climbing lanes, or truck brake-check lanes in rural areas that do not increase overall vehicle capacity along the corridor.

Additionally, transit and active transportation projects generally reduce VMT and, therefore, may be presumed to cause a less than significant impact on transportation. This presumption may apply to all passenger rail projects, bus and bus rapid-transit projects, and bicycle and pedestrian infrastructure projects. The lead agency may use this CEQA presumption of less than significant impact to aid in the prioritization of capital improvement projects, as the CEQA process for any of these project types would be more streamlined than other capacity-enhancing projects.





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## 4.0 VMT THRESHOLD ANALYSIS FOR DEVELOPMENT PROJECTS

### 4.1 THRESHOLDS

The TA clarifies that SB 743 and all CEQA VMT transportation analyses refer to automobile travel. Here, the term automobile refers to on-road passenger vehicles, specifically cars and light-duty trucks. Heavy-duty trucks should be addressed in other CEQA sections (air quality, greenhouse gas, noise, and health risk assessment analysis) and are subject to regulation in a separate collection of rules under CARB jurisdiction. This approach was amplified by Chris Ganson, former Senior Advisor for Transportation at OPR, in a presentation to the Fresno Council of Governments (October 23, 2019) and by Ellen Greenberg, the California Department of Transportation (Caltrans) Deputy Director for Sustainability, at the San Joaquin Valley Regional Planning Agencies’ Directors’ Committee meeting (January 9, 2020).

OPR has identified home-based work trips as the primary type used in the home-based travel demand modeling. This includes residential uses, office uses, and retail uses. The home-based work trip type is the primary trip type generated during the peak hours of commuter traffic in the morning and evening periods.

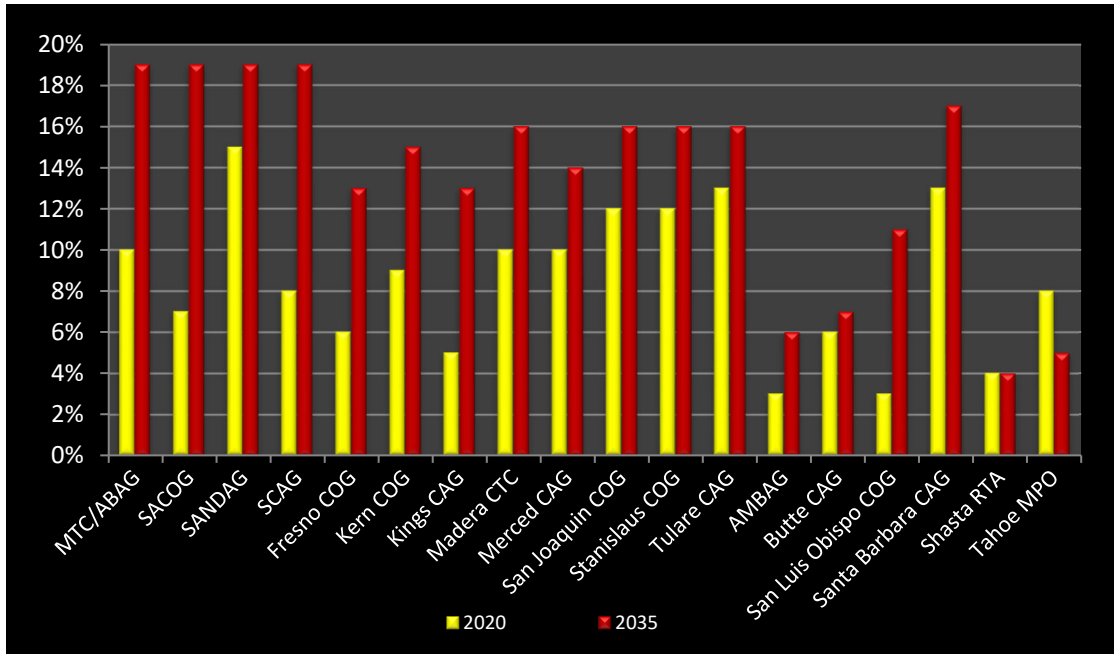
The focus of transportation impact assessment has shifted from congestion relief to climate resiliency. The purpose of the CEQA analysis is to disclose and ultimately reduce GHG emissions by reducing the number and length of automobile trips. As part of the SB 375 land use/transportation integration process and GHG emissions goal setting, the State and Regional Transportation Planning Agencies have agreed to reduce statewide GHG emissions by an average of approximately 15 percent by 2035 through an approach based on improved integration of land use and transportation planning. Figure 7 illustrates SB 375 regional GHG emissions reduction targets for all the 18 Metropolitan Planning Organizations (MPOs) in California that CARB established in 2018. Furthermore, in its *2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals*, CARB recommends total VMT per capita rates be reduced to approximately 15 percent below existing conditions. While the current target is 15 percent, CARB periodically revises the target based on changing information and, therefore, the target might be revised in the future. Additionally, for purposes of VMT analysis, the existing setting will follow the base year scenario in the regional travel demand model, the MCAG TDM. It is to be noted that the base year scenario in the model is also periodically revised and, as a result, the existing setting will change accordingly.

Specifically, the TA recommends:

- *A proposed (residential) project exceeding a level of 15 percent below existing regional average VMT per capita may indicate a significant transportation impact.*
- *A similar threshold would apply to office projects (15 percent below existing regional average VMT per employee).*
- *VMT generated by retail projects would indicate a significant impact for any net increase in total VMT.*







Source: <https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets>.

**Figure 7: SB 375 Regional Plan Climate Targets for California’s 18 MPOs**

It is noted that the aggregate GHG emission reduction sought after by CARB in the 2017 Scoping Plan is 15 percent statewide. This is one reason OPR believes the 15 percent reduction in VMT is appropriate. The aggregate 15 percent GHG emission reduction applies across all land use and transportation activities and would indicate that the State and its individual MPOs are compliant with the SB 375 goals, the overall State climate change strategy, and Scoping Plan objectives.

CARB establishes GHG targets for each of the 18 MPOs in the State, reviews the SCSs, and makes a determination of whether the SCSs would achieve GHG reduction targets if implemented. In the spring of 2018, CARB adopted new GHG targets for all the 18 MPOs in the State based on the 2017 Scoping Plan and other new data as illustrated in Figure 7. CARB established a 14 percent GHG reduction target for 2035 for the Merced region. The State recognizes that Merced County’s contribution to the aggregate 15 percent statewide GHG emission reduction is 14 percent. Other regions may achieve lower reductions to achieve the aggregate statewide goal.<sup>1</sup> As such, reduction in GHG directly corresponds to reduction in VMT. In order to reach the statewide GHG reduction goal of 15 percent, the Merced region must reduce GHG by 14 percent. The method of reducing GHG by 14 percent is to reduce VMT by 14 percent as well.

Therefore, Merced County member jurisdictions may establish a threshold for land use developments, specifically residential and office, of 86 percent of the existing regional average as indicative of a significant transportation impact. For retail projects, increase in total regional roadway VMT with the implementation of the project would indicate a significant transportation impact. As such, total

<sup>1</sup> The latest GHG targets by region can be found at <https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets>.





roadway VMT needs to be calculated using the final roadway assignment outputs from the MCAG TDM.

Other distinct land uses are not identified for threshold development in the OPR TA. For other non-residential projects, a significance threshold of 86 percent of existing regional average VMT per employee is recommended. The only exceptions would be hotels, hospitals, medical offices, and related projects. These land uses are service oriented facilities which includes both visitors and employees. Therefore, for such projects, VMT per service population (population/users + employment) is recommended as the VMT metric. Any other similar use could be evaluated using the same metric subject to approval of the methodology by the local jurisdiction on a case-by-case basis. As such, a significance threshold of 86 percent of the existing regional average VMT per service population is recommended for these projects.

Evaluation of mixed-use projects may be for each land use component of the project using the most appropriate VMT metric. Credit for internal trip capture may be made. Internal trip capture may be calculated using the latest edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, the MCAG TDM, or other applicable sources approved by the lead agency. The appropriate methodology for calculating project’s internal capture would be determined in consultation with the lead agency’s Traffic Engineer. The significance threshold for these projects would be the respective VMT thresholds for its different land use components.

A lead agency may develop VMT thresholds for other land uses as desired. However, it would require disclosure of substantial evidence, including the General Plan findings, and other traffic and air quality forecasting support data. Additionally, if the lead agency wishes to establish some other threshold less stringent than the 86 percent of the existing regional average recommended for residential and office projects, a body of substantial evidence would be necessary.

## 4.2 IMPACT ASSESSMENT

Figure 8 illustrates the VMT screening methodology for development entitlement projects. Additionally, Figures 9-A through 9-C illustrate the VMT analysis methodology for non-screened projects. Every development application is unique and may create alternative or modified steps through the process described in the aforementioned figures. Each step that diverges from this standard process should be accompanied with substantial evidence demonstrating compliance with other climate change and GHG emission reduction laws and regulations.

### 4.2.1 Agency Communication

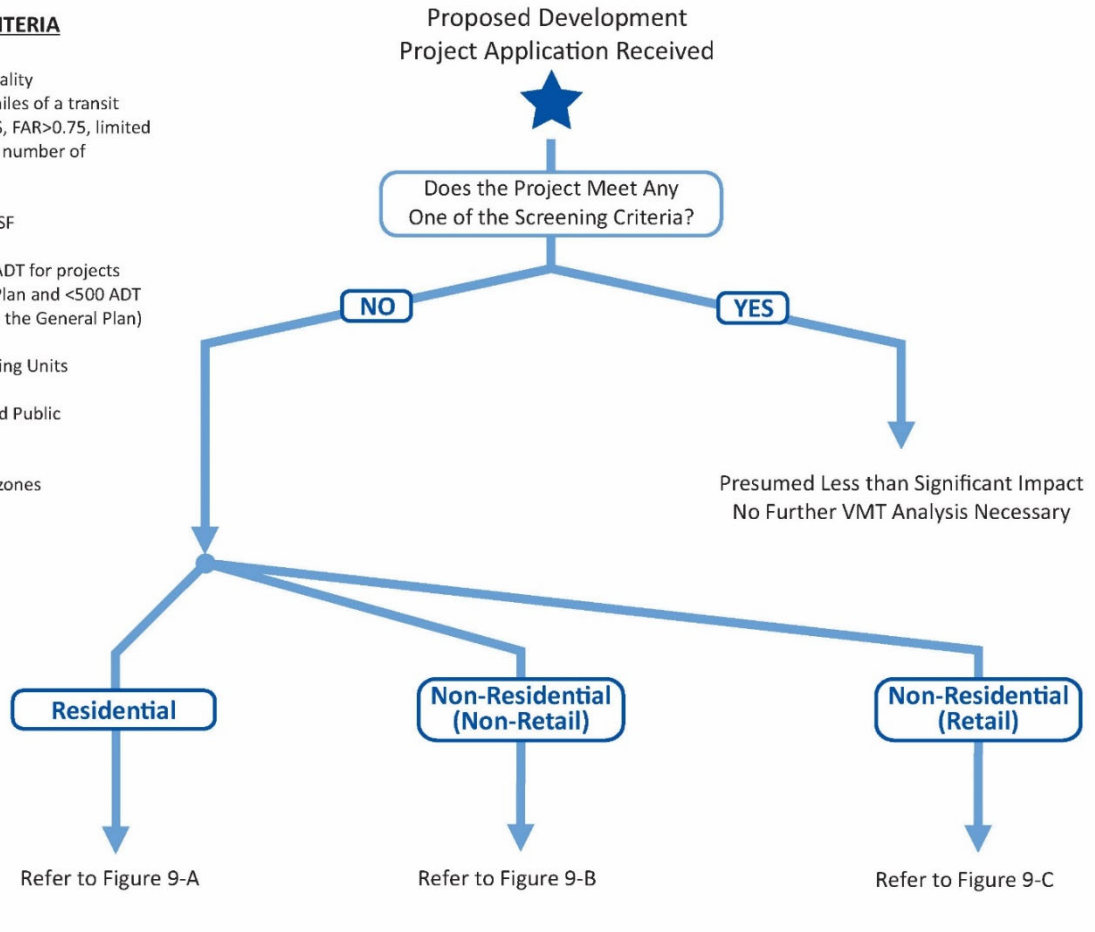
As part of the site plan review process, the applicant should provide a detailed project description, including potential number of residents added or created by the project, and the applicable VMT analysis methodology. Key elements include a description of the project in sufficient detail to generate trips and the potential catchment area (i.e., trip lengths if no modeling is undertaken), estimated project VMT, project design features that may reduce the VMT from the project development, and the project location and associated existing regional VMT percentages. Further, the applicant or their consultant shall prepare a transportation analysis scope of work for review and approval by the lead agency.





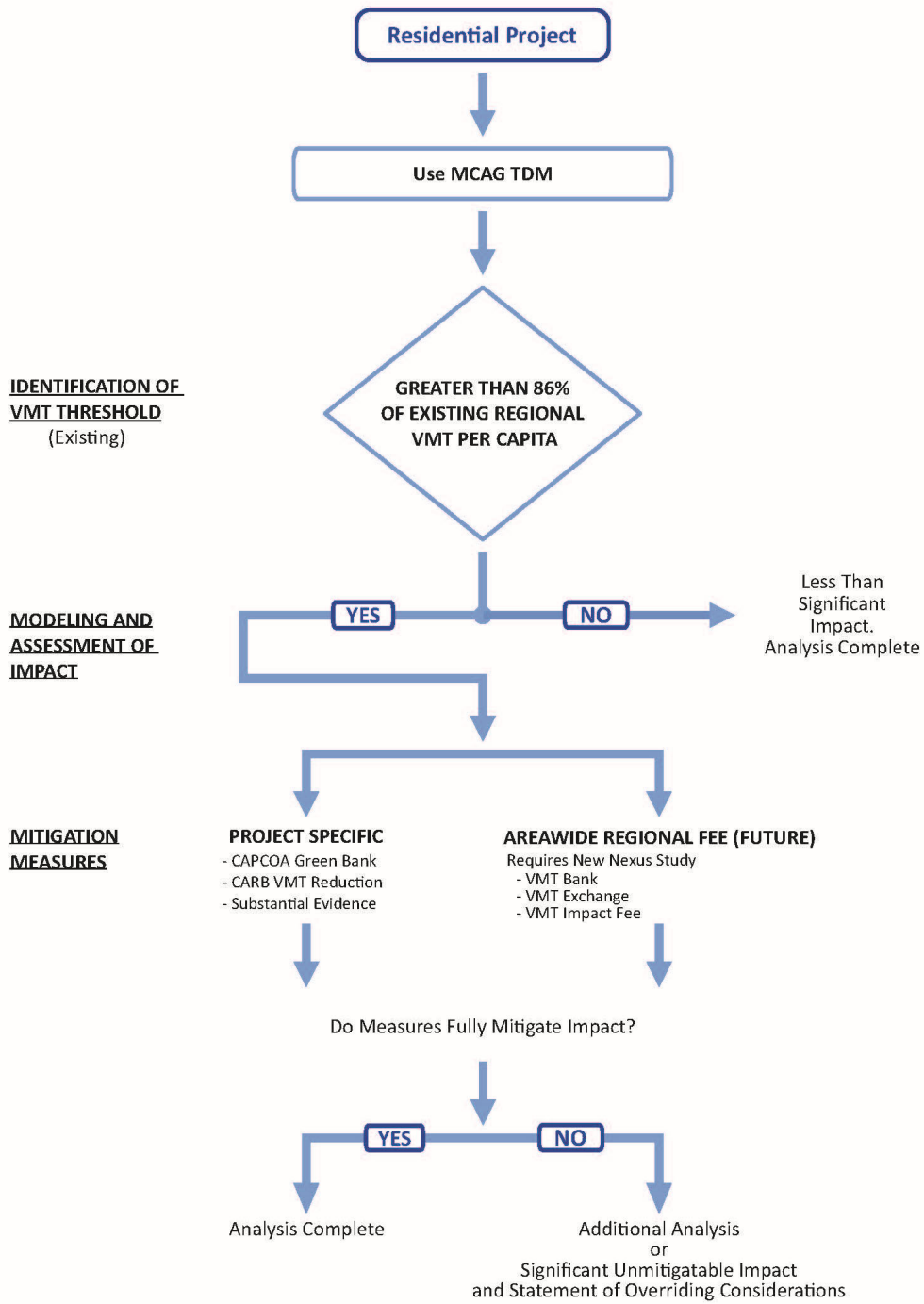
**PROJECT SCREENING CRITERIA**

- Transit Priority Area/High Quality Transit Corridor (within 0.5 miles of a transit stop, consistent with RTP/SCS, FAR>0.75, limited parking, does not reduce the number of affordable housing units)
- Local-serving Retail <50,000 SF
- Low Trip Generator (<1,000 ADT for projects consistent with the General Plan and <500 ADT for projects inconsistent with the General Plan)
- 100 Percent Affordable Housing Units
- Institutional/Government and Public Service Uses
- Projects located in low VMT zones



