



Recommendations to Improve Pedestrian & Bicycle Safety for the Jackson Magnet Academy Community in Altadena



October 2018



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We would like to thank the planning committee for inviting us into their community and for hosting the Community Pedestrian and Bicycle Safety Training.

Thank you to the Automobile Club of Southern California (AAA) for sponsoring dinner and childcare in support of this training. Thank you to the Pasadena Unified School District for providing interpretation services. Thank you to Day One for providing bicycle helmets, lights, and educational materials and the Los Angeles County Department of Public Works for providing instructional materials.



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

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

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Recommendations to Improve Pedestrian & Bicycle Safety for the Jackson Magnet Academy Community in Altadena

By Mihaela Tomuta, Wendy Ortiz, Daniel Gonzalez, California Walks;
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Introduction

At the invitation of the Altadena Town Council’s Safe Streets Committee, California Walks (Cal Walks) and the University of California at Berkeley’s Safe Transportation Research and Education Center (SafeTREC) in collaboration with the Planning Committee developed and facilitated a Community Pedestrian and Bicycle Safety Training (CPBST) at Jackson STEM Dual Language Magnet Academy (Jackson Academy) in the community of Altadena. The CPBST is a community-driven pedestrian and bicycle safety action-planning workshop aimed to improve walkability, and bikeability across Town.

Cal Walks and SafeTREC (Project Team) facilitated the workshop on September 14, 2018 from 3:30 p.m. to 6:30 p.m. in the Jackson Academy Auditorium. Dinner, childcare, and simultaneous English-to-Spanish interpretation were provided to maximize community participation. Twenty-four (24) individuals attended the workshop, including Altadena residents; Jackson Academy parents, staff, and Parent Teacher Association (PTA) representatives; and representatives from the Altadena Town Council Safe Streets Committee, Day One, and the Los Angeles County Department of Public Works.

The training consisted of: 1) an overview of multidisciplinary approaches to improve pedestrian and bicycle safety using the intersectional 6 E’s framework including: Equity & Empowerment, Evaluation, Engineering, Education, Encouragement, and Enforcement; 2) three walking assessments along three key routes and; 3) small group action-planning discussions to prioritize recommendations for Altadena’s active transportation efforts and needs.



Background

The CPBST is a joint project of Cal Walks and SafeTREC that aims to leverage a community's existing strengths to develop a community-driven pedestrian and bicycle safety action plan and to identify pedestrian and bicycle safety priorities and actionable next steps in collaboration with community partners. For each training, the program convenes a local multi-disciplinary planning committee to tailor and refine the training's curriculum to meet the community's needs. The Project Team conducted a pre-training site visit to collect on-the-ground observations of existing walking and biking conditions to adapt the CPBST curriculum and to provide context-specific strategies for the community's existing conditions.

Planning Process

The Altadena CPBST planning process was initiated in June 2018. The planning process consisted of:

- **Community Plans and Policies Review:** Cal Walks conducted a review of current community planning documents to inform the training with local context and prepare to build off existing efforts. The following documents were reviewed prior to the site visit:
 - [Altadena Community Plan](#), 2018
 - [Los Angeles County Bikeways Map](#), 2016
 - [County of Los Angeles Bicycle Master Plan](#), 2012
 - [Altadena Community Visioning Process Vision Report](#), 2012
 - [Altadena Historical Society](#), 2018
- **Analysis and Mapping of Pedestrian and Bicycle Injury Data:** SafeTREC used the Statewide Integrated Traffic Records System (SWITRS) and the Transportation Injury Mapping System (tims.berkeley.edu) to analyze pedestrian and bicycle injury data around Jackson Magnet Academy, as well as Census data to create collision rates based on population. Patterns of injury collisions, victim characteristics, and demographics were analyzed to inform the planning process for the CPBST.
- **Identification of Priority Discussion Topics for Training:** The Planning Committee identified the area around Jackson Academy as the focus of the Altadena CPBST to: 1) ensure safety of Jackson Magnet Academy students walking and biking to school; 2) ensure safety of community members using active transportation; 3) encourage higher rates of walking and biking in Altadena; 4) partner and collaborate with Los Angeles County to address community safety concerns.; and 5) build a more vibrant, healthy, cohesive, and economically thriving community.
- **Site Visit:** The Project Team facilitated an in-person site visit on August 15, 2018 with the Planning Committee at Jackson Academy to 1) review existing pedestrian and bicycle collision data; 2) collect qualitative data based on in-person observations of existing conditions and travel behaviors and; 3) conduct preliminary walking assessments of the focal neighborhood.

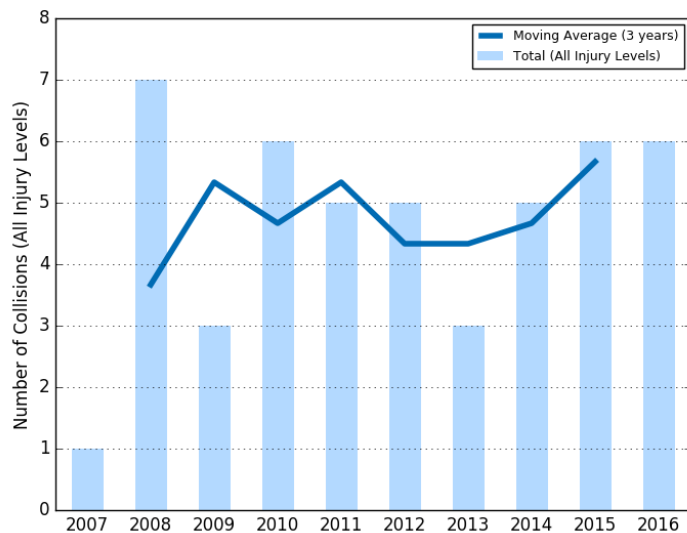
During the site visit, the Planning Committee also conducted observations of student arrival and vehicle speeds at the intersection of Woodbury Road and Spaulding Place using speed radar devices. The Project Team used the site visit findings to develop the workshop presentation, including featuring local infrastructure examples and developing the walking assessment route maps.

Existing Conditions

Pedestrian & Bicycle Collision History

Between 2012-2016, there were twenty-seven (27) pedestrian victims in twenty-five (25) pedestrian collisions within a 1-mile radius around Jackson Academy, including one (1) fatality, one (1) severe injury, and twenty-five (25) minor injuries¹. Collisions in this time period are concentrated on Woodbury Road, and Lincoln Avenue. The top two primary collision factors for collisions involving pedestrians were drivers failing to yield to a pedestrian with the right-of-way in a crosswalk (39.1%), and pedestrians failing to yield to the right-of-way of vehicles (39.1%)².

Pedestrian Collision Trend with 3-year moving average

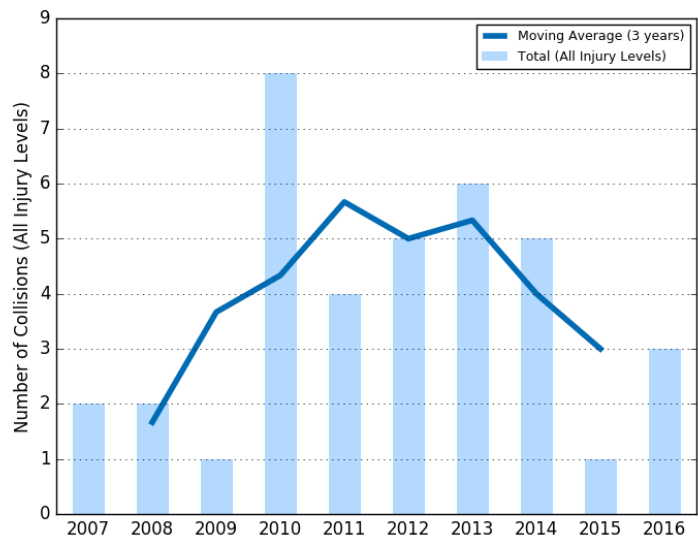


¹ 2016 SWITRS data are provisional as of June 2018.

² Pedestrians have the right-of-way in marked and unmarked crossings, and drivers are legally required to yield to pedestrians in these instances. However, when pedestrians cross outside of marked or unmarked crossings, pedestrians must yield the right-of-way to drivers. A pedestrian is legally able to cross outside of a marked or unmarked crossing between two intersections where one or none of the intersections is signalized but only if the pedestrian yields the right-of-way to oncoming drivers. This is not the same as the term “jaywalking,” which refers to crossing outside of a marked or unmarked crossing between two signalized intersections.

Between 2012-2016, there were twenty (20) bicyclist victims in twenty (20) bicycle collisions within a 1-mile radius around Jackson Academy, including fourteen (14) visible injuries, and six (6) complaints of pain³. Collisions in this time period are concentrated on Woodbury Road, Lincoln Avenue, and Fair Oaks Avenue. The top two primary collision factors for collisions involving bicyclists were bicyclists or drivers failing to yield the right-of-way to oncoming cars while turning left or making a U-turn (25.0%), and a bicyclist or driver turning unsafely with or without signaling (15.0%)⁴. Over the 10-year period between 2007-2016, bicycle collisions appear to be on a downward trajectory.

Bicycle Collision Trend
with 3-year moving average

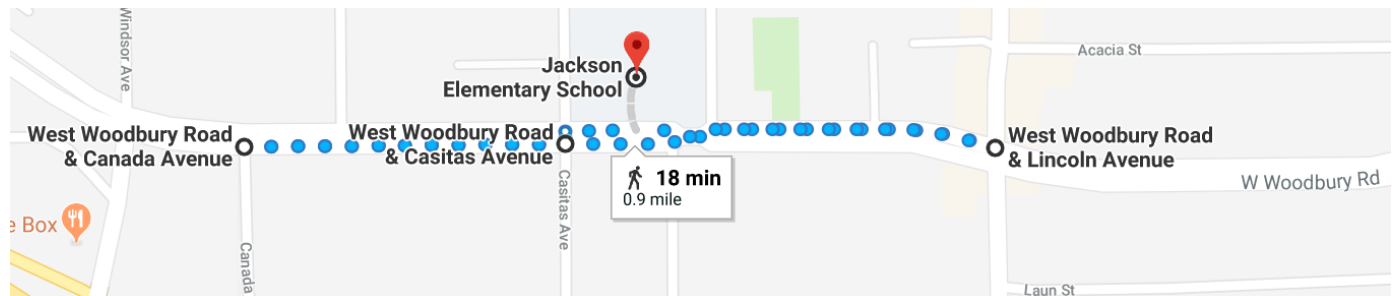


A full discussion of 2012-2016 pedestrian and bicyclist collision data prepared by SafeTREC can be found in Appendix A and B.

