

Spring - Summer 2022

Castro Valley Pedestrian and Bicycle Counts

Training and Technical Assistance



Berkeley SafeTREC
SAFE TRANSPORTATION RESEARCH AND EDUCATION CENTER


California Walks
Stepping Up for Health, Equity, & Sustainability

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TRAFFIC SAFETY

Funding for this program was provided by a grant from the California Office of Traffic Safety, through the National Highway Traffic Safety Administration.

Acknowledgements

We want to acknowledge and thank Bruce Dughi (BikeWalkCV and Castro Valley Matters) and Christine Tengan (Castro Valley Matters) for conducting the counts and observations. We also want to thank Roy Taylor (BikeWalkCV) and Nic McMaster (Castro Valley Unified School District) for their input on planning the site visits.

This project is a partnership between UC Berkeley Safe Transportation Research & Education Center (SafeTREC) and California Walks.

We also want to acknowledge the Muwekma, Chocenyoy, and Ohlone peoples as the traditional land caretakers of the Community of Castro Valley.

This report was prepared by Kristen M. Leckie, Katherine L. Chen, Jill F. Cooper of SafeTREC. Special thanks to Wendy Ortiz and Martha Sicairos from California Walks for outreach, report review and editing.

This report was prepared in cooperation with the California Office of Traffic Safety (OTS). The opinions, findings and conclusion expressed in this publication are those of the author(s) and not necessarily those of OTS.

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Introduction

In Spring 2022, SafeTREC and Cal Walks (Project Team) provided follow-up technical assistance services to support the walking and biking safety goals they identified during the 2021 training. A group of community members, including Castro Valley Matters, Bike Walk Castro Valley, the Castro Valley Unified School District, and other stakeholders, were interested in obtaining technical assistance and training for 1) conducting pedestrian and bicycle counts and 2) gathering crowdsourced data through an online tool. Their objective was to collect data around intersections and street segments near Castro Valley High School (CVHS) in order to advocate for safety improvements.

The goals were to collect data to document the need for:

- Pedestrian improvements, such as a pedestrian scramble near CVHS;
- Bike lanes along street segments near CVHS; and
- Education projects for Castro Valley residents to understand the need for safety improvements.

Background

The Community Pedestrian and Bicycle Safety Training (CPBST) is a statewide project of SafeTREC and Cal Walks. The CPBST engages residents and safety advocates to develop a community-driven action plan to improve walking and biking safety in their communities. In 2021, the project team worked with the community of Castro Valley on a CPBST workshop focused on increasing community education around safe walking, biking, and driving behaviors; improving safety near the downtown area and Castro Valley High School (CVHS); and creating a welcoming streetscape which encourages more people to walk and bike in Castro Valley. The Summary and Recommendations Report for that training can be found [here](#).

One of the performance measures of the [2019 Alameda County Bicycle and Pedestrian Master Plan for the Unincorporated Areas](#) is to increase the number of people who walk and bike in the County. The [Alameda County Transportation Commission \(CTC\)](#) collects biennial pedestrian and bicycle count data across the region to track trends in bicycling and walking to better understand where people are walking and biking and to help support investments in bicycle and pedestrian projects and programs. From 2016 to 2020, the Alameda CTC conducted counts at five sites in Castro Valley: Center Street/ Castro Valley Boulevard, Redwood Road/ Castro Valley Boulevard, Foothill Boulevard/164th Avenue, Lake Chabot/Somerset Avenue, and Redwood Road/Heyer Avenue. See Table 1 below for historical pedestrian and bicycle counts.

With COVID-19 public health closures in 2020, we expected to see a decrease in walking and biking from previous years. Pedestrian counts predictably declined at almost all locations when comparing 2016 and 2018 to 2020, but bicycle counts increased. These figures can be used as baseline counts to support the Castro Valley team's work.

