Wakefield Elementary School, Turlock, Workshop Summary and Recommendations

Community Pedestrian & Bicycle Safety Training and Action Planning
Creating Safer Streets for Walking and Biking



California Walks
Stepping Up for Health, Equity, & Sustainability

Berkeley SafeTREC
SAFE TRANSPORTATION RESEARCH AND EDUCATION CENTER

OTS
CALIFORNIA OFFICE OF TRAFFIC SAFETY

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Turlock, California

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Thank you to Wakefield Elementary School for providing the meeting space and the two paraprofessional volunteers who provided childcare in support of this training. A warm thank you to Public Health Advocates and La Perla Tapatia for donating food and refreshments for the training. Additionally we would like to thank Lourdes Perez for providing simultaneous interpretation from English to Spanish.

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Workshop participants share results of Action Planning Activity.

Introduction

Stanislaus County Health Services Agency, the Planning Committee, California Walks (Cal Walks), and the University of California at Berkeley's Safe Transportation Research and Education Center (SafeTREC) collaboratively planned and facilitated a Community Pedestrian and Bicycle Safety Training (CPBST) at Wakefield Elementary School in Turlock on September 4, 2019 from 12:30 pm to 4:00 p.m. The CPBST is a joint project of California Walks and SafeTREC (Project Team) that works with local residents and safety advocates to develop a community-driven action plan to improve walking and biking safety in their communities by collaborating with local officials and agency staff.

The Planning Committee identified a Safe Routes to School focus for the Wakefield Elementary School community to:

1. Improve walking and biking conditions for students at Wakefield Elementary School;
2. Encourage more students to walk and bike to and from school; and
3. Present and discuss the City's upcoming infrastructure projects near the school with the community.

The training consisted of:

1. Walking and biking assessments along three key routes;
2. An overview of strategies to improve walking and biking safety using the intersectional 6 E's framework including: Evaluation, Equity & Empowerment, Evaluation, Engineering, Education, Encouragement, and Enforcement; and
3. A small group action-planning session to prioritize and plan for programs, policies, and infrastructure projects.

We would like to acknowledge the 26 participants who attended the workshop including Turlock residents, Cultiva La Salud, Stanislaus County Health Services Agency, Turlock Unified School District, Catholic Charities Diocese of Stockton, Caltrans District 10, and Wakefield Elementary School staff. Their collective participation meaningfully informed and strengthened the workshop's outcomes.

This report summarizes the workshop proceedings, as well as recommendations for programs, policies, and infrastructure to improve walking and biking safety for the Wakefield Elementary school community in Turlock.

CPBST Planning Process

Step 1: Assemble a Planning Committee - March 2019

- Enlist key stakeholders to serve as the Planning Committee to define the CPBST workshop goals and refine curriculum to meet the community's needs

Step 2: Review and Analyze Existing Plans and Data - March 2019

- Review existing community documents (policies and plans)
- Analyze injury collision data and identify trends

Step 3: Conduct CPBST Site Visit - May 24, 2019

- Review current pedestrian and bicycle safety data and conditions
- Discuss workshop logisitcs
- Conduct preliminary walk assessments
- Identify instructional activities and goals for the workshop
- Develop outreach and recruitment plan for the workshop

Step 4: Conduct CPBST Workshop - September 4, 2019

- Conduct a walking and/or biking assessment
- Participate in workshop instructional activities
- Develop an action plan, including identifying actionable next steps for advancing workshop goals

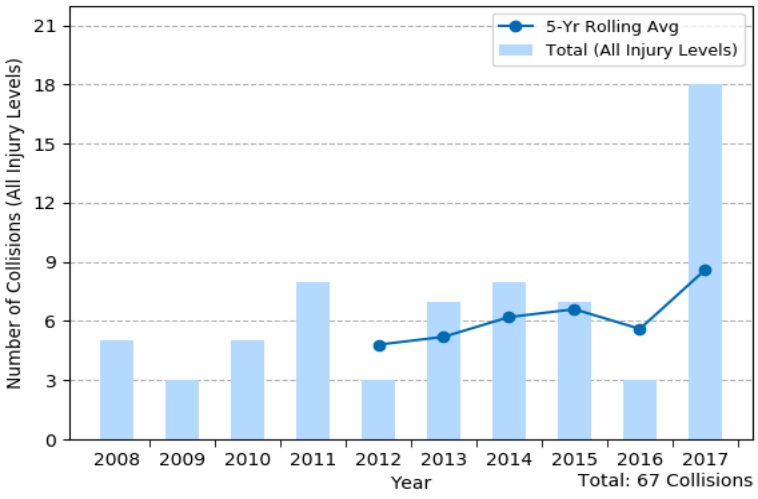
Step 5: Implement CPBST Actions - Ongoing

- Review CPBST report summarizing workshop proceedings and recommendations
- Work with partners to secure resources for programs/projects identified during the CPBST
- Update California Walks and SafeTREC about changes as a result of the CPBST workshop

Pedestrian and Bicycle Collision History

The following data is based on police-reported pedestrian and bicycle collisions resulting in injuries to pedestrians[1] and bicyclists within one mile of Wakefield Elementary School in Turlock, California. Data reported in this section are from the Statewide Integrated Traffic Records Systems (SWITRS) for the years 2008 to 2017. Collision data for 2016 and 2017 are provisional as of March 2019. A full discussion of the pedestrian and bicycle collision data can be found in Appendix C.

Pedestrian Collisions



Over the 10-year period between 2008 and 2017, pedestrian collisions appeared to be trending slightly upwards with a sharp increase in 2017. From 2013 to 2017, there were 43 pedestrian collisions, including four (4) fatal and eight (8) serious injury collisions. Most of the pedestrian collisions were concentrated on the major corridors of Lander Avenue and West Main Street. Over half of the pedestrian collisions occurred at twilight or after dark. Collisions most often occurred during the weekday evening commute between 3 p.m. and 9 p.m., with the greatest number on Monday, Tuesday, and Friday. There was also a pattern of morning commute collisions as well. The top two primary collision factors identifiedby law enforcement in pedestrian collisions were driver failure to yield to pedestrians in a crosswalk (46.5%) and pedestrian failure to yield to drivers when crossing outside of a crosswalk (20.9%).[2]

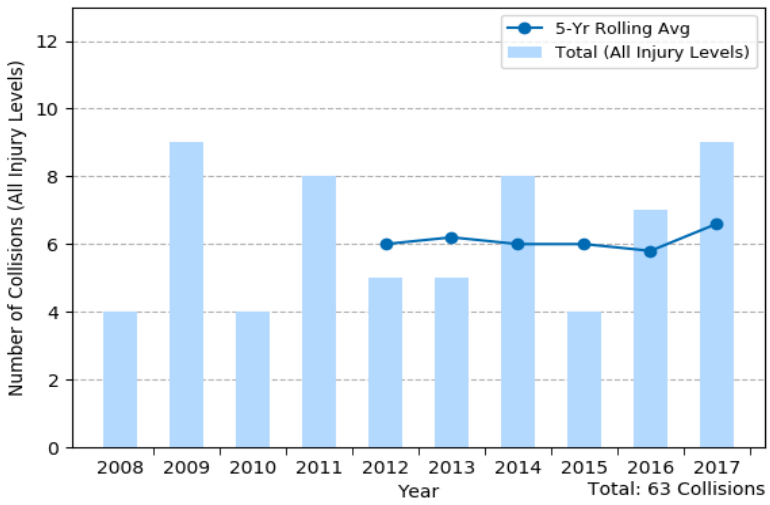
With regard to pedestrian victims, there were six (6) people killed and eight (8) seriously injured, which together accounted for 29.2% of pedestrian injuries. Over one third (37.8%) of victims were under age 25 and another 18.8% were age 65 and older. Of pedestrian victims under age 25, female victims made up 55.6% of injuries, whereas for those 25 and older, females only accounted for 36.7% of victims.