Walkability & Bikeability Assessment Reflections

Participants were asked to 1) observe infrastructure conditions and the behavior of all road users; 2) assess the qualitative and emotional experience of walking or biking along the route; 3) identify positive community assets and strategies which can be built upon; 4) consider how the walking and biking experience might feel different for other vulnerable users. Workshop participants conducted walking and biking assessments along three key routes:

Route 1: Woodbury Road from Windsor Avenue to Lincoln Avenue



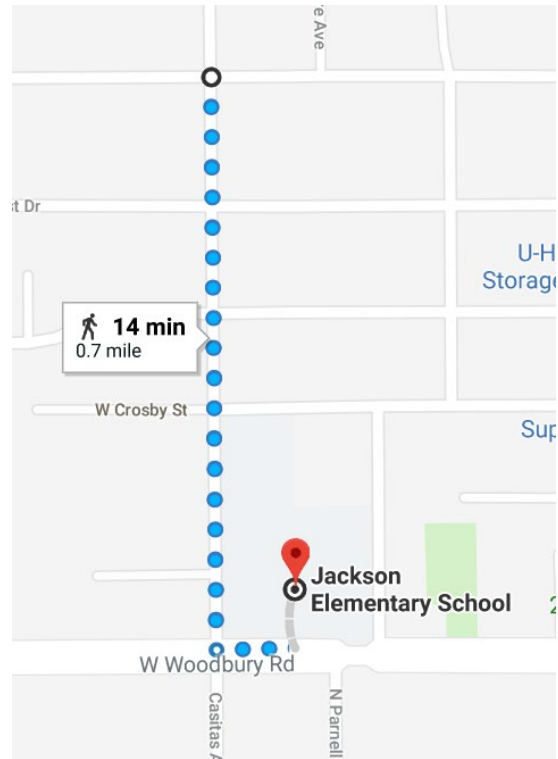
³ 2016 SWITRS data are provisional as of June 2018.

⁴ According to California Vehicle Code 21200, bicycles are considered vehicles, therefore, bicyclists on public streets have the same rights and responsibilities as automobile drivers. This makes it difficult to discern whether a bicyclist or driver is at fault.

The first walking route focused on Woodbury Road, which is the major arterial used by parents to walk, bike, and drive to Jackson Academy as well as by the community to access nearby amenities and US State Route 210 just to the west of the Academy. Starting at Jackson Academy, participants walked west along Woodbury Road to Windsor Avenue, then East on Woodbury Road to Lincoln Avenue, and west on Woodbury Road to Jackson Academy.

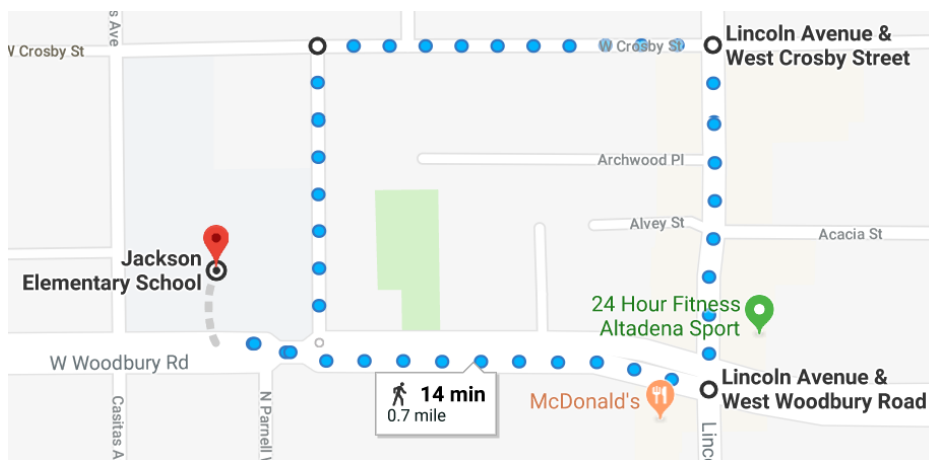
Route 2: Casitas Avenue

The second walking route focused on Casitas Avenue and the intersections of Woodbury Road, Crosby Street, and Figueroa Drive. The school’s recently constructed arrival and dismissal area and adjacent teacher parking lot are located at the southeast corner of Casitas Avenue and Crosby Street. Starting the walking assessment at Jackson Academy, participants walked west along Woodbury Road, north along Casitas Avenue to Figueroa Drive, and returned south on Casitas Avenue to the Academy.



Route 3: Spaulding Place to Woodbury Road

The third walking route focused on observing the West intersection of Woodbury Road and Lincoln Avenue. Both streets are major arterials used for commuting through the community of Altadena and accessing Jackson Academy. Starting the walking assessment at the school, participants walked east on West Woodbury Road, north on Lincoln Ave, west on Colby Street, and south on North Spaulding Place.



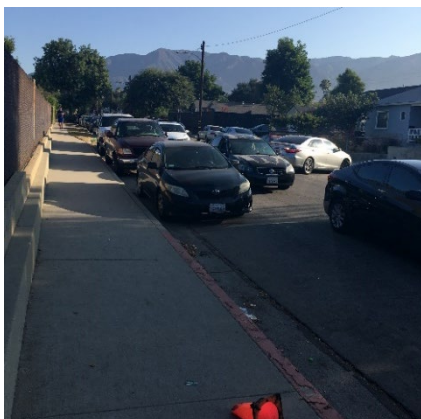
Following the walking and biking assessment, the participants shared the following reflections:

Visibility Concerns: Participants identified a number of visibility concerns during the walking and biking assessments:

- **Lack of Daylighting and Red Zone Curbs:** Participants noted the lack of red zone curb markings, which limit visibility for pedestrians waiting to cross in the marked crosswalks on Casitas Avenue at West Crosby Street, on West Crosby Street at Lincoln Avenue, and on Spaulding Street at West Crosby Street. Where red curbs were present, participants underscored that paint is faded and that parents disregard the stopping and parking restrictions to use the red curb zone as a *de facto* arrival and dismissal zone. Participants also observed parents parking in marked red curb areas along Woodbury Road, Spaulding Place, and Casitas Avenue, limiting visibility for pedestrians waiting to cross at the crosswalks and drivers turning onto Woodbury Road. Participants on Route 2 voiced support for extended daylighting at Casitas Avenue and Crosby Street where the new school arrival and dismissal zone was constructed to improve visibility for pedestrians crossing at the intersection.



Parents parking in the no parking zone along Woodbury road at Spaulding place block visibility of drivers turning right and left onto Woodbury.



Parents double park along Spaulding Place to let students exit vehicles and make unsafe U-turns along the narrow street.

- **Double Parking:** Participants shared that many parents double park alongside other parked vehicles in the bicycle lanes on Woodbury Road in front of the school, as well as on Spaulding Place, Casitas Avenue, and Crosby Street. This creates a backup of vehicles since they block the travel lane. This behavior also creates dangerous conditions for bicyclists using the bike lanes, students exiting and entering vehicles, and motorists attempting to go around the double-parked vehicles to enter adjacent travel lanes.

- *Overgrown Trees:* Along Casitas Avenue, a number of trees on residential properties were overgrown with branches hanging onto the sidewalks and obstructing the pedestrian view of the roadway.

Bicycle Facilities and Bicyclist Behaviors:

Participants viewed the Woodbury Road bike lanes as an asset for the school community and hoped to see additional bicycle facilities installed to encourage more trips by bike. Participants were concerned about potential conflicts for bicyclists travelling east on the Woodbury Road bike lanes due to drivers turning onto Woodbury Road from Casitas Avenue and Spaulding Place. Several participants supported the addition of high-visibility green conflict zone markings for the bike lanes along Woodbury Road and Lincoln Avenue. During the site visit, the Project Team observed John Muir High School students riding on the sidewalk and in the crosswalk along Lincoln Avenue on the way to school. Participants indicated that residents do not use the bike lanes along Woodbury Road because they fear the high vehicle speeds along the corridor. They noted that they themselves would not ride in the bike lanes and do not allow or encourage their children to ride their bicycles in the bike lanes or community.



A Muir High School student rides in the crosswalk along Lincoln Avenue and continues on the sidewalk to



Missing Sidewalks: Participants shared that there are sidewalk gaps in the community. They were especially concerned about the following streets used by students and parents to walk and bike to and from school and by community members who walk pets: Casitas Avenue, Figueroa Avenue, Spaulding Place, and Woodbury Road between Canada Avenue and Casitas Avenue.

Missing sidewalk along Woodbury road from Canada Avenue and Casitas avenue heading east toward Lincoln Avenue.

Crossing Enhancements: Participants suggested a number of crossing enhancements to improve visibility of and for pedestrians in the community, including: high-visibility crosswalk markings at Casitas Avenue and Crosby Street, especially with the opening of the new arrival and dismissal zone and teacher parking lot; high-visibility crosswalk markings to supplement the signalized crossing and leading pedestrian interval at Casitas Avenue and Woodbury Road; and increasing pedestrian crossing times at the intersection of Windsor Avenue and Woodbury Road for older adults, parents with young children, and those using assisted mobility devices. During the walking assessment, participants were able to cross the intersection safely with only two seconds remaining before the No Walk Signal appeared.



During the Site Visit and workshop participants noted a number of missing or older ADA ramps within the community.

Participants also noted missing or older style Americans with Disabilities Act-compliant (ADA-compliant) ramps throughout the community. The lack of accessible ramps along the community walking and biking routes makes it difficult for individuals using assisted mobility devices and young children on scooters and skateboards to maneuver on and off sidewalks.

High Speeds and Wide Roads

Participants expressed concern for the high speed of vehicle traffic along Figueroa Drive, Woodbury Road, and Lincoln Avenue. Parents and residents shared that drivers often travel above the posted speed limits and sometimes do not give the right-of-way to pedestrians crossing in marked and unmarked crossings.

The Planning Committee recorded vehicle speeds using a handheld speed radar device during the site visit on August 23, 2018 from 7:15 a.m. to 8:30 a.m. at Woodbury Avenue and Spaulding Place. The posted speed limit in front of the school is 25 miles per hour, when children are present, but the Committee observed many drivers traveling at higher speeds. Of the 97 speed radar readings recorded, eighty-eight (88) were above the posted speed limit of 25 mph with 70% of drivers traveling above the speed limit.

