



## TECHNICAL MEMORANDUM

*Date:* May 17, 2020

*Project Number:* 089-388

*To:* Joanna X.J. Liu, P.E.  
Assistant Civil Engineer

*Project Name:* East Avenue Corridor  
Study

*From:* Ruta Jariwala  
Project Manager

*Jurisdiction:* City of Livermore

*Subject:* **Review of Planning Documents – East Avenue Corridor Study**

This technical memorandum summarizes prior planning and engineering technical studies relevant to East Avenue Corridor between South Livermore Avenue and South Vasco Road. This summary serves the understanding of planning context for the Complete Streets Corridor Plan for East Avenue that is aimed to develop context-sensitive solutions that fully address the needs of the community.

### INTRODUCTION

The City of Livermore strives to maintain a safe and convenient transportation network for all travel modes, including walking, bicycling, driving, and transit. The East Avenue Corridor is approximately 2.5 miles between South Livermore Avenue and South Vasco Road.

The following list of documents is relevant to the corridor study. These documents have acknowledged goals, policies, and potential improvements partially or fully applied on the East Avenue Corridor.

1. City of Livermore General Plan (Circulation Element), *2004, Amend. 2014*
2. Design Standards and Guidelines (Streets), *2004*
3. Livermore Bicycle, Pedestrian, and Trails Active Transportation Plan, *2018*
4. Livermore Bicycle, Pedestrian, & Trails Active Transportation Plan (Design guidelines), *2018*
5. Neighborhood Traffic Calming Program, *2004*
6. Other Planning Documents
  - Safe Routes to School Plan – East Avenue Middle School Improvement Plan
  - Alameda Countywide Active Transportation Plan, *2019*
  - Alameda Countywide Multimodal Arterial Plan, *2016*
  - LAVTA Short Range Transit Plan, *2016*

The following pages summarize the key aspects of the above relevant documents reviewed.

## 1. City of Livermore General Plan (Circulation Element), 2004, Amend. 2014

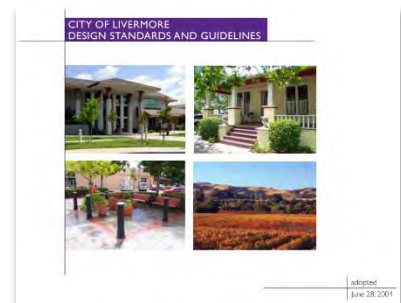
The City of Livermore General Plan was adopted in 2004 and the circulation element was last amended in 2014. The purpose of the circulation element is to identify the anticipated circulation needs, indicate the location and extent of the existing and proposed circulation network, and provide policies and priorities for circulation system improvements.



The General Plan classifies East Avenue as a major street that is usually a medium-speed, high-capacity route (ranging from 20,000 to 50,000 vehicles per day) for intra-city, cross-town travel, and local access to freeways, highways, and the sub-regional road system via interchanges and signal-controlled intersections. Major streets are typically four- to six-lane divided facilities. *The Plan proposed the development of Class II Bike Lanes on East Avenue from Maple Street to Madison Avenue.*

## 2. Design Standards and Guidelines (Streets), 2004

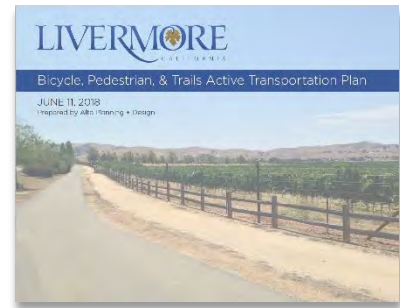
The Livermore Design Standards and Guidelines are a policy document and an implementation tool developed to preserve, protect, and promote the public health, safety, and general welfare, as allowed by State law.



The Guidelines pays special attention to major streets, considering them as major travel corridors and first point of entry to the City. The guidelines contained in this chapter address the need to provide adequate automobile circulation in the community, while ensuring the City's transportation corridors are well designed and convey a positive image of the City through attractive landscaping and appropriate pedestrian components.

### 3. Livermore Bicycle, Pedestrian, and Trails Active Transportation Plan, 2018

The Active Transportation Plan (ATP), adopted in 2018, carries the vision of *a vibrant community where people can comfortably walk, bicycle, and access trails for transportation and recreation* forward with a strategy to realize a safer, more comfortable active transportation environment with a thriving walking and bicycling culture.