Table 1: Historical Bicycle and Pedestrian Counts, 2016-2020

	2016/17	2018	2020	2016/17	2018	2020
	Bicycle			Pedestrian		
Center Street/ Castro Valley Boulevard	6	36	30	41	16	18
Redwood Road/ Castro Valley Boulevard	66	32	43	329	386	149
Lake Chabot/ Somerset Avenue	59	45	73	143	115	68
Redwood Road/ Heyer Avenue	18	39	43	297	263	53
Foothill Boulevard/ 164th Avenue	10	4	16	30	32	18
TOTAL	159	156	205	840	812	306

Source: Alameda CTC Bicycle/Pedestrian Count Program

Technical Assistance

Walking & Bicycle Counts

SafeTREC provided the Castro Valley (CV) team with training for conducting pedestrian and bicycle counts. The locations the CV team were interested in included Redwood Road/Heyer Avenue and Redwood Road/Mabel Avenue intersections. The Redwood Road/Mabel Avenue intersection is a signalized intersection with simple striped crosswalks at three legs of the intersection (See Figure 1). The Redwood Road/Heyer Avenue intersection is a signalized intersection with crosswalks at four legs of the intersection and is at the southeast corner of CVHS. (See Figure 2).

The CV team conducted pedestrian counts at intersections and bicycle counts on street segments as they approached these intersections. Figure 3 provides a map of count locations near CVHS conducted by the Alameda CTC and the CV team.

Who counts as a pedestrian?

1. Count each person crossing. A person pushing a stroller with one child counts as two pedestrians. A person pushing a stroller with two children counts as three.
2. People in wheelchairs or seated scooters
3. Runners
4. People walking bicycles
5. Count each member of a group

Who counts as a bicyclist?

1. Count each person on a bicycle separately.
2. Count each child in bike trailers.
3. Count each member of a group.



Figure 1. Redwood Road and Mabel Avenue



Figure 2. Redwood Road and Heyer Avenue

Walking & Bicycle Counts, continued

In providing training on conducting counts, SafeTREC advised the CV team to determine who counts as a pedestrian or bicyclist, and suggested the following protocol:

Additionally we recommended the following for determining counting methods:

1. Designate a 2-hour period for counting and record time in 15-minute segments.
2. At a school location, count before and after the bell time to capture students at arrival and dismissal. It was suggested to avoid counting on special days or early dismissal days.
3. Capture times of highest use: before/after school; morning and evening commute hours; lunch time.
4. At crosswalks, include pedestrians walking within 10 feet of a crosswalk as within the crosswalk.
5. Decide on a systematic way to count pedestrians if it is too busy to count each one.
6. To count pedestrians at intersections, it was recommended to position two volunteers in a safe location and have each count two legs of the intersection. Volunteers were instructed to count a pedestrian each time they crossed a leg of an intersection in order to capture pedestrian exposure to traffic.
7. For bicyclists, we suggested that volunteers stand at an intersection and count bicyclists approaching the intersection.

Counts

Volunteers conducted pedestrian and bicycle counts near Castro Valley High School over a period of four days during distinct time periods (See Table 2). They also recorded general observations about road user behaviors.

Redwood Road/Heyer Avenue Intersection

The CV team observed this location on Friday, May 13, 2022 during both the morning and afternoon school commutes. During the morning commute, they counted 138 pedestrians and 15 bicyclists. In the afternoon commute, they counted 220 pedestrians and 17 bicyclists (See Table 3).

The team believed the intersection to be fairly well controlled since they observed that the five-second leading pedestrian signal at the intersection contributes to the perceived and actual safety of pedestrians. They also observed, however, speeding, driver encroachment in the crosswalk, and a number of bicyclists who chose to ride on the sidewalks to avoid riding on Redwood Road.