Speed Survey Readings														
25	x	x	x	x	x	x	x	x	x					9
26	x	x	x	x	x	x	x	x	x					9
27	x	x	x	x	x	x	x	x	x	x	x	x	x	14
28	x	x	x											3
29	x	x	x	x	x	x								6
30	x	x	x											3
31	x	x	x	x	x	x	x	x	x					9
32	x													1
33	x													1
34	x	x	x											3
35	x	x	x	x	x	x	x	x	x					9
36	x	x	x	x	x	x	x							7
37	x	x	x	x	x	x								6
38	x	x												2
39	x	x												2
40	x													1
41	x													1
42	x													1
43	x													1
44	x													1
45	x	x	x											3
46	x													1
47	x													1
48	x	x												2
49														0
50	x													1



(L) Speed survey readings at or above the posted speed limit

(R) Wide arterial roads in the community, such as Figueroa Drive, encourage drivers to travel at rates of



Landmark, speed limit, and construction zone signage limit visibility of school zone signage at Woodbury Road and Canada Avenue.

Signage Placement and Missing Signage: Participants shared that it is difficult as a driver to know when they are approaching a school and are in a school zone until they are already in front of Jackson Academy due to limited school zone signage along Woodbury Road. Other road signs obstruct and obscure current school zone sign from drivers' views. Participants identified additional school zone signage at Casitas Avenue and Woodbury Road as well as along Woodbury Road as a priority. Along Woodbury Road, participants shared that additional fluorescent yellow school zone signage with a speed feedback display that shows drivers their actual speed would be beneficial in alerting drivers that they are approaching a school zone and traveling above the speed limit.

Participants on Route 1 were concerned about the high speed of vehicle traffic traveling east on Woodbury Road towards Lincoln, especially from drivers exiting US State Route 210 onto Woodbury Road. Participants suggested additional signage alerting drivers in

advance of the upcoming pedestrian crossing and school zone. Participants on Route 2 also recommended the installation of a Rectangular Rapid Flashing Beacon (RRFB) at Casitas Avenue and Figueroa Drive to alert drivers to yield the right-of-way to pedestrians in the crosswalk. Participants also requested a four-way stop sign at Casitas Avenue and Figueroa Drive to encourage drivers to stop for pedestrians crossing in the marked crosswalks.

Unsafe Pedestrian Behaviors: Participants shared that parents, students, and community members cross Woodbury Road outside of the marked crosswalk at Casitas Avenue during arrival and dismissal times. This exposes them to oncoming traffic at high speeds, which can result in severe or even fatal injuries. Many cross at Spaulding Place and Parnell Way where crossing is prohibited and marked with No Pedestrian

Crossing signage and directional signage encouraging crossing at Casitas Avenue. Participants agree that near misses in the school community are common because of these behaviors.



Parents and students cross midblock along Woodbury Road during arrival time.

Key Opportunities to Improve Walking and Biking Safety

Following the walking and biking assessment, the Project Team facilitated small-group action planning discussions where participants prioritized and developed preliminary plans for infrastructure projects and community programs aimed at reducing the number of injuries and fatalities, as well as increasing the number and frequency of people walking and biking in the Jackson Academy community.

Through a voting process during the training, participants chose to focus on and preliminarily plan for four infrastructure projects and community programs. Participants self-selected which project they wanted to collaborate on with their fellow participants to develop a plan and discussed:

- The problem the infrastructure project/community program is intended to solve;
- The people, organizations, and agencies that should be involved to implement the infrastructure project/community program;
- Resources needed to implement the infrastructure project/community program; and
- Short-term and long-term action steps to implement the infrastructure project/community program.

Community Recommendations

Workshop participants provided the following priority recommendations and next steps for overall pedestrian and bicyclist safety improvements in the workshop area and throughout the Jackson Academy community.

Community Programs, Policies, and Campaigns

Safe Walking & Biking Educational Campaign: Participants were concerned with parent and student pedestrian and bicyclist behaviors at and surrounding Jackson Academy. Participants often observed parents and students alike engaged in unsafe behaviors that can lead to harmful and fatal injuries if a collision were to occur. Rather than a punitive approach, participants outlined a pedestrian and bicycle safety educational campaign that would target the most unsafe and high-risk pedestrian and bicycle behaviors. The participants of this group – which included residents, parents, and a teacher from a neighboring school – identified educational pamphlet distribution as the most appropriate strategy for short-term implementation within two months. Participants decided that using existing educational materials would aid in the rapid dissemination of safety messages to students and parents. To meet their two-month implementation target, participants committed to contacting and collaborating with the Pasadena Unified School District, Altadena Town Council, LA Metro, Altadena Library, and Bob Lucas Memorial Library to obtain the pamphlets, obtain permission to share pamphlets, and lastly to distribute pamphlets to parents, students, and residents.

School Safety Patrol Program: Participants were concerned with the arrival and dismissal conditions at the school and the unsafe behaviors the current conditions promote. As of the workshop date, there was no designated arrival and dismissal zone at the school, and students exit vehicles primarily along the perimeter of the school on Woodbury Road, Spaulding Place, Crosby Street, and Casitas Avenue. Casitas Avenue, Crosby Street, and Spaulding Place are narrow, residential streets that cannot accommodate the traffic congestion during arrival and dismissal times. Drivers often make U-turns, double or triple park, and block residential driveways during arrival and dismissal times. This creates numerous challenges for parents driving and students walking and biking to school alike. At the time of the workshop, the school was finalizing construction of a new dedicated school arrival and dismissal zone along Casitas Avenue.



A fifth grade student in Lone, CA assists a younger student by opening the car door as part of the Lone Elementary Safety Patrol Program.

Participants on Route 2 expressed excitement for the new zone but also worried that the new zone would not be enough to offset the high vehicle traffic and unsafe driver behaviors during arrival and dismissal. Participants of this group—including parents, residents, PTA staff, and County staff—were interested in establishing a School Safety Patrol Program to improve the traffic flow of vehicles through the new arrival and dismissal zone. School Safety Patrol programs educate and train upper grade students on safe walking and biking skills to help serve as walking ambassadors and valets who encourage students to exit along the sidewalk of the new arrival and dismissal zone.

In order to explore the possibility of a Safety Patrol Program, participants agreed to a follow-up meeting to discuss the goals of the programs and the feasibility of developing the program at Jackson Academy, including securing approval for the program from school officials. If the school approves the program, the group will continue to meet and develop the program, including finalizing details such as: 1) what pedestrian and bicycle safety curriculum to use; 2) how to recruit adult volunteers; 3) how to obtain needed supplies; and 4) how to handle any liability issues.

Walking School Bus Encouragement Program: Participants were also interested in developing an ongoing walking school bus program that would encourage students and parents to walk to school more often. This discussion group consisted of parents, residents, PTA staff, and County staff who felt that encouraging more students and parents to shift modes from driving to walking to school from nearby remote drop-off locations would help alleviate some of the vehicle congestion during arrival and dismissal times. With the help of Day One, the Academy is already planning a Walk to School Day event in October 2018, where students will be encouraged to walk along designated routes from a remote drop-off area. Day One will perform observations of the event and record how many students and parents participate. Following the Walk to School Day event, this group will convene a meeting to review the school catchment area and identify potential remote drop-off locations along the routes most used by parents to drive to school and discuss other program details such as: 1) the frequency of walk to school days; 2) how to identify and train adult walking champions; 3) and how to secure encouragement prizes for students. Cal Walks committed to help coordinate this group in late October 2018 to begin the planning process.

Infrastructure Concerns & Priorities

Speed Calming Measures: Participants were concerned with motorists traveling at high speeds in the school zone, especially along Woodbury Road, Lincoln Avenue, Crosby Street, Spaulding Place, and Casitas Avenue. The participants of this group discussed the possibility of enacting a reduced school speed limit zone of 15 mph near Jackson Academy. Participants also identified speed feedback signs on Woodbury Road and additional school zone signage on Woodbury Road and Lincoln Avenue as supplemental measures to alert motorists that they are entering a school zone. Along the local adjacent streets—including Crosby Street, Spaulding Place, and Casitas Avenue— participants identified speed humps and speed limit pavement markings as high priority traffic calming measures to deter high motorist speeds. In order to determine the appropriate speed calming measures needed at each

street of concern, the participants in this group committed to submitting a written request to the Los Angeles County Department of Public Works to conduct a speed study on Crosby Street and Casitas Avenue, Crosby Avenue and North Spaulding Place, and along Woodbury Road.

Cal Walks/SafeTREC Recommendations

California Walks and SafeTREC also submit the following recommendations for consideration by the County, Altadena Town Council, Jackson Magnet Academy, and CPBST attendees:

Alternative Remote Arrival and Dismissal Zone: The Project Team recommends that the Planning Committee collaborate with the Altadena Town Council, Jackson Magnet Academy, and Los Angeles County to create an alternative remote arrival and dismissal zone(s) at a vacant lot on Lincoln Avenue/Alvey Street or at other vacant lots near the school. The vacant lot is listed as a County owned property under the County's [Fifth District Property Management Plan](#). While the new arrival and dismissal zone at Jackson Academy was constructed to alleviate traffic congestion around school arrival and dismissal time, parents still expressed concerned that the lack of a tiered bell schedule would simply displace the traffic congestion to Casitas Avenue.

Having an off-site arrival and dismissal zone would allow parents who drive their children to school to participate in the growing walking and biking safety efforts being established at Jackson Academy and could also alleviate the traffic congestion on Casitas Avenue, near the new arrival and dismissal zone. We recommend the workshop participants and parents consult the [Safe Routes to School Guide: Student Drop-off and Pick-up Guide](#)⁵ and the [Safe Routes to School Toolkit](#)⁶ to learn about best practices to help guide their efforts.

Additional Daylighting: The Project Team recommends the County Department of Public Works implement daylighting at Casitas Avenue and Woodbury Road, Crosby Street and Spaulding Place, and Crosby Street and Lincoln Avenue intersections. Daylighting refers to restricting parking within a minimum of 10 feet of a crosswalk or intersection and is a straightforward and cost-effective measure to improve visibility between motorists and pedestrians waiting to enter the crosswalk.

Altadena SRTS Action Plan: The Project Team recommends the development of a Safe Routes to School (SRTS) Plan specific to Altadena that would identify the main barriers to students walking and biking to school in a systematic way; develop infrastructure and non-infrastructure solutions to overcome these barriers; prioritize projects for implementation; and identify potential funding sources for implementation. The Academy is currently working with many partners, including the Jackson Academy PTA, Altadena Town Council Safe Streets Committee, and Day One to implement several safe walking and biking events and to apply for funding for future SRTS activities. The Project Team

⁵ Developed by the Pedestrian and Bicycle Information Center (PBIC) with support from the National Highway Traffic Safety Administration (NHTSA), Federal Highway Administration (FHWA), Centers for Disease Control and Prevention (CDC) and Institute of Transportation Engineers (ITE).