1 A pedestrian is defined as any person who is afoot or using a non-motorized personal conveyance other than a bicycle. This includes skateboards, strollers, wheelchairs, and any electric assistive mobility device

2 Pedestrians have the right-of-way at marked and unmarked crossings, and drivers are legally required to yield to pedestrians in these instances. However, when pedestrians cross outside of a marked or unmarked crosswalk, pedestrians must yield the right-of-way to drivers. A pedestrian is legally allowed 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 should not be mistaken for "jaywalking," which refers to crossing outside of a marked or unmarked crossing between two signalized intersections.

Bicycle Collisions

Over the 10-year period between 2008 and 2017, bicycle collisions appeared to be fairly stable with a slight upward trend. From 2013 to 2017, there were 33 bicycle collisions, including one (1) fatal and two (2) serious injuries. Most of the bicycle collisions were concentrated on the major corridors of Lander Avenue and West Main Street. There was also a cluster in the downtown area by North Broadway between West Olive Avenue and East Main Street. Nearly two-thirds of bicycle collisions occurred during daylight. However, the highest concentration of collisions (33.3%) occurred between the hours of 6 p.m. and 9 p.m. Mondays saw the highest number of collisions followed by Friday. The top primary collision factors identified by law enforcement in bicycle collisions were driver failure to yield the right-of-way when entering/crossing a highway (18.2%), followed by bicyclists failure to ride on the right side of the roadway when below the speed of traffic (12.1%), and unsafe turning/failure to signal (12.1%).[3]



With regard to bicyclist victims, there was one (1) person killed and two (2) seriously injured, which together accounted for 9.1% of bicyclist injuries in the data. While over one quarter (27.3%) of victims were under age 25, the largest proportion of bicyclist injuries was comprised of adults age 35 to 54 (45.5%). Across all age groups, males accounted for the majority of bicycle victims; overall, males accounted for 66.7% of all bicycle victims.

Equity Concerns

Equity in this project means working to ensure that all groups of people, regardless of age, race, gender, ability or income, are considered in planning and decision-making processes. For transportation, we aim to address inequities in vulnerable communities, which have disproportionately high levels of injuries. Improving safety requires tackling the complicated interplay between structural inequities, the walking and biking built environment, and driver, bicyclist, and pedestrian behaviors.

3 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..

Left: Pedestrian collision map overlaid with median household income.
Right: Bicycle collision map overlaid with median household income.
Data source: SWITRS 2013-2017; 2016 and 2017 data are provisional as of March 2019. ES2018. ESRI. US Census Bureau, and American Community Survey.

At the national level, pedestrian fatality rates in lower-income communities are more than twice that of higher income communities.[4] The Project Team used SWITRS, U.S. Census Bureau, and American Community Survey (ACS) data to overlay pedestrian and bicycle collisions with income data to understand how collisions are distributed in this area based on income level. This analysis revealed that a disproportionately high number of collisions occurred in the lower income areas primarily along main roads within one mile of Wakefield Elementary School in Turlock, CA.

The community around Wakefield Elementary School faces unique jurisdictional challenges for pedestrian and bicycle safety improvements. Specifically, the school and the northern and eastern neighborhoods reside in the City of Turlock, while the neighborhoods immediately south and west of the school are in unincorporated Stanislaus County. Given this distinct difference, the processes for securing funds to make improvements would also be distinctly different. Unincorporated areas typically must compete against other unincorporated communities and overall County priorities for limited County transportation funds for such activities as street maintenance, traffic signals, and law enforcement. Often, they will also need to apply jointly with the County for state and federal funding. Cities, on the other hand, may have their own revenue stream for transportation improvements and can also apply for state and federal funding without County input.

4 Pedestrian Deaths in Poorer Neighborhoods Report," Governing, August 2014. Available at http://www.governing.com/gov-data/pedestrian-deaths-poor-neighborhoods-report.html

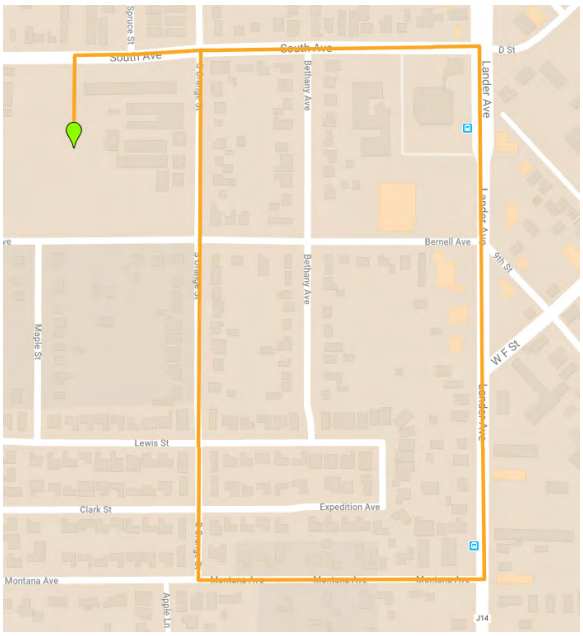
WALKING & BIKING ASSESSMENT

Routes

The Project Team led workshop participants on walking and biking assessments along three key routes. 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; and
4. Consider how the walking and biking experience might feel different for other vulnerable users.

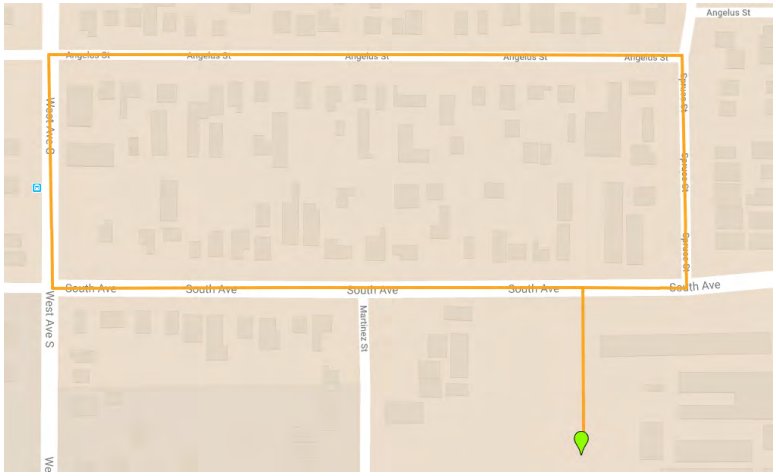
Route 1 Lander Avenue



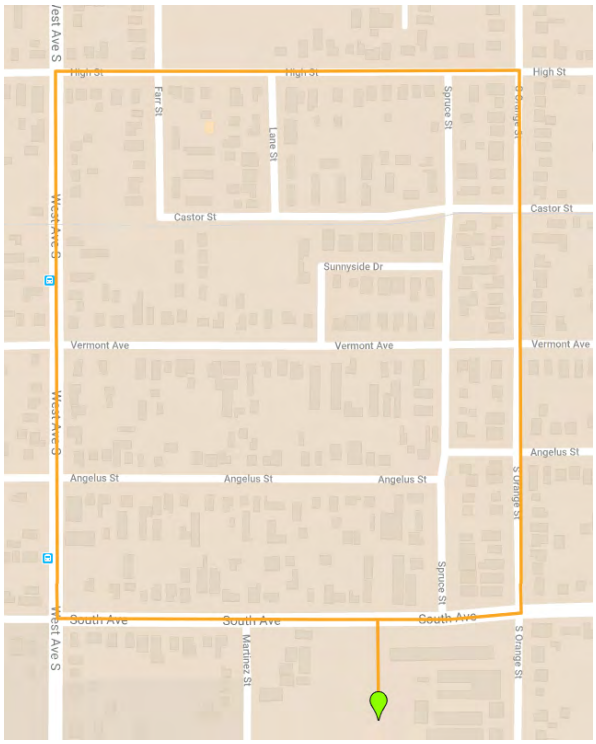
South Orange Street. Both streets are highly used by families and students to walk to and from Wakefield Elementary School.

Route 2 Spruce Street & Angelus Street

The second route focused on the residential neighborhood located northwest of Wakefield Elementary. The route focused on key streets used by students to access the school campus.



Route 3 Columbia Park



The third route focused on residential streets that the community walks/bikes to get to and from Columbus Park.