Table 2. Standard Time Periods for Data Collection

Count Period	Standard Time
Morning	7:30 - 8:15 AM
Mid-day	12:45 - 1:30 PM
Afternoon	3:15 - 4:00 PM



Figure 3. Count locations

Table 3. Redwood Road/ Heyer Avenue Morning and Afternoon Intersection Counts

Date	Day of the Week	Weather	Time	Pedestrian	Bicyclist	Skateboards/ Scooters/ Wheelchairs	Behavioral Obsevatons
5/12/22	Th	Clear	7:30-7:45 AM	23	6	1	Speeding car Redwood Road northbound (1); cyclist using sidewalk (1)
			7:45-8:00 AM	47	4	0	Redwood Road car halfway stopped in crosswalk (1); Heyer Avenue: cars stoped half way in crosswalk (3); cyclists using sidewalk (2)
			8:00-8:15 AM	68	5	2	Heyer Avenue: woman crossed against signal while car half way in crosswalk waiting to turn right; cyclist using sidewalk (2)
			3:15-3:30 PM	9	9	1	Heavy northbound traffic on Redwood Road; more drivers speed through right turn from Heyer Avenue; cyclist using sidewalk (1)
			3:30-3:45 PM	158	5	0	Cyclist using sidewalk (1)
			3:45-4:00 PM	53	3	0	Cars block crosswalk on Redwood Road southside (2); poor student driving; students walk between cars stuck in crosswalk; cyclist using sidewalk (2); cars speeding on to Redwood Road northbound (2)
TOTAL				358	32	4	

Table 4. Redwood Road/Mabel Avenue Morning and Afternoon Intersection Counts

Date	Day of the Week	Weather	Time	Pedestrian	Diagonal Pedestrian	Bicyclist	Skateboards/ Scooters/ Wheelchairs	Behavioral Observations
5/13/22	Fri	Clear	7:30-7:45 AM	22	2	2	0	
			7:45-8:00 AM	66	28	13	0	
			8:00-8:15 AM	109	50	2	0	
			3:15-3:30 PM	2	0	0	0	Car blocking crosswalk
			3:30-3:45 PM	204	0	2	0	Many red light runners making left onto Mabel Avenue from northbound Redwood Road
			3:45-4:00 PM	158	0	3	0	Crosswalk and intersection jammed with cars, students walking between cars
5/24/22	Tues	Clear	12:45-1:00 PM	5	0	0	0	
			1:00-1:15 PM	184	0	5	0	Cyclist on sidewalks (2); students crossing against light, cars slow for them; cars stuck in crosswalk.
			1:15-1:30	84	0	1	0	

Date	Day of the Week	Weather	Time	Pedestrian	Diagonal Pedestrian	Bicyclist	Skateboards/ Scooters/ Wheelchairs	Behavioral Observations
5/25/22	Wed	Clear	7:30-7:45	20	0	0	0	
			7:45-8:00	9	45	1	0	9 pedestrians cross Redwood Road diagonally while car coming from Mabel Avenue with the green light
			8:00-8:15	52	31	2	0	Cyclist on sidewalk (1)
TOTAL				915	156	31	0	

Counts, continued

Redwood Road/Mabel Avenue Intersection

The CV team conducted their remaining three days of counts at the Redwood Road/ Mabel Avenue intersection, which lies to the south of the Redwood Road/ Heyer Avenue intersection (See Figure 1 for location information). They observed this to be a busier intersection than Redwood Road/Heyer Avenue. They learned that Alameda County Public Works had made recent changes to signal timing and right turn movements as part of traffic calming efforts. The CV team reported that, as a result, vehicle traffic is stopped in all directions at a red light.

Volunteers counted at this intersection on May 13, 2022, May 24, 2022, and May 25, 2022 (See Table 4). On May 13, volunteers counted during both the morning and afternoon periods. On May 24, volunteers counted during the mid-day period, and on May 25, volunteers conducted counts in the morning. Due to the timing, the last two dates occurred during the last week of school; therefore, commute patterns may have differed from a typical week. During the morning commute, they counted a total of 278 pedestrians who crossed perpendicularly in a crosswalk, and 156 pedestrians who crossed at the diagonal. There were 20 bicyclists, and no people using wheelchairs, skateboards, or scooters. In the mid-day period and afternoon, 637 pedestrians were counted to cross perpendicularly in the crosswalk, and no pedestrians who used the diagonal crossing. There were 11 bicyclists.