⁶ Produced by the Active Transportation Alliance

recommends the Planning Committee apply for the [Safe Routes to School Launch Program](#), a joint project of the Safe Routes to School National Partnership and UC Berkeley SafeTREC. The program is designed to start and strengthen Safe Routes to School programs in California.

Appendix A

Pedestrian and Bicyclist Data Analysis

Workshop Handout

2012-2016 JACKSON ELEMENTARY DATA ANALYSES

Community Pedestrian and Bicycle Safety Training Workshop September 14, 2018

The goal of the Community Pedestrian and Bicycle Safety Training (CPBST) is to make communities safer and more pleasant for walking and bicycling. This workshop will train local residents and safety advocates in pedestrian and bicycle safety as well as create opportunities for collaboration with local officials and agency staff.

This fact sheet highlights 2012-2016 pedestrian and bicycle collision data available to help the community better prioritize recommendations that emerge from this workshop. The following data focuses on collisions that occurred within a 1-mile radius around Jackson Elementary School.

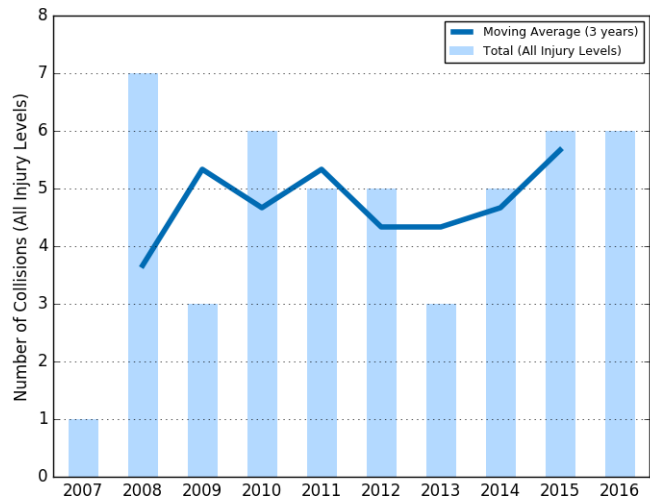
PEDESTRIANS



51 people were killed or injured in **47** pedestrian collisions in the last 10 years (2007-2016).

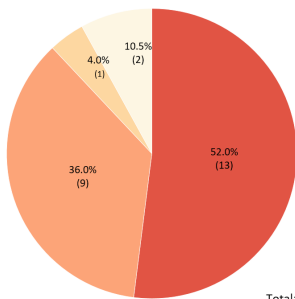
The **three-year moving average** line shows an **upward** trend in pedestrian collisions.*

There were **6** pedestrian collisions in 2015, but an average of **5.7** pedestrian collisions per year for the 3-year rolling average between 2014 and 2016.



*This line is useful for tracking change over time, especially when the number of collisions changes a lot between years. Data points are at the midpoint of the three years of data specified.

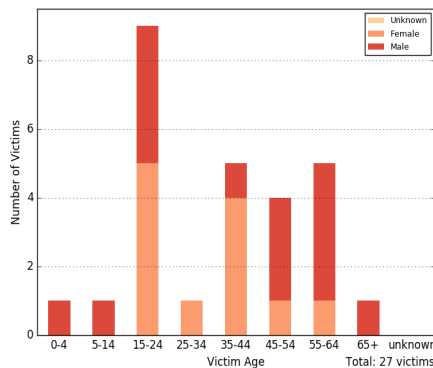
60.9% driver violations
VS.
39.1% pedestrian violations



Total: 25 collisions

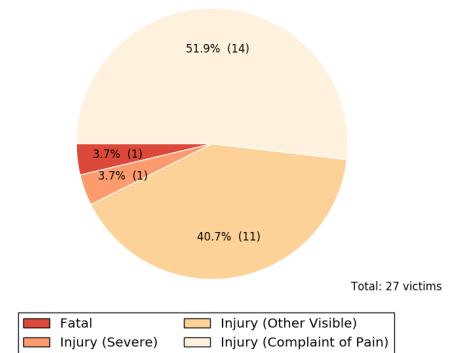
■ Driver Violation ■ Pedestrian Violation
■ Unclear Violation ■ Unknown

*Unclear violations were committed either by the driver, pedestrian or bicyclist.



Total: 27 victims

55.6% of victims were male
30.0% of victims were 18 and under
30.0% of victims were 50+



Total: 27 victims

7.4%
of victims (or 2 people) were
KILLED or SEVERELY INJURED

Data Source: California Statewide Integrated Traffic Records System (SWITRS). Collision data for 2016 are provisional at this time.

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

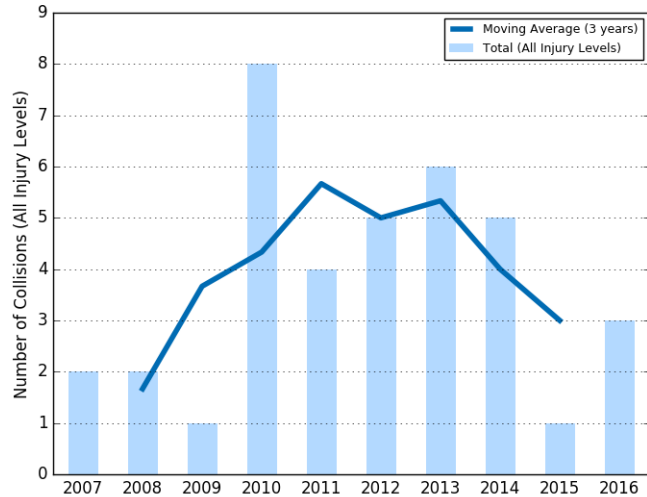
BICYCLES



37 people were killed or injured in 37 bicycle collisions in the last 10 years (2007-2016).

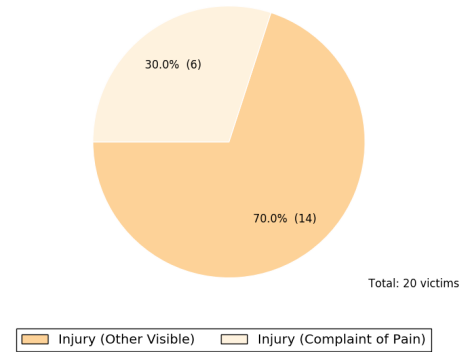
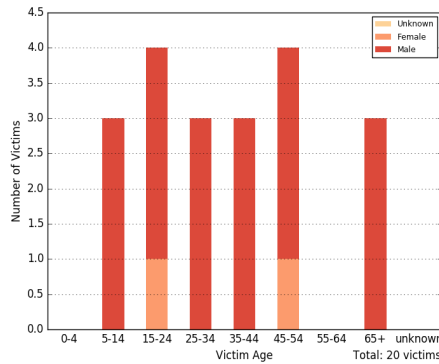
The **three-year moving average** line shows a **downward** trend in bicycle collisions.*

There were **1** bicycle collisions in 2015, but an average of **3** bicycle collisions per year for the 3-year rolling average between 2014 and 2016.



* This line is useful for tracking change over time, especially when the number of collisions changes a lot between years. Data points are at the midpoint of the three years of data specified.

Bicycles **must follow all the same rules of the road as vehicles.** As a result, we cannot break down violations by driver vs. bicyclist.



90.0% of victims were male
30.0% of victims were under age 20

30.0%
of victims (or 6 people) **INJURED**
(complaint of pain)

SUMMARY



11.1 pedestrian fatalities & injuries per 100,000 population over the last five years, which is **85.5% less than** Los Angeles County and **69.1% less than** California



8.9 bicyclist fatalities & injuries per 100,000 population over the last five years, which is **83.8% less than** Los Angeles County and **73.3% less than** California

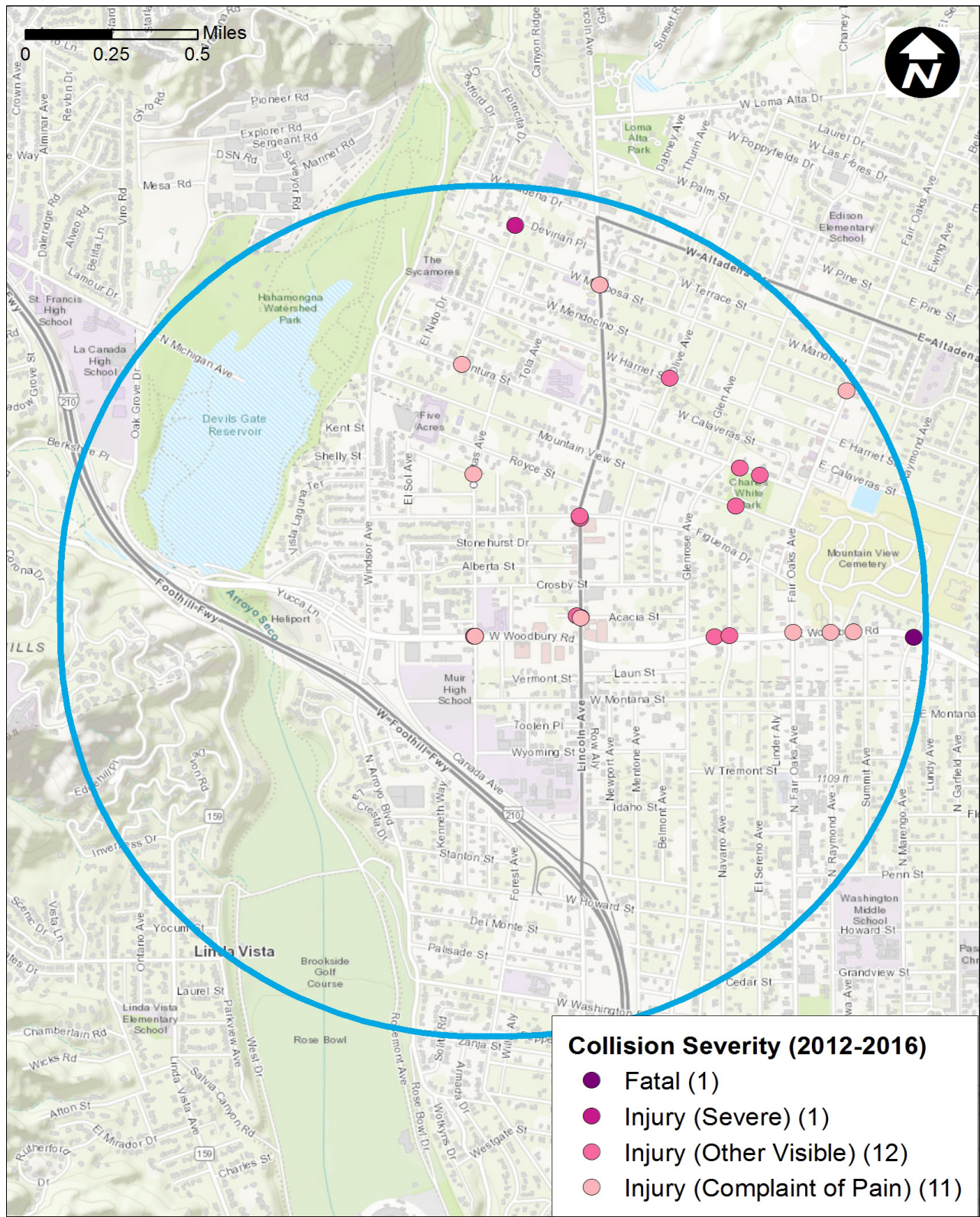
	Yearly Population Rate of Fatalities & Injuries per 100,000 Population Calculated Over a 5-year Period*	
	Pedestrian	Bicyclist
Altadena	11.1	8.9
Los Angeles	76.3	54.9
California	35.9	33.3

Source: U.S. Census Bureau, Population Division (intercensal population data for 2016).