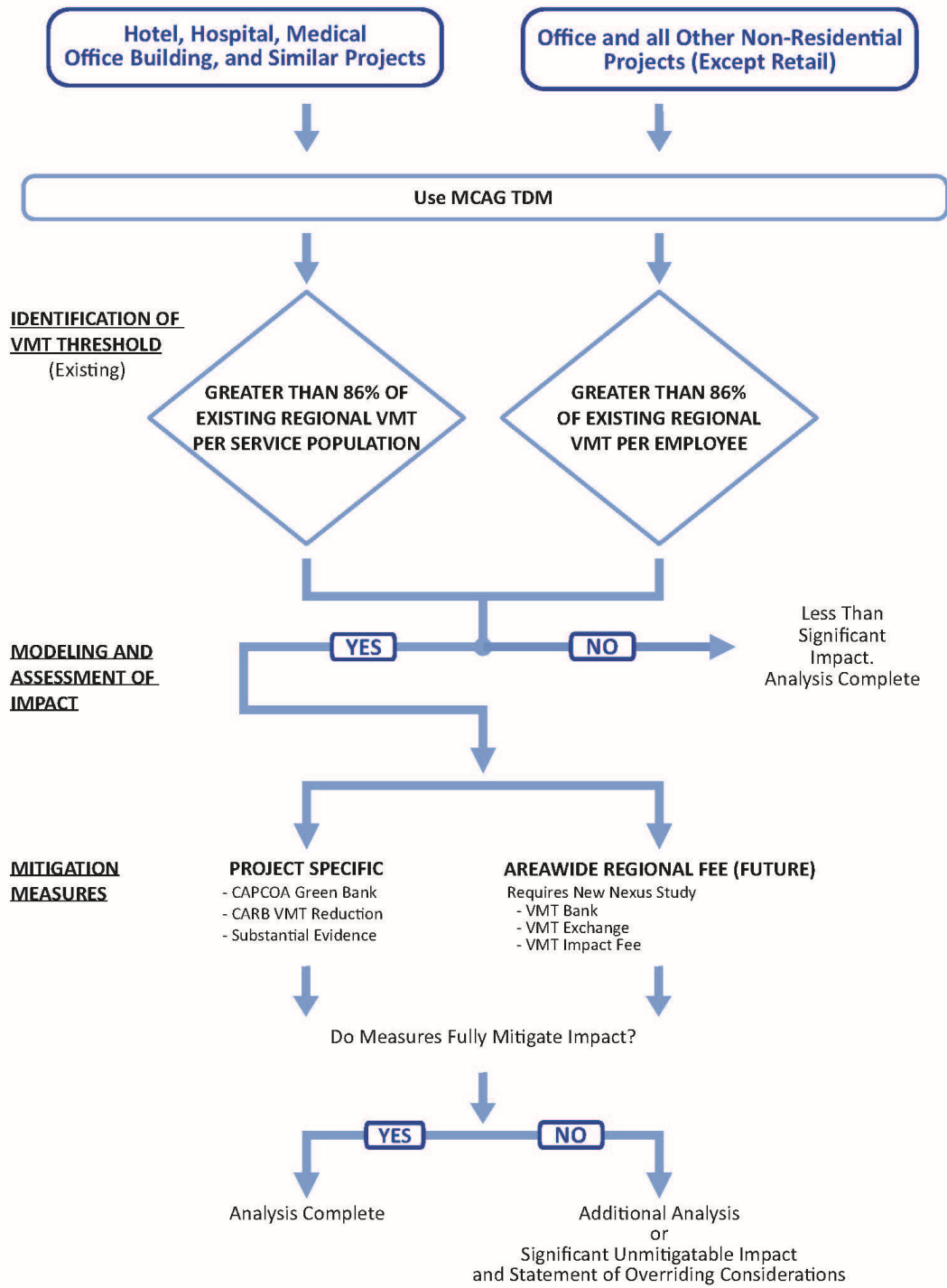
**Figure 8: VMT Screening Methodology for Development Projects**





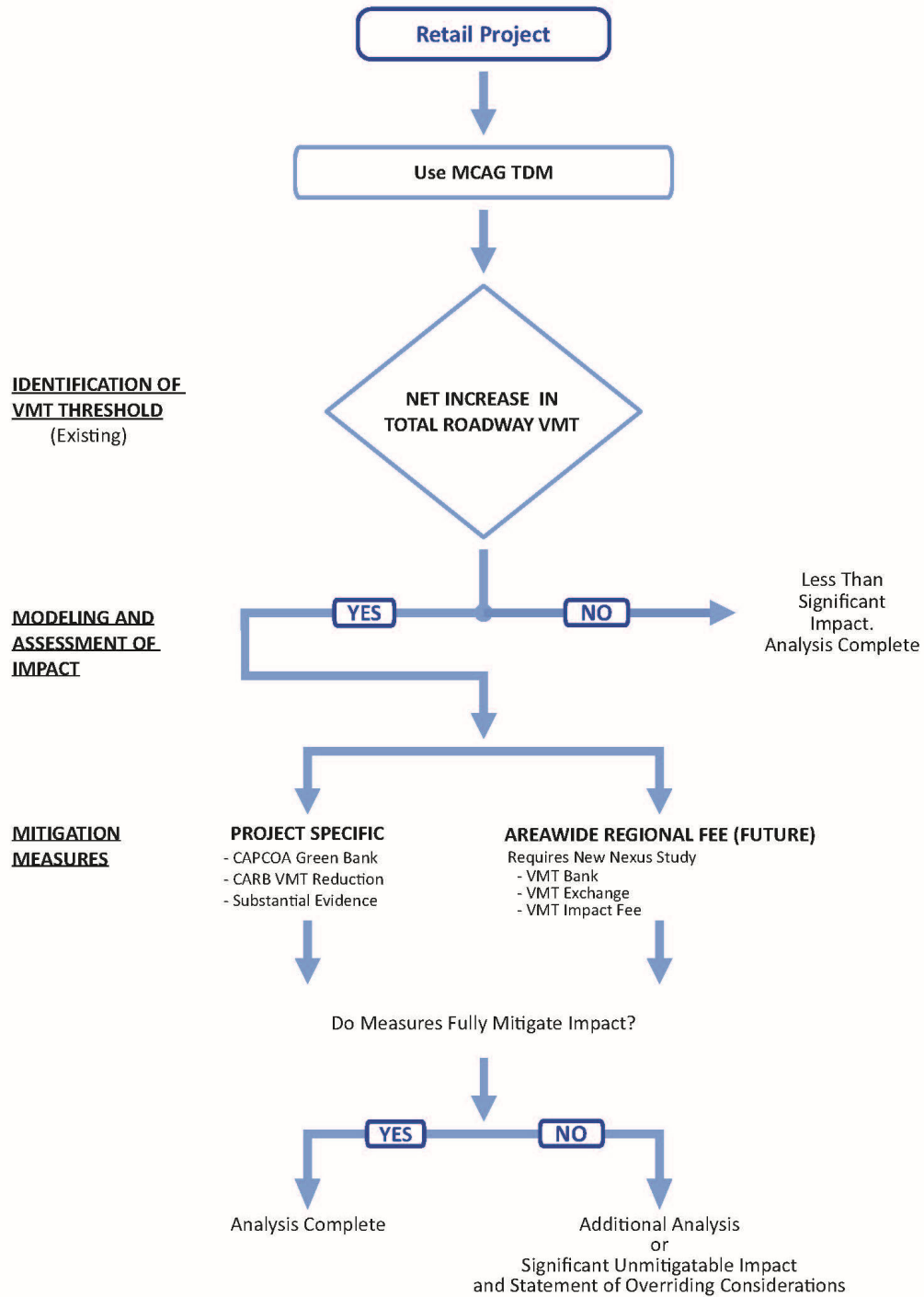
**Figure 9-A: VMT Analysis Methodology for Non-Screened Residential Projects**





**Figure 9-B: VMT Analysis Methodology for Non-Screened Non-Residential (Non-Retail) Projects**





**Figure 9-C: VMT Analysis Methodology for Non-Screened Non-Residential (Retail) Projects**





Projects that will influence Caltrans facilities may be subject to the Caltrans Local Development-Intergovernmental Review program. As part of the program, Caltrans may review the VMT analysis methodology, findings, and mitigation measures to ensure consistency with statewide standards.

#### 4.2.2 Project Screening

Once a development application is filed and determined to be complete for processing purposes, project screening may commence. If the project meets any one of the screening criteria, it may be presumed to have a less than significant transportation impact. No further VMT analysis would then be necessary and a Notice of Exemption may be filed. The CEQA document should enumerate the screening criteria and how the project meets or exceeds that applicable VMT threshold.

If project screening does not apply, a VMT analysis may be required. The extent of this analysis may be a simple algebraic demonstration or a more sophisticated traffic modeling exercise. This distinction is addressed later in this report.

#### 4.2.3 VMT Identification

The project land use type will determine the appropriate metric to use (i.e., VMT per capita, VMT per employee, VMT per service population, or total VMT). Appropriate VMT metrics for different land uses are stated in Table D.

**Table D: VMT Metrics for Land Use Projects**

Land Use	VMT Metric
Residential	VMT per Capita
Office	VMT per Employee
Retail	Total VMT
Hotel, Hospital, Medical Office Building, or any similar use with approval from local jurisdiction	VMT per Service Population
Mixed-Use, Land Use Plan (General Plan/Specific Plan)	Respective VMT metrics for its different land use components
Other Land Uses	VMT per Employee

VMT = Vehicle Miles Traveled

For all projects that require a VMT analysis, use of the MCAG TDM is required unless the project includes a special land use that is difficult to analyze using a travel demand model. For the latter, the lead agency may require a qualitative analysis or an analysis using empirical data as applicable to the project.

Next, the project-generated VMT (per capita, per employee, per service population, or total) is compared to the appropriate significance threshold provided in Table E. If the project VMT metric is less than the significance threshold, the project is presumed to create a less than significant impact. No further VMT analysis for CEQA purposes would be required.

Should project VMT metrics exceed the significance threshold, mitigation measures will be required. It should be noted that the thresholds identified in Table E are based on the current version of the







MCAG TDM (provided by MCAG in May 2022). These thresholds are subject to change when a newer version of the MCAG TDM is available.

**Table E: Significance Thresholds for VMT Analysis**

VMT Metric	Threshold
VMT per Capita	10.92
VMT per Employee	8.79
VMT per Service Population	21.47

Source: 2015 MCAG TDM  
VMT = Vehicle Miles Traveled

### 4.3 MITIGATION MEASURES

State law requires the project applicant to identify feasible offsets to mitigate VMT impacts generated by the proposed project. These may come from the mitigation strategies provided in this document (as described in Table F at the end of Chapter 7.0) or selected by the applicant based on their CEQA project experience and expertise. The lead agency must approve and accept the final VMT mitigation program ascribed to the project and the related VMT percentage reduction. A detailed discussion about project-specific mitigations is included in Section 7.2.1.

If it is determined that the selected VMT mitigation measures effectively reduce the project impact to less than the applicable threshold, the project is presumed to have an impact mitigated to a less than significant level. No further VMT analysis is required. If the project’s VMT impact cannot be mitigated, the lead agency may (1) request the project be redesigned to reduce the VMT impact, or (2) require the preparation of an EIR with a Statement of Overriding Considerations (SOC) for the transportation impacts associated with the project. All feasible mitigation measures must be assigned to and carried out by the project even if an EIR/SOC is prepared.







## 5.0 VMT THRESHOLD ANALYSIS FOR TRANSPORTATION PROJECTS

The 2022 State CEQA Guidelines include Section 15064.3.b.(2) to address transportation projects. It reads:

*For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements.*

The lead agency may continue to use motor vehicle delay (LOS) metrics for transportation project design and traffic operation purposes as long as impacts related to “other applicable requirements” are disclosed. This has generally been interpreted as VMT impacts and other State climate objectives. These other applicable requirements may be found in other parts of an environmental document (e.g., air quality and GHG), or may be provided in greater detail in the transportation section.

In addition, projects processed under federal environmental rules have traditionally included a traffic operational analysis to meet the requirements of the National Environmental Policy Act. Federal review is generally required if a project uses federal funding or involves federal lands. Additional safety evaluations may need to be conducted outside the CEQA process since some desirable safety improvements may not be directly related to CEQA safety impacts.

For projects on the State Highway System, Caltrans will require sponsoring agencies to use VMT as the CEQA transportation impact assessment metric, and to evaluate the amount of VMT that is “attributable to the project” (January 9, 2020, conference). Caltrans’ Intergovernmental Review process will review environmental documents for capacity-enhancing projects for their analysis of VMT impact.

A VMT assessment of a transportation project should disclose the VMT profile without the project and the difference in the VMT profile with the project. Any increase in VMT attributable to the proposed transportation project would result in a significant impact. A significant transportation project impact is presumed when VMT increases with the project as compared to the ‘No Project’ scenario.

Capacity improvement projects have the potential of producing significant transportation impacts because they tend to induce new travel. The OPR TA describes induced travel as the additional motor vehicle travel that is generated by the newly available capacity on the roadway. Induced travel may include route switching, time-of-day change, mode shift to single occupancy vehicle, longer trips, new trips to existing destinations, and additional travel due to new development. Current traffic models have limited abilities to forecast new trips and new developments associated with roadway capacity improvements, as land use or socioeconomic databases are fixed to a specific horizon date. OPR refers to a limited number of published studies that seek to define travel demand elasticities.

The most recent major study (Duranton & Turner 2011, p. 24) estimates an elasticity of 1.0, meaning that every one percent change in lane miles results in a one percent increase in VMT.





One method to quantify induced growth is recommended by the OPR TA:

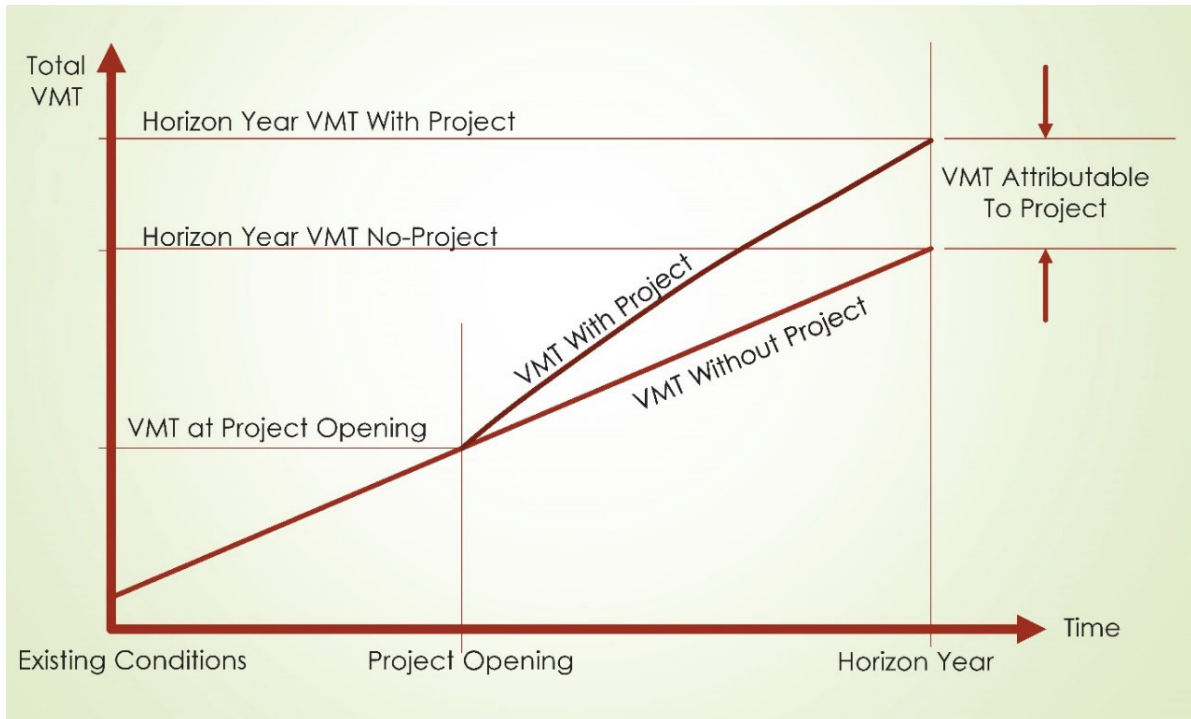
To estimate VMT impacts from roadway expansion projects:

1. Determine the total lane-miles over an area that fully captures travel behavior changes resulting from the project (generally the region, but for projects affecting interregional travel look at all affected regions).
2. Determine the percent change in total lane miles that will result from the project.
3. Determine the total existing VMT over that same area.
4. Multiply the percentage increase in lane miles by the existing VMT, and then multiply that by the elasticity from the induced travel literature:

$$[\% \text{ increase in lane miles}] \times [\text{existing VMT}] \times [\text{elasticity}] = [\text{VMT resulting from the project}]$$

OPR assigns this induced growth to project-induced changes in land use; that is, new land uses that are not included in any approved general or area plan and not accounted for in any traffic-forecasting tool.