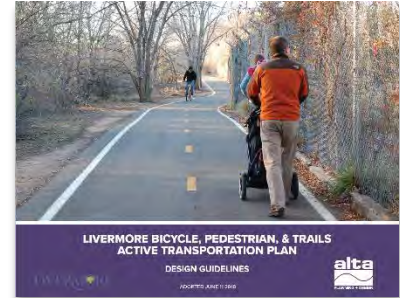
The Plan identifies challenges and recommends implementation strategies to improve walking, biking, and trails in Livermore. The Plan analyzes existing conditions, incorporates community objectives, implements current policies, and recommends network improvements and programs that address limitations and challenges to active transportation. The ATP proposes enhancements to the existing network to close gaps and increase safety, comfort, connectivity. The ATP prioritizes network and programmatic improvements, explores options for project phasing, and identifies funding opportunities.

While conducting community survey for the ATP, Livermore residents identified East Avenue as a key location that needs bicycle facilities and crossing improvements. Furthermore, East Avenue was also recognized as a key connecting street that could benefit from network and crossing improvements so that pedestrians can more easily traverse the high supply pedestrian network.

*The Plan proposed Class II buffered bicycle lanes on East Avenue between South Livermore Avenue and South Vasco Road, and other pedestrian crossing enhancements.*

#### 4. Livermore Bicycle, Pedestrian, & Trails Active Transportation Plan (Design guidelines), 2018

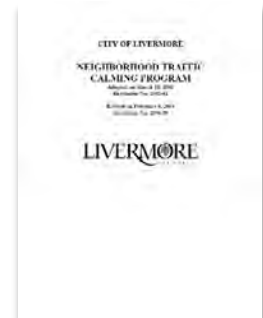
This document presents design guidelines and best practices recommended for the City of Livermore to use for pedestrian, bicycle, and equestrian facilities, to be used in conjunction with the City's Standard Details and Standard Specifications. This document follows the design standards and guidelines of national best practice documents, as well as California-specific guidance.



The Design Guidelines suggest buffered bikeway or separated bikeway as the desired facilities on East Avenue. For pedestrian facilities, a furnishing zone of 2 to 6 feet, a pedestrian-through-zone of 5 to 8 feet, and a frontage zone of 2.5 to 5 feet. Furthermore, the document provides design guidelines on crossing and bicycle facilities design at intersections.

#### 5. Neighborhood Traffic Calming Program, 2004

The program intends to utilize traffic calming devices to address neighborhood traffic issues. The program mainly focuses on local and collector streets. However, some of the traffic calming tools recommended in the program may apply to the East Avenue Corridor.



Some of the tools listed as the part of the program include median, entry island chokers, curb extensions, chicane, and speed lumps. The program highlights the need for neighborhood participation and consensus-building exercise.

## 6. Other Planning Documents

### **1. Safe Routes to School Plan – East Avenue Middle School Improvement Plan**

The plan presents possible solutions for identified issues and safety concerns. Before the development of the plan, a school safety assessment (also known as a walk audit) is conducted to identify and evaluate the safety issues around a school with the help of the school community. *The plan proposes bicycle and pedestrian improvements in the vicinity of the school.*

### **2. Alameda Countywide Active Transportation Plan, 2019**

The Alameda Countywide Active Transportation Plan (Countywide ATP) provides a vision, goals, and priorities to improve walking and biking throughout the 15 diverse jurisdictions in Alameda County. The Countywide ATP was developed to establish countywide priorities that further local agencies' efforts.

*It identifies East Avenue as Bicycle High Injury Corridor defined as the worst-performing street locations based on the severity and frequency of collisions. As for pedestrians, East Avenue is in the second tier of worst-performing streets (75<sup>th</sup> to 90<sup>th</sup> percentile).* The plan further provides resources and recommendations that could be used by local jurisdictions.

### **3. Alameda Countywide Multimodal Arterial Plan, 2016**

The Alameda Countywide Multimodal Arterial Plan intends to address the needs and mobility for all modes using complete streets concepts. East Avenue is considered as part of the study area and proposed various bicycle, pedestrian, transit, and goods movement improvements on the corridor. *The plan recommends transit improvements to be prioritized on East Avenue.* The table below presents the lists of improvements proposed on East Avenue.