* The rate per population is calculated by adding the number of fatalities and injuries from 2012 to 2016 divided by five times the population in 2016.

Pedestrian Collisions 2012-2016

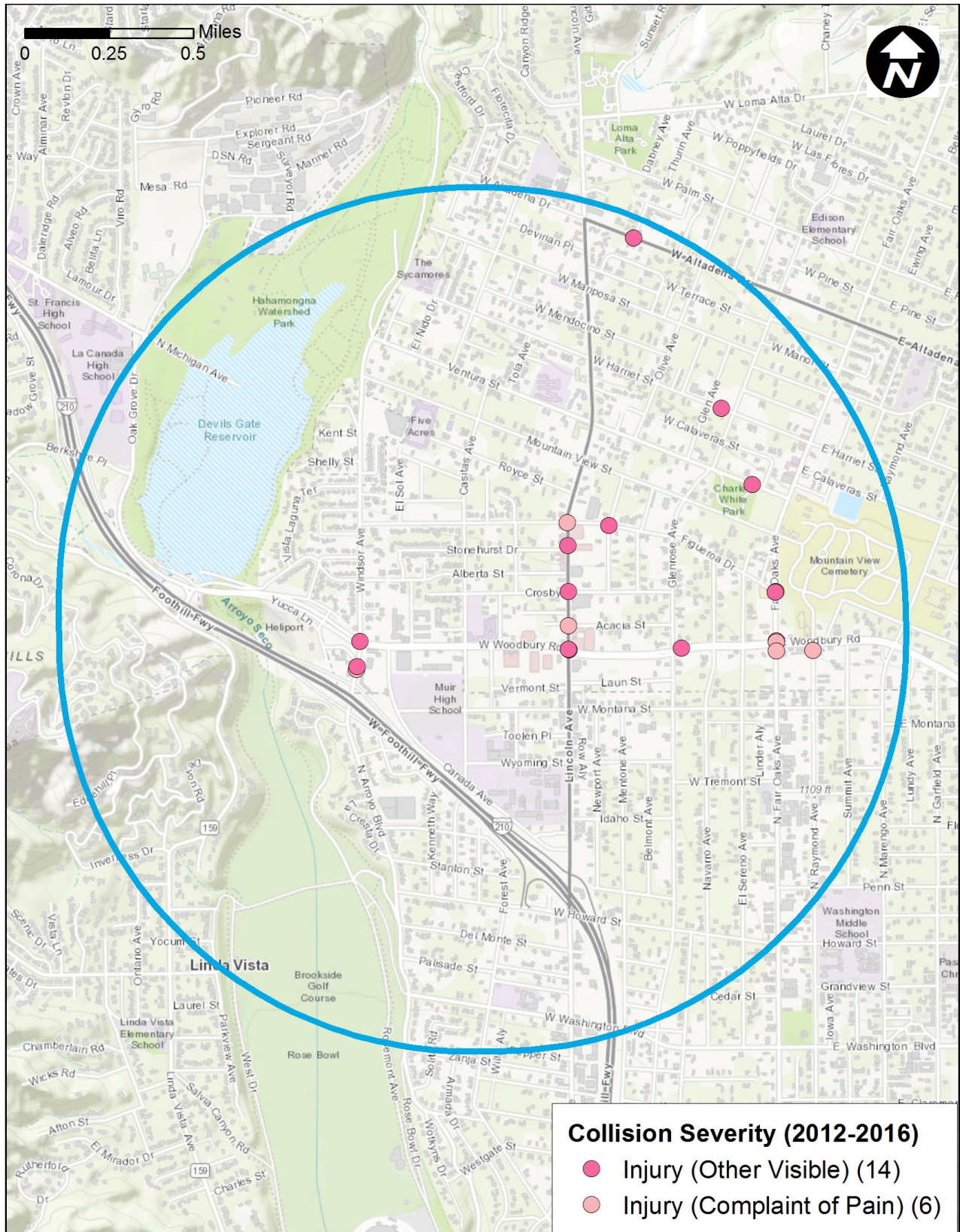
25 reported collisions within a 1-mile radius around Jackson Elementary School



Data Source: California Statewide Integrated Traffic Records System (SWITRS). Collision data for 2015 and 2016 are provisional as of November 2017.

Bicyclist collision locations, 2012-2016

20 reported collisions within a 1-mile radius around Jackson Elementary School



Data Source: California Statewide Integrated Traffic Records System (SWITRS). Collision data for 2015 and 2016 are provisional as of November 2017.

Appendix B

Pedestrian and Bicyclist Data Analysis

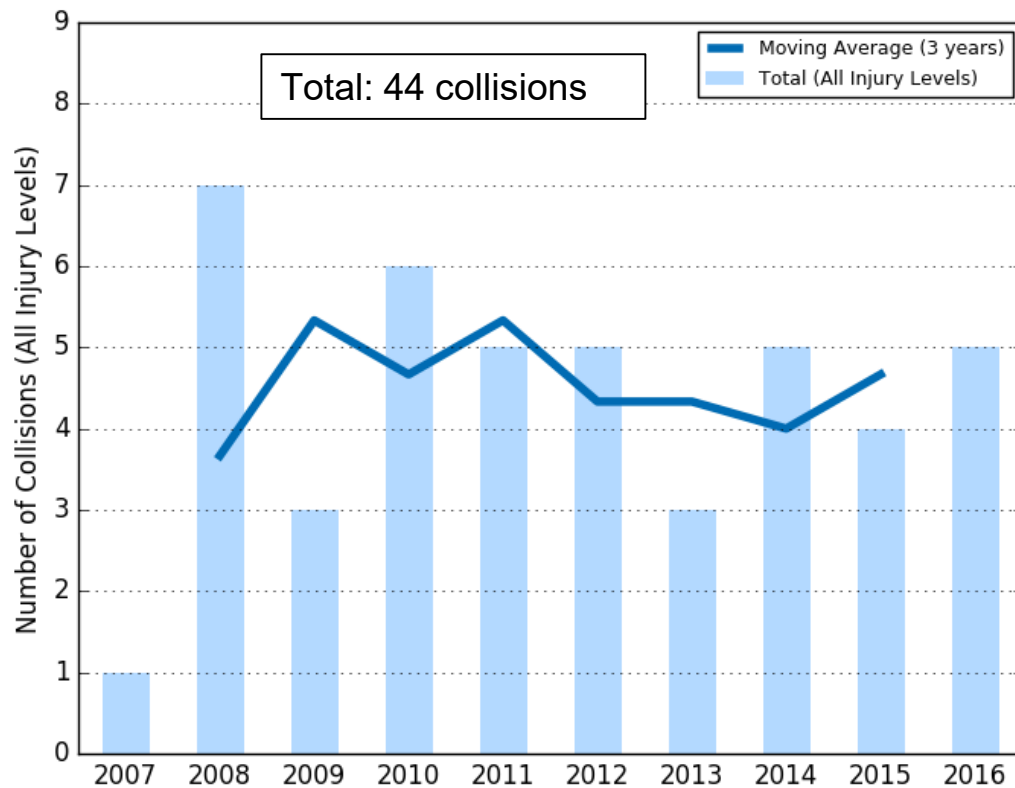
Site Visit Presentation

Community Pedestrian and Bicycle Safety Workshop - Data

Altadena, CA

Jackson Elementary School

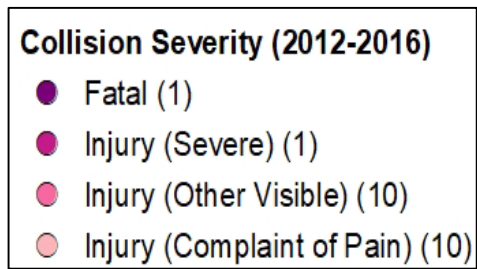
Pedestrian Injury Collision Trend with 3-year moving average