Alternate Activity: Street Story

Workshop participants who did not join the walking and biking assessments shared their walking and biking safety experiences around Wakefield Elementary School as part of an in-class activity called Street Story. Two school staff who did not otherwise participate in the CPBST workshop completed a series of paper surveys on their experiences with collisions, near-misses, and unsafe and safe areas to travel near the school. All of the stories collected were input into the online Street Story platform after the workshop.

To view data collected as part of Street Story in Turlock, please visit: https://streetstory.berkeley.edu/city/turlock.

Street Story is a community engagement tool that allows residents and community organizations to gather information that is important to transportation safety. Street Story is an online platform developed by UC Berkeley SafeTREC to collect stories about transportation collisions, near-misses, hazards and safe locations to travel. Street Story is also available in a paper version.

The platform and the information collected is free to use and ublically available. Street Story is available at: https://streetstory.berkeley.edu

Reflections

Following the walking and biking assessments and the Street Story activity, participants shared the following reflections:

Sidewalk Conditions

- Adjacent property owners are generally responsible for maintaining sidewalk conditions; however, there are some instances where the City may require a property owner to install a new sidewalk as a condition of receiving a permit for other work. This has created gaps in the sidewalk network and sidewalks of various widths and conditions throughout the community.

Top Left: Cracked and crumbling sidewalk conditions along the west side of South Orange Street.
Top Right: New sidewalks are installed along High Street and Lana Street during a home remodeling project.
Bottom: Participants on Route 3 walk along a dirt path in the sidewalk zone near the intersection of South Orange Street and High Street.

Sidewalk Conditions (*continued*)

- Sidewalks are missing from the south side of High Street across from Columbia Park; South Avenue from Bethany Avenue to Lander Avenue; and the north and south sides of Montana Avenue from Lander Avenue to South Orange Street. Parents identified these locations as highly frequented routes by students walking to and from Wakefield Elementary School.


Sidewalk gap on the southside of Montana Avenue (left) and Lander Avenue (right).

- Participants observed someone riding their motorized wheelchair in the street because of the lack of sidewalks on Lander Avenue, near the Montana Avenue intersection.
- Sidewalk gaps on Spruce Street (north of Angelus Street) and on Angelus Street (between Spruce Street and West Avenue) created challenging conditions for people walking. This is exacerbated by several homeowners who have extended their gates to the curb, further breaking up the sidewalk network. This forces community members to walk in the street in close proximity to drivers.
- Utility poles, overgrown tree roots, hanging utility wires, and other items obstruct the sidewalks along South Orange Street and West Avenue South.


Left: Drivers park too close to property lines which forces pedestrians to walk in the street.
Right: A sign and utility pole obstruct the sidewalk along West Avenue South near Angelus Street across from Calvary Temple Baptist Church.

Poor Drainage

- Storm drainage gutters and sewer grates are often filled with vegetative debris. During the rainy season, the drains get clogged, resulting in standing water that attracts mosquitoes and sewer back up that create an unpleasant odor in the neighborhood.

A participant inspects a gutter clogged with debris and overgrown weeds on South Orange Street.

Overgrown Vegetation and Lack of Shade

- Low-hanging tree branches and overgrown bushes block signage and reduce visibility of and for pedestrians and bicyclists along South Orange Street.
- A number of fully developed trees in planting strips and in front and side yards provide shade to pedestrians and bicyclists along South Orange Street and High Street, but there are many empty planting strips and large gaps in shade trees along South Orange Street, High Street, and West Avenue South.

Left: Empty planting strips along the east side of South Orange Street create an uncomfortable walking environment.
Right: A participant on Route 3 uses an umbrella for shade while walking in the community.

Accessibility Challenges

- The community largely lacks curb ramps throughout the assessment area, including South Orange Avenue, High Street, and West Avenue South, and several intersections in close proximity to Wakefield Elementary School (southeast of South Avenue/Bethany Avenue and southwest corner of Montana Avenue/Lander Avenue). Where curb ramps did exist, they were older apex-style ramps and some lacked modern accessibility features, such as detectable warning strips for people with visual impairments. Additionally, some curb ramps exist in isolation and are not connected to any sidewalks. This results in people using assisted mobility devices having to travel in the street and use driveway ramps to access sidewalks.

Top Left: Missing curb ramps on the southeast corner of High Street/Lane Street intersection.
Top Right: Missing curb ramps on the southeast corner of South Avenue/Bethany Avenue intersection.
Bottom Left: Missing curb ramps on the northeast corner of South Orange Street/Vermont Avenue intersection.

Poor Street Maintenance

- Participants found roadway debris from various types of vegetation, broken roadway gravel, and trash on South Orange Street. They shared that this debris makes it hard to bike in the community.
- Cracked and crumbling pavement with potholes along South Orange Street and West Avenue South, particularly at intersections.
- Participants observed a bicyclist weaving in and out of sidewalks and parked cars along Lander Avenue, between West F Street and Montana Avenue, because of large cracks in the street.
- An old railroad line runs along Castor Street through the school neighborhood. Because the railroad line is not under the City's jurisdiction, parts of the road are unmaintained. Residents shared that there are many nails and sharp objects that accumulate along Castor Street resulting in flat tires for vehicles. They also shared that the street is impossible to bike on due to the tracks, nails, and debris.
- On West Avenue, between South Avenue and Angelus Street, participants had to navigate around two gas pipes placed in the center of the east side of the sidewalks.
- A tree stump was discarded at the south east corner of Angelus Street and Spruce Street blocking the sidewalk.

Poor Street Maintenance (*continued*)

Top Left: Vegetative debris in the gutter and street on Route 3.
Top Right: Cracked asphalt at the intersection of South Orange Street and Castor Street.
Mid Left: One of two gas pipes block the sidewalk on West Avenue.
Mid Right: Tree stump dumped at the corner of Spruce Street and Angelus Street creates an obstable for pedestrians at the southeast corner of the intersection.
Bottom Left A bicyclist rides on the smoothest part of Lander Avenue.
Bottom Right: A workshop participant observes conditions along the railroad tracks on Castor Street.

Missing Driveway Aprons

- Homes along South Orange Street are missing driveway aprons for residents to access their driveways. Consequently, some residents stack wooden beams along the street as a makeshift apron. Some of the wood shifts with time and ends up in the street.

Two makeshift driveway aprons on South Orange Street.

Driver Conflicts

- The east leg of the Angelus Stret/South Orange Street intersection does not have a stop sign. Drivers traveling westbound on Angelus Street may turn onto South Orange Street without stopping Similarly. those traveling southbound on South Orange Street have not traffic control devices requiring them to stop. Participants on Route 3 shared that this creates frequent conflicts and near misses at this intersection.

The intersection of Angelus Street and South Orange Avenue lacks stop signs on three of its four legs, which creates frequent conflicts between drivers.

Crossing Challenges

Top Left: Faded conventional crosswalk markings at Castor Avenue/South Orange Avenue.
Bottom Left: Participants shared that drivers do not stop for them at the marked crosswalk on Lander Avenue at Bernell Avenue.
Right: Crossing at Spruce Street and South Avenue is extremely long.

Unmarked Crosswalk Issues

- The lack of crosswalk markings at High Street and Farr Street creates challenges for residents attempting to access Columbia Park.

Issues with Crosswalk Maintenance

- Participants noted several faded crosswalk markings along South Orange Street at Angelus Street, Vermont Avenue, and Castor Street, as well as along High Street at Lana Street and Farr Street.
- South Orange Street does not require drivers to stop for cross traffic, while all intersecting streets have stop signs. Residents shared that when they walk across the intersections along South Orange Street, drivers do not stop and appear to travel above the posted speed limit of 25 miles per hour (mph) near the school and 30 mph towards High Street.
- The northern crosswalk at the Spruce Street/South Avenue intersection is skewed, resulting in a very long crosswalk for students. This is also the most direct route to school for most students and families. Moreover, the angle of the intersection and drivers parked vertically along the north side of South Avenue create blind spots between southbound drivers on Spruce Avenue turning westbound onto South Avenue and students and families attempting to cross the street to get to Wakefield Elementary School.
- The Angelus Street/Spruce Street intersection is also skewed. Moreover, the western portion of the intersection is extremely wide, encouraging high speeds and creating blind spots for drivers.
- Lander Avenue is a wide five-lane arterial with two vehicle lanes in each direction and a left-hand turning lane from just south of South Avenue to West Linwood Avenue. There are no stop signs or full signalized intersections on Lander Avenue from South Avenue to West Linwood Avenue. There are a few faded high-visibility marked crosswalks on Lander Avenue, such as the one at Bernell Avenue. Participants noted how difficult it is to cross the five lane road with drivers traveling faster than the 40 mph speed limit.

