



TACTICAL EAST AVENUE

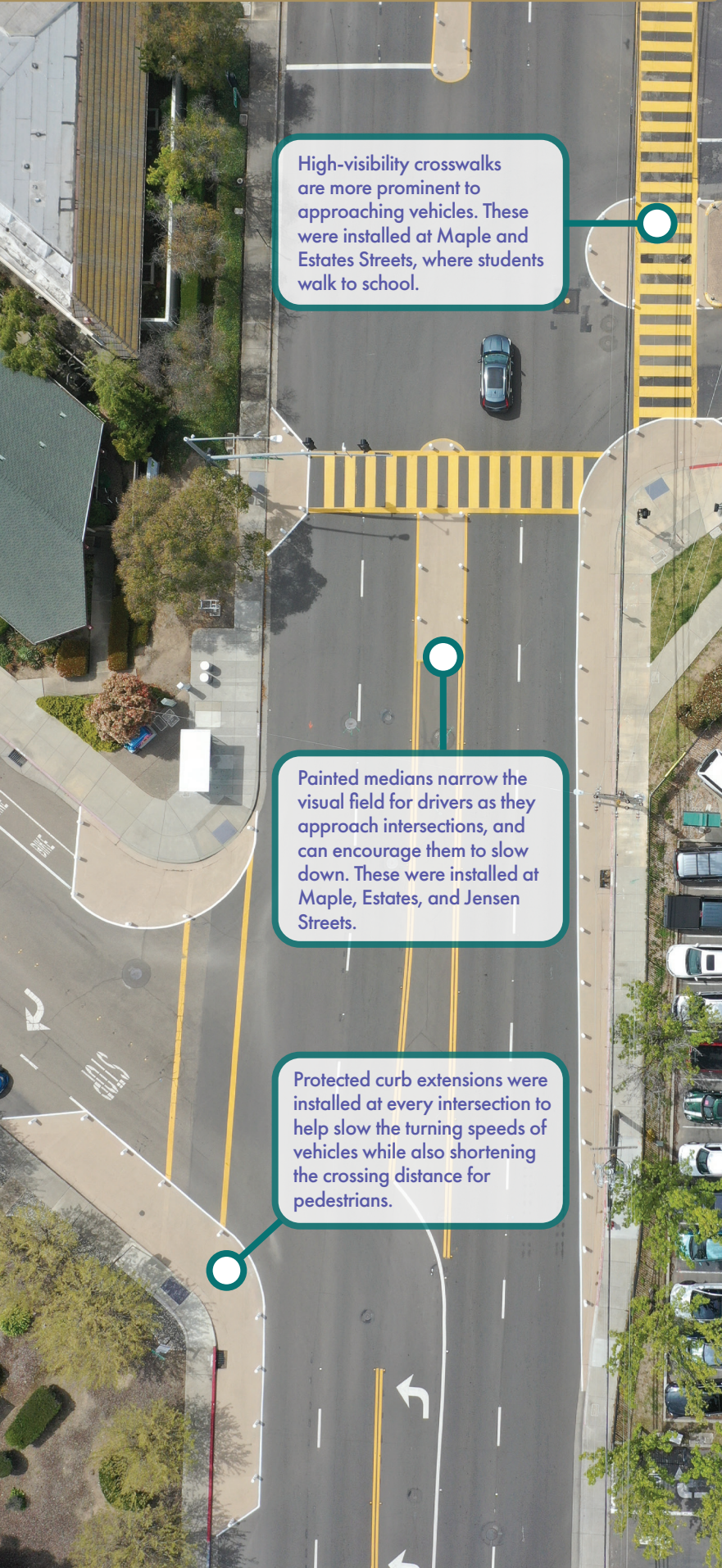
Livermore, CA

Tactical East Avenue is a partially grant funded pilot project to test pedestrian safety and traffic calming interventions at six intersections along East Avenue between Maple Street and Hillcrest Avenue as a part of Phase II of the East Avenue Corridor Study. Curb extensions, painted median refuges, and high-visibility crosswalks were installed from April 10-14, 2023, and adjusted in June 2023.