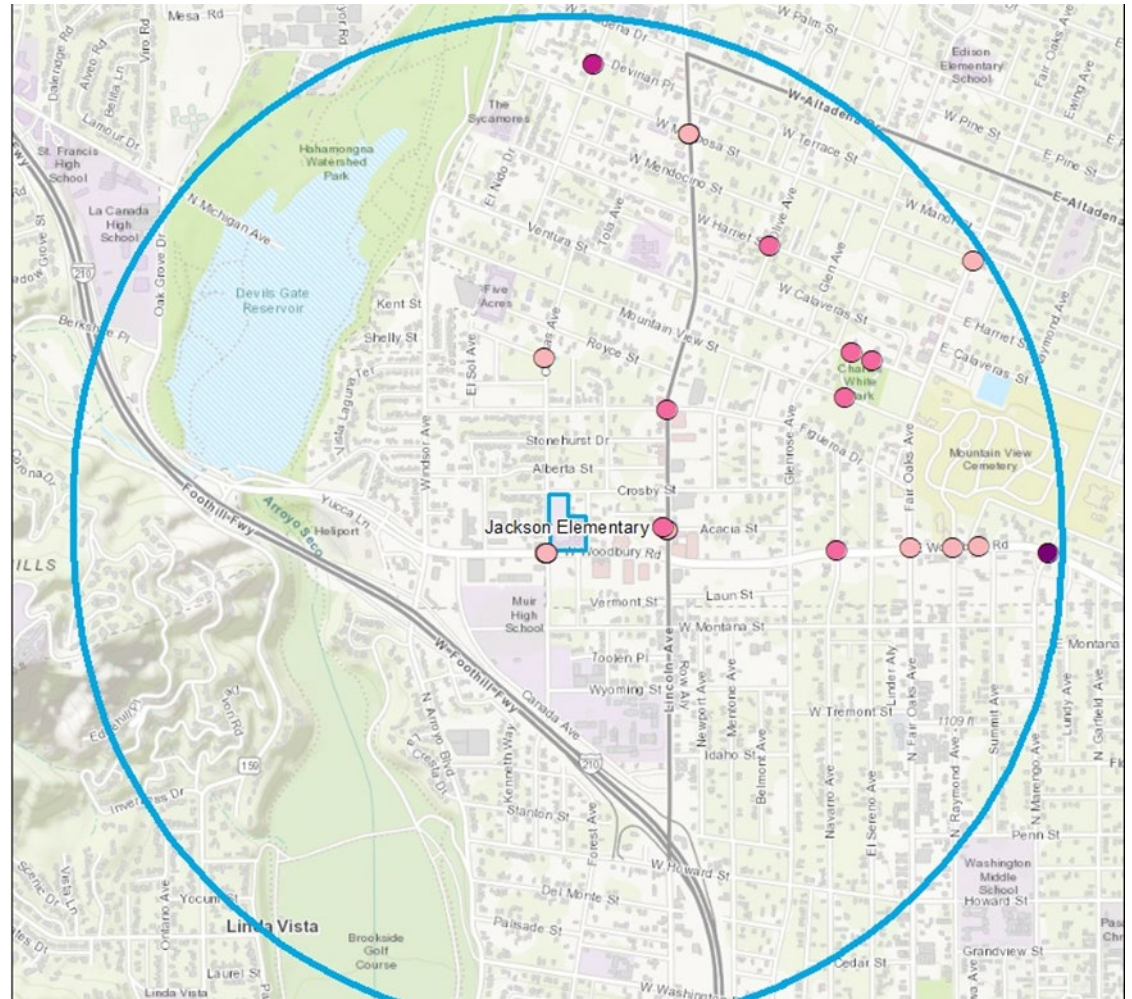
Note: 2015 and 2016 Statewide integrated Traffic Records Systems (SWITRS) data are provisional as of November 2017.

Jackson Elementary Pedestrian Collisions, 2012-2016

Pedestrian Injury Collisions 2012-2016



Total: 22 collisions mapped



Source: SWITRS 2012-2016; 2015 and 2016 data are provisional

Pedestrian Collisions and Income

2012-2016

Total: 22 collisions mapped

Jackson Elementary Pedestrian Collision Map (2012 - 2016)



Source: SWITRS, 2012-16; Demographics – ESRI, US Census Bureau; ACS

Note: 2015 & 2016 SWITRS data is provisional as of November 2017.

Pedestrian Injury Collisions by Time of Day and Day of Week

09:00PM-11:59PM -	0	0	0	2	0	0	0	2
06:00PM-08:59PM -	0	0	1	2	0	0	0	3
03:00PM-05:59PM -	1	4	0	1	1	0	2	9
Noon-02:59PM -	1	0	0	0	2	1	1	5
09:00AM-11:59AM -	0	0	0	0	1	0	0	1
06:00AM-08:59AM -	0	0	1	0	0	1	0	2
03:00AM-05:59AM -	0	0	0	0	0	0	0	0
Midnight-02:59AM -	0	0	0	0	0	0	0	0
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	
	2	4	2	5	4	2	3	

Total: 22 collisions

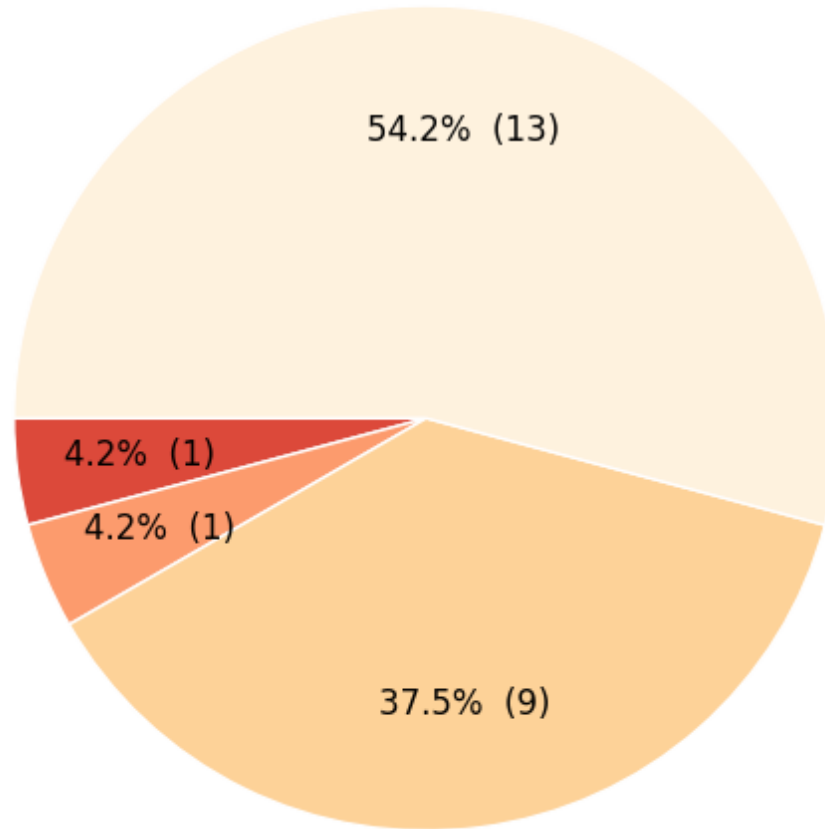
*The color in this graph refer to how frequently a collision occurs at that time and day

Top Violations in Pedestrian Injury Collisions (with # and %)

CVC No.	Description	Freq.	Percent
21950	Driver failure to yield right-of-way to pedestrians at a crosswalk	8	36.4%
21954	Pedestrian failure to yield right-of-way to vehicles	7	31.8%
0	Unknown	2	9.1%
22450	Driver failure to stop at a limit line or crosswalk at a stop sign	2	9.1%
21453	Red or Stop, vehicles stop at limit line or X-walk. When making right turn at a red light/stop sign driver required to yield to any vehicle approaching so closely as to constitute an immediate hazard	1	4.5%
22350	Speeding on the highway	1	4.5%
23152	Driving under the influence of alcohol	1	4.5%
Total		22	100.0%