Specifically, the counts and observations revealed:

- In the morning, many students cross diagonally from the southeast corner of the Mabel Avenue /Redwood Road to the northwest corner while there is a green light for those traveling on Mabel Avenue.
- In the afternoon commute, many drivers ran the red light northbound on Redwood Road turning left onto Mabel Avenue. Many of these cars then wait in long lines of pick-up traffic at the school, blocking crosswalks. Students, therefore, needed to walk between the cars to get through the crosswalk.
- In the afternoon, traffic southbound on Redwood Road can get backed up, leaving cars waiting throughout the intersection and crosswalks. Again students must walk between queued cars to cross the street.
- Many students avoided the Redwood Road/Mabel Avenue intersection completely by walking on the south side of Mabel Avenue to cross at the high school mid-block where there are no crosswalks.

Due to the numbers of pedestrians and the observation of drivers encroaching in crosswalks, the community determined that their interest in a pedestrian scramble is supported. This improvement would allow for a pedestrian-only phase. Striping would eliminate confusion about where and when to cross.

Crowdsourcing

The CV team was also interested in gathering self-reported, crowdsourced data from Castro Valley residents. To obtain this data, the project team gave an overview of [Street Story](#), a tool developed by UC Berkeley SafeTREC to capture reports of crashes, near misses, hazardous locations, and safe locations. The CV team was interested in applying the custom boundary feature of Street Story in order to create a specialized link for Castro Valley that would allow users to report concerns within a specified area, boundary within the Lake Chabot-Redwood Road-Seven Hills Road area.

At the time of this report, there were five Street Story entries made in Castro Valley. (See Figure 4.)

Entry #1: A crash was reported at the Castro Valley Boulevard/Center Street intersection. The narrative states: "I was on Castro Valley Blvd, facing East, waiting at the light to turn left onto Center St. A young man was crossing CVB and a driver coming off Center, turning right onto CVB did not see the pedestrian in the crosswalk and struck him."

Entry #2: A near-miss was reported on Heyer Road near Cull Canyon Reservoir. A bicyclist noted: "It's a frequent problem that people pass bicyclists at the peak of Heyer Ave east bound when they can't see on-coming traffic because the hill obstructs vision. We need signage- "Do Not Pass on Blind Crest". There are frequent near hits between illegally passing cars and vehicles cresting from the East."