Road User Behavior

- Circular tire marks were noted at the Martinez Avenue/Parnell Avenue, Spruce Street/South Avenue, Lander Avenue/Bernell Avenue, and West Linwood Avenue/Lander Avenue intersections and on High Street in front of Columbia Park. Community members shared that many drivers use these intersections to conduct unsafe maneuvers where they spin the vehicle in circles at high speed.
- Participants shared that drivers appear to travel above the posted speed limit of 30 miles per hour (mph) on South Orange Street, High Street, and West Avenue South. The posted speed limit on Lander Avenue is 40 mph, but participants shared that drivers appear to be traveling much faster than that. Participants felt that because South Orange Street and Lander Avenue are wide roads with few intersecting stop signs and full signals, it would be very difficult to get drivers to slow down. Parents were especially concerned about other parents speeding near Wakefield Elementary School during arrival and dismissal times.
- Participants shared that crosswalk staff report there are many speeding cars in front of the school. Moreover, there are no speed limit signs present.
- Participants shared that parents and children cross Spruce Street without watching for cars.

Left: Tire markings at Spruce Street and South Avenue.
Right: Faded roadway speed limit marking and signage on Lander Avenue.

Recommendations to Improve Walking and Biking Safety for the Wakefield Elementary School Community In Turlock

Participants engaged in small-group action planning discussions to identify community programs and infrastructure projects aimed at increasing the health and safety of the community. Small groups were separated into four thematic areas: encouragement, education, enforcement, and engineering, to brainstorm a list of programs and projects. Each small group then chose one recommendation to prioritize and expand on via preliminary planning. The other results of the brainstorm are listed by theme below.

Education

- Establish a Walk & Roll program for National Walk to School Day in October
- Create walking and biking safety Public Service Announcements on the radio, bus stops, and on social media
- Mandatory presentations and discussions about walking and biking safety for parents
- Establish an American Automobile Association (AAA) Crossing Guard program

Encouragement

- Develop a crossing guard program at Wakefield Elementary School

Engineering

- Improved crossing at Turlock High School
- Additional marked crosswalks in the school community with high visibility crosswalks leading up to Wakefield Elementary and Columbia Park
- Relocate utility lines from sidewalks, such as those found on West Avenue between South Avenue and Angelus Street.

Enforcement

- Coordination with Turlock Police Department to increase patrols around school arrival and dismissal hours to address issues with parents parking in red zones, and failing to yield to pedestrians in crosswalks.

Community Recommendations

The following tables summarize the recommendations developed by the community during the workshop.

Education Project Name: Community Walking and Biking Safety Education Program

Description: Develop and implement community walking and biking education safety strategies with the City of Turlock's Active Transportation Program funds while the community waits for medium- to long-term safety improvements.

Goals:

1. Identify walking and biking safety education strategies for the Wakefield Elementary School community;
2. Develop and implement strategies with Wakefield students, parents, and staff;
3. Increase safe walking and biking behaviors; and
4. Reduce pedestrian and bicycle injuries.

Action Steps	Timeline	Responsible Party	Resources
Reconvene CPBST Planning Committee to discuss walking and biking safety education opportunities and identify top pedestrian and bicycle specific safety behaviors to target. ● Conduct Walking and Biking Behavior Observations in the community. Evaluate Observation Findings ● Review observation findings and identify top safety pedestrian and bicycle behaviors to target through education.	Fall 2019	• Planning Committee • Project Team • City of Turlock	SafeTREC Pedestrian and Bicycle Collision Data Safe Routes to School National Partnership Local School Project Evaluation Handbook: Appendix 4 Safety Observation Data Collection Protocol and Form
Identify and develop safe walking and biking education strategies.	Winter 2019	• Planning Committee • Project Team • City of Turlock • Wakefield Elementary School Staff	Safe Walking and Biking Curriculum
Implement safe walking and biking education strategies with funding from ATP program.	Spring 2020	• Planning Committee • City of Turlock • Wakefield Elementary School Staff	Educational materials and talking points.

Education Project Name: Walking School Bus

Description: Implement a Walking School Bus program to organize the students and families already walking to and from school and encourage more parents to let their students walk and bike to school.

Goals:

1. Organize students and families already walking to and from school;
2. Encourage more parents to let their students walk to and from school;
3. Educate students and families on the rules of the road; and
4. Increase sense of safety for students and parents walking to and from school.

Action Steps	Timeline	Responsible Party	Resources
Determine number of students currently walking to and from school ● Identify where students who walk are coming from ● Conduct Student Hand Tallies ● Conduct Parent Survey about Walking and Biking to School ● Conduct pedestrian counts during arrival and dismissal time at key intersections around the school	Fall 2019	• School Parent Group • Stanislaus County Health Services Agency • Wakefield Elementary School Staff	Spare the Air Youth Student Hand Tallies Parent Survey about Walking and Biking to School ● Spanish Survey
Volunteers and Education ● School parent group to volunteer and ask other parents to volunteer as walking school bus leaders ● Provide safety education and training for parents on how to be walking school bus leaders	Spring 2020	• School Parent Group • Stanislaus County Health Services Agency • Turlock Police Department	Safe Routes National Center for Safe Routes to School: Walking School Bus Training Modules

Education Project Name: Walking School Bus *(continued)*

Action Steps *(continued)*	**Timeline**	**Responsible Party**	**Resources**
Materials & Incentives ● Solicit donations for program materials: vests, shirts for participating students and adults ● Solicit donations for student participation incentives: high-visibility bracelets, key chains, and stickers, bicycles, helmets, and lights. ● School parent group to solicit donations from local businesses ● School parent group to host fundraisers for the materials and incentives needed for the program	Fall 2020	• School Parent Group • Stanislaus County Health Services Agency	Los Angeles County Department of Public Health. Let's Walk to School Together! A Walking School Bus Training Manual for Safe Routes to School Programs ● Materials and Incentives List
Launch Walking School Bus Program ● Plan for additional educational assemblies or activities throughout the day	National Walk to School Day, October 2020	• School Parent Group • Stanislaus County Health Services Agency • Wakefield Elementary School Staff	Safe Routes to School National Partnership: Walk to School Day Planning Your Program in 4 Easy Steps!

Enforcement Project Name: Crossing Guard Program

Project Description: The Dual Immersion Program at Wakefield Elementary School is expanding by one grade per year. With this influx of new students and as more students arrive by vehicle, this project aims to establish a Crossing Guard Program to improve safety for all users during arrival and dismissal.

Project Goals:

1. Improve safety for students and families walking and biking to school; and
2. Encourage safer driving behavior near the school during arrival and dismissal.

