

Recommendations to Improve Pedestrian & Bicycle Safety for the City of Orange Cove





Berkeley SafeTREC

SAFE TRANSPORTATION RESEARCH AND EDUCATION CENTER

Recommendations to Improve Pedestrian & Bicycle Safety for the City of Orange Cove

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Introduction

At the invitation of the Fresno County Public Health Department, Cultiva La Salud, and Fresno State's Office of Community and Economic Development (OCED), the University of California at Berkeley's Safe Transportation Research and Education Center (SafeTREC) and California Walks (Cal Walks) facilitated a community-driven pedestrian and bicycle safety action-planning workshop in the City of Orange Cove to improve pedestrian safety, bicycle safety, walkability, and bikeability across the City.

Prior to the workshop, Cal Walks staff conducted an in-person site visit on Thursday, June 15, 2017, to adapt the Community Pedestrian and Bicycle Safety Training program curriculum to meet the local communities' needs and to provide context-sensitive example strategies for the community's existing conditions. Cal Walks facilitated the workshop on July 13, 2017, which consisted of: 1) an overview of multidisciplinary approaches to improve pedestrian and bicycle safety; 2) two walkability and bikeability assessments along two key routes; and 3) small group action-planning discussions to facilitate the development of community-prioritized recommendations to inform Orange Cove's active transportation efforts. This report summarizes the workshop proceedings, as well as ideas identified during the process and recommendations for pedestrian and bicycle safety projects, policies, and programs.

Background

Community Pedestrian and Bicycle Safety Training Program

The Community Pedestrian and Bicycle Safety Training (CPBST) program is a joint project of UC Berkeley SafeTREC and Cal Walks. Funding for this program is provided by a grant from the California Office of Traffic Safety (OTS) through the National Highway Traffic Safety Administration (NHTSA). The purpose of the CPBST program is to train local neighborhood residents and safety advocates on how to improve pedestrian and bicycle safety and to strengthen their collaboration with local officials and agency staff to make communities safer and more pleasant to walk and bike. For each training, the program convenes a multi-sector, multi-disciplinary local planning committee to tailor and refine the training's curriculum and focus to meet the community's needs. Additionally, Cal Walks staff conduct pre-training site visits to collect on-the-ground observations of existing walking and biking conditions to inform the training's scope and focus. The half-day training is designed to provide participants with both pedestrian and bicycle safety best practices and a range of proven strategies (the 6 E's: Empowerment & Equity, Evaluation, Engineering, Enforcement, Education, and Encouragement) to address and improve pedestrian and bicycle safety conditions and concerns. Participants are then guided on a walkability and bikeability assessment of nearby streets before setting pedestrian and bicycle safety priorities and actionable next steps for their community.

For a summary of outcomes from past CPBST workshops, please visit: www.californiawalks.org/projects/cpbst_and https://safetrec.berkeley.edu/programs/cpbst_

Selected Pedestrian & Bicycle Safety Conditions in Orange Cove

Wide Streets, Faded Markings & Lack of Lighting

Nearly all the streets in Orange Cove are wider than is necessary for existing traffic volumes—most streets in the community are in the 40-50 feet range, with the exception of Park Boulevard which measures roughly 70 feet in width. Research has demonstrated that wide streets and wide travel lanes are associated with higher vehicle speeds, which affect the safety of people walking and bicycling.¹ Wide streets also mean pedestrians have to spend more time in the street than is otherwise necessary to cross the street. Crosswalks, bike lanes, and other pavement markings throughout the community are infrequent, and when present are faded and difficult to see. Orange Cove also lacks a sufficient amount of street lighting—the dark conditions make it very difficult for drivers to see anyone walking in the streets due to the lack of sidewalks in many areas. Compounded by the lack of sidewalks, these conditions create a dangerous environment for pedestrians and bicyclists to share the roadway with vehicles.



Wide residential street in Orange Cove.

¹ See Kay Fitzpatrick, Paul Carlson, Marcus Brewer, and Mark Wooldridge, "Design Factors That Affect Driver Speed on Suburban Arterials": Transportation Research Record 1751 (2000):18–25.