**Table 1. Countywide Multimodal Plan Summary for East Avenue**

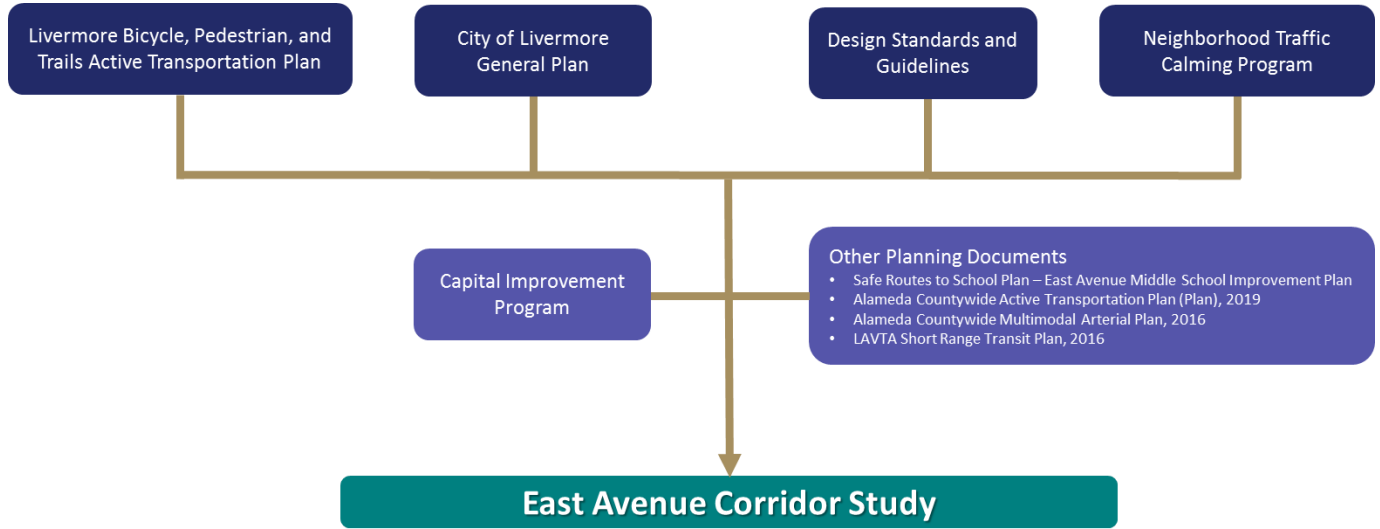
Mode	Location	Improvement
Pedestrian	S. Livermore Ave to S. Vasco Rd	Sidewalk and Crosswalk Enhancements
	N. Mines Road to S. Vasco Rd	Travel Lane Removal (Road Diet)
Bicycle	S. Livermore Ave to Madison Ave	Class 3 Bike Routes
	Madison Ave to S. Vasco Rd	Class 2 Bike Lanes
Transit	S. Livermore Ave to S. Vasco Rd	Rapid Bus Improvements
ITS Improvements	S. Livermore Ave to S. Vasco Rd	Medium Level of ITS improvements: <i>remotely monitor and manage field traffic devices, visually monitor and/or react to traffic conditions in real-time.</i>
Goods Movement	S. Livermore Ave to N. Mines Rd	Restricted goods movement.
	N. Mines Rd to S. Vasco Rd	Tier 3 good movement route and proposed curb lane widening

**4. LAVTA Short Range Transit Plan, 2016**

The purpose of this SRTP is to provide an understanding of Livermore Amador Valley Transit Authority (LAVTA)’s existing conditions, discuss standards achieved, evaluate performance metrics, provide recommendations, and plan for operational sustainability

over the next 10 years. The plan identified high youth density and low income population along East Avenue. LAVTA recently updated the bus system routes after the adoption of this plan.

**Figure I Relationship among various plans and this study**



The following provides a summary of goals and policies relevant to the project.



**Relevant Goals and Objectives**

**Table 2. Relevant Goals and Policies from General Plan**

<b>City of Livermore General Plan (Circulation Element), 2004</b>	
<b>Goals</b>	<b>Objectives</b>
<b>CIR-1</b> Provide safe, efficient, comfortable, and convenient mobility for all users.	CIR-1.1 Plan for Complete Streets that support all transportation systems throughout the City.
	CIR-1.2 Implement Complete Streets that are context sensitive to local conditions and needs.
	CIR-1.3 Make Complete Streets practices a routine part of everyday operations.
<b>CIR-2</b> Promote multi-modal transportation.	CIR-2.1 Provide viable alternatives to single-occupant vehicle travel.
	CIR-2.2 Encourage vehicle trip reduction.
	CIR-2.3 Provide a bicycle, pedestrian, and trails network.
	CIR-2.4 Provide a pedestrian network that encourages walking for transportation and recreation.
<b>CIR-3</b> Identify and develop a circulation system consistent with the Land Use Element.	CIR-3.1 Plan, manage, and develop the local circulation system to support the Land Use Element.
	CIR-3.2 Minimize adverse impacts of regional cut-through traffic.
	CIR-3.3 Minimize local cut-through traffic in residential neighborhoods.
<b>CIR-4</b> Provide a local roadway system for the safe, efficient, and convenient movement of vehicular traffic.	CIR-4.1 The City shall provide adequate road linkages throughout Livermore.