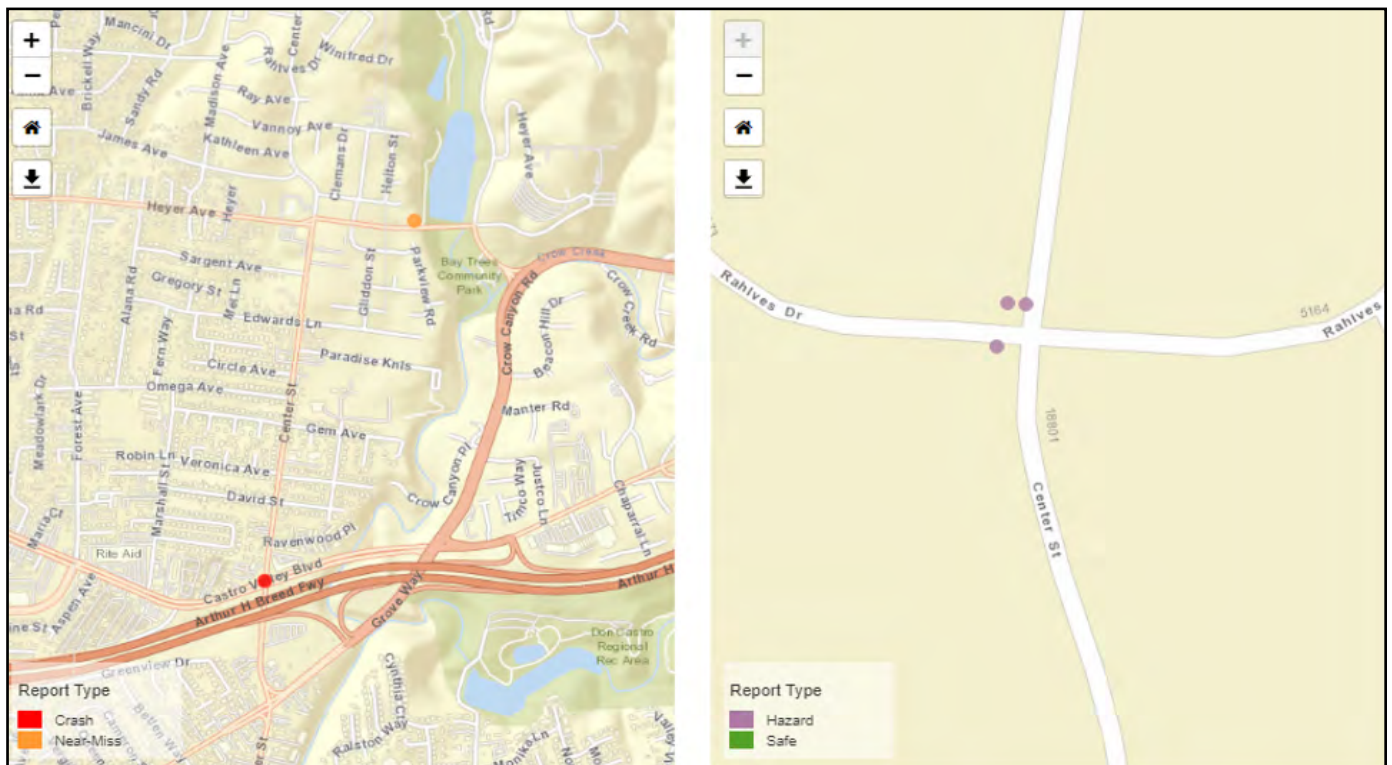


Figure 4. Street Story Reports (Crash and Near Miss on left; Hazardous Location on right)

Crowdsourcing, continued

Three entries regarding a hazardous location were made around the Rahives Drive/Center Street intersection.

- Entry #3: A hazardous place was recorded and described as: “The posted speed limit on Parsons, a RESIDENTIAL street, is 30 MPH! It should absolutely be 25 or less just like Seven Hills, Somerset, and other surrounding residential streets. This is just one glaring example of the haphazard application of speed limits in unincorporated Alameda County. We need SLOWER STREETS for safe active transportation.”
- Entry #4: Another hazardous location was described as: “Drivers on Center regularly barely stop or completely ignore the stop sign at this intersection, both coming down hill and up hill. Many coming down hill are also speeding.”
- Entry #5: The third entry about this intersection identifying a hazardous location described that “Public Works did some pavement work here years ago and has never restriped the crosswalk where paved over. The crosswalk is used by Vannoy Elementary school students.”

Street Story is a web-based community engagement tool that allows residents and community organizations to gather information that is important to transportation safety, including crashes, near-misses, general hazards and safe locations to travel. To promote access to the tool, SafeTREC offers technical assistance to communities and organizations interested in using Street Story. The platform and the information collected is free to use and publically available. Street Story is available at:

<https://streetstory.berkeley.edu>

Resources

- [National Bicycle and Pedestrian Documentation Project](#) (2010)
- SR2T Final Report <https://escholarship.org/uc/item/5vj1h92m> (Appendix E)
- [2019 Alameda County Bicycle and Pedestrian Master Plan for the Unincorporated Areas](#)

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