Figure 10 provides a representative illustration of induced VMT attributable to a project.



Source: Presentation: Caltrans Transportation Analysis under CEQA or TAC: Significance Determinations for Induced Travel Analysis (SHCC Pre-Release Session 2 Jeremy Ketchum, Division of Environmental Analysis, Caltrans; March 2, 2020)

**Figure 10: Induced Travel – VMT Attributable to Project**





Caltrans has identified a computerized tool to estimate VMT generation from transportation projects. The tool (<https://travelcalculator.ncst.ucdavis.edu>) was developed by the National Center for Sustainable Transportation (NCST) at the University of California, Davis, and is based on travel demand elasticities and the relationship of lane mile additions with growth in VMT. It uses Federal Highway Administration definitions of facility type and ascribes VMT increases to each facility. Output data include increases in million miles of VMT per year. Caltrans is investigating the use of this tool for all of its VMT analyses of capital projects on the State Highway System. The NCST tool is available at <https://blinktag.com/induced-travel-calculator>. Figure 11 provides an illustration of that tool.

Other options to identify induced growth- and project-related VMT provided by the TA include:

1. **Employ an expert panel.** *An expert panel could assess changes to land use development that would likely result from the project. This assessment could then be analyzed by the travel demand model to assess effects on vehicle travel. Induced vehicle travel assessed via this approach should be verified using elasticities found in the academic literature.*
2. **Adjust model results to align with the empirical research.** *If the travel demand model analysis is performed without incorporating projected land use changes resulting from the project, the assessed vehicle travel should be adjusted upward to account for those land use changes. The assessed VMT after adjustment should fall within the range found in the academic literature.*
3. **Employ a land use model, running it iteratively with a travel demand model.** *A land use model can be used to estimate the land use effects of a roadway capacity increase, and the traffic patterns that result from the land use change can then be fed back into the travel demand model. The land use model and travel demand model can be iterated to produce an accurate result.*

A final advisory from the TA is provided below:

*Whenever employing a travel demand model to assess induced vehicle travel, any limitation or known lack of sensitivity in the analysis that might cause substantial errors in the VMT estimate (for example, model insensitivity to one of the components of induced VMT described above) should be disclosed and characterized, and a description should be provided on how it could influence the analysis results. A discussion of the potential error or bias should be carried into analyses that rely on the VMT analysis, such as greenhouse gas emissions, air quality, energy, and noise. (OPR TA page 34)*





**Overview**

This calculator allows users to estimate the VMT induced annually as a result of adding general-purpose lane miles, high-occupancy vehicle (HOV) lane miles, or high-occupancy toll (HOT) lane miles to publicly owned roadways, like those managed by the California Department of Transportation (Caltrans), in one of California's urbanized counties (counties within a metropolitan statistical area (MSA)). The calculator applies only to facilities with Federal Highway Administration (FHWA) functional classifications of 1, 2 or 3. That corresponds to interstate highways (class 1), other freeways and expressways (class 2), and other principal arterials (class 3).

**How to Use**

To obtain an induced VMT estimate for a roadway capacity expansion project, enter the project length (in lane miles added), the geography (MSA for additions to interstates; county for additions to other Caltrans-managed class 2 or 3 facilities), and the base year (2016, 2017, 2018, or 2019). The base year indicates which year of VMT and lane mile data will be used to estimate the induced VMT.

[More about this calculator](#)

**Calculator**

**1. Select Year**  
 2019

**2. Select facility type**  
 Interstate highway (class 1 facility)  
 Class 2 or 3 facility

**3. Select MSA**  
 Merced

**4. Input total lane miles added**  
 1 miles

**Calculate Induced Travel**

**Results**

**3.6 million additional VMT/year**  
(Vehicle Miles Travelled)

In **2019**, **Merced MSA** had **128.6 lane miles** of Interstate highway on which **462 million** vehicle miles are travelled per year.

A project adding **1 lane miles** would induce an additional **3.6 million** vehicle miles travelled per year.

Merced MSA consists of 1 county (Merced County).

This calculation is using an elasticity of **1.0**.

[Read more about this calculator](#)

The calculator was developed by researchers at the National Center for Sustainable Transportation at the University of California, Davis.  
 The online version of the tool was programmed by BlinkTag Inc.

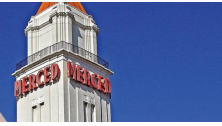
Source: <https://blinktag.com/induced-travel-calculator/index.html>

**Figure 11: Caltrans Induced Travel Calculator**





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## 6.0 VMT THRESHOLD ANALYSIS FOR LAND USE PLANS

The OPR TA provides guidance on the treatment of CEQA traffic analyses for land use plans (General Plan, Specific Plan) as follows:

- Analyze the VMT outcomes over the full area over which the plan may substantively affect travel patterns (the definition of region).
- VMT should be counted in full rather than split between origins and destinations (the full impact of the project VMT).

Specifically, OPR states, “A general plan, area plan, or community plan may have a significant impact on transportation if proposed new residential, office or retail land uses would in aggregate exceed the respective thresholds recommended above.” (OPR TA page 18) This recommendation refers to a threshold of 15 percent lower than the existing regional average for residential and office uses and no net gain for retail land uses.

To assess a land use plan, use of a traffic-forecasting tool is recommended. The total VMT for the plan may be identified for all trips and all potential VMT contributors within the plan area. Model runs may be conducted for the existing base year and the horizon year (the future year scenario analyzed in the Circulation Element of the lead agency’s General Plan) with the project (plan).

SB 375 establishes ambitious and achievable GHG reduction targets for the 18 MPOs in the State. Achievement of these targets is to be accomplished through the improved integration of regional land use and transportation planning processes; not solely through the imposition of new regulation on passenger cars and light-duty trucks.

CARB reviews the SCS that is produced as part of the RTP produced by each of the State’s MPOs. The SCS details the strategies and programs the regional agencies are planning to implement to achieve its designated GHG emission reduction targets. CARB approved the new GHG reduction targets for all 18 MPOs in the State in the spring of 2018. The 2018 targets are applicable to the third SCSs for the MPOs.

Other legislative mandates and State policies are also supportive of GHG reduction targets. A sample of these include:

- Assembly Bill 32 (2006) requires statewide GHG emissions reductions to 1990 levels by 2020 and continued reductions beyond 2020.
- SB 32 (2016) requires at least a 40 percent reduction in GHG emissions from 1990 levels by 2030.
- Executive Order (EO) B-30-15 (2015) sets a GHG emissions reduction target of 40 percent below 1990 levels by 2030.
- EO S-3-05 (2005) sets a GHG emissions reduction target of 80 percent below 1990 levels by 2050.
- EO B-16-12 (2012) specifies a GHG emissions reduction target of 80 percent below 1990 levels by 2050 specifically for transportation.





These mandates suggest that a land use plan consistent with the regional RTP/SCS would generally help achieve the target GHG reductions for the region.

California PRC Section 15064.3(b)(4) states (in part) the following:

*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.*

Since VMT is the largest contributor to GHG emissions, a land use plan consistent with regional RTP/SCS GHG reductions target would generally not have a significant VMT impact. Therefore, the recommended methodology for conducting VMT assessments for land use plans is to compare the existing VMT per capita, VMT per employee, and/or VMT per service population for the region with the respective expected horizon year VMT metrics for the different land use components (VMT per capita, VMT per employee, and/or VMT per service population) of the land use plan (project). If there is a net increase in the VMT metric under horizon year conditions, then the project will have a significant impact.



## 7.0 MITIGATION STRATEGIES

When a lead agency identifies a potentially significant CEQA VMT impact according to the thresholds described in this report, the agency must identify feasible mitigation measures to avoid or substantially reduce that impact. Unlike LOS impacts, which may be mitigated with location-specific motor vehicle delay improvements, VMT impacts typically require a more regional approach to mitigation, including the provision of incentives to effect changes in travel behavior. Enforcement of mitigation measures will still be subject to the mitigation monitoring requirements of CEQA, as well as the regular police powers of the agency. VMT mitigation measures may also be incorporated into the design of plans, policies, regulations, or projects.

### 7.1 DEFINITION OF MITIGATION

Section 15370 of the *2022 State CEQA Guidelines* defines mitigations as follows:

*“Mitigation” includes:*

- a. Avoiding the impact altogether by not taking a certain action or parts of an action.*
- b. Minimizing impacts by limiting the degree or magnitude of the action and its implementation.*
- c. Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.*
- d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.*
- e. Compensating for the impact by replacing or providing substitute resources or environments, including through permanent protection of such resources in the form of conservation easements.*

Section 15097 of the *CEQA Guidelines* states that, “the public agency shall adopt a program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects. A public agency may delegate reporting or monitoring responsibilities to another public agency or to a private entity which accepts the delegation; however, until mitigation measures have been completed the lead agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program.”

VMT mitigations may not necessarily be physical improvements. Such improvements are complex in nature and will significantly depend on changes in traveler behavior. Therefore, it will be important that lead agencies develop an appropriate monitoring program to ensure the implementation of these mitigation measures throughout the life of a project, in compliance with CEQA. The lead agency must also coordinate with other responsible agencies as part of the mitigation monitoring program to evaluate the ongoing feasibility and durability of the mitigations.

Historically, mitigation measures for LOS-based transportation impacts have addressed either trip generation reductions or traffic-flow-capacity enhancements. LOS mitigation measures typically







include physical infrastructure improvements adding capacity to intersections, roadways, ramps, and freeways. However, transportation demand management activities, active transportation amenities, and other measures designed to reduce the number of new single-occupancy vehicle trips are also potential LOS mitigation strategies.

VMT mitigation measures are significantly different. Most VMT mitigations may seem feasible from a theoretical perspective, but practical implementation of these strategies as formal CEQA mitigation measures in perpetuity is yet to be tested. Several of these mitigations are contextual and behavioral in nature. Their success will depend on the size and location of the project as well as expected changes in travel behavior. For example, a project providing a bike share program does not necessarily guarantee a travel mode change among the project’s affected population; the level of improvement may be uncertain and subject to the travel preferences and attitudes of the population affected.

LOS mitigations (such as addition of turn lanes) focus more on rectifying a physical CEQA impact (strategy “c” of *State CEQA Guidelines* Section 15370). On the contrary, the majority of VMT mitigations (such as commute trip-reduction programs) aim at reducing or eliminating an impact over time through preservation and monitoring over the life of the project (strategy “d” of *State CEQA Guidelines* Section 15370). Additionally, some VMT mitigations (such as those focused on land use/location-based policies) aim at minimizing impacts by reducing the number of trips generated by the projects (strategy “b” of *State CEQA Guidelines* Section 15370).

Furthermore, it may be determined that some VMT impacts are not able to be feasibly mitigated at the project level. Most VMT impacts occur within the context of a regional scale of analysis. The incremental change in VMT associated with a project in its particular locational setting might indicate a greater VMT deficit than individual mitigation strategies can offset. Only a regional solution (e.g., completion of a transit system, purchase of more transit buses, or gap closure of a bicycle lane network) may offer the incremental change necessary to reduce the VMT impact to an appropriate level of significance. Also, VMT, as a proxy for GHG emissions, may not require locational specificity. A project does not necessarily need to diminish the VMT at the project site to provide regional or statewide VMT and GHG reduction benefits. Offsets in an area where the benefit would be greater will have a more effective reduction in VMT and GHG and contribute to achievement of regional and statewide climate goals. This regional perspective provides the basis for cap-and-trade style VMT mitigation strategies.

The issues of regional scale, appropriate and timely fair share contributions from projects and/or local jurisdictions (partial versus comprehensive participation), and geographic ambiguity confound the certainty of the lead agency’s identification of an effective VMT mitigation strategy. Section 15126.4 of the *State CEQA Guidelines* states, “Where several measures are available to mitigate an impact, each should be discussed and the basis for selecting a particular measure should be identified. **Formulation of mitigation measures shall not be deferred until some future time.**” [Emphasis added.] Regional VMT mitigation is considered the most effective method for large-scale VMT reduction, as cost and implementation barriers are often greater than one project may feasibly accommodate. However, regionally scaled VMT mitigation strategies may be provided in the form of mitigation banks, fees, and/or exchanges, with individual projects subject to contribute to these programs consistent with applicable provisions to ensure compliance and consistency with CEQA and other legal requirements.





Section 21099 (b) (4) of the PRC states, “This subdivision [requiring a new transportation metric under CEQA] does not preclude the application of local general plan policies, zoning codes, conditions of approval, thresholds, or any other planning requirements pursuant to the police power or any other authority.” Hence, although automobile delay will no longer be considered a significant impact under CEQA, the lead agency may still require projects to meet the LOS standards designated in its zoning code or general plan. Therefore, a project may still be required to propose LOS improvements for congestion relief in addition to the implementation of any VMT mitigation strategies as required by CEQA.

## 7.2 MITIGATION MEASURES AND PROJECT ALTERNATIVES

### 7.2.1 Land Development Projects and Community/General Plans

Mitigations and project alternatives for VMT impacts have been suggested by the OPR. VMT mitigations can be extremely diverse and can be classified under several categories such as land use/location, road pricing, transit improvements, commute trip reduction strategies, and parking pricing/policy. However, the issue with VMT mitigations is the quantitative measurement of the relief provided by the strategies. How much VMT reduction does a transportation



**Transit in Merced**

Source: <https://www.mcagov.org/140/Transit-Joint-Powers>

demand management program, a bike share program, a transit route, or one mile of sidewalk provide? Improvements related to VMT reduction strategies have been quantified in sources such as the California Air Pollution Control Officers Association (CAPCOA) report *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (CAPCOA Manual) Final Draft*, December 2021, and by various resources provided by CARB. This information is generally presented with a wide range of potential VMT reduction percentages.

Table F provides a summary of various VMT mitigation measures and project alternatives presented in the *CAPCOA Manual* (only those strategies directly attributed to transportation) for development projects. For any VMT mitigation measure, the project applicant will be required to provide substantial evidence while identifying a project-specific value. If that information is not available, the project should apply the low point of provided ranges for VMT reduction. Where a mitigation strategy does not have an identified VMT reduction range, the project applicant would be required to provide a reduction estimate supported by evidence.

As for land use plans, the OPR TA does not specifically identify any VMT mitigations. The potential VMT mitigation measures for community/general plans are similar to those available for development projects, with certain modifications. Therefore, the mitigation measures provided in Table F can be used as appropriate. Additional measures may also be applied with substantial evidence.

It must be noted that Table F provides only a summary of the VMT mitigations provided in the sources indicated above. The reader should refer to the original source for further details and for subsequent updates to the mitigation measures. Also, Table F does not provide an exhaustive list of VMT





mitigation measures for offsetting CEQA transportation impacts. Other measures may also be accepted by the lead agency based on the provision of substantial evidence.

As additional mitigation measures are evaluated to offset VMT impacts in the future for the *State CEQA Guidelines* process, linkages between a specific strategy and its quantified incremental VMT reduction effect must be established. This process may be based on the observations and measurements provided by other sources or by the lead agency’s experience in these practices. The key to effective VMT mitigation is to base its efficacy on real and substantial evidence.