Action Steps	Timeline	Responsible Party	Resources
Convene a stakeholder group to develop a Crossing Guard Program at Wakefield Elementary School. ● Identify a school champion ● Partner with Turlock Police Department	Fall 2019 preferably October	Stanislaus County Health Services Agency	California School Crossing Guard Training Guideline, Chapter 2 *Identification of Where Crossing Guards are Needed* CA MUTCD, Chapter 7D Crossing Supervision
Contact Turlock Unified School District to determine if a crossing guard program already exists and learn how to submit an application for one Wakefield Elementary School	Fall 2019	Stanislaus County Health Services Agency	Turlock Unified School District
Observe arrival/dismissal patterns at Wakefield Elementary School to identify intersections with the greatest need for a crossing guard. ● Conduct pedestrian and bicyclist counts, including observations of helmet usage	Fall 2019	Stakeholder group	Safe Routes to School Guide Conducting Bicycle and Pedestrian Counts
Identify City of Turlock and Stanislaus County infrastructure improvements planned for this area that that may affect a crossing guard program	Fall 2019	Stakeholder group	Turlock Engineering Division Stanislaus County Public Works - Engineering Division

Enforcement Project Name: Crossing Guard Program *(continued)*

Action Steps *(continued)*	**Timeline**	**Responsible Party**	**Resources**
Pilot Crossing Guard Program ● Identify 2-week period for pilot program ● Identify locations for crossing guard placement ● Train crossing guards ● Secure safety materials from AAA or other agency ● Conduct pilot program ● Observe arrival/dismissal, including pedestrian and bicyclist counts during pilot	Spring 2020, preferably April	Stakeholder group	Safety vests Stop signs Whistle
Evaluate Crossing Guard Program and address improvements needed ● Review pilot program for improvements, e.g., participation by different age groups, pedestrian and bicyclist counts, changes in behavior or perceptions around walking and biking, crossing guard training, and crossing guard placements.	Summer 2020	Stakeholder group Stanislaus County Health Services Agency	
Implement full-time Crossing Guard Program ● Incorporate findings from the pilot program evaluation ● Identify if funding is available to support this effort through the Stanislaus Council of Governments	Fall 2020	Stakeholder group	Stanislaus Council of Governments

Enforcement Project Name: Corner Captains/Safety Patrol

Description: Corner Captains will gather license plate vehicle information to share with the Turlock Police Department (TPD) to help identify parents engaged in unsafe road behaviors. The parents will then be contacted by school staff to provide travel safety education.

Goals:

1. Reduce unsafe driver behavior;
2. Encourage and educate parents and students on pedestrian safety; and
3. Foster partnerships between school site staff and law enforcement.

Action Steps	Timeline	Responsible Party	Resources
Identify parent volunteers to become Corner Captains. ● Conduct outreach at parent meetings to recruit volunteers	May 2020	Cultiva La Salud/ Public Health Advocates	Bicycle and Pedestrian Curricula Guide Implementing Safe Routes to School in Low-Income Schools and Communities
Train Corner Captains ● Provide general education on traffic safety ● Train parents on how to document unsafe driver behavior, including collecting license plate numbers and a description of the unsafe maneuver or behavior observed ● Lourdes Perez will share lessons learned from implementation of a similar program in Ceres Unified School District (CUSD) and contact CUSD staff as needed	June-August 2020	● Cultiva La Salud ● Public Health Advocates ● Wakefield Elementary School staff ● Turlock Police Department	Taking Back the Streets and Sidewalks:How Safe Routes to School and Community Safety Initiatives Can Overcome Violence and Crime
Plan Walk to School Day Event. ● Identify date ● Select meeting place for parent volunteers and students ● Develop flyers and conduct outreach	October 2020	● Corner Captain ● Lead: Cultiva La Salud/Public Health Advocates ● Walk to School ● Day Event Lead: Stanislaus County Health Services Agency	Safe Routes to School Guide Conducting Bicycle and Pedestrian Counts

Enforcement Project Name: Corner Captains/Safety Patrol *(continued)*

Action Steps *(continued)*	**Timeline**	**Responsible Party**	**Resources**
Kick off Corner Captains Program at Walk to School Day ● Host Walk to School Day Event ● Provide Walking Safety Education to Students during in-class activities and through parent volunteers helping lead a walking route or other activity ● Corner Captains collect license plates for drivers engaged in unsafe behaviors ● Wakefield Elementary School staff share license plates with Turlock Police Department to identify drivers ● Wakefield Elementary School Staff contact drivers and provide travel safety education as a warning	Fall 2019	Stakeholder group	Turlock Engineering Division Stanislaus County Public Works - Engineering Division
Establish student competition for children to stay safe when walking/biking ● Incorporate walking and biking safety activities to classroom curriculum. ● Encourage students to follow rules of the road during arrival and dismissal ● Engage students in providing encouragement and education to parents to support in behavior change ● Provide credits when students are observed following safety rules for walking and biking (using a crosswalk, signaling when bicycling, avoiding mid-block crossings, etc.) ● Provide celebration to class with most credits collected	August 2020-Ongoing	Cultiva La Salud Public Health Advocates Wakefield Elementary Staff	Vermont Safe Routes to School Contest and Incentives

Cal Walks & UC Berkeley SafeTREC Recommendations

Promotores Program

The Project Team ***recommends Stanislaus County Health Services Agency work with the activated parent group to start a Promotores Program to educate all school families on health and walking and biking safety.*** Wakefield Elementary School staff have been proactive in sending flyers and messages to parents regarding the school arrival and dismissal procedures and general roadway safety. However, the activated parent group were highly concerned with unsafe parent driver behaviors. Establishing a Promotores Program with the existing activated parent group will equip them with the necessary knowledge and tools to amplify the school's existing safety messaging. Furthermore, this program will allow them to make personal connections with other parents to encourage safer driver behaviors for everyone's children.

Host a Community Meeting to Inform Active Transportation Non-Infrastructure Activities

The Project Team ***recommends the City of Turlock work closely with school district administration, parents, and community members to identify needs for education and encouragement that can be linked to existing funding under the Active Transportation Program funds.*** The City shared that there are existing funds to support non-infrastructure programming near sites that are scheduled for infrastructure improvements. Inclusion of community voices in this process will ensure successful implementation and address the needs of community members and students of Wakefield Elementary School.

Community Crosswalk Assessment

The Project Team ***recommends the Planning Committee collaborate with the City of Turlock Parks, Recreation & Public Facilities Department to submit requests for updating faded crosswalk markings and requesting installation of new marked crosswalks.*** The Department is responsible for street repair and striping and may have existing administrative processes that residents can leverage to address their crossing needs. ,Additionally, the Project Team ***recommends the Planning Committee conduct an assessment of crosswalks and crosswalk markings along the three walking and biking assessment routes to identify intersections with faded crosswalks, unmarked crosswalks, and opportunities for high-visibility crosswalks.***

Columbia Park Activation

The Project Team ***recommends the City of Turlock complete an assessment of organized and informal park activities to understand how and when the park is being used, including the number and age of users and the time and type of activities.*** This information could be used to conduct outreach to residents and develop and implement community-supported activities, including walking and bicycling safety. Parents and community members on Route 3 shared that Columbia Park is a community asset, and they would like to have more organized activities to use the park. They specifically requested additional park programming for older youth. Parents recommended sports classes for basketball, tennis, and volleyball to keep youth engaged in positive activities in the community. Currently, the park hosts daily dance therapy classes, which participants shared are well attended.

Street Sweeping Resources

The Project Team ***recommends the City of Turlock add additional street sweeping information to the City's website,*** such as a list of streets with the weekly schedule, dates streets will not be swept in observance of holidays, and a customer service number for residents to call and request street sweeping. Currently, the website only has a large map with the street sweeping schedule that community people say is difficult to access and read. Participants on Route 3 shared that regular street sweeping is not happening in their neighborhood and pointed out accumulating roadway debris. They requested additional street sweeping services to help maintain the cleanliness of the streets, while they wait for large-scale road repair and maintenance.

Right-sizing of Spruce Street near Wakefield Elementary

The Project Team ***recommends the City of Turlock narrow Spruce Street between Angelus Street and South Avenue through curb extensions at the intersections, travel lane markings, and the addition of chicanes or traffic chokers to slow drivers and create easier crossing conditions for pedestrians.*** This segment of Spruce Street is far too wide for a neighborhood street–measuring roughly 60 feet wide–and combined with the skewed intersections with Angelus Street and South Avenue, creates an unsafe environment for residents walking and biking. The installation of curb extensions, including temporary-style installations, may help to re-align the skewed intersections and discourage drivers from taking turns at full speed, while also making crossings easier for pedestrians.