Extreme Weather & Lack of Shade

During the summer months, the temperature in Orange Cove can exceed 100 degrees for weeks during the day. High temperatures persist into the evenings. An insufficient number of shade trees or shade structures, which are particularly needed in the hot summer months, exist in the community.



Faded and difficult to see pavement markings.



Sidewalks abruptly end in many locations throughout the community.

Gaps in Pedestrian & Bicycle Network

Many areas of Orange Cove have missing sidewalks, or sidewalks present on only one side of the street. While the City has been able to secure Safe Routes to School funding in the past to install sidewalks leading to and around the schools, frequently adjacent blocks in the neighborhood lack sidewalks. Additionally, very few bicycle lanes exist in Orange Cove, with existing bicycle lanes failing to form a comprehensive network. Bicycle lanes are also absent from major streets, such as Park Boulevard, Anchor Avenue, that connect to local businesses, community centers, and schools.



City of Orange Cove: Pedestrian Facilities





A sidewalk inventory of Orange Cove prepared by the Fresno Council of Governments. Orange segments represent sidewalks present on both sides of the street; blue segments represent sidewalks present on one side; and red segments indicate no sidewalks.

Pedestrian & Bicycle Collision History

Between 2006-2015,² there were 5 pedestrian collision—including 1 severe injury—and 6 bicycle collisions. The collisions occurred primarily on Park Boulevard, Anchor Avenue, and Center Street. While this may appear to be a low number of collisions, the rate of collisions per 100,000 population for a community the size of Orange Cove is concerning. Reaching all areas of California, including rural areas, requires looking at injury rates. A full discussion of the pedestrian and bicyclist collision data from official data sources prepared by UC Berkeley SafeTREC can be found Appendix A.

The community's remote and rural location may increase the prevalence of unreported pedestrian or bicycle collisions in official data sources. Unreported pedestrian and bicycle collisions are a concern statewide in general. As part of the workshop, community members were asked to identify both overall traffic collisions that have occurred in the community that were not captured in the official data sources, as well as their pedestrian and bicycle safety concerns throughout Orange Cove on a large map.

² Please note 2014 and 2015 data is provisional.



Participants engaged in data crowdsourcing activity.

Through this crowdsourcing exercise, community members did not identify any additional traffic collisions not reflected in official data sources; however, participants identified key safety concerns: lack of street lighting; the poor visibility of crosswalks and a desire for enhanced crosswalks (including beacons); stray aggressive dogs; and vehicle speeds on Adams Avenue.



Results from crowdsourcing activity.

July 13, 2017 Workshop

Fresno County Public Health, Cultiva La Salud, and Fresno State OCED requested a workshop to 1) provide City and County staff, community organizations, and residents with a toolkit for promoting pedestrian and bicycle safety to inform future active transportation projects; 2) strengthen working relationships between the City of Orange Cove, community residents and organizations, the County, and other stakeholders to ensure the best outcomes for the residents of Orange Cove; and 3) develop consensus regarding pedestrian and bicycle safety priority and actionable next steps.



Participants learning the 6 E's approach to pedestrian and bicycle safety.

The workshop was hosted from 4:00 pm to 8:00 pm at the American Legion Hall, and dinner, child watch, and simultaneous interpretation from English to Spanish were provided to maximize community participation. Twenty (20) individuals attended the workshop, including residents, Mayor Victor Lopez, and representatives from the Fresno County Public Health Department, Cultiva La Salud, Fresno State OCED, the Friends of the Orange Cove Animal Center, United Health Centers, and the Boys and Girls Club.

Reflections from Walkability & Bikeability Assessment

Workshop participants conducted walkability and bikeability assessments along 2 routes:

• Route 1 traveled north on Center Street, east on B Street, south on 4th Street, and west on Park Boulevard. The focus of this route was to examine conditions near McCord Elementary School (located on Center Street), AL Conner Elementary School (located on 4th Street), and the central business district on Park Boulevard.