### 7.2.2 Transportation Projects

Although OPR provides detailed guidance on the assessment of induced-growth impacts associated with transportation improvement projects, it leaves the subject of specific VMT mitigation measures ambiguous. Only four strategies are recommended as potential mitigation options:

- Tolling new travel lanes to encourage carpools and fund transit improvements;
- Converting existing general-purpose lanes to HOV or HOT lanes;
- Implementing or funding off-site transportation demand management programs; and
- Implementing Intelligent Transportation Systems strategies to improve passenger throughput on existing lanes.

No quantified reduction percentage is allocated to these strategies and currently available data do not offer any substantial evidence that may provide guidance on levels of significance after implementation of these strategies. Review of the four recommended mitigation strategies suggests that OPR is directing strategies away from general-purpose mixed-flow lanes on expressways, freeways, and arterial highways. Additionally, the project description and Purpose and Need may conflict since congestion relief measures will conflict with VMT reduction strategies. The lead agency would be subject to an SOC for the capital project VMT impact.

## 7.3 FUNDING MECHANISMS

The change in methodology used for the assessment of CEQA transportation impacts from LOS to VMT will lead to a shift in and the scale of mitigation efforts from local and project-specific, to a more regional approach. OPR acknowledges the regional nature of VMT impacts and states that regional VMT reduction programs and fee programs (in-lieu fees and development impact fees) may be appropriate forms of mitigation. Fee programs are particularly useful to address cumulative impacts. It is very important for the lead agency to coordinate with MCAG to develop such mitigation programs that may be used to fund new transit service or develop applicable active transportation plans or other regionally scaled VMT mitigation activities. These programs are regional in nature and best suited for administration by a regional agency. Projects may be able to pay into the fee program to offset project VMT impact. Regional agencies may also wish to coordinate with appropriate stakeholders, including participating local jurisdictions, developers, and other interests while conducting nexus studies and checking for rough proportionality and compliance with CEQA.

Most of the VMT mitigations included in Table F are applicable in urban areas. They are less effective in suburban and rural contexts, where traditional transportation demand management strategies are less





feasible. Thus, site-specific strategies are more suitable in more densely urbanized areas, whereas program-level strategies may be more appropriate for some projects located in suburban or rural areas. In the latter approach, the cumulative VMT mitigation contributions provided in support of individual developments may be used to fund regional VMT reduction strategies that would not be feasible or cost-effective at the individual project scale. Apart from fee programs, program-based mitigation strategies may include VMT mitigation exchanges and/or VMT mitigation banks. The VMT mitigation exchange concept requires a developer to select and implement mitigation project(s) from a predetermined list of projects that would serve to reduce the excess new VMT generated by the proposed project. On the other hand, a mitigation banking program would assign monetary values for VMT reductions that would allow developers to purchase the applicable number of VMT reduction credits. These credits would be used to fund larger, regionally scaled VMT mitigation projects throughout the affected region.

As previously discussed, VMT impacts are regional in scope. Hence, there may at times be mitigation requirements that extend beyond the control of the lead agency, and without the ability of the lead agency to manage these mitigations, the impacts might remain significant and unaddressed. Additionally, the identification and management of regionally scaled improvements where developers contribute their fair share to mitigate impacts might prove to be difficult. Therefore, the lead agency may choose to work collaboratively with other jurisdictions within the region to ultimately establish VMT mitigation fee programs, mitigation banks, or exchanges to establish a regional mitigation pathway where developers contribute to a regionally administered VMT mitigation funding pool in a manner commensurate to the impact of their individual project. Procedural flow charts for VMT mitigation banks, exchanges, and impact fees are illustrated in Figures 12, 13, and 14, respectively.

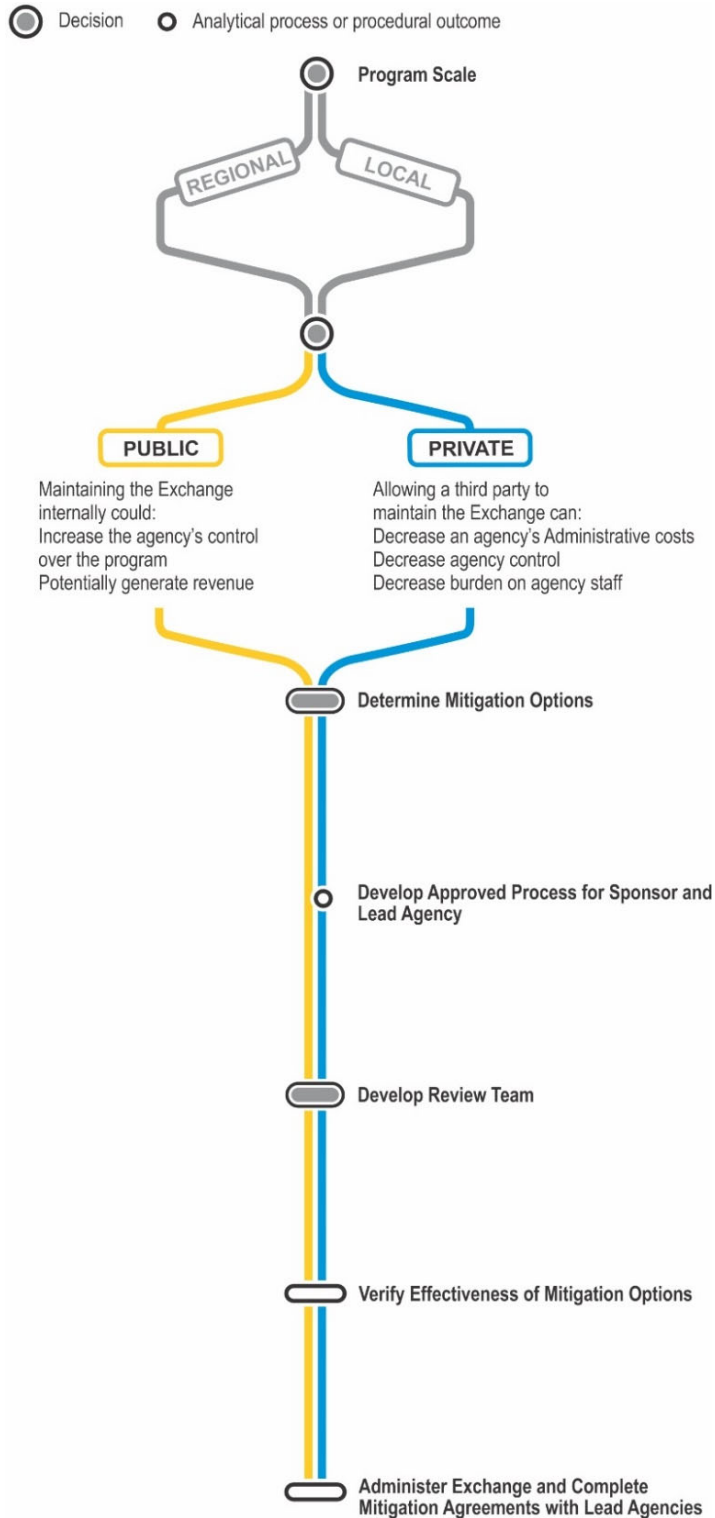




**Figure 12: Procedural Flow Chart – VMT Bank**

Source: VMT Mitigation Through Banks and Exchanges: Understanding New Mitigation Approaches. A White Paper by Fehr & Peers (January 2020).



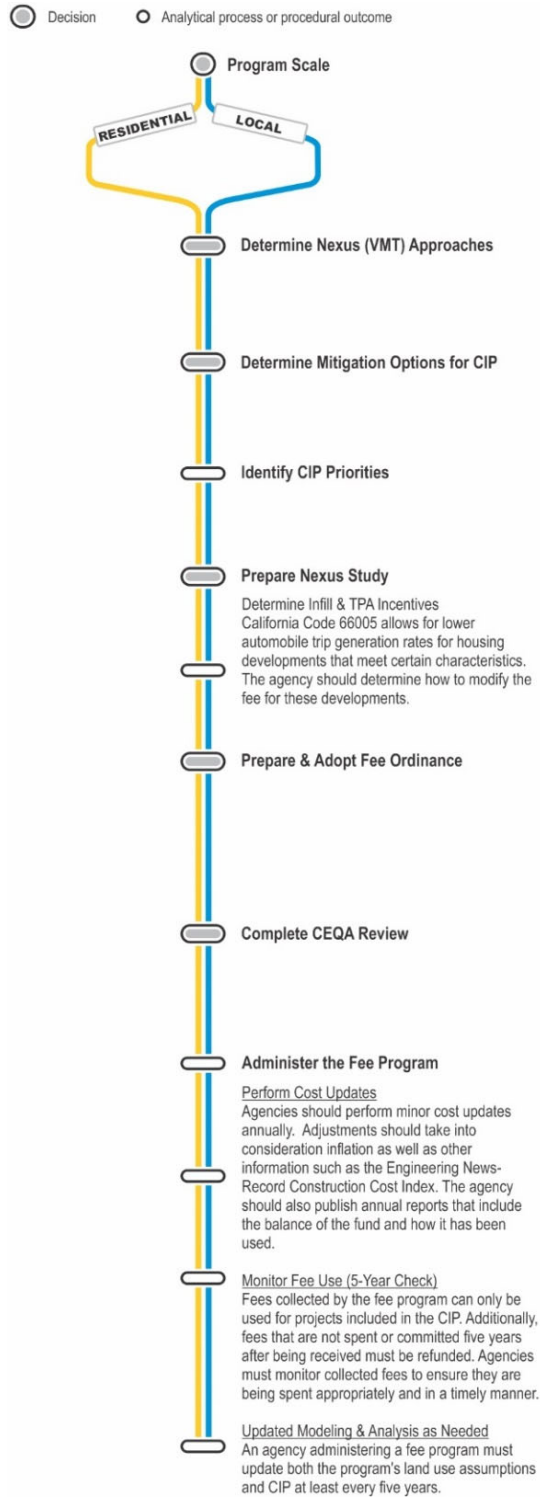


**Figure 13: Procedural Flow Chart – VMT Exchange**

Source: VMT Mitigation Through Banks and Exchanges: Understanding New Mitigation Approaches. A White Paper by Fehr & Peers (January 2020).







**Figure 14: Procedural Flow Chart – VMT Impact Fee**

Source: Understanding New Mitigation Approaches. A White Paper by Fehr & Peers (January 2020).



Table F - Vehicle Miles Traveled Mitigation Measures for Land Development Projects

CAPCOA No.	Mitigation Measure No.	Mitigation Measure	Measure Description	Locational Context	Scale of Application	Implementation Requirements	Expanded Mitigation Options	Formula	VMT Reduction
1	T-1	Increase Residential Density	This measure accounts for the vehicle miles traveled (VMT) reduction achieved by a project that is designed with a higher density of dwelling units (DU) compared to the average residential density in the U.S. Increased densities affect the distance people travel and provide greater options for the mode of travel they choose. Increasing residential density results in shorter and fewer trips by single-occupancy vehicles and thus a reduction in GHG emissions. This measure is best quantified when applied to larger developments and developments where the density is somewhat similar to the surrounding area due to the underlying research being founded in data from the neighborhood level.	Urban, Suburban	Project/Site	This measure is most accurately quantified when applied to larger developments and/or developments where the density is somewhat similar to the surrounding neighborhood.	When paired with Measure T-2, Increase Job Density, the cumulative densification from these measures can result in a highly walkable and bikeable area, yielding increased co-benefits in VMT reductions, improved public health, and social equity.	Refer to California Air Pollution Control Officers Association (CAPCOA) report Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (CAPCOA Manual), Final Draft, December 2021, page 71.	Up to 30.0 percent project VMT in the study area
2	T-2	Increase Job Density	This measure accounts for the VMT reduction achieved by a project that is designed with a higher density of jobs compared to the average job density in the U.S. Increased densities affect the distance people travel and provide greater options for the mode of travel they choose. Increasing job density results in shorter and fewer trips by single-occupancy vehicles and thus a reduction in GHG emissions.	Urban, suburban	Project/Site	This measure is most accurately quantified when applied to larger developments and/or developments where the density is somewhat similar to the surrounding neighborhood.	When paired with Measure T-1, Increase Residential Density, the cumulative densification from these measures can result in a highly walkable and bikeable area, yielding increased co-benefits in VMT reductions, improved public health, and social equity.	Refer to CAPCOA Manual, page 74.	Up to 30.0 percent project VMT in the study area
3	T-3	Provide Transit-Oriented Development	This measure would reduce project VMT in the study area relative to the same project sited in a non-transit-oriented development (TOD) location. TOD refers to projects built in compact, walkable areas that have easy access to public transit, ideally in a location with a mix of uses, including housing, retail offices, and community facilities. Project site residents, employees, and visitors would have easy access to high-quality public transit, thereby encouraging transit ridership and reducing the number of single-occupancy vehicle trips and associated GHG emissions.	Urban, suburban. Rural only if adjacent to commuter rail station with convenient rail service to a major employment center.	Project/Site	To qualify as a TOD, the development must be a residential or office project that is within a 10-minute walk (0.5 mile) of a high frequency transit station (either rail, or bus rapid transit with headways less than 15 minutes). Ideally, the distance should be no more than 0.25 to 0.3 of a mile but could be up to 0.5 mile if the walking route to station can be accessed by pedestrian-friendly routes. Users should confirm "unmitigated" or "baseline" VMT does not already account for reductions from transit proximity.	When building TOD, a best practice is to incorporate bike and pedestrian access into the larger network to increase the likelihood of transit use.	Refer to CAPCOA Manual, page 77.	Up to 31.0 percent project VMT in the study area
4	T-4	Integrate Affordable and Below Market Rate Housing	This measure requires below market rate (BMR) housing. BMR housing provides greater opportunity for lower income families to live closer to job centers and achieve a jobs/housing match near transit. It is also an important strategy to address the limited availability of affordable housing that might force residents to live far away from jobs or school, requiring longer commutes. The quantification method for this measure accounts for VMT reductions achieved for multifamily residential projects that are deed restricted or otherwise permanently dedicated as affordable housing.	Urban, suburban	Project/Site	Multifamily residential units must be permanently dedicated as affordable for lower income families. The California Department of Housing and Community Development (2021) defines lower-income as 80 percent of area median income or below, and affordable housing as costing 30 percent of gross household income or less.	Pair with Measure T-1, Increase Residential Density, and Measure T-2, Increase Job Density, to achieve greater population and employment diversity.	Refer to CAPCOA Manual, page 81.	Up to 28.6 percent project/site multifamily residential VMT
5	T-5	Implement Commute Trip Reduction Program (Voluntary)	This measure will implement a voluntary commute trip reduction (CTR) program with employers. CTR programs discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking, thereby reducing VMT and GHG emissions. Voluntary implementation elements are described in this measure.	Urban, suburban	Project/Site	Voluntary CTR programs must include the following elements to apply the VMT reductions reported in literature. <ul style="list-style-type: none"> <li>Employer-provided services, infrastructure, and incentives for alternative modes such as ridesharing (Measure T-8), discounted transit (Measure T-9), bicycling (Measure T-10), vanpool (Measure T-11), and guaranteed ride home.</li> <li>Information, coordination, and marketing for said services, infrastructure, and incentives (Measure T-7).</li> </ul>	Other strategies may also be included as part of a voluntary CTR program, though they are not included in the VMT reductions reported by literature and thus are not incorporated in the VMT reductions for this measure. This program typically serves as a complement to the more effective workplace CTR measures such as pricing workplace parking (Measure T-12) or implementing employee parking "cash-out" (Measure T-13).	Refer to CAPCOA Manual, page 84.	Up to 4.0 percent project/site employee commute VMT



Table F - Vehicle Miles Traveled Mitigation Measures for Land Development Projects