Appendix A: Community Plans & Policies Review

Community Plans and Policies Review: Cal Walks conducted a review of current community planning documents to inform the training and prepare to build off existing efforts. The following documents were reviewed prior to the site visit:

1. Turlock Active Transportation Plan, 2015
2. Active Transportation Implementation Plan, 2015
3. Safe Routes to School Report, 2015
    a. Safe Routes to School Route Maps,Wakefield Elementary, 2015
4. Walk and Bike Friendly Turlock, 2014
5. Short Range Transit Plan Final Report, 2016
6. Proposed Changes near Wakefield Elementary School

Appendix B: Resources

List/Links of Resources

- Funding Navigation for California Communities
- Active Transportation Program
- Pedestrian Safer Journey
- Walk and Bike to School Day
- Neighborhood Site Audit: Intersection and Crosswalk Evaluation
- Community Park Audit Tool
- Complete Park Indicators
- Integrating the Promotores Model to Strengthen Community Partnerships
- Promotor(a) Program Manual
- Lista de Revision Peatonal (Walking Audit Checklist, Spanish)

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

Appendix C: Data Analysis

Pedestrian and Bicycle Collision Data Analysis

- Wakefield Elementary School, Turlock, CPBST Workshop Data Factsheet
- Wakefield Elementary School, Turlock, CPBST Site Visit Data Presentation
- Wakefield Elementary School, Turlock, CPBST Site Visit Data Follow-Up

Wakefield Elementary School Pedestrian & Bicycle Data Analyses

Community Pedestrian and Bicycle Safety Training Workshop (CPBST)

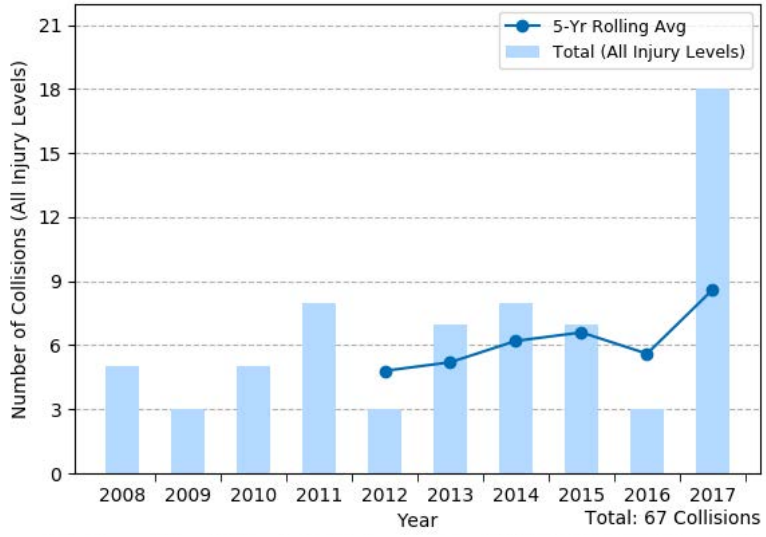
Turlock, CA | September 4, 2019

In California, more than one in four people who died in a collision is a pedestrian or bicyclist. There was a 13.9 percent increase in pedestrian deaths from 2015 to 2016 and a 14.0 percent increase in cycling deaths (FARS 2015 and 2016). In this workshop, we provide you with local collision data so that we can identify ways to make walking and biking safer in your community.

The local data seen below reflects collisions within 1-mile of Wakefield Elementary School per the workshop's planning committee.

PEDESTRIANS

How are pedestrian collisions changing over time?
What could have caused an increase or decrease in collisions?



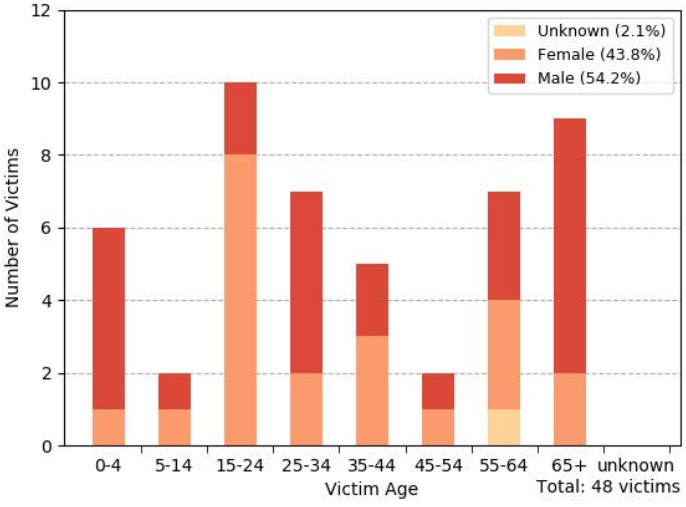
74 people were killed or injured in **67** pedestrian collisions in the last 10 years (2008-2017)

The number of pedestrian collisions appear to be **increasing** based on the five year rolling average*.

* The five-year rolling average is the average of five consecutive years of data. It provides an overall collision trend over time that accounts for the significant changes in the number of collisions per year.

The following are based on pedestrian collision data for the years 2013-2017:

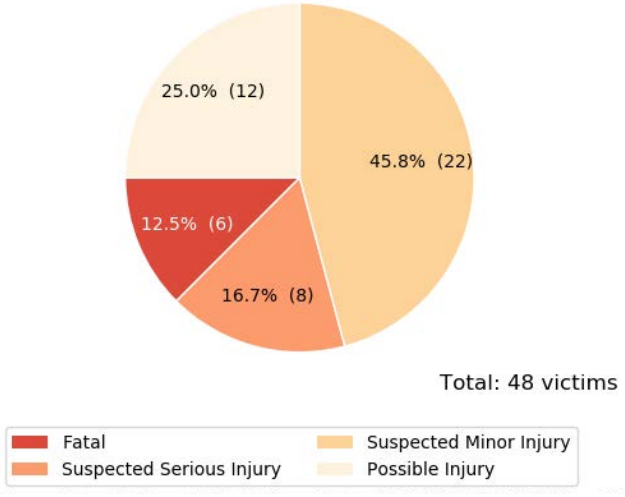
Who were the victims in these collisions?



22.9% of victims were age 18 or younger

18.8% of victims were age 65 or older

How severe were the victims' injuries?



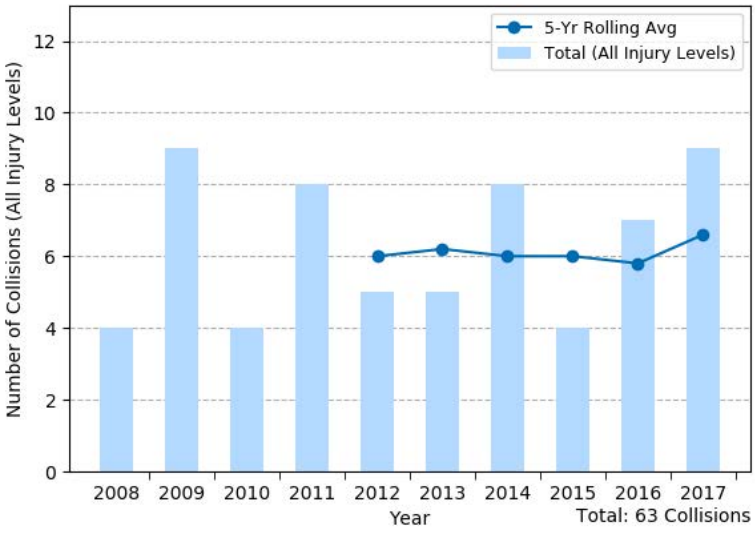
29.2% of victims suffered fatal or serious injuries

Data Source: California Statewide Integrated Traffic Records System (SWITRS). Collision data for 2016 and 2017 are provisional as of March 2019.

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

BICYCLES

How are bicycle collisions changing over time?
What could have caused an increase or decrease in collisions?