Total: 22 collisions

Pedestrian Victim Injury Severity

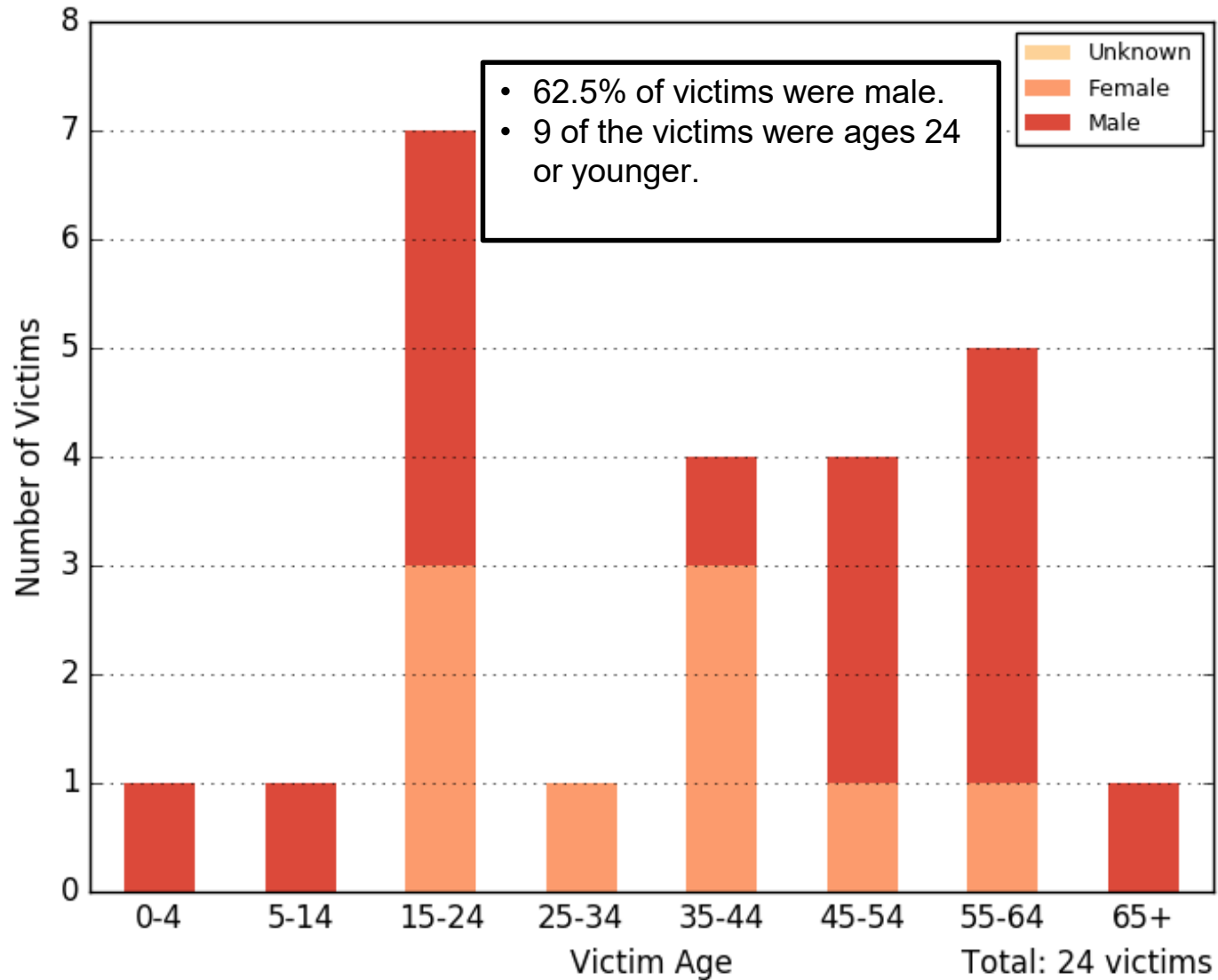


Total: 24 victims



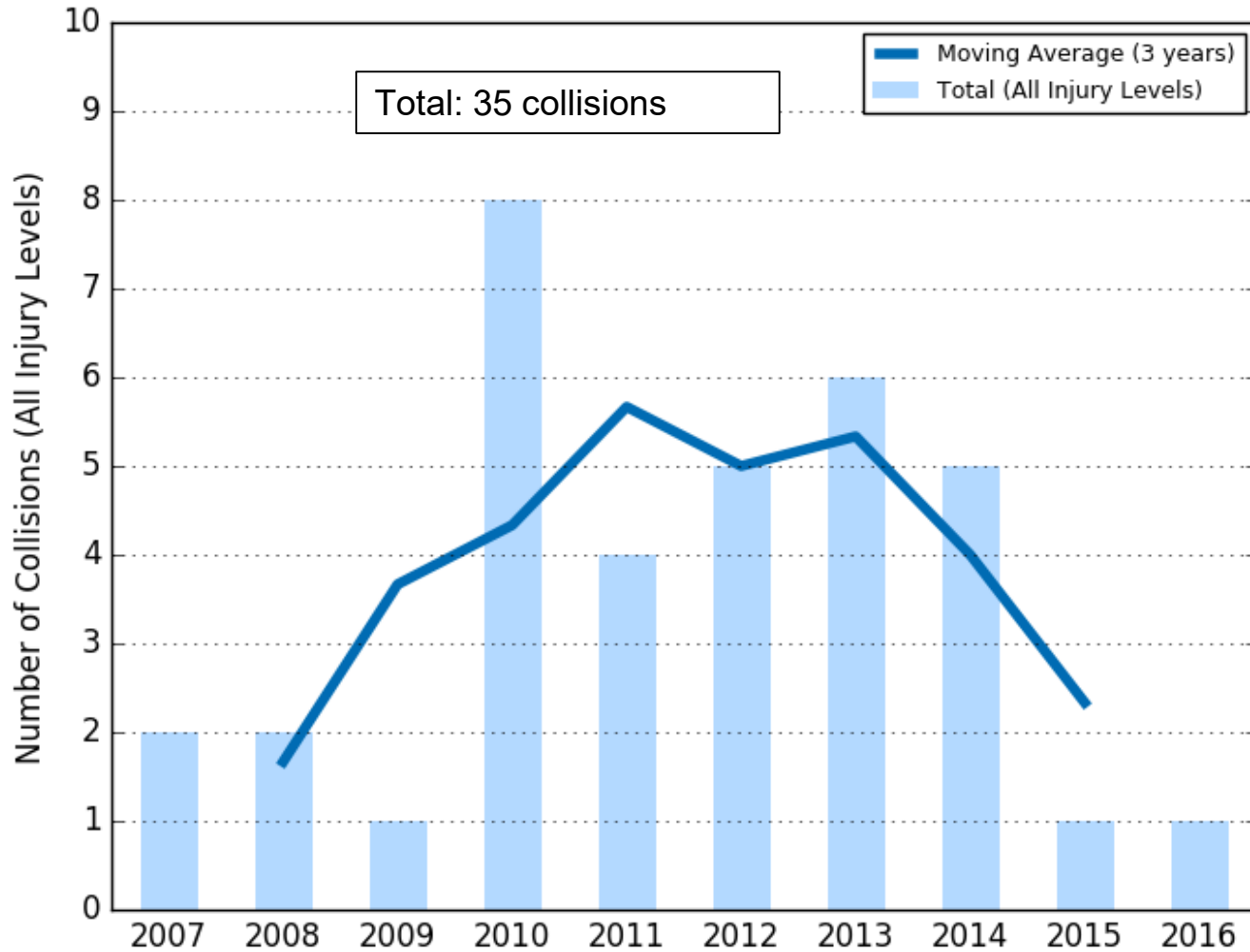
Note: 2015 and 2016 SWITRS data are provisional as of November 2017.

Pedestrian injury Victims by Age and Gender



Note: 2015 and 2016 SWITRS data are provisional as of November 2017.

Bicycle Injury Collision Trend with 3-year moving average



Total: 35 collisions

Note: 2015 and 2016 SWITRS data are provisional as of November 2017.

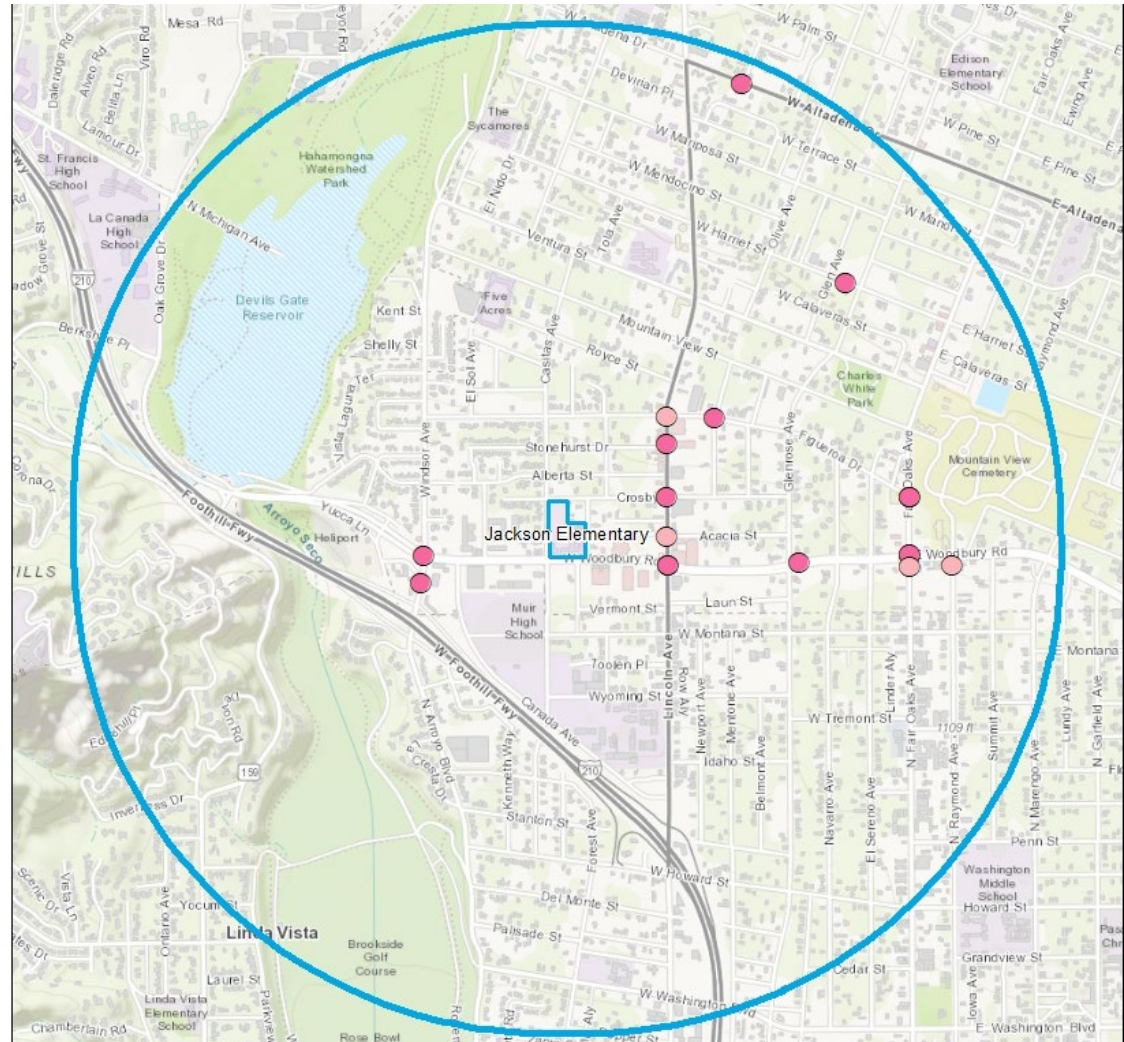
Jackson Elementary School Bicycle Collisions, 2012-2016

Bicycle Injury Collisions 2012-2016

Collision Severity (2012-2016)

- Injury (Other Visible) (13)
- Injury (Complaint of Pain) (5)

Total: 18 collisions



Source: SWITRS 2012-2016; 2015 and 2016 data are provisional

Bicycle Collisions and Income

2012-2016

Total: 18 collisions mapped

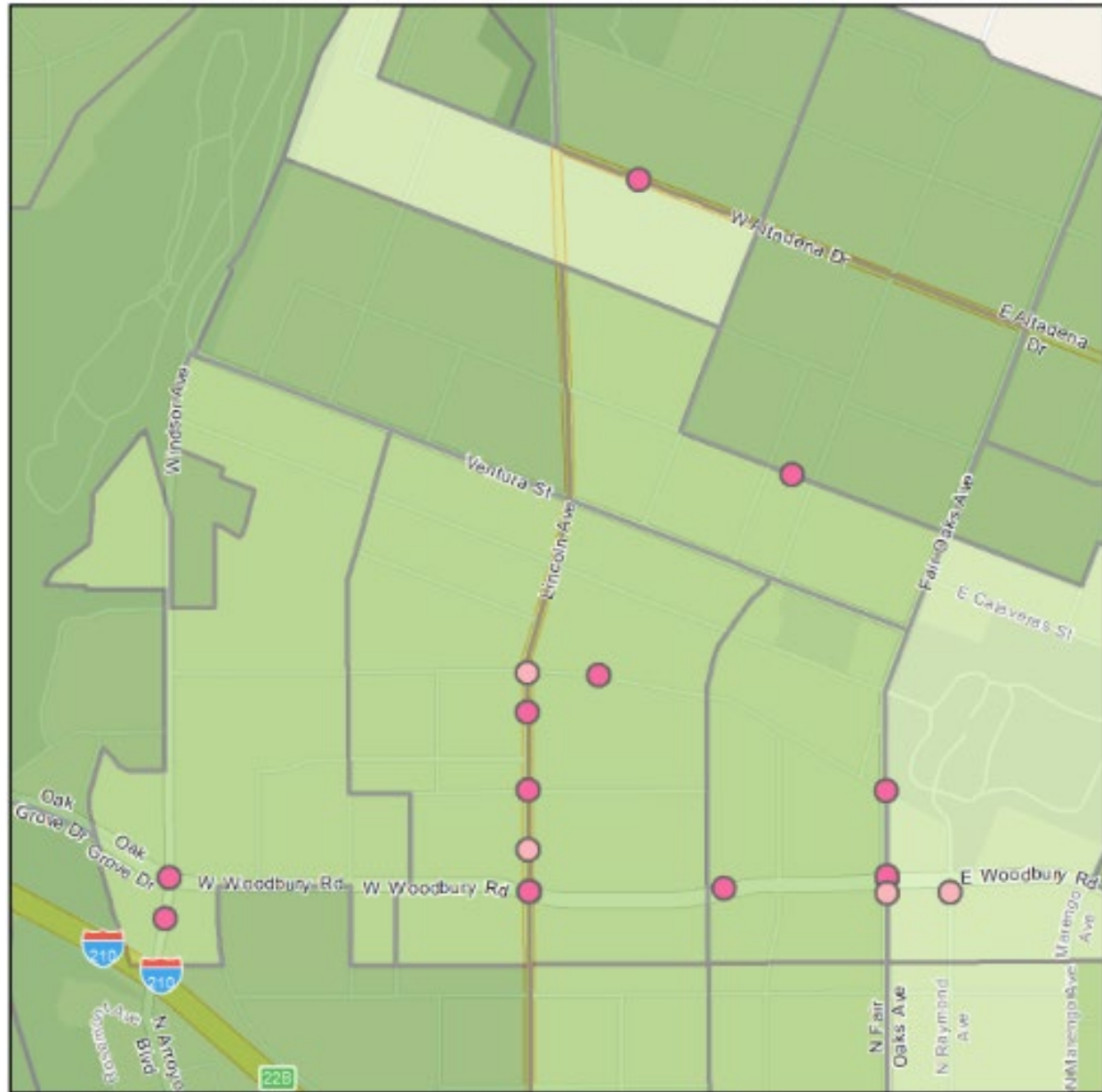
Collision Severity (2012-2016)