STREETPLANS

CITY OF
LIVERMORE
CALIFORNIA

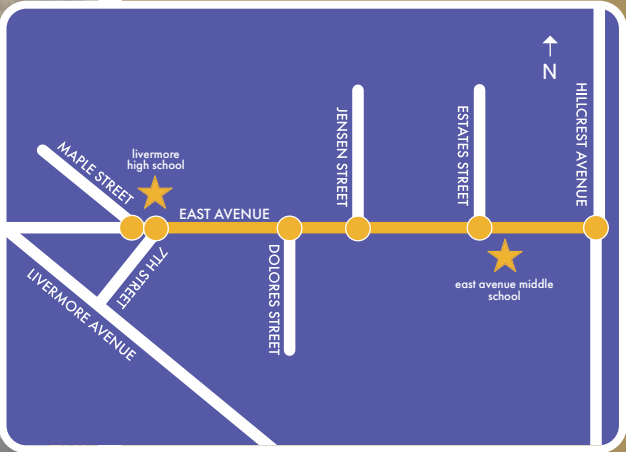
Project Overview



High-visibility crosswalks are more prominent to approaching vehicles. These were installed at Maple and Estates Streets, where students walk to school.

Painted medians narrow the visual field for drivers as they approach intersections, and can encourage them to slow down. These were installed at Maple, Estates, and Jensen Streets.

Protected curb extensions were installed at every intersection to help slow the turning speeds of vehicles while also shortening the crossing distance for pedestrians.



2018

City of Livermore Active Transportation Plan
Identified East Ave. as a priority corridor.

2020

East Avenue Corridor Study Phase I
Explored design alternatives for bike lanes on East Avenue.

March, Sept. 2022

Tactical East Avenue Public Workshop #1 & Design Week
Reached community consensus on pedestrian-oriented pilot project.

April 2023

Pilot Project Installed!
Ongoing monitoring and community conversations.

May-June 2023

Mid-Pilot Data Collection & Adjustments
Counts, vehicle speeds, and vehicle volumes.

October 2023

Ongoing monitoring and community conversations.
End of Pilot Period

Project Implementation



30+
volunteers



1

Measure and mark new curb extension lines.



2

Stripe new white and yellow lines.



3

Paint high-visibility crosswalk markings.



4

Prime and paint curb extension and median refuge areas.



5

Install k71 self-recessing bollards.



6

Install project signage and collect feedback!

Project Adjustments

In June 2023, the project team made adjustments to every intersection in response to public feedback. Public feedback included concerns with turning movements, potential conflicts with large vehicles, and with better accommodating bicyclists through the interventions. Adjustments included repositioning the bollards within the painted areas to ease the turns of large vehicles, while minimizing the pedestrian crossing distances across East Avenue. The adjustments balance pedestrian convenience and safety with the needs of other roadway users. The project adjustments have also reduced the frequency of ongoing project maintenance. Below are examples of adjustments made at intersections within the project extents.



Adjust bollards along the curb extension radii to ease the right turns of large vehicles.



Adjust the bollards at the curb extension returns to ease bicyclist passage through the painted areas.

April 17, 2023



"Thank you for listening to the community feedback and modifying the curb extensions. All the designs seem to work now."



A recessed stop bar was installed at this intersection, along with mirrored curb extensions, for pedestrian safety and to minimize conflicts between the turning LAVTA bus and vehicles idling at the intersection.

Crosswalk lines were extended over the painted area to align with a new radius created by the repositioned bollards. Bollards at the edges of the extensions were removed for bicyclist safety.



"Keep up the good work! It seems like the general speed level has gone down."



At Maple Street, curb extensions and painted medians reduced crossing distances for students walking to Livermore High School.