<b>City of Livermore General Plan (Circulation Element), 2004</b>	
<b>Goals</b>	<b>Objectives</b>
<b>CIR-5</b> Maintain relatively free-flowing traffic, except where the City has identified intersections or areas of the City that are exempt from the Citywide standard.	CIR-5.1 Maintain adequate levels of service for all areas of the City.
<b>CIR-6</b> Protect neighborhood quality and community character through circulation planning.	CIR-6.1 Use circulation improvements to enhance Livermore’s community character and maintain the quality of life in residential neighborhoods.
	CIR-6.2 Plan and maintain the circulation system to prevent or minimize environmental impacts.
<b>CIR-7</b> Develop a Downtown circulation system that is pedestrian-oriented and supports Downtown as a destination.	CIR-7.1 Design and maintain a safe and interconnected pedestrian oriented Downtown circulation system.
<b>CIR-10</b> Provide adequate safe and convenient short-and long-term vehicle and bicycle parking for all land uses in the City.	CIR-10.1 Minimize spillover vehicle parking impacts by ensuring adequate parking enforcement and requiring sufficient parking for new development.
	CIR-10.2 Limit excess off-street parking development.
	CIR-10.3 Strive to expand bicycle parking facilities throughout the City.
<b>CIR-11</b> Support goods movement within the City.	CIR-11.1 Provide adequate roadway and rail systems to accommodate the safe and efficient movement of goods.

City of Livermore General Plan (Circulation Element), 2004	
Goals	Objectives
	CIR-11.2 Minimize adverse impacts to residents or businesses from rail and truck traffic.

**Table 3. Relevant Goals and Policies from Active Transportation Plan**

Livermore Bicycle, Pedestrian, and Trails Active Transportation Plan, 2018	
Goals	Policies
<p><b>1: Safe &amp; Comprehensive Network</b></p> <p>Provide a safe, efficient, and connected bicycle, pedestrian, and trail network that accommodates all users and abilities.</p>	<p>1.1 Develop and implement projects and improvements to address bicycle and pedestrian safety</p> <p>1.2 Connect neighborhoods, schools, work places, transit facilities, and other destinations with on-street facilities and/or separated trails</p> <p>1.3 Build cross town connections for the bicycle, pedestrian, and trail network</p> <p>1.4 Improve the pedestrian and bicycle network to and through Downtown Livermore to increase access, safety, and mobility</p> <p>1.5 Establish safe crossings of barriers including high-volume roadways, freeway interchanges, railroads, arroyos, and other barriers</p> <p>1.6 Coordinate with other agencies, adjacent jurisdictions, and regional partners to plan and implement projects that improve Livermore’s network and connections to the region</p>

**Livermore Bicycle, Pedestrian, and Trails Active Transportation Plan, 2018**

Goals	Policies
<p><b>2: Design For All Users</b> Build a well-designed and comfortable bicycle, pedestrian, and trail network with support services and facilities to serve users of all ages and abilities.</p>	<p>2.1 Incorporate best practices for the design of pedestrian facilities, bikeways, and trails that emphasize user safety and comfort</p> <p>2.2 Incorporate sustainable and environmentally sensitive design for all facilities and amenities</p> <p>2.3 Provide support facilities on public properties as appropriate, such as bicycle parking, rest areas, water fountains, and other facilities</p> <p>2.4 Require private development to provide appropriate support facilities, such as shower/locker facilities and bicycle parking</p> <p>2.5 Connect new development and public spaces to the active transportation network</p> <p>2.6 Consider maintenance needs in the design of all new facilities</p>
<p><b>3: Engage &amp; Grow The Active Transportation Community</b> Increase bicycling and walking for transportation and recreation with education, awareness, and enforcement.</p>	<p>3.1 Educate the public on the benefits of bicycling and walking, the available bicycle and trail facilities, and their rights and responsibilities</p> <p>3.2 Provide up-to-date information about the bicycle and trail network, bicycle parking, and program resources</p> <p>3.3 Develop and implement strategies to encourage bicycling and walking to and through community events, including bicycle and pedestrian support facilities</p>

**Livermore Bicycle, Pedestrian, and Trails Active Transportation Plan, 2018**

Goals	Policies
	<p>3.4 Support and participate in Federal, State, Regional, and Local programs, such as countywide Safe Routes to School efforts</p> <p>3.5 Coordinate with other agencies to promote, encourage, and implement active transportation programs</p> <p>3.6 Continue and expand bicycle, pedestrian, and traffic enforcement programs to encourage proper use of facilities, increase safety, and improve the user experience</p>
<p><b>4: Maintain The Active Transportation Network</b>            Maintain roadways, sidewalks, and multi-use trails to provide safe and comfortable active transportation conditions for all users and abilities.</p>	<p>4.1 Develop and provide a maintenance program for pedestrian facilities, bikeways, and trails to provide continued safe and comfortable use of the network</p> <p>4.2 Provide new facilities only where sufficient maintenance funding can be identified</p> <p>4.3 Work with Federal, State, and Regional agencies to expand maintenance funding opportunities</p>