- Injury (Other Visible) (13)
- Injury (Complaint of Pain) (5)

2017 Median Household Income

- 35K - 50K
- 50K - 75K
- > 75K

Jackson Elementary Bicycle Collision Map (2012 - 2016)



Source: SWITRS, 2012-16;
Demographics – ESRI, US Census Bureau; ACS

Note: 2015 & 2016 SWITRS data is provisional as of November 2017.

Bicycle Injury Collisions by Time of Day and Day of Week

09:00PM-11:59PM -	0	0	0	0	0	0	0	0
06:00PM-08:59PM -	1	0	0	1	1	1	0	4
03:00PM-05:59PM -	1	2	1	0	0	0	0	4
Noon-02:59PM -	1	0	1	0	0	0	0	2
09:00AM-11:59AM -	1	0	0	1	0	0	1	3
06:00AM-08:59AM -	1	3	0	1	0	0	0	5
03:00AM-05:59AM -	0	0	0	0	0	0	0	0
Midnight-02:59AM -	0	0	0	0	0	0	0	0
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	
	5	5	2	3	1	1	1	

Total: 18 collisions

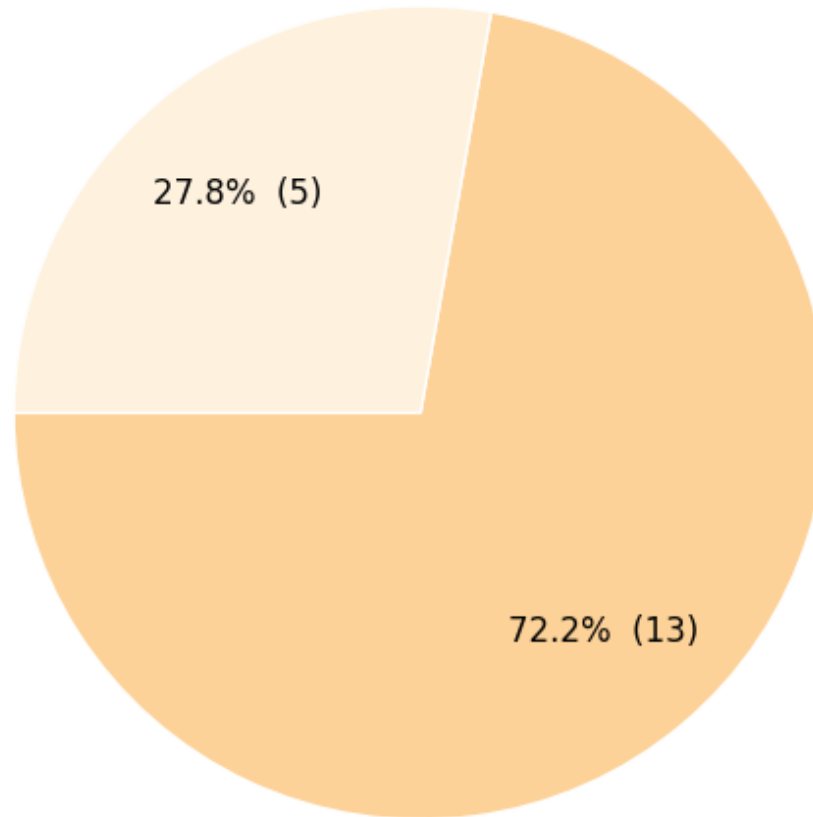
*The color in this graph refer to how frequently a collision occurs at that time and day

Top Violations in Bicycle Injury Collisions (with # and %)

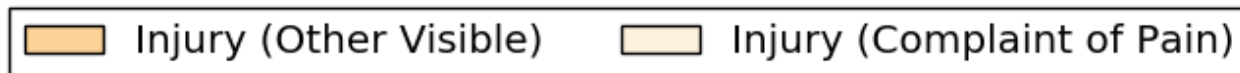
CVC No.	Description	Freq.	Percent
21801	Failure to yield right-of-way to incoming cars while turning left or making U-turn	4	22.2%
22107	Unsafe turning with or without signaling	3	16.7%
21453	Red or Stop, vehicles stop at limit line or X-walk. When making right turn at a red light/stop sign driver required to yield to any vehicle approaching so closely as to constitute an immediate hazard	2	11.1%
21650	Failure to drive on right half of the roadway (with some exceptions)	2	11.1%
21802	Failure to stop or yield right-of-way at a stop sign.	2	11.1%
22350	Speeding on the highway	2	11.1%
21451	Circular green signal, shall proceed but shall yield to vehicles and pedestrians lawfully within intersection	1	5.6%
21658	Failure to drive vehicle in single lane	1	5.6%
22106	Unsafe starting or backing of vehicle	1	5.6%
Total		18	100.0%

Total: 18 collisions

Bicycle Victim Injury Severity

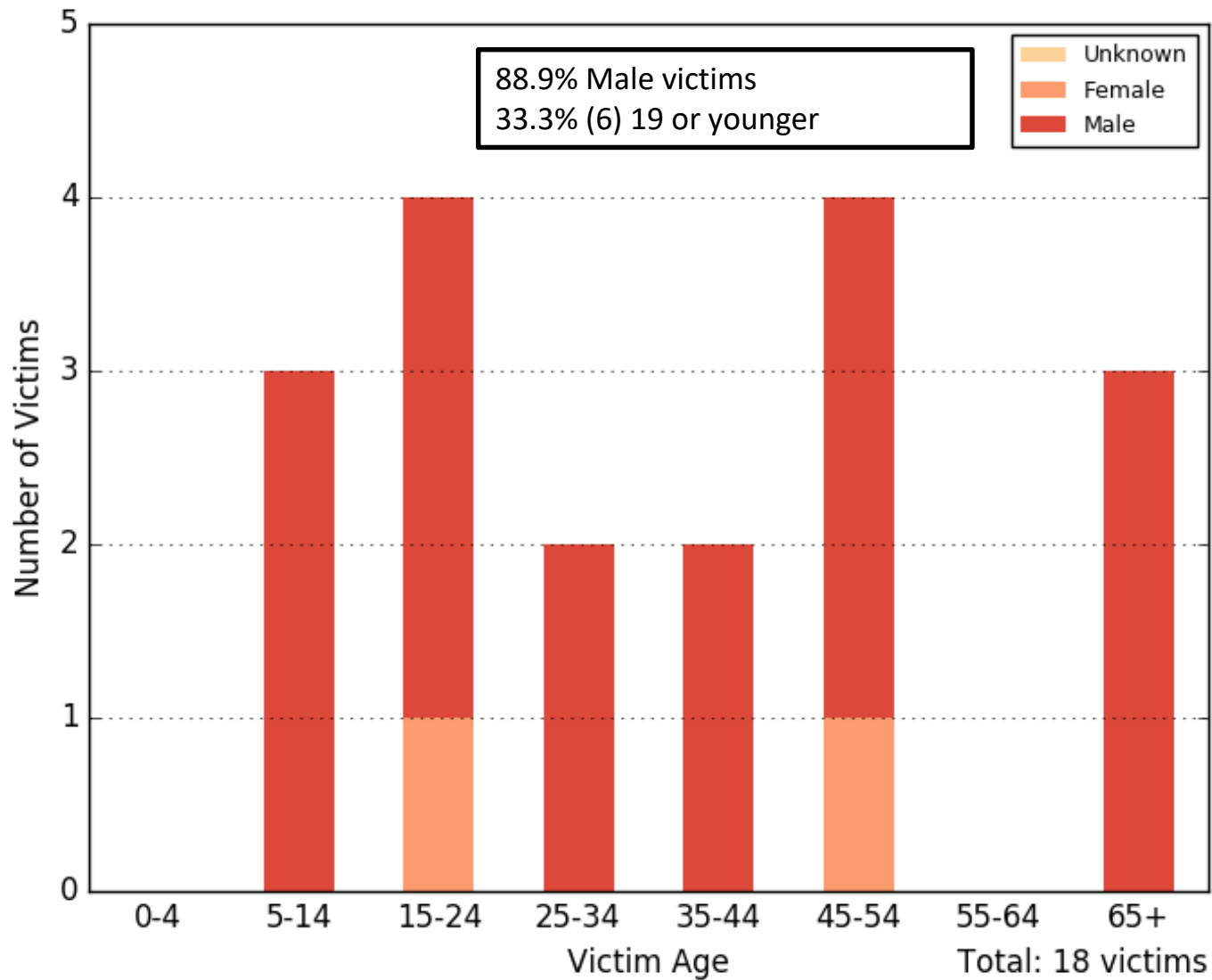


Total: 18 victims



Note: 2015 and 2016 SWITRS data are provisional as of November 2017.

Bicycle Injury Victims by Age and Gender



Note: 2015 and 2016 SWITRS data are provisional as of November 2017.

The Transportation Injury Mapping System (TIMS) is a web-based tool that allows users to analyze and map data from California's Statewide Integrated Traffic Records System (SWITRS).

To further explore collision data, register for a free account to access the tools and resources on TIMS.

<https://tims.berkeley.edu/>