• Route 2 traveled to Park Boulevard through the central business district and then south through the neighborhood to Railroad Avenue and the rail trail. This route focused on examining conditions in the central business district on Park Boulevard and comparing and contrasting those conditions with those found on the rail trail.

Participants were asked to 1) observe infrastructure conditions and the behavior of all road users; 2) apply strategies learned from the 6 E's presentation that could help overcome infrastructure concerns and unsafe driver, pedestrian, and bicyclist behavior; and 3) identify positive community assets and strategies which can be built upon.

Following the walkability and bikeability assessment, the participants shared the following reflections:

• Lack of Street Lighting: Participants noted that street lighting was limited to a few intersections in the community and even for those few locations, the quality of street lighting was poor. Participants also underscored that dark nighttime conditions are a significant deterrent to walking in the community.



Very narrow sidewalk with overgrown vegetation beginning to obstruct the sidewalk. Silt and debris in the curb ramp indicate that there are drainage issues in the rainy season.

- Sidewalks Deficiencies & Gaps: Participants noted that sidewalks throughout Orange Cove, where present, were often narrow and occasionally had obstructions. Residents noted that there were wide and comfortable sidewalks by schools, but that sidewalk connections to the schools could be improved. Participants identified a need for additional marked crosswalks and pairing the installation of marked crosswalks with driver education regarding pedestrian right-of-way in marked and unmarked crosswalks.
- Lack of Shade: Many sidewalks in the community provided little to no shade, as well as areas where shade was present on the side of the street lacking a sidewalk. Participants expressed concern that trees in the community are not being properly maintained, either by underwatering or ignoring overgrowth. Participants identified installing awnings or misting devices

along Park Boulevard and planting more trees throughout the community to increase shade and comfort for people walking.



Residents generally carry umbrellas when walking for shade.

• Lack of Bicycle Infrastructure: Participants noted that the community generally lacks on-street bicycle facilities. In the central business district on Park Boulevard, participants observed that signage painted on sidewalks prohibit bicycling on the sidewalks, but that no on-street bicycle facilities were provided on Park Boulevard.



Residents generally carry umbrellas when walking for shade.

• Stray & Aggressive Dogs: Participants noted poor fencing or gates left open at homes along the walk route allowed aggressive dogs to intimidate or chase people walking by. Additionally,

participants shared that stray dogs frequently roamed the community and that many residents and children are scared by these dogs.



Aggressive and stray dogs pose a nuisance to people walking, and for some, particularly children, can be intimidating.

• Extending Improvements from Park Boulevard & Rail Trail to Community: Participants agreed that walking on Park Boulevard and the rail trail was pleasant, with both locations boasting a lively street environment with people out walking and proximity to the Farmers Market. Participants expressed that they would like to replicate and extend these positives to other areas of the community. Participants noted that there are a lot of opportunities to repurpose Orange Cove's wide streets and vacant lots for other community building uses, such as for parklets and community gardens



Residents greatly enjoy the rail trail and wish to extend its positive aspects to other areas of the community.



Street banners supporting a strong sense of community in Orange Cove.

Community Resident Recommendations

Following the walkability and bikeability assessment, Cal Walks facilitated small-group action planning discussions. Workshop participants discussed a series of questions developed in conjunction with local partners, which included identifying the most effective education and encouragement programs for Orange Cove, identifying community assets (parks, schools, markets, etc.) that need better connectivity for walking and biking, and identifying specific infrastructure projects to improve pedestrian and bicycle safety in Orange Cove.



Participants engaged in small group action planning discussions.

The following recommendations for overall pedestrian and bicyclist safety improvements were made by the workshop participants:

Non-Infrastructure Priorities & Recommendations

- Community Walk & Bike Groups with Clean-Up and Animal Control Components: Participants expressed strong interest in forming walking and bicycling groups to encourage greater use of Orange Cove's pedestrian and bicycle infrastructure. These groups would primarily be organized in the evening, especially in the summertime, and could integrate community clean-up or animal control aspects. Participants identified potentially partnering with Generation Green—a local program that focuses on environmental education and leadership for underserved rural youth-to organize walking groups that would double as clean-up clubs, particularly along the rail trail. Participants also identified partnering with the local animal shelter to add a dog walking component to walking groups, which could also be used as a venue for educating encouraging pet owners to spay and neuter their pets.
- Organizing Community Events as Safety Education & Encouragement Opportunities: Participants identified organizing more community events as a key priority for encouraging more people to walk and bike in the community. Participants identified conducting more events at the community's skatepark, at the Farmers Market, and during the Orange Cove Blossom Festival as effective venues for promoting walking and biking. Participants also identified community bike rides (e.g., *cumbia* rides, bike party, etc.) as another strategy to promote biking in Orange Cove, while also integrating safety education.
- Pedestrian & Bicycle Safety Education through Schools: Participants determined that additional safety education programs in Orange Cove's schools should be a priority for the City, including conducting more bike rodeos, establishing a pop-up traffic city education program, and establishing walking school buses. Participants also identified the need to have more volunteer crossing guards around schools and have them stationed along walking school bus routes to increase awareness and safety. Participants also expressed a desire for more collaboration between schools and community organizations.

Infrastructure Priorities & Recommendations

- **Creating a Complete Sidewalk Network:** Participants determined that completing the sidewalk network in Orange Cove should be a top priority for the City. Additionally, participants suggested paving frequently used dirt paths to destinations such as Orange Cove High School, Citrus Middle School, and Sheridan Park.
- Marking & Enhancing Crosswalks: Participants strongly supported the installation of additional marked crosswalks throughout the City to increase the visibility of pedestrians and improve safety for people walking. Participants concluded that marked crosswalks in the community should feature high-visibility crosswalk markings and flashing beacons, with a priority for these enhanced crossings near schools and at the community's main intersection of Park Boulevard and Jacobs Avenue/Center Street.
- Enhancing Orange Cove's Business District: Participants expressed interest in building off the existing pleasant environment of Park Boulevard with small improvements, including the addition of storefront awnings, trash and recycling receptacles, drinking fountains, splash parks, and the removal of condemned buildings. Participants also identified the addition of bicycle lanes and bike racks along Park Boulevard as ways to improve the biking environment.

- Extending & Enhancing the Rail Trail: Participants supported extending the existing rail trail to connect with existing and new bike lanes throughout the City. Participants also identified the addition of recycling bins, doggy bag supply and disposal stations, and drinking fountains as amenities that would greatly enhance the trail.
- Establish a Parks and Recreation Department: Multiple participants requested the City establish of a Parks and Recreation Department not only to better manage and maintain existing parks and trails but also to improve the quality of these facilities. Additionally, a dedicated Parks and Recreation Department would be better equipped to spearhead the creation of new facilities requested by the community, including community exercise parks, dog parks, and splash parks.

California Walks/SafeTREC Recommendations

California Walks and SafeTREC also submit the following recommendations for consideration by the City of Orange Cove:

- Pursue Funding to Complete the City's Sidewalk Network: With the City's sidewalk inventory completed, we strongly recommend that the City apply for funding from the state Active Transportation Program (ATP) to fill in all sidewalk gaps in the community. The ATP is expected to release a call for projects in Spring 2018. Additionally, we recommend the City work with residents and stakeholders to identify key crossing locations, such as near schools, that can be included in the ATP application for high-visibility crosswalk markings and rectangular rapid flashing beacons. We believe such an application would be transformative for the community of Orange Cove.
- Integrate Complete Streets into Maintenance Projects: We recommend that the City integrate a complete streets approach in the City's maintenance projects through the use of a complete streets/paving project coordination checklist³ to help ensure that regular road maintenance projects include pedestrian and bicycle safety improvements whenever possible. This is a cost-effective approach that we have seen work in other communities to dramatically expand their bicycle networks and to improve pedestrian and bicycle safety.
- Pursue Funding for a Dedicated Safe Routes to School Coordinator: Because participants expressed interest in working more closely with schools on Safe Routes to School educational efforts, we recommend that the City work with the Kings Canyon Unified School District to pursue funding through the state or regional Active Transportation Program (ATP) for a paid Safe Routes to School (SRTS) Coordinator. The roles and responsibilities of a SRTS Coordinator— either part-time or full-time—vary by locality and according to the recently released "Building Momentum for Safe Routes to School" toolkit co-authored by Safe Routes to School National Partnership,⁴ a SRTS Coordinator may:
 - Recruit and train volunteers to implement education and encouragement activities at individual schools;