CAPCOA No.	Mitigation Measure No.	Mitigation Measure	Measure Description	Locational Context	Scale of Application	Implementation Requirements	Expanded Mitigation Options	Formula	VMT Reduction
6	T-6	Implement Commute Trip Reduction Program (Mandatory Implementation and Monitoring)	This measure will implement a mandatory CTR program with employers. CTR programs discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking, thereby reducing VMT and GHG emissions.	Urban, suburban	Project/Site	The mandatory CTR program must include all other elements (i.e., Measures T-7 through T-11) described for the voluntary program (Measure T-5) plus include mandatory trip reduction requirements (including penalties for non-compliance) and regular monitoring and reporting to ensure the calculated VMT reduction matches the observed VMT reduction.	This program typically serves as a complement to the more effective workplace CTR measures, such as pricing workplace parking (Measure T-12) or implementing employee parking "cash-out" (Measure T-13).	Refer to CAPCOA Manual, page 87.	Up to 26.0 percent project/site employee commute VMT
7	T-7	Implement Commute Trip Reduction Marketing	This measure will implement a marketing strategy to promote the project site employer's CTR program. Information sharing and marketing promote and educate employees about their travel choices to the employment location beyond driving such as carpooling, taking transit, walking, and biking, thereby reducing VMT and GHG emissions.	Urban, suburban	Project/Site	The following features (or similar alternatives) of the marketing strategy are essential for effectiveness. <ul style="list-style-type: none"> <li>Onsite or online commuter information services.</li> <li>Employee transportation coordinators.</li> <li>Onsite or online transit pass sales.</li> <li>Guaranteed ride home service.</li> </ul>	This measure could be packaged with other commute trip reduction measures (Measures T-8 through T-13) as a comprehensive CTR program (Measure T-5 or T-6).	Refer to CAPCOA Manual, page 90.	Up to 4.0 percent project/site employee commute VMT
8	T-8	Provide Ridesharing Program	This measure will implement a ridesharing program and establish a permanent transportation management association with funding requirements for employers. Ridesharing encourages carpooled vehicle trips in place of single-occupied vehicle trips, thereby reducing the number of trips, VMT, and GHG emissions.	Urban, suburban	Project/Site	Ridesharing must be promoted through a multifaceted approach. Examples include the following. <ul style="list-style-type: none"> <li>Designating a certain percentage of desirable parking spaces for ridesharing vehicles.</li> <li>Designating adequate passenger loading and unloading and waiting areas for ridesharing vehicles.</li> <li>Providing an app or website for coordinating rides.</li> </ul>	When providing a ridesharing program, a best practice is to establish funding by a non-revocable funding mechanism for employer-provided subsidies. In addition, encourage use of low-emission ridesharing vehicles (e.g., shared Uber Green). This measure could be paired with any combination of the other commute trip reduction strategies (Measures T-7 through T-13) for increased reductions.	Refer to CAPCOA Manual, page 93.	Up to 8.0 percent project/site employee commute VMT
9	T-9	Implement Subsidized or Discounted Transit Program	This measure will provide subsidized or discounted, or free transit passes for employees and/or residents. Reducing the out-of-pocket cost for choosing transit improves the competitiveness of transit against driving, increasing the total number of transit trips and decreasing vehicle trips. This decrease in vehicle trips results in reduced VMT and thus a reduction in GHG emissions.	Urban, suburban	Project/Site	The project should be accessible either within 1 mile of high-quality transit service (rail or bus with headways of less than 15 minutes), 0.5 mile of local or less frequent transit service, or along a designated shuttle route providing last-mile connections to rail service. If a well-established bikeshare service (Measure T-22-A) is available, the site may be located up to 2 miles from a high-quality transit service. If more than one transit agency serves the site, subsidies should be provided that can be applied to each of the services available. If subsidies are applied for only one service, all variable inputs below should also pertain only to the service that is subsidized.	This measure could be paired with any combination of the other commute trip reduction strategies (Measures T-7 through T-13) for increased reductions.	Refer to CAPCOA Manual, page 96.	Up to 5.5 percent from employee/resident vehicles accessing the site
10	T-10	Provide End-of-Trip Bicycle Facilities	This measure will install and maintain end-of-trip facilities for employee use. End-of-trip facilities include bike parking, bike lockers, showers, and personal lockers. The provision and maintenance of secure bike parking and related facilities encourages commuting by bicycle, thereby reducing VMT and GHG emissions.	Urban, suburban	Project/Site	End-of-trip facilities should be installed at a size proportional to the number of commuting bicyclists and regularly maintained.	Best practice is to include an onsite bicycle repair station and post signage on or near secure parking and personal lockers with information about how to reserve or obtain access to these amenities. This measure could be paired with any combination of the other commute trip reduction strategies (Measures T-7 through T-13) for increased reductions.	Refer to CAPCOA Manual, page 101.	Up to 4.4 percent project/site employee commute VMT
11	T-11	Provide Employer-Sponsored Vanpool	This measure will implement an employer-sponsored vanpool service. Vanpooling is a flexible form of public transportation that provides groups of 5 to 15 people with a cost-effective and convenient rideshare option for commuting. The mode shift from long-distance, single-occupied vehicles to shared vehicles reduces overall commute VMT, thereby reducing GHG emissions.	Urban, suburban, rural	Project/Site	Vanpool programs are more appropriate for the building occupant or tenant (i.e., employer) to implement and monitor than the building owner or developer.	When implementing a vanpool service, best practice is to subsidize the cost for employees that have a similar origin and destination and provide priority parking for employees that vanpool. This measure could be paired with any combination of the other commute trip reduction strategies (Measures T-7 through T-13) for increased reductions.	Refer to CAPCOA Manual, page 105.	Up to 20.4 percent project/site employee commute VMT

Table F - Vehicle Miles Traveled Mitigation Measures for Land Development Projects

CAPCOA No.	Mitigation Measure No.	Mitigation Measure	Measure Description	Locational Context	Scale of Application	Implementation Requirements	Expanded Mitigation Options	Formula	VMT Reduction
12	T-12	Price Workplace Parking	This measure will price onsite parking at workplaces. Because free employee parking is a common benefit, charging employees to park onsite increases the cost of choosing to drive to work. This is expected to reduce single-occupancy vehicle commute trips, resulting in decreased VMT, thereby reducing associated GHG emissions.	Urban, suburban	Project/Site	Implementation may include the following. <ul style="list-style-type: none"> <li>Explicitly charging for employee parking.</li> <li>Implementing above-market rate pricing.</li> <li>Validating parking only for invited guests (or not providing parking validation at all).</li> <li>Not providing employee parking and transportation allowances.</li> </ul> In addition, this measure should include marketing and education regarding available alternatives to driving.	Best practice is to ensure that other transportation options are available, convenient, and have competitive travel times (i.e., transit service near the project site, shuttle service, or a complete active transportation network serving the site and surrounding community), and that there is not alternative free parking available nearby (such as on-street). This measure is substantially less effective in environments that do not have other modes available or where unrestricted street parking or other offsite parking is available nearby and has adequate capacity to accommodate project-related vehicle parking demand.	Refer to CAPCOA Manual, page 110.	Up to 20.0 percent project/site employee commute VMT
13	T-13	Implement Employee Parking Cash-Out	This measure will require project employers to offer employee parking cash-out. Cash-out is when employers provide employees with a choice of forgoing their current subsidized/free parking for a cash payment equivalent to or greater than the cost of the parking space. This encourages employees to use other modes of travel instead of single occupancy vehicles. This mode shift results in people driving less and thereby reduces VMT and GHG emissions.	Urban, suburban	Project/Site	To prevent spill-over parking and continued use of single occupancy vehicles, residential parking in the surrounding area must be permitted, and public on-street parking must be market rate.	This measure could be paired with many other commute trip reduction strategies (Measures T-7 through T-11) for increased reductions.	Refer to CAPCOA Manual, page 114.	Up to 12.0 percent project/site employee commute VMT
14	T-14	Provide Electric Vehicle Charging Infrastructure	Install onsite electric vehicle chargers in an amount beyond what is required by the 2019 California Green Building Standards (CALGreen) at buildings with designated parking areas (e.g., commercial, educational, retail, multifamily). This will enable drivers of plug-in hybrid electric vehicles (PHEVs) to drive a larger share of miles in electric mode (eVMT), as opposed to gasoline-powered mode, thereby displacing GHG emissions from gasoline consumption with a lesser amount of indirect emissions from electricity. Most PHEVs owners charge their vehicles at home overnight. When making trips during the day, the vehicle will switch to gasoline mode if/when it reaches its maximum all-electric range.	Urban, suburban, rural	Project/Site	Parking at the chargers must be limited to electric vehicles.	In addition to increasing the percentage of electric miles for PHEVs, the increased availability of chargers from implementation of this measure could mitigate consumer "range anxiety" concerns and increase the adoption and use of battery electric vehicles (BEVs), but this potential effect is not included in the calculations as a conservative assumption. Expanded mitigation could include quantification of the effect of this measure on BEV use.	-	-
15	T-15	Limit Residential Parking Supply	This measure will reduce the total parking supply available at a residential project or site. Limiting the amount of parking available creates scarcity and adds additional time and inconvenience to trips made by private auto, thus disincentivizing driving as a mode of travel. Reducing the convenience of driving results in a shift to other modes and decreased VMT and thus a reduction in GHG emissions. Evidence of the effects of reduced parking supply is strongest for residential developments.	Urban, suburban	Project/Site	This measure is ineffective in locations where unrestricted street parking or other offsite parking is available nearby and has adequate capacity to accommodate project-related vehicle parking demand.	When limiting parking supply, a best practice is to do so at sites that are located near high quality alternative modes of travel (such as a rail station, frequent bus line, or in a higher density area with multiple walkable locations nearby). Limiting parking supply may also allow for more active uses on any given lot, which may support Measures T-1 and T-2 by allowing for higher density construction.	Refer to CAPCOA Manual, page 123.	Up to 13.7 percent from resident vehicles accessing the site
16	T-16	Unbundle Residential Parking Costs from Property Cost	This measure will unbundle, or separate, a residential project's parking costs from property costs, requiring those who wish to purchase parking spaces to do so at an additional cost. On the assumption that parking costs are passed through to the vehicle owners/drivers utilizing the parking spaces, this measure results in decreased vehicle ownership and, therefore, a reduction in VMT and GHG emissions. Unbundling may not be available to all residential developments, depending on funding sources.	Urban, suburban	Project/Site	Parking costs must be passed through to the vehicle owners/drivers utilizing the parking spaces for this measure to result in decreased vehicle ownership.	Pair with Measure T-19-A or T-19-B to ensure that residents who eliminate their vehicle and shift to a bicycle can safely access the area's bikeway network.	Refer to CAPCOA Manual, page 127.	Up to 15.7 percent project VMT in the study area
17	T-17	Improve Street Connectivity	This measure accounts for the VMT reduction achieved by a project that is designed with a higher density of vehicle intersections compared to the average intersection density in the U.S. Increased vehicle intersection density is a proxy for street connectivity improvements, which help to facilitate a greater number of shorter trips and thus a reduction in GHG emissions.	Urban, suburban	Plan/Community	Projects that increase intersection density would be building a new street network in a subdivision or retrofitting an existing street network to improve connectivity (e.g., converting cul-de-sacs or dead-end streets to grid streets).	Pair with Measure T-18, Provide Pedestrian Network Improvement, to best support use of the local pedestrian network.	Refer to CAPCOA Manual, page 131.	Up to 30.0 percent from vehicle travel in the plan/community

Table F - Vehicle Miles Traveled Mitigation Measures for Land Development Projects

CAPCOA No.	Mitigation Measure No.	Mitigation Measure	Measure Description	Locational Context	Scale of Application	Implementation Requirements	Expanded Mitigation Options	Formula	VMT Reduction
18	T-18	Provide Pedestrian Network Improvement	This measure will increase the sidewalk coverage to improve pedestrian access. Providing sidewalks and an enhanced pedestrian network encourages people to walk instead of drive. This mode shift results in a reduction in VMT and GHG emissions.	Urban, suburban, rural	Plan/Community	The GHG reduction of this measure is based on the VMT reduction associated with expansion of sidewalk coverage expansion, which includes not only building of new sidewalks but also improving degraded or substandard sidewalk (e.g., damaged from street tree roots). However, pedestrian network enhancements with non-quantifiable GHG reductions are encouraged to be implemented, as discussed under Expanded Mitigation Options.	When improving sidewalks, a best practice is to ensure they are contiguous and link externally with existing and planned pedestrian facilities. Barriers to pedestrian access and interconnectivity, such as walls, landscaping buffers, slopes, and unprotected crossings should be minimized. Other best practice features could include high-visibility crosswalks, pedestrian hybrid beacons, and other pedestrian signals, mid-block crossing walks, pedestrian refuge islands, speed tables, bulb-outs (curb extensions), curb ramps, signage, pavement markings, pedestrian-only connections and districts, landscaping, and other improvements to pedestrian safety (see Measure T-35, Provide Traffic Calming Measures).	Refer to CAPCOA Manual, page 134.	Up to 6.4 percent from vehicle travel in the plan/community
19	T-19-A	Construct or Improve Bike Facility	This measure will construct or improve a single bicycle lane facility (only Class I, II, or IV) that connects to a larger existing bikeway network. Providing bicycle infrastructure helps to improve biking conditions within an area. This encourages a mode shift on the roadway parallel to the bicycle facility from vehicles to bicycles, displacing VMT and thus reducing GHG emissions. When constructing or improving a bicycle facility, a best practice is to consider local or state bike lane width standards. A variation of this measure is provided as T-19-B, Construct or Improve Bike Boulevard.	Urban, suburban	Plan/Community. This measure reduces VMT on the roadway segment parallel to the bicycle facility (i.e., the corridor). An adjustment factor is included in the formula to scale the VMT reduction from the corridor level to the plan/community level.	The bicycle lane facility must be either Class I, II, or IV. Class I bike paths are physically separated from motor vehicle traffic. Class IV bikeways are protected on-street bikeways, also called cycle tracks. Class II bike lanes are striped bicycle lanes that provide exclusive use to bicycles on a roadway.	Implement alongside Measures T-22-A, T-22-B, and/or T-22-C to ensure that micromobility users can ride safely along bicycle lane facilities and not have to ride along pedestrian infrastructure, which is a risk to pedestrian safety.	Refer to CAPCOA Manual, page 138.	Up to 0.8 percent from vehicles on parallel roadways
20	T-19-B	Construct or Improve Bike Boulevard	Construct or improve a single bicycle boulevard that connects to a larger existing bikeway network. Bicycle boulevards are a designation within Class III Bikeway that create safe, low-stress connections for people biking and walking on streets. This encourages a mode shift from vehicles to bicycles, displacing VMT and thus reducing GHG emissions. A variation of this measure is provided as T-19-A, Construct or Improve Bike Facility, which is for Class I, II, or IV bicycle infrastructure.	Urban, suburban	Plan/Community. This measure reduces VMT on the roadway segment parallel to the bicycle facility (i.e., the corridor). An adjustment factor is included in the formula to scale the VMT reduction from the corridor level to the plan/community level.	The following roadway conditions must be met. <ul style="list-style-type: none"> <li>Functional classification: local and collector if there is no more than a single general-purpose travel lane in each direction.</li> <li>Design speed: &lt;= 25 miles per hour.</li> <li>Design volume &lt;= 5,000 average daily traffic.</li> <li>Treatments at major intersections: both directions have traffic signals (or an effective control device that prioritizes pedestrian and bicycle access such as rapid flashing beacons, pedestrian hybrid beacons, high-intensity activated crosswalks, TOUCANs), bike route signs, "sharrowed" roadway markings, and pedestrian crosswalks.</li> </ul>	Construct boulevards with forced turns for vehicles every few blocks to minimize through traffic while ensuring that speed and volume metrics are met. Implement alongside Measures T-22-A, T-22-B, and/or T-22-C to ensure that micromobility users can ride safely along bicycle lane facilities and not pedestrian infrastructure, which is a risk to pedestrian safety.	Refer to CAPCOA Manual, page 143.	Up to 0.2 percent from vehicles on roadways
22	T-20	Expand Bikeway Network	This measure will increase the length of a city or community bikeway network. A bicycle network is an interconnected system of bike lanes, bike paths, bike routes, and cycle tracks. Providing bicycle infrastructure with markings and signage on appropriately sized roads with vehicle traffic traveling at safe speeds helps to improve biking conditions (e.g., safety and convenience). In addition, expanded bikeway networks can increase access to and from transit hubs, thereby expanding the "catchment area" of the transit stop or station and increasing ridership. This encourages a mode shift from vehicles to bicycles, displacing VMT and thus reducing GHG emissions. When expanding a bicycle network, a best practice is to consider bike lane width standards from local agencies, state agencies, or the National Association of City Transportation Officials' Urban Bikeway Design Guide.	Urban, suburban	Plan/Community	The bikeway network must consist of either Class I, II, or IV infrastructure.	As networks expand, ensure safe, secure, and weather-protected bicycle parking facilities at origins and destinations. Also, implement alongside T-22-A, T-22-B, and/or T-22-C to ensure that micromobility options can ride safely along bicycle lane facilities and not have to ride along pedestrian infrastructure, which is a risk to pedestrian safety.	Refer to CAPCOA Manual, page 147.	Up to 0.5 percent from vehicle travel in the plan/community
23	T-21-A	Implement Conventional Carshare Program	This measure will increase carshare access in the user's community by deploying conventional carshare vehicles. Carsharing offers people convenient access to a vehicle for personal or commuting purposes. This helps encourage transportation alternatives and reduces vehicle ownership, thereby avoiding VMT and associated GHG emissions. A variation of this measure, electric carsharing, is described in Measure T-21-B, Implement Electric Carshare Program.	Urban, suburban	Plan/Community	The GHG mitigation potential is based, in part, on literature analyzing one-way carsharing service with a free-floating operational model. This measure should be applied with caution if using a different form of carsharing (e.g., roundtrip, peer-to-peer, fractional).	When implementing a carshare program, best practice is to discount carshare membership and provide priority parking for carshare vehicles to encourage use of the service.	Refer to CAPCOA Manual, page 151.	Up to 0.15 percent from vehicle travel in the plan/community