Bollards were similarly repositioned within the northeast curb extension to ease the right turn of the LAVTA bus at this intersection.

Project Performance

Average increase in pedestrian activity detected across all intersections during the weekday afternoon peak hour

18%



4x

Average increase in bicycle AND pedestrian activity detected across all intersections on Saturday

Increase in average daily vehicle volumes compared to before the installation

5%



Although no substantial decrease in vehicle speeds was detected on East Avenue between Jensen and Estates Streets, a minor increase in vehicle volumes on East Avenue is an indication that vehicles are not cutting through side streets to avoid the interventions. Community members expressed anecdotally that vehicles were being more cautious at the intersections, and turning movements had slowed significantly.

"I am more aware when driving on East Avenue, more cautious and slower in turning. I also naturally am going the speed limit through the bollards."

40%
avg. crossing distance
reduction throughout the
project

At East Avenue Middle School, more than double the amount of students were detected commuting to school via bicycle post-installation. At Hillcrest Avenue, where many students cross to access the Chardonay Shopping Center, the total volume of pedestrians using that intersection during the morning and mid-day (school hour) weekday peak hours increased by an average of 19%.

Public Feedback

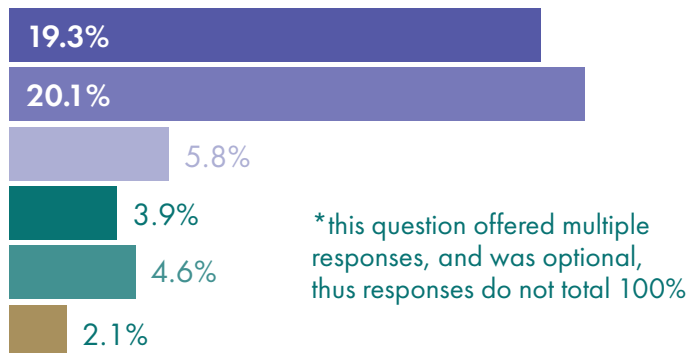
850+

surveys collected between project installation and mid-June

250+

surveys collected following project adjustments

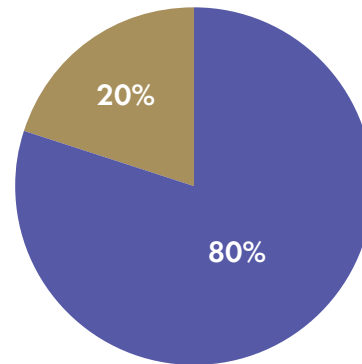
How has your experience traveling on East Avenue changed since the project installation?



*this question offered multiple responses, and was optional, thus responses do not total 100%

- Cars are moving through the intersections more slowly.
- Cars are taking turns at a slower speed.
- The intersections are clearer to navigate as a driver.
- I feel safer walking across the street.
- As a pedestrian, I feel more visible at intersections.
- Biking through the intersections is clearer and/or safer.

The majority of survey respondents (85% drivers) expressed dissatisfaction with the initial interventions, citing tight turns, confusion, and unsafe conditions for bicyclists. However, respondents indicated that the curb extensions were effective at slowing the turning speeds of cars.



- I prefer the updated installations.
- I prefer the original installations.

Higher percentages of respondents indicated that they feel safer walking and biking following the project adjustments, when compared to the first survey. Updated survey respondents preferred the updated installations, but commented that there was still room for improvement, specifically in accommodating bicyclists and slowing traffic.

Key Takeaways

- The increases in bicycle and pedestrian activity are an indication that the interventions could have encouraged more non-motorized activity, and reinforce the need for continued pedestrian and traffic calming improvements on East Avenue.
- Many survey respondents expressed a desire for improved biking facilities after experiencing the pedestrian curb extensions.
- Public feedback strongly indicated that vehicles were taking turns more slowly, as is the goal of the project interventions. However, additional traffic calming measures for East Avenue could be explored.