³ See City of Oakland Checklist for Complete Streets/Paving Project Coordination as an example. Available at <u>https://safety.fhwa.dot.gov/road_diets/guidance/docs/oakland_chklist.pdf</u>

⁴ See Safe Route to School National Partnership & Santa Clara County Public Health Department, "Building Momentum for Safe Routes to School: A Toolkit for School Districts and City Leaders," 2017. Available at: <u>http://www.saferoutespartnership.org/resources/toolkit/building-momentum-safe-routes-school</u>

- Coordinate district or county-wide activities such as special Walk and Bike to School Day events;
- Identify and prioritize safety concerns through walk assessments and community outreach;
- Work with engineers and planners on changes to the physical infrastructure around schools;
- o Identify funding opportunities to expand SRTS programming; and
- Lead or implement a local SRTS task force.

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We would like to acknowledge the many community members and agencies present at the workshop and their dedication to pedestrian and bicycle safety. Their collective participation meaningfully informed and strengthened the workshop's outcomes.

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Appendix A

Pedestrian and Bicycle Collision Data Analysis

Pedestrian and Bicycle Collision Analyses, 2006-15*

PEDESTRIANS

Number of Collisions Involving Pedestrians, 2006-15



The **blue** line shows the number of pedestrian collisions where a fatality and/or injury occurred. There were 5 people injured in 5 pedestrian collisions over the last 10 years which occurred between 2006 and 2010. There were no reported collisions from 2011-2015.

The green line shows the three-year moving average of the number of pedestrian collisions where a fatality and/or injury occurred. The moving average is useful for tracking trend change over time, especially when the number of collisions is subject to variability. Data points are the midpoint

of the three years of data specified.

The following analyses are based on the most current ten years, 2006 to 2015, of data for Orange Cove, CA. There were 5 people killed or injured in 5 pedestrian collisions.

Top Violation Types for Collisions Involving Pedestrians

Type of Violation	Collisions N (%)
Other violations	2 (40.0%)
Stop sign, failure to stop at limit line, crosswalk, or entrance to	
intersection.	1 (20.0%)
Driving under the influence of alcohol, drug, or combination, causing	
injury or death to another.	1 (20.0%)
Pedestrian yield, upon roadway outside crosswalk.	1 (20.0%)
Total	5 (100.0%)

Pedestrian Actions in Collisions Involving Pedestrians

Pedestrian Action	Collisions N (%)
Crossing Not in Crosswalk	2 (40.0%)
Crossing in Crosswalk at Intersection	1 (20.0%)
In Road, including shoulder	1 (20.0%)
Not in Road	1 (20.0%)
Total	5 (100.0%)

Pedestrian and Bicycle Collision Analyses, 2006-15*

Pedestrian Victim Demographics

The age of pedestrian victims ranged considerably across all age groups, but the age group of youth age 19 and younger accounted for 40% of all pedestrian victims.



Victim Injury Severity, 2011-15

Most collisions resulted in minor injuries.



Pedestrian and Bicycle Collision Analyses, 2006-15*

BICYCLISTS

Number of Collisions Involving Bicyclists, 2006-2015



The blue line shows the number of bicycle collisions where a fatality and/or injury occurred. There were 6 people injured in 6 bicycle collisions over the last 10 years which occurred between 2006 and 2010. There were no reported collisions from 2011 to 2015.

The green line shows the three-year moving average of the number of bicycle collisions where a fatality and/or injury occurred. The moving average is useful for tracking trend change over time, especially when the number of collisions is subject to variability.

The following analyses are based on the most

current ten years, 2006 to 2015, of data for Orange Cove, CA. There were 6 people injured in 6 bicycle collisions.