Table F - Vehicle Miles Traveled Mitigation Measures for Land Development Projects

CAPCOA No.	Mitigation Measure No.	Mitigation Measure	Measure Description	Locational Context	Scale of Application	Implementation Requirements	Expanded Mitigation Options	Formula	VMT Reduction
24	T-21-B	Implement Electric Carshare Program	This measure will increase carshare access in the user's community by deploying electric carshare vehicles. Carsharing offers people convenient access to a vehicle for personal or commuting purposes. This helps encourage transportation alternatives and reduces vehicle ownership, thereby avoiding VMT and associated GHG emissions. This also encourages a mode shift from internal combustion engine vehicles to electric vehicles, displacing the emissions-intensive fossil fuel energy with less emissions-intensive electricity. Electric carshare vehicles require more staffing support compared to conventional carshare programs for shuttling electric vehicles to and from charging points. A variation of this measure, conventional carsharing, is described in Measure T-21-A, Implement Conventional Carshare Program.	Urban, suburban	Plan/Community	The GHG mitigation potential is based, in part, on literature analyzing one-way carsharing service with a free-floating operational model. This measure should be applied with caution if using a different form of carsharing (e.g., roundtrip, peer-to-peer, fractional).	When implementing a carshare program, best practice is to discount carshare membership and provide priority parking for carshare vehicles to encourage use of the service.	Refer to CAPCOA Manual, page 158.	Up to 0.18 percent GHG reduction from vehicle travel in the plan/community. Please refer to VMT reduction formula on CAPCOA Manual, page 158.
25	T-22-A	Implement Pedal (Non-Electric) Bikeshare Program	This measure will establish a bikeshare program. Bikeshare programs provide users with on-demand access to bikes for short-term rentals. This encourages a mode shift from vehicles to bicycles, displacing VMT and thus reducing GHG emissions. Variations of this measure are described in Measure T-22-B, Implement Electric Bikeshare Program, and Measure T-22-C, Implement Scootershare Program.	Urban, suburban	Plan/Community	The GHG mitigation potential is based, in part, on literature analyzing docked (i.e., station-based) bikeshare programs. This measure should be applied with caution if using dockless (free-floating) bikeshare.	Best practice is to discount bikeshare membership and dedicate bikeshare parking to encourage use of the service. Also consider including space on the vehicle to store personal items while traveling, such as a basket.	Refer to CAPCOA Manual, page 160.	Up to 0.02 percent from vehicle travel in the plan/community
26	T-22-B	Implement Electric Bikeshare Program	This measure will establish an electric bikeshare program. Electric bikeshare programs provide users with on-demand access to electric pedal assist bikes for short-term rentals. This encourages a mode shift from vehicles to electric bicycles, displacing VMT and reducing GHG emissions. Variations of this measure are described in Measure T-22-A, Implement Pedal (Non-Electric) Bikeshare Program, and Measure T-22-C, Implement Scootershare Program.	Urban, suburban	Plan/Community	The GHG mitigation potential is based, in part, on literature analyzing docked (i.e., station-based) bikeshare programs. This measure should be applied with caution if using dockless (free-floating) bikeshare.	Best practice is to discount electric bikeshare membership and dedicate electric bikeshare parking to encourage use of the service. Consider also including space on the vehicle to store personal items while traveling, such as a basket.	Refer to CAPCOA Manual, page 164.	Up to 0.06 percent from vehicle travel in the plan/community. This quantification methodology does not account for the miles traveled from vehicle travel of program employees picking up and dropping off bikes.
27	T-22-C	Implement Scootershare Program	This measure will establish a scootershare program. Scootershare programs provide users with on-demand access to electric scooters for short-term rentals. This encourages a mode shift from vehicles to scooters, displacing VMT and thus reducing GHG emissions. Variations of this measure are described in Measure T-22-A, Implement Pedal (Non-Electric) Bikeshare Program, and Measure T-22-B, Implement Electric Bikeshare Program.	Urban, suburban	Plan/Community	The GHG mitigation potential is based, in part, on literature analyzing docked (i.e., station-based) bikeshare programs. This measure should be applied with caution given the likely higher popularity of scootershare compared to bikeshare.	Best practice is to discount scootershare membership and dedicate scootershare parking to encourage use of the service. Consider also including space on the vehicle to store personal items while traveling, such as a basket.	Refer to CAPCOA Manual, page 168.	Up to 0.07 percent from vehicle travel in the plan/community. This quantification methodology does not account for the miles traveled from vehicle travel of program employees picking up and dropping off scooters.
28	T-23	Provide Community-Based Travel Planning	This measure will target residences in the plan/community with community-based travel planning (CBTP). CBTP is a residential-based approach to outreach that provides households with customized information, incentives, and support to encourage the use of transportation alternatives in place of single occupancy vehicles, thereby reducing household VMT and associated GHG emissions.	Urban, suburban	Plan/Community	CBTP involves teams of trained travel advisors visiting all households within a targeted geographic area, having tailored conversations about residents' travel needs, and educating residents about the various transportation options available to them. Due to the personalized outreach method, communities are typically targeted in phases.	Pair with any of the Measures from T-17 through T-22-C to ensure that residents that are targeted by CBTP who want to use alternative transportation have the infrastructure and technology to do so.	Refer to CAPCOA Manual, page 172.	Up to 2.3 percent from vehicle travel in the plan/community
29	T-24	Implement Market Price Public Parking (On-Street)	This measure will price all on-street parking in a given community, with a focus on parking near central business districts, employment centers, and retail centers. Increasing the cost of parking increases the total cost of driving to a location, incentivizing shifts to other modes and thus decreasing total VMT to and from the priced areas. This VMT reduction results in a corresponding reduction in GHG emissions.	Urban, suburban	Plan/Community	When pricing on-street parking, best practice is to allow for dynamic adjustment of prices to ensure approximately 85 percent occupancy, which helps prevent induced VMT due to circling behaviors as individuals search for a vacant parking space. In addition, this method should primarily be implemented in areas with available alternatives to driving, such as transit availability within 0.5 mile or areas of high residential density nearby (allowing for increased walking/biking). If the measure is implemented in a small area, residential parking permit programs should be considered to prevent parking intrusion on nearby streets in residential areas without priced parking.	Pricing on-street parking also helps support individual projects with priced onsite parking by removing potential alternative parking locations.	Refer to CAPCOA Manual, page 175.	Up to 30.0 percent from vehicle travel in the plan/community

Table F - Vehicle Miles Traveled Mitigation Measures for Land Development Projects

CAPCOA No.	Mitigation Measure No.	Mitigation Measure	Measure Description	Locational Context	Scale of Application	Implementation Requirements	Expanded Mitigation Options	Formula	VMT Reduction
30	T-25	Extend Transit Network Coverage or Hours	This measure will expand the local transit network by either adding or modifying existing transit service or extending the operation hours to enhance the service near the project site. Starting services earlier in the morning and/or extending services to late-night hours can accommodate the commuting times of alternative-shift workers. This will encourage the use of transit and therefore reduce VMT and associated GHG emissions.	Urban, suburban	Plan/Community	There are two primary means of expanding the transit network: by increasing the frequency of service, thereby reducing average wait times and increasing convenience, or by extending service to cover new areas and times.	This measure is focused on providing additional transit network coverage, with no changes to transit frequency. This measure can be paired with Measure T-26, Increase Transit Service Frequency, which is focused on increasing transit service frequency, for increased reductions.	Refer to CAPCOA Manual, page 179.	Up to 4.6 percent from vehicle travel in the plan/community
31	T-26	Increase Transit Service Frequency	This measure will increase transit frequency on one or more transit lines serving the plan/community. Increased transit frequency reduces waiting and overall travel times, which improves the user experience and increases the attractiveness of transit service. This results in a mode shift from single occupancy vehicles to transit, which reduces VMT and associated GHG emissions.	Urban, suburban	Plan/Community	Refer to measure description.	This measure is focused on providing increased transit frequency, with no changes to transit network coverage. This measure can be paired with Measure T-25, Extend Transit Network Coverage or Hours, which is focused on increasing transit network coverage, for increased reductions.	Refer to CAPCOA Manual, page 185.	Up to 11.3 percent GHG reduction from vehicle travel in the plan/community. Please refer to VMT reduction formula on CAPCOA Manual, page 185.
32	T-27	Implement Transit-Supportive Roadway Treatments	This measure will implement transit-supportive treatments on the transit routes serving the plan/community. Transit-supportive treatments incorporate a mix of roadway infrastructure improvements and/or traffic signal modifications to improve transit travel times and reliability. This results in a mode shift from single occupancy vehicles to transit, which reduces VMT and the associated GHG emissions.	Urban, suburban	Plan/Community	Treatments can include transit signal priority, bus-only signal phases, queue jumps, curb extensions to speed passenger loading, and dedicated bus lanes.	This measure could be paired with other Transit subsector strategies (Measure T-25 and Measure T-29) for increased reductions.	Refer to CAPCOA Manual, page 189.	Up to 0.6 percent from vehicle travel in the plan/community
33	T-28	Provide Bus Rapid Transit	This measure will convert an existing bus route to a bus rapid transit (BRT) system. BRT includes the following additional components, compared to traditional bus service: exclusive right-of-way (e.g., busways, queue jumping lanes) at congested intersections, increased limited-stop service (e.g., express service), intelligent transportation technology (e.g., transit signal priority, automatic vehicle location systems), advanced technology vehicles (e.g., articulated buses, low-floor buses), enhanced station design, efficient fare-payment smart cards or smartphone apps, branding of the system, and use of vehicle guidance systems. BRT can increase the transit mode share in a community due to improved travel times, service frequencies, and the unique components of the BRT system. This mode shift reduces VMT and the associated GHG emissions.	Urban, suburban	Plan/Community	The measure quantification methodology accounts for the increase in ridership from (1) improved travel times from transit signal prioritization, (2) increased service frequency, and (3) the unique ridership increase associated with a full-featured BRT service operating on a fully segregated running way with specialized (or stylized) vehicles, attractive stations, and efficient fare collection practices. To take credit for the estimated emissions reduction, the user should implement, at minimum, these components.	This measure could be paired with Measure T-25, Extend Transit Network Coverage or Hours, and Measure T-29, Reduce Transit Fares, for increased reductions.	Refer to CAPCOA Manual, page 193.	Up to 13.8 percent from vehicle travel in the plan/community. Please refer to VMT reduction formula on CAPCOA Manual, page 195.
34	T-29	Reduce Transit Fares	This measure will reduce transit fares on the transit lines serving the plan/community. A reduction in transit fares creates incentives to shift travel to transit from single-occupancy vehicles and other traveling modes, which reduces VMT and associated GHG emissions. This measure differs from Measure T-8, Implement Subsidized or Discounted Transit Program, which can be offered through employer-based benefits programs in which the employer fully or partially pays the employee's cost of transit.	Urban, suburban	Plan/Community	Transit fare reductions can be implemented systemwide or in specific fare-free or reduced-fare zones.	This measure could be paired with other Transit subsector strategies (Measure T-25, Extend Transit Network Coverage or Hours, and Measure T-26, Increase Transit Service Frequency) for increased reductions.	Refer to CAPCOA Manual, page 200.	Up to 1.2 percent from vehicle travel in the plan/community



Table F - Vehicle Miles Traveled Mitigation Measures for Land Development Projects

CAPCOA No.	Mitigation Measure No.	Mitigation Measure	Measure Description	Locational Context	Scale of Application	Implementation Requirements	Expanded Mitigation Options	Formula	VMT Reduction
35	T-30	Use Cleaner-Fuel Vehicles	This measure requires use of cleaner-fuel vehicles in lieu of similar vehicles powered by gasoline or diesel fuel. Cleaner-fuel vehicles addressed in this measure include electric vehicles, natural gas and propane vehicles, and vehicles powered by biofuels such as composite diesel (blend of renewable diesel, biodiesel, and conventional fossil diesel), ethanol, and renewable natural gas. The full GHG emissions impact of cleaner fuels depends on the emissions from the vehicle's tailpipe as well as the emissions associated with production of the fuel (sometimes termed "upstream" emissions). For example, tailpipe GHG emissions from renewable natural gas are identical to tailpipe GHG emissions from conventional natural gas; the GHG benefits of renewable natural gas come from the fact that it is produced from biomass. Similarly, BEVs have zero tailpipe emissions, but properly accounting for their GHG impacts requires quantifying the emissions associated with the electricity generation needed to charge the vehicle's batteries.	Not-applicable	Project/Site or Plan/Community	-	If using electric vehicles, pair with Measure T-14 to ensure that electric vehicles have sufficient access to charging infrastructure.	-	-
36	T-31-A	Locate Project in Area with High Destination Accessibility	The measure requires development in an area with high accessibility to destinations. Destination accessibility is measured in terms of the number of jobs or other attractions (e.g., schools, supermarkets, and health care services) that are reachable within a given travel time or travel distance, and tends to be highest at central locations and lowest at peripheral ones. When destinations are nearby, the travel time between them is less, thus increasing the potential for people to walk and bike to those destinations and, therefore, reducing the VMT and associated GHG emissions. As an implementation consideration, projects should consider accessibility by people of all functional abilities and incorporate design principles such as Universal Design.	Urban, suburban	Project/Site	-	This is a variation of measure T-31-B.	-	-
37	T-31-B	Improve Destination Accessibility in Underserved Areas	This measure accounts for the VMT reduction that would be achieved by constructing job centers or other attractions (e.g., schools, supermarkets, and health care services) for residents in underserved areas (e.g., food deserts). When destinations are nearby, the travel time between them is less, thus increasing the potential for people to walk and bike to those destinations, reducing VMT and associated GHG emissions. As an implementation consideration, projects should consider accessibility by people of all functional abilities and incorporate design principles such as Universal Design.	Urban, suburban	Plan/Community	-	This is a variation of measure T-31-A.	-	-
38	T-32	Orient Project Toward Transit, Bicycle, or Pedestrian Facility	This measure requires projects to minimize setback distance between the project and planned or existing transit, bicycle, or pedestrian corridors. A project that is designed around an existing or planned transit, bicycle, or pedestrian corridor encourages sustainable mode use. As an implementation consideration, projects should consider accessibility by people of all functional abilities and incorporate design principles such as Universal Design.	Urban, suburban, rural	Project/Site	-	-	-	-
39	T-33	Locate Project near Bike Path/Bike Lane	This measure requires projects to be located within 0.5-mile bicycling distance to an existing Class I or IV path or Class II bike lane. A project that is designed around an existing or planned bicycle facility encourages sustainable mode use. The project design should include a comparable network that connects the project uses to the existing off-site facilities that connect to work/retail destinations. As an implementation consideration, projects should provide sufficient and convenient bicycle parking and long-term storage, ideally near the bike lane itself, for residents, employees, and visitors, and a bicycle repair station with tools and equipment.	Urban, suburban	Project/Site	-	This measure can be implemented with Measure T-9.	-	-

Table F - Vehicle Miles Traveled Mitigation Measures for Land Development Projects