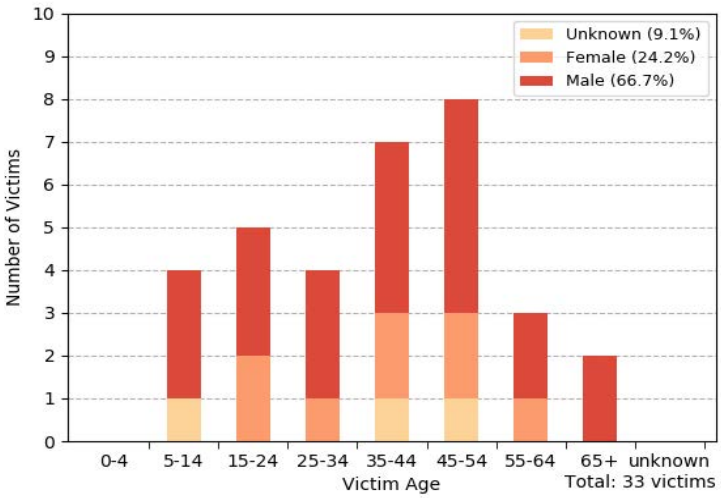
64 people were killed or injured in **63** bicycle collisions in the last 10 years (2008-2017)

The number of bicycle collisions appear to be **slightly increasing** based on the five year rolling average*

* The five-year rolling average is the average of five consecutive years of data. It provides an overall collision trend over time that accounts for the significant changes in the number of collisions per year.

The following are based on bicycle collision data for the years 2013-2017:

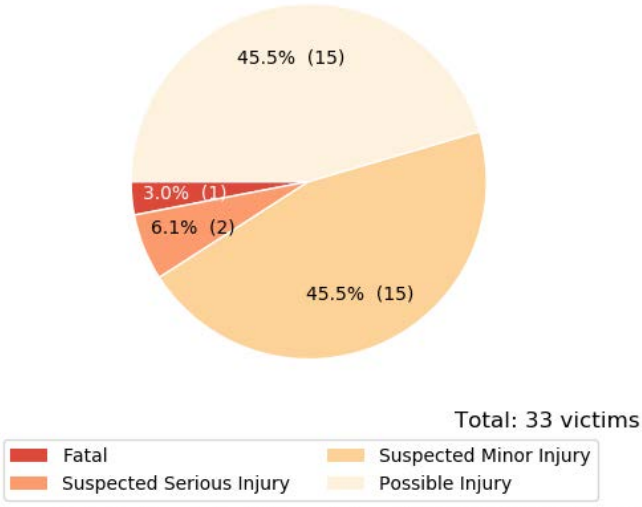
Who were the victims in these collisions?



18.2% of victims were age 18 or younger

45.5% of victims were age 35 to 54

How severe were the victims' injuries?



9.1% of victims suffered fatal or serious injuries

- While these numbers do not tell the whole story, do they reflect your experience in your community?
- What kinds of improvement do you think could help make walking and biking safer in your community?
- What other data could help inform decision-making?

To explore collision data in your community, please visit the free tools available through the Transportation Injury Mapping System (tims.berkeley.edu). For additional assistance, please email safetrec@berkeley.edu.

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California Walks

OTS CALIFORNIA OFFICE OF TRAFFIC SAFETY

Data Source: California Statewide Integrated Traffic Records System (SWITRS). Collision data for 2016 and 2017 are provisional as of March 2019.

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

Wakefield Elementary School Pedestrian Collision Map (2013 - 2017)

Data Source: Statewide Integrated Traffic Record System (SWITRS) 2013-2017; 2016 and 2017 data are provisional as of March 2019

Date: 6/3/2019

Wakefield Elementary School Bicycle Collision Map (2013 - 2017)

Data Source: Statewide Integrated Traffic Record System (SWITRS) 2013-2017; 2016 and 2017 data are provisional as of March 2019

Date: 6/3/2019

Wakefield Elementary, Turlock
CPBST Site Visit Slides

- corrected slides* -

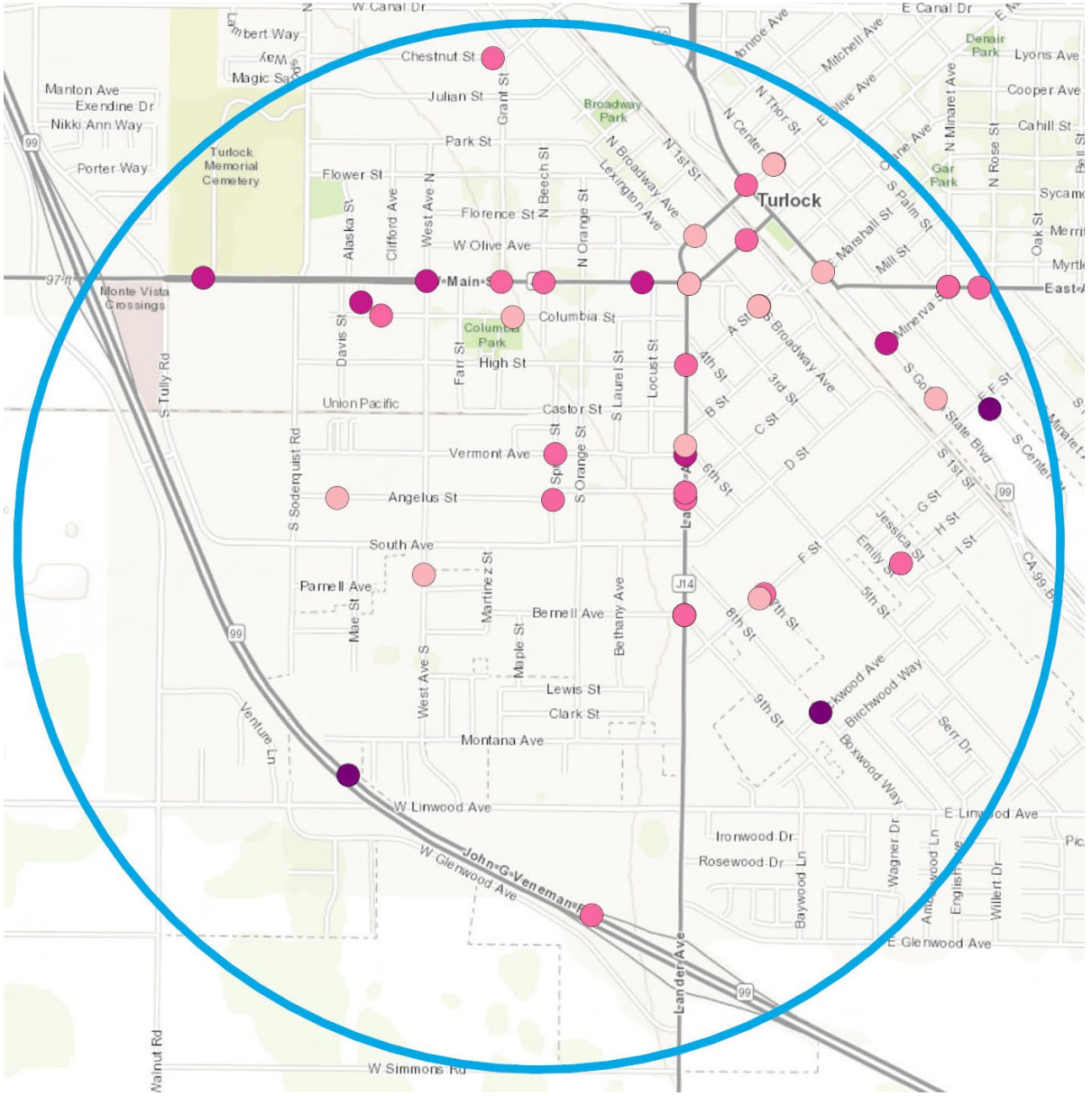
July 31, 2019

*Due to an incorrect mapping projection, the slides shared at the May 24, 2019 site visit were based on a smaller radius than one mile. These slides are revised for a one mile radius.