Type of Violation	Collisions N (%)
Traffic Signals and Signs	2 (33.33%)
Automobile Right of Way	2 (33.33%)
Unsafe Starting or Backing	1 (16.67%)
Pedestrian Right of Way	1 (16.67%)
Total	6 (100.0%)

Top Violation Types for Collisions Involving Bicycles

Pedestrian and Bicycle Collision Analyses, 2006-15*

Bicycling Victims Demographics

The age of bicycling collision victims varied across all age groups, with youth age 14 or younger accounting for 50 percent of victims. The majority of victims were male.



Victim Injury Severity, 2011-15

Most collisions resulted in minor injuries.



Community Pedestrian and Bicyclist Safety Workshop – Orange Cove, CA Pedestrian and Bicycle Collision Analyses, 2006-15*

Pedestrian Collision Locations, 2006-15



Community Pedestrian and Bicyclist Safety Workshop – Orange Cove, CA Pedestrian and Bicycle Collision Analyses, 2006-15*

Bicyclist Collision Locations, 2006-15





Orange Cove Bicycle/Pedestrian Collision Map (2006 - 2015)

Collision Severity (2006-2015)

Injury (Severe) (1)

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- Injury (Other Visible) (4)
- Injury (Complaint of Pain) (5)

2016 Median Household Income



Data Source: Collision - SWITRS 2006 - 2015 (2014 - 2015 data is provisional) Demographics - Esri, US Census Bureau, and ACS Date: 10/19/2017

This map shows where all the pedestrian/bicycle injury collisions occurred and may not extend to the city's boundaries.

Appendix B

Walkablity Survey Analysis

Walkability in Orange Cove: Survey Analysis 4 Point Scale: (4 = Excellent/1 = Poor) 10 Total Surveys









Comments

- The city needs to maintain clean sidewalks in the presently existing sidewalks. We also need the city to look brighter during night time. For example, the majority of the existing poles don't have light during night time.
- Street crossings need to be repainted. People need to keep outside of their housing clean
- The city has drainage problems, no sidewalks between block streets, and no bike lanes
- Very poor road conditions
- No lighting and faded crosswalks
- Goat-heads in the road ruin bikes
- We need light in Boulevard Streets. It's too dark at night

Route:	T	С)	رو	· 	0	
SIDEWALKS	Excellent	Good	Neutral	Poor	N/A	Notes
Sidewalk width		1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1				
Sidewalk condition/maintenance						
Buffer between sidewalk and street						
Pedestrian/bicyclist interaction						
VEHICLE TRAVEL LANES	Excellent	Good	Neutral	Poor	N/A	Notes
# of travel lanes						
Posted speed vs. observed speed						
Driver behaviors			-			
PARKING	Excellent	Good	Neutral	Poor	N/A	Notes
On street parking						
Off street parking (parking lot)						
Handicapped parking						
INTERSECTIONS	Excellent	Good	Neutral	Poor	N/A	Notes
Intersection width						
Intersection condition/maintenance						
Visibility for pedestrians/ bicyclists						
Exposure of nedestrians / hisvelists						

Banners/art work/murals	Drinking fountain	Restrooms	Trash/recycling	Seating	Bike racks	STREET AMENITIES EX	Lighting quality at night	Lighting location/placement		Obstructions (e.g. light poles)	Ramp placement	Curb cuts (ramps)	ADA ACCESSIBILITY EX	Pedestrian island/median	Crosswalk condition/maintenance	Crosswalk width	CROSSWALKS EX
						Excellent			Excellent				Excellent				Excellent
	-				-	Good			Good				Good				Good
			-			Neutral			Neutral				Neutral				Neutral
						Poor			Poor				Poor				Poor
				-		N/A			N/A				N/A				N/A
						2							Ň				
						Notes			Notes				Notes				Notes

î. E Your Comments/Suggestions: Hazardous or abandoned buildings/lots Activity (loitering, vandalism, etc.) Shade/protection (sun, rain) Landscape maintenance Visibility (day, night) LANDSCAPING SAFETY Excellent Excellent Good Good Neutral Neutral Poor Poor N/A N/A Notes Notes

Survey Complete!