CAPCOA No.	Mitigation Measure No.	Mitigation Measure	Measure Description	Locational Context	Scale of Application	Implementation Requirements	Expanded Mitigation Options	Formula	VMT Reduction
40	T-34	Provide Bike Parking	This measure requires projects provide short-term and long-term bicycle parking facilities to meet peak season maximum demand. Parking can be provided in designated areas or added within rights-of-way, including by replacing parking spaces with bike parking corrals. Ensure that bike parking can be accessed by all, not just project employees or residents.	Urban, suburban, rural	Project/Site or Plan/Community	-	-	-	-
41	T-35	Provide Traffic Calming Measures	This measure requires projects to include pedestrian/bicycle safety and traffic calming measures above jurisdictional requirements. Roadways should also be designed to reduce motor vehicle speeds and encourage pedestrian and bicycle trips with traffic calming features. Traffic calming features may include marked crosswalks, count-down signal timers, curb extensions, speed tables, raised crosswalks, raised intersections, median islands, tight corner radii, roundabouts or mini-circles, on-street parking, planter strips with street trees, chicanes/chokers, and others. Providing traffic calming measures encourages people to walk or bike instead of using a vehicle. This mode shift will result in a decrease in vehicle miles traveled. Traffic calming also promotes active transportation, which improves physical health.	Urban, suburban, rural	Plan/Community	-	-	-	-
42	T-36	Create Urban Non-Motorized Zones	The measure requires projects to convert a percentage of its roadway miles to transit malls, linear parks, or other non-motorized zones. These features encourage non-motorized travel and thus a reduction in vehicle miles traveled. This measure is only applicable to projects located in urban environments. Consider access issues for paratransit users and those with mobility impairments.	Urban	Plan/Community	-	-	-	-
43	T-37	Dedicate Land for Bike Trails	This measure requires projects to provide for, contribute to, or dedicate land for the provision of off-site bicycle trails linking the project to designated bicycle commuting routes in accordance with an adopted citywide or countywide bikeway plan. Existing desire paths can make good locations, as it represents a community-identified transportation need.	Urban, suburban, rural	Plan/Community	-	-	-	-
44	T-38	Provide First and Last Mile TNC Incentives	This measure requires a first-last mile partnership between a municipality/transit agency and a transportation network company (TNC) for subsidized, shared TNC rides to or from the local transit station within a specific geographic area. This measure encourages a shift to transit mode for longer trips. Consider providing inclusive mechanisms so people without bank accounts, credit cards, or smart phones can access the incentives.	Urban, suburban, rural (only if the project is adjacent to a commuter rail station with convenient rail service to a major employment center)	Plan/Community	-	-	-	-
45	T-39	Implement Preferential Parking Permit Program	This measure requires projects provide preferential parking in terms of free or reduced parking fees, priority parking, or reserved parking in convenient locations (such as near public transportation or building entrances) for commuters who carpool, vanpool, ride-share or use sustainably fueled vehicles. Projects should also provide wide parking spaces to accommodate vanpool vehicles. Commercial preferential parking can accommodate workers who work non-standard hours by providing opportunities to participate. Residential preferential parking can consider an equitable distribution of permits, giving priority to owners of sustainably fueled vehicles.	Urban, suburban	Project/Site	-	-	-	-

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CAPCOA No.	Mitigation Measure No.	Mitigation Measure	Measure Description	Locational Context	Scale of Application	Implementation Requirements	Expanded Mitigation Options	Formula	VMT Reduction
46	T-40	Implement School Bus Program	This measure will provide school bus service transporting students to a school project. A school bus service can reduce the number of private vehicle trips to drop-off or pick-up students, thereby reducing VMT and associated GHG emissions, as well as onsite air pollution emissions, especially if the bus is zero emissions. Best practices include concentrating service for students who live further away from schools, providing service both before and after school, and encouraging parents to utilize the service. This measure is more effective at schools that draw students from a larger enrollment area, such as high schools or private schools.	Urban, suburban, rural	Project/Site	-	-	-	-
47	T-41	Implement a School Pool Program	This measure requires projects create a ridesharing program for school children. Most school districts provide bussing services to public schools only. School pool helps match parents to transport students to private schools, or to schools where students cannot walk or bike but do not meet the requirements for bussing. A school pool program can help reduce onsite air pollutant emissions at the school by reducing private vehicle trips, especially if the pool vehicle is zero emissions.	Urban, suburban, rural	Project/Site	-	-	-	-
48	T-42	Implement Telecommute and/or Alternative Work Schedule Program	This measure requires projects to permit employee telecommuting and/or alternative work schedules and monitor employee involvement to ensure forecasted participation matches observed participation. While this measure certainly reduces commute-related VMT, recent research has shown that total VMT from telecommuters can exceed VMT from non-telecommuters. In addition, telecommuting affects commercial and residential electricity use, complicating the calculation of the net effect and attribution of emissions. More specifically, an office with fewer employees could result in a decrease in the project's energy used to operate equipment and provide space heating and air conditioning. Conversely, an increase in telecommuters using their private homes as workspaces could result in a residential increase in energy for those same end uses and appliances. While this measure is currently not quantified and, according to some studies, could result in total VMT increases and other disbenefits, it is recommended that users review the most recent literature at the time of their project initiation to see if new findings more conclusively support a quantifiable emissions reduction.	Urban, suburban, rural	Project/Site	-	-	-	-
49	T-43	Provide Real-Time Transit Information	This measure requires projects provide real-time bus/train/ferry arrival time, travel time, alternative routings, or other transit information via electronic message signs, dedicated monitor or interactive electronic displays, websites, or mobile apps. This makes transit service more convenient and may result in a mode shift from auto to transit, which reduces VMT.	Urban, suburban, rural	Plan/Community	-	-	-	-



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CAPCOA No.	Mitigation Measure No.	Mitigation Measure	Measure Description	Locational Context	Scale of Application	Implementation Requirements	Expanded Mitigation Options	Formula	VMT Reduction
50	T-44	Provide Shuttles (Gas or Electric)	This measure will provide local shuttle service through coordination with the local transit operator or private contractor. The shuttles will provide service to and from commercial centers to nearby transit centers to help with first and last mile connectivity, thereby incentivizing a shift from private vehicles to transit, reducing associated GHG emissions. Electric shuttle vehicles provide a marginally more effective reduction to GHG emissions compared to gas- or diesel-fueled shuttles due to their use of less emissions-intensive electric power. Shuttles that serve only the project residents and/or employees may be seen as increasing gentrification and exclusionary. Consider allowing all people to use the shuttle, regardless of status. Note that this measure can also be implemented at the Project/Site scale by a large employer as part of a Trip Reduction Program.	Urban, suburban	Project/Site	-	-	-	-
51	T-45	Provide On-Demand Microtransit	This measure will provide small-scale, on-demand public transit services that can offer fixed routes and schedules or flexible routes and on-demand scheduling (e.g., Metro Micro) through coordination with the local transit operator or private contractor. Microtransit aims to offer shorter wait times and improved reliability compared to the bus and rail system to further incentivize alternative transportation modes that are less emissions-intensive than private vehicle trips. On-demand rides can be booked using smartphone applications or call centers. Note that this measure may also be applicable at the Project/Site scale for a large employer (e.g., Google's Via2G pilot) as part of a Trip Reduction Program.	Urban, suburban	Project/Site or Plan/Community	-	-	-	-
52	T-46	Improve Transit Access, Safety, and Comfort	This measure requires projects improve transit access and safety through sidewalk/crosswalk safety enhancements, bus shelter improvements, improved lighting, and other features. Work with the community to determine barriers to use, most desired improvements, and other access challenges.	Urban, suburban, rural (only if the project is adjacent to a commuter rail station with convenient rail service to a major employment center, or if there is available transit and the project is close to jobs/services)	Plan/Community	-	-	-	-
52	T-47	Provide Bike Parking Near Transit	This measure requires the project to provide short-term and long-term bicycle parking near rail stations, transit stops, and freeway access points where there are commuter or rapid bus lines. Include locations for shared micromobility devices as well as higher-security parking for personal bicycles.	Urban, suburban	Plan/Community	-	-	-	-
53	T-48	Implement Area or Cordon Pricing	This measure requires projects implement a cordon pricing scheme. The pricing scheme will set a cordon (boundary) around a specified area to charge a toll to enter the area by vehicle. The cordon location is usually the boundary of a central business district or urban center but could also apply to substantial development projects with limited points of access. The toll price can be based on a fixed schedule or be dynamic, responding to real-time congestion levels. It is critical to have an existing, high quality transit infrastructure for the implementation of this strategy to reach a significant level of effectiveness. The pricing signals will only cause mode shifts if alternative modes of travel are available and reliable. This measure should provide an exception for low-income residents or workers within the pricing zone.	Urban	Plan/Community	-	-	-	-

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CAPCOA No.	Mitigation Measure No.	Mitigation Measure	Measure Description	Locational Context	Scale of Application	Implementation Requirements	Expanded Mitigation Options	Formula	VMT Reduction
54	T-49	Replace Traffic Controls with Roundabout	This measure requires projects install a roundabout as a traffic control device to smooth traffic flow, reduce idling, eliminate bottlenecks, and manage speed. In some cases, roundabouts can improve traffic flow and reduce emissions. The emission reduction depends heavily on what the roundabout is compared to (e.g., uncontrolled intersection, stop sign, traffic signal). Design roundabout so cyclists have the option to join traffic or bypass the roundabout with an adjacent path.	Urban, suburban, rural	Plan/Community	-	-	-	-
55	T-50	Required Project Contributions to Transportation Infrastructure Improvement	This measure requires projects contribute to traffic-flow improvements or other multi-modal infrastructure projects that reduce emissions and are not considered as substantially growth inducing. The local transportation agency should be consulted for specific needs. Larger projects may be required to contribute a proportionate share to the development and/or continuation of a regional transit system. Contributions may consist of dedicated right-of-way, capital improvements, or easements. Ensure the jurisdictional fee system does not disadvantage infill projects over greenfield projects.	Urban, suburban, rural	Plan/Community	-	-	-	-
56	T-51	Install Park-and-Ride Lots	This measure requires projects install park-and-ride lots near transit stops and high occupancy vehicle lanes. Park-and-ride lots also facilitate car- and vanpooling. Parking lots can also incorporate cool pavements, tree canopy, or solar photovoltaic shade canopies to reduce the urban heat island effect as well as evaporative emissions from parked vehicles and dedicated electric vehicle parking spots and/or charging infrastructure.	Suburban, rural	Plan/Community	-	-	-	-
57	T-52	Designate Zero Emissions Delivery Zones	This measure requires the municipality to designate certain curbside locations as commercial loading zones exclusively available for zero-emission commercial delivery vehicles. Doing so replaces tailpipe diesel emissions from last-mile delivery vehicles as well as heavy duty drayage trucks moving goods with less emissions-intensive electric vehicles and potentially micromobility for food and parcel delivery. Locations should be prioritized based on land use density and existing exposure from air pollution.	Urban	Plan/Community	-	-	-	-
58	T-53	Electrify Loading Docks	This measure will require that Transport Refrigeration Units and auxiliary power units (APUs) be plugged into the electric grid at the loading dock instead of running on diesel. The indirect GHG emission from electricity generation can partially offset the emissions reduction from fuel reductions. Electrifying loading docks can reduce exposure to air pollutants for workers and drivers.	Urban, suburban, rural	Project/Site	-	-	-	-
59	T-54	Install Hydrogen Fueling Infrastructure	The measure requires projects to implement accessible hydrogen fuel cell fueling infrastructure. Drivers of fuel cell electric vehicles (FCEV), from individual passenger vehicles to haul truck fleets, will be able to refuel using this infrastructure. The expansion of hydrogen fueling locations indirectly supports the uptake of FCEV in place of the typical internal combustion engine vehicle fueled by carbon-emitting gasoline and diesel.	-	Project/Site or Plan/Community	-	-	-	-

Source: Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity, Final Draft, by the California Air Pollution Control Officers Association, December 2021.



## PLANNING COMMISSION AGENDA REPORT

### PLANNING COMMISSION

Ron Daugherty, Chair  
Donald Borgwardt Mayra Sanchez-Garcia  
Harold Kadach Ileisha Sanders

**MEETING DATE:** June 21, 2023

**TO:** Chair and Commissioners

**FROM:** Greg Thompson, Deputy City Manager/ Community Development Director

**SUBJECT:** Public hearing to consider adopting a resolution recommending City Council adopt a Zoning Ordinance Text Amendment No. 23-11-0100 Amending Chapter 17.43 “D-BD, Downtown Business District” and Chapter 17.63 “Parking Requirements” of the Atwater Municipal Code for parking requirements.

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### **RECOMMENDED COMMISSION ACTION:**

It is recommended that Planning Commission:

1. Open the public hearing and receive any testimony from the public; and,
2. Close the public hearing;
3. Make a finding that the project is categorically exempt under California Environmental Quality Act (CEQA) guideline section 15061, (b)(3) the "Review for Exemption," and adopt Resolution No. PC 0230-23, Recommending that the City Council approve Zoning Ordinance Text Amendment No. 23-11-0100 amending Chapter 17.43 “D-BD,” Downtown Business District” and Chapter 17.63 “Parking Requirements” of the Atwater Municipal Code for parking requirements.

### **I. BACKGROUND:**

On October 14, 2019, the City Council adopted Ordinance CS 1017, removing the Downtown Corridor zone and creating the Downtown Business District (D-BD). The Downtown Business District is no further east of Shaffer Road, no further west of Winton Way, no further south of Atwater Boulevard, and no further north of Cedar Avenue. The purpose of this ordinance was to assist with the goals and policies of the General Plan and revitalize the downtown area.

On January 13, 2020, City Council adopted Ordinance CS 1026, which amended Chapter 17.06 “Definitions” and amended Sections 17.40.030, 17.42.030, and 17.43.030, to add and define “Mobile Food Vendors” as a conditional use within the Light Industrial, Industrial, and D-BD. The City adopted this ordinance after multiple requests from the public and city officials to allow mobile food trucks/vendors within the City limits. This ordinance provided an opportunity to introduce a new type of business and allow mobile food trucks/vendors to operate in the abovementioned districts with a Conditional Use Permit.

Since the approval of Ordinance CS 1026, there have been several inquiries to place a food truck/vendor in the D-BD. Unfortunately, most sites have been insufficient due to a lack of parking. A quick review of the available parking for the D-BD and existing business was conducted. It was discovered that most of the D-BD district was not compliant with chapter 17.63.040 of the Atwater Municipal Code (AMC) regarding parking.

**II. ANALYSIS:**

According to chapter 17.63.040 of the AMC; retail stores, personal services, professional and business offices, banks, and post offices: one space for every 250 square feet of floor area; except uses not generating much traffic, e.g., furniture stores, may convert part of the required parking into landscaping at the discretion of the Planning Commission; this landscaped area is to be converted to parking if the need arises, or the land use changes.

Staff calculated the square footage of the existing buildings in the D-BD and estimated there are approximately 435,548 square feet of footprint in the D-BD zone. Per chapter 17.63.040 of the AMC, approximately 1,742 parking spaces would be required to serve the D-BD adequately. Staff then conducted a parking analysis of the D-BD and recorded 799 parking spaces with the current properties and an extra 166 parking spaces for street parking (refer to Table 1).

D-BD has a total of 925 parking spaces, with 920 parking spaces being available to the public. The D-BD would currently need 822 parking spaces as a minimum to meet the current AMC standard.

Table 1. Parking Numbers

Type of Parking	Parking Amount
Customer Parking	691
Canopy Parking (Gas Station)	20
ADA Parking	48
Resident Parking	5
Street Parking	166
Total Parking	930
Available Public Parking	925

Under the current parking deficiency, it is reasonable to assume that even though Ordinance CS 1026 was passed to allow food trucks/vendors, the property would unlikely provide sufficient parking. The parking constraint also makes it unlikely to encourage new projects in the D-BD area, thus hampering the goal of ordinance CS 1017, which introduced the D-BD zone to facilitate the revitalization of the downtown area.

Proper parking reform has been known to help spur economic growth. For instance, in an article titled “A Business Case for Dropping Parking, “Minimums published by the American Planning Association, a town in Arkansas (town of Fayetteville) eliminated parking minimums citywide in 2015 for commercial properties. According to the article, Fayetteville officials claim that removing the eliminated parking minimums resulted in a frenzy of new development or redevelopment and some cases, helped facilitate projects that otherwise would not have occurred.

The City of Atwater is requesting to make the following changes to the parking requirements of the D-BD.

1. Commercial-grade bicycle racks shall be installed in the parking lot.
2. One space for every 500 square feet of floor area
3. Mobile Food Vendor:
  - a. Mobile food vendor patrons’ parking will not be counted against the existing establishment parking requirements. If parking becomes problematic because of the mobile food vendor patrons, the City Manager or designee may require the mobile food vendor’s Conditional Use Permit to be returned to the Planning Commission.
  - b. Side Street parking will be considered when assessing the availability of parking for mobile food Vendors in the Downtown Business District

By changing the requirement from 250 square feet to 500 square feet for one space of parking area, the D-BD would require a total of 871 parking spaces providing a surplus of 55 parking spaces. In addition to the 500 square feet for one space of parking area, food trucks/vendors will not be required to provide parking for patrons. Typically, a food truck patron’s wait time is nominal, and once the order has been received, they will leave the parking area.

It is believed that the change in the parking requirements will strengthen the D-BD’s ability to encourage revitalization, address the parking deficit, and allow food trucks/vendors downtown as intended through implementing Ordinance CS 1026.

**III. FISCAL IMPACTS:**

None

**IV. LEGAL REVIEW:**

The recommended action has been reviewed by the City Attorney.

**V. EXISTING POLICY:**

**CIRC-5.1** Require that all new development provides sufficient on- or off-street parking to meet the standards of the City’s Zoning Code or any other applicable planning document (such as the Downtown Specific Plan).

**ED-8.1** Support efforts to more aggressively market Atwater as a place for business and for family living.

**VI. INTERDEPARTMENTAL COORDINATION:**

NA

**VII. PUBLIC PARTICIPATION:**

The public hearing was adequately noticed and advertised for the regularly scheduled Planning Commission hearing. The public will have the opportunity to provide comments on this item prior to Planning Commission action.

**VIII. ENVIRONMENTAL REVIEW:**

Pursuant to the California Environmental Quality Act (CEQA), this project is categorically exempt under guideline section 15061, (b)(3) “Review for Exemption,”.

**IX. STEPS FOLLOWING APPROVAL:**

Following the recommendation to adopt Resolution No. PC 0230-23, the resolution will be brought before the City Council.

Prepared by: Samuel J. Rashe, Senior Planner

Submitted by: Greg Thompson, Deputy City Manager/Community Development Director

Attachments:

1. Resolution
2. Amended Chapter 17.63 Parking Requirements
3. Amended Chapter 17.43 D-BD, Downtown Business District



## PLANNING COMMISSION OF THE CITY OF ATWATER

### RESOLUTION NO. PC 0230-23

**A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF ATWATER RECOMMENDING THE CITY COUNCIL ADOPT A ZONING ORDINANCE TEXT AMENDMENT NO. 23-11-0100, AMENDING CHAPTER 17.43 “D-BD, DOWNTOWN BUSINESS DISTRICT” AND 17.63 “PARKING REQUIREMENTS” OF THE ATWATER MUNICIPAL CODE.**

**WHEREAS**, at a duly noticed public hearing on June 21, 2023, the Planning Commission of the City of Atwater to approve Resolution No. 0230-23 recommending to City Council to approve Zoning Ordinance Text Amendment 23-11-0100 amending chapters 17.43 “D-BD” and chapter 17.63 “Parking Requirements of the Atwater Municipal code; and,

**WHEREAS**, \_\_\_ person(s) spoke in favor of the ordinance, \_\_\_ person(s) spoke in opposition of the ordinance, and \_\_\_ written comment(s) have been submitted either in opposition or in favor of the ordinance; and,

**WHEREAS**, the ZOTA will not have a detrimental effect on the health, safety, and welfare of the neighborhood, nor have any adverse effect on the community; and,

**WHEREAS**, the Planning Commission finds that the following findings can be made for ZOTA No. 23-11-0100:

1. The proposed ordinance will address the underserved parking in the D-BD zone encouraging more businesses to locate downtown.
2. The proposed ordinance is consistent with the Atwater General Plan.
3. Adoption of the resolution recommending the City Council adopt the proposed ordinance is exempt from CEQA review under CEQA guideline section 15061(b)(3).
4. The public hearing for this project has been adequately noticed and advertised.
5. The project will not have a detrimental effect on the health, safety, and welfare of the neighborhood or any adverse effects on the community.

**NOW THEREFORE BE IT RESOLVED**, that the recitals above are true and correct and are hereby incorporated by reference. The Planning Commission does hereby approve Resolution No. 0230-23 recommending the City Council adopt ZOTA No. 23-11-0100

amending Chapter 17.43 “D-BD, Downtown Business District” and 17.63 “Parking Requirements” of the Atwater Municipal Code and;

1. The project is compliant with CEQA;
2. Consistent with the General Plan and Zoning;
3. Find no adverse effect on Public Health, Safety, and Welfare;

The foregoing resolution is hereby adopted this 21<sup>st</sup> day of June 2023.

**AYES:**

**NOES: None**

**ABSENT: None**

**APPROVED:**

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**RONALD DAUGHERTY,  
CHAIRPERSON**

**ATTEST:**

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**GREG THOMPSON,  
DEPUTY CITY MANAGER /  
COMMUNITY DEVELOPMENT DIRECTOR**



## CHAPTER 17.63 PARKING REQUIREMENTS

### 17.63.010 Definitions.

- A. "Employee" means any person employed on the premises after working part or full time and for the purposes of this chapter shall reflect those individuals anticipated to be employed in the conduct of the business.
- B. "Floor area" for the purposes of this chapter means the net floor area. In the case of offices, merchandising or service types of uses, it shall not include areas principally for nonpublic purposes such as incidental repair, processing or packaging of merchandise, for show windows, for toilets or restrooms, for utilities, for dressing rooms, fitting rooms or alteration rooms.
- C. "Seating facilities." In places of public assembly in which spectators or patrons occupy benches, pews or other similar seating facilities, each 24 inches of such seating facilities shall be counted as one seat for the purposes of determining off-street parking facilities.
- D. "Vehicles" for the purposes of this chapter include any auto, truck, bus, van or other similarly described conveyance.

(Prior Code § 10-3.1809; Ord. CS 407, § 1, 1979)

### 17.63.020 General requirements.

Off-street parking requirements in all districts and for all uses shall be stated in this chapter and shall be provided for every building or portion of building hereafter erected. To accommodate the vehicles used by the occupants, visitors, customers, clientele and employees of such buildings, all off-street parking facilities shall be permanently available and shall be permanently maintained for off-street parking purposes in accordance with the standards as adopted by the Planning Commission and City Council.

(Prior Code § 10-3.1801; Ord. CS 407, § 1, 1979)

### 17.63.030 Residential uses.

Parking requirements for residential uses shall be as follows:

- A. Single-family residential dwellings: two spaces per unit not located in any required front or side yard except on lots with less than 60-foot frontage which are not located on culs-de-sac.
- B. Multifamily residential: two spaces per unit not located in any required front or side yard setback. In complexes of five or more units the required off street parking may be reduced to one and one-half spaces per unit provided that one-half space per unit is designated and made available for guest parking.
- C. Senior citizen housing and studio apartments: two spaces per unit not located in any front or side yard, but 0.5 spaces (twenty-five percent) of them may be landscaped at the discretion of the Planning Commission until the need arises for additional parking.
- D. Single family dwelling which are financed under Farmers Home Administration: one off street parking space per unit not located in any required front or side yard setback.

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- E. Access drives to required off street parking spaces for multifamily uses may be permitted to encroach into required side yard setbacks, provided an area equal to the amount of paving that encroaches is provided as additional on site landscaping.

(Prior Code § 10-3.1802; Ord. CS 407, § 1, 1979; Ord. CS 598, 1985)

### **17.63.040 Commercial uses.**

Parking requirements for commercial uses shall be as follows:

- A. Retail stores, personal services, professional and business offices, banks and post offices, except for those in the Downtown Business District (D-BD): one space for each 250 square feet of floor area; except, uses not generating much traffic, e.g., furniture stores, may convert part of the required parking into landscaping at the discretion of the Planning Commission; this landscaped area is to be converted to parking if the need arises, or the land use changes.
- B. Restaurants, except for those in the Downtown Business District (D-BD): For cafes, restaurants and other businesses in the sale and consumption of food or beverages, one space for each three seats or one space per 35 square feet of floor area, whichever is greater.
- C. Hotels and motels, except for those in the Downtown Business District (D-BD): One space per room, and one space for each employee.
- D. Mortuary and funeral homes: One space for each five permanent seats, or one space per 35 square feet of floor area where moveable seats can be placed.
- E. **For parking requirements for the Downtown Business District (D-BD) refer to section 17.43.060 of this Title 17.**

(Prior Code § 10-3.1803; Ord. CS 407, § 1, 1979)

### **17.63.050 Industrial uses.**

- A. Warehouse and Storage: One space per 800 square feet of floor area or one space per employee for the largest shift and one space for each vehicle used in the conduct of the business, which ever is greater.
- B. Light Manufacturing: One space per 400 square feet of floor area or one space per employee for the largest shift and one space for each vehicle used in the conduct of the business, whichever is greater.
- C. Heavy manufacturing: One space per 250 square feet of floor area or one space per employee for the largest shift and one space for each vehicle used in the conduct of the business, whichever is greater.
- D. Industrial uses containing commercial activities as a part of the business shall provide additional off street parking as specified in Section 17.63.040.

(Prior Code § 10-3.1804; Ord. CS 407, § 1, 1979; Ord. CS 598, 1985)

### **17.63.060 Health related uses.**

Parking requirements for health related uses shall be as follows:

- A. Medical Offices and Clinics: for medical, dental, and optometrists offices, one space per 100 square feet of floor area and one per doctor.

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- B. Hospitals: One space per three patient beds plus one space per employee, including nurses and staff doctors, on the largest shift.
  - C. Rest Homes: for convalescent and nursing homes and similar uses, one space per each 250 square feet of floor area; Planning Commission may approve landscaping for part of the parking if it is not needed.

(Prior Code § 10-3.1805; Ord. CS 407, § 1, 1979)

### **17.63.070 Public assembly uses.**

Parking requirements for assembly uses shall be as follows:

- A. Auditoriums: for auditoriums, sports arenas, stadiums, and theaters, one space for each four seats or one space per square feet of floor area where moveable seats can be placed.
- B. Bowling alleys: four spaces for each alley.
- C. Dance hall: one space per 35 square feet of floor area.
- D. Churches: one space for each four seats.
- E. Clubs and lodges: one space per 50 square feet of floor area for clubs and lodges with no sleeping facilities.

### **17.63.080 Educational uses.**

Parking requirements for educational uses shall be as follows:

- A. Libraries and museums: one space per 500 square feet of floor area.
- B. Elementary and junior high school: one and one-half spaces per classroom plus one space for each two employees, including faculty.
- C. High school: one space for each five students plus one space for each two employees, including faculty.

(Prior Code § 10-3.1807; Ord. CS 407, § 1, 1979)

### ~~**17.63.090 Uses not specified and mixed uses.**~~

~~Where off-street parking requirements for a use are not specified, the minimum requirements for each use shall be determined by the Planning Director subject to approval of the Planning Commission as part of the site plan approval process. The determination shall be based upon the requirements for the most comparable use specified in this chapter. At the discretion of the Planning Commission, the minimum parking requirements for such use can be adopted by resolution and shall become effective after approval by the City Council. In the case of mixed uses, the total requirements for off-street parking shall be the sum of the requirements for the various uses unless otherwise proved.~~

~~(Prior Code § 10-3.1808; Ord. CS 407, § 1, 1979)~~

### **17.63.100 Compact spaces.**

Where off street parking is required according to this chapter up to one-quarter of the required spaces may be compact car spaces.

(Ord. CS 598, 1985)

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(Supp. No. 9, Update 1)

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**17.63.110 Parking areas.**

Where off street parking is required according to this chapter all parking areas shall be graded, surfaced and drained in accordance with City standards; and where applicable parking stalls, lanes and directional guides shall be marked in accordance with City standards.

(Ord. CS 598, 1985)

## **CHAPTER 17.43 D-BD, DOWNTOWN BUSINESS DISTRICT**

### **17.43.010 Purpose and intent.**

The Downtown Business District is intended to provide a mix of public and private uses designated to create a downtown shopping experience and pedestrian friendly environment. Emphasis on a mix of small-scale commercial and retail businesses and locally oriented professional and personal services are encouraged. Other supported businesses are to include mixed or multiple use developments, higher density loft type housing units, and civic and governmental offices. High quality design and signage requirements are key features to this district.

(Ord. CS 1017, § 2, 10-14-2019)

### **17.43.020 Principal permitted uses.**

- A. Retail establishments;
- B. Banking and financial institutions;
- C. Business, professional and medical offices;
- D. Personal service establishments;
- E. Existing residential uses;
- F. Restaurants and cafes;
- G. Uses not listed above, but found to be compatible with the above;
- H. A Certified Farmers Market shall not be subject to the issuance of a Conditional Use Permit however shall require the approval of the planning commission for any closure of streets or public parking areas.

(Ord. CS 1017, § 2, 10-14-2019)

### **17.43.030 Uses requiring a conditional use permit.**

- A. Theaters;
- B. Hotels and motels;
- C. Sidewalk cafes and other uses not totally contained within an enclosed building;
- D. Cocktail lounges, bars, restaurants, and other businesses that would require an alcohol license will require a Conditional Use Permit;
- E. Dwelling units above the ground floor that contain other commercial uses at the street level;
- F. Existing residential dwellings may be reconstructed, repaired or enlarged;
- G. Any other uses that the Planning Commission finds to be consistent with the purpose of this district, and which will not impair the present and potential use of nearby properties.
- H. Automotive repair facilities located east of First Street.
- I. Gas stations located east of First Street.

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- J. Brewers and distilleries.
  - K. Mobile food vendors as defined in Section 17.06.536.
- (Ord. CS 1017, § 2, 10-14-2019; Ord. CS 1051 , § 1, 10-24-2022)

#### **17.43.035 Prohibited uses.**

- A. Warehouses;
  - B. Automotive repair located on Broadway Avenue west of First Street;
  - C. Gas stations located on Broadway Avenue west of First Street;
  - D. Other uses that are found to be non-consistent with the purpose and intent of this district or that by their operation may pose a risk in the generation of offensive or objectionable dust, gas, smoke, noise, fumes, odors, vibrations or other matters that could at the determination of the Planning Commission be considered a nuisance.
- (Ord. CS 1017, § 2, 10-14-2019)

#### **17.43.040 Development standards.**

No new lots shall be created smaller than 7,500 square feet, and all new development shall comply with the following minimum requirements:

- A. Setbacks: none, except as specified in Section 17.34.060;
  - B. Landscaping shall comply with City landscape standards;
- (Ord. CS 1017, § 2, 10-14-2019)

#### **17.43.050 Site plan and design review.**

- A. All projects within the Downtown Business District Zone must comply with provisions of the Commercial and Industrial Design Guidelines and as amended;
  - B. All proposed construction and remodeling including tenant improvements above \$500.00 in value shall require site plan approval and design review for conformance with the Commercial and Industrial Design Guidelines as amended by the Planning Department.
  - C. All signs shall be subject to separate application and review as provided for in Section 17.69 of the Atwater Municipal Code and the above-referenced Design Guidelines.
- (Ord. CS 1017, § 2, 10-14-2019)

#### **17.43.060 Parking Requirements for Commercial Uses.**

- A. To promote multi-modal transportation, commercial-grade bicycle racks shall be installed in the parking lot as close to the business as possible in a manner that does not obstruct public right-of-way, entry of a facility, or restrict the ability for emergency services to respond and provide assistance. The Parking requirements outlined below will be subject to chapter 17.74.070 of the Atwater Municipal Code and the State of California Building Code Title 24 ADA parking requirements.

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B. Parking requirements in the Downtown Business District Zone shall be as follows:

1. Retail stores, personal services, professional and business offices, banks and post offices: one space for each 500 square feet of floor area. However, uses which do not generate significant traffic, including but not limited to furniture stores, may convert part of the required parking into landscaping at the discretion of the Planning Commission; this landscaped area is to be converted to parking if the need arises, or the land use changes.
2. Restaurants: For cafes, restaurants and other businesses in the sale and consumption of food or beverages, one space for each three seats or one space per 35 square feet of floor area, whichever is greater.
3. Hotels and motels: One space per room and one space for each employee.
4. Mobile Food Vendor:
  - a. If the mobile food vendor shares a site with an established use, any parking spaces occupied by patrons of the mobile food vendor shall not be counted against the established use's parking requirements. If the established use notifies the City that parking has become an issue for its own patrons as a result of the mobile food vendor's operations, the Planning Commission shall hold a hearing to determine whether to revoke or modify the mobile food vendor's conditional use permit.
  - b. Side Street parking will be considered when assessing the availability of parking for mobile food Vendors in the Downtown Business District.