Pedestrian Injury Collisions (2013-2017)

Collision Severity

- Fatal (4)
- Injury (Severe) (8)
- Injury (Other Visible) (19)
- Injury (Complaint of Pain) (12)



Data Source: Statewide Integrated Traffic Records System (SWITRS), 2013-2017; 2016 and 2017 data are provisional as of March 2019

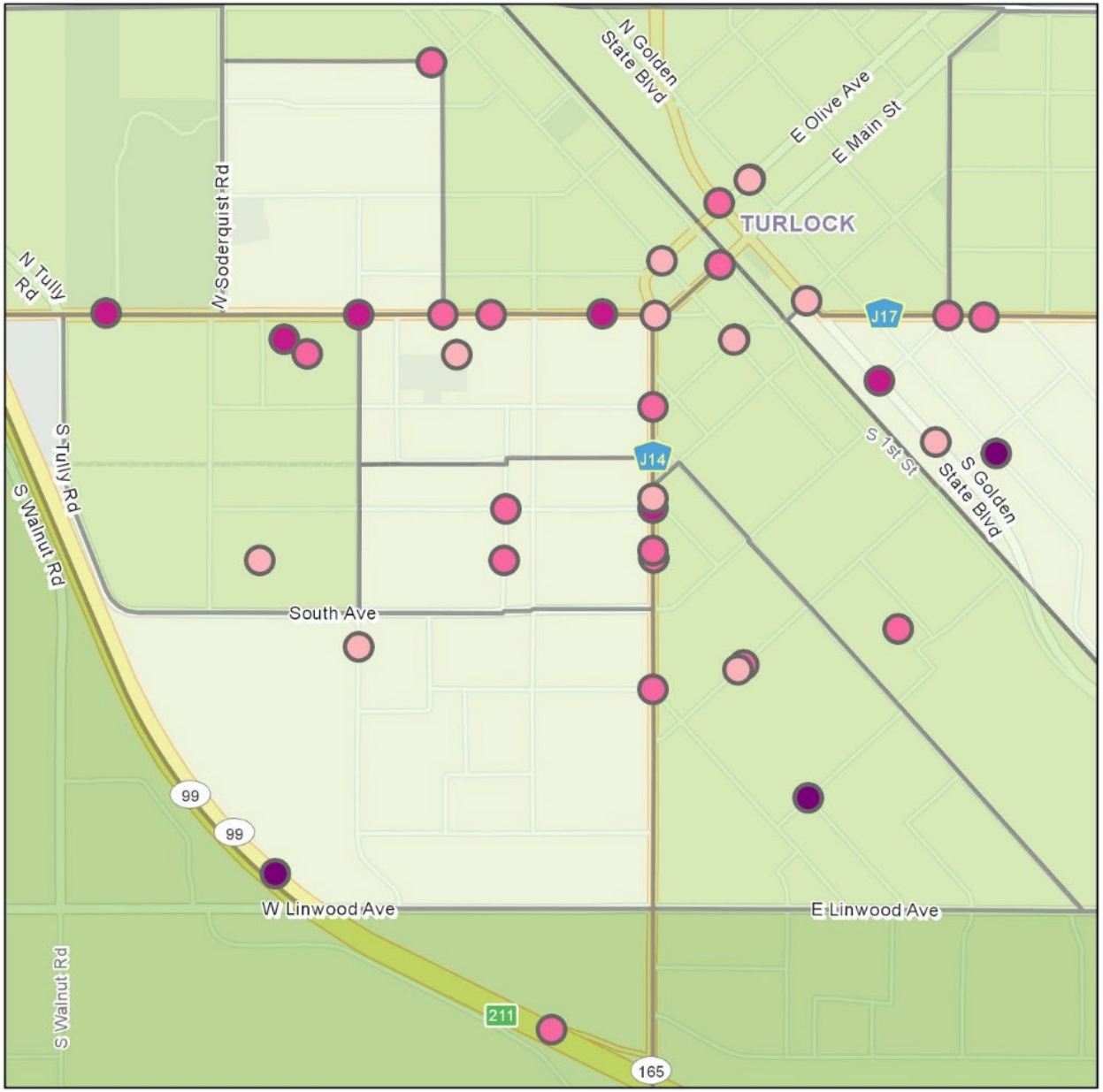
Pedestrian Injury Collisions (2013-2017)

Collision Severity (2013-2017)

- Fatal (4)
- Injury (Severe) (8)
- Injury (Other Visible) (19)
- Injury (Complaint of Pain) (12)

2017 Median Household Income

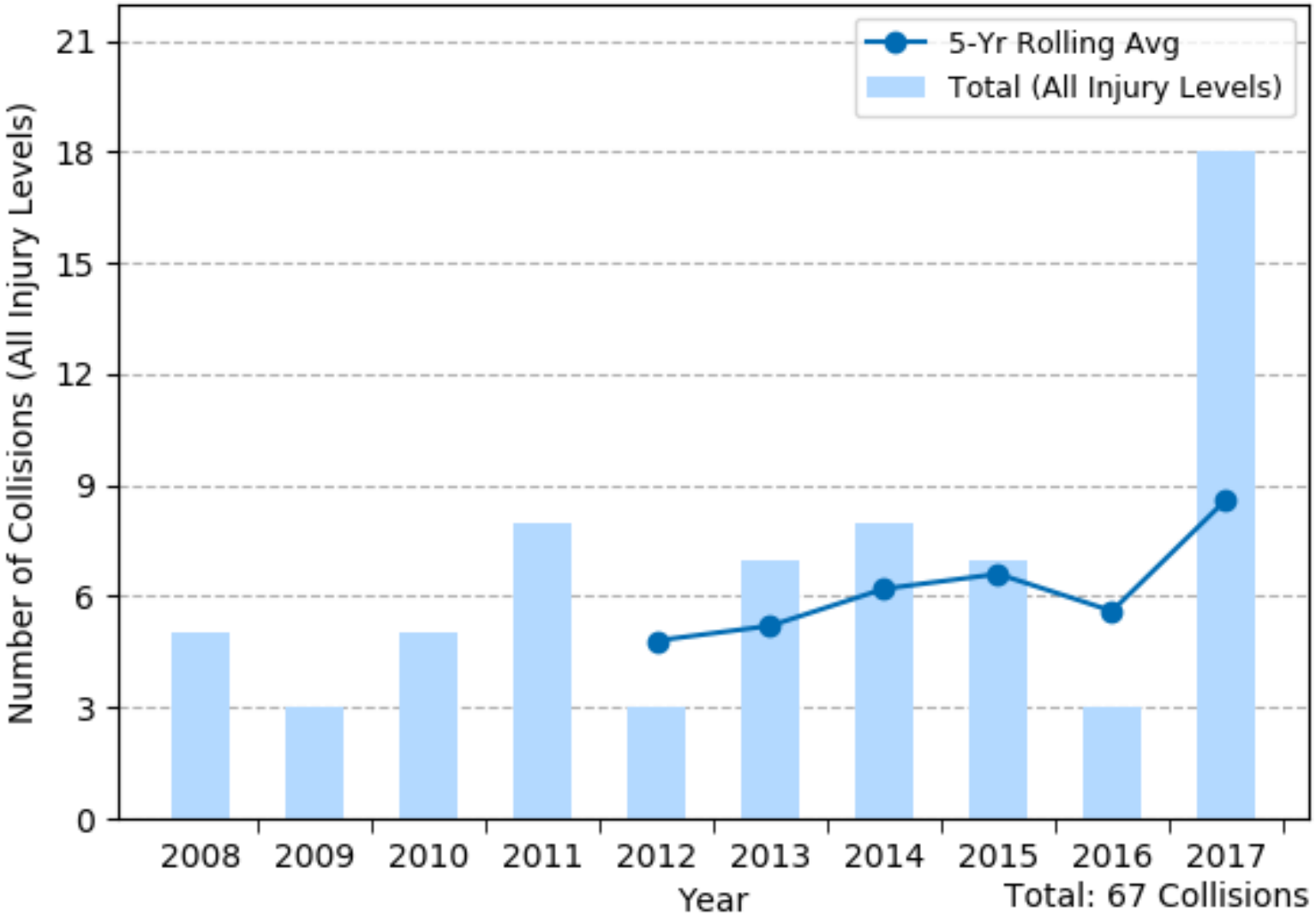
- < 35K
- 35K - 50K
- 50K - 75K



Data Source: Collision - Statewide Integrated Traffic Records System (SWITRS), 2013-2017; 2016 and 2017 data are provisional as of March 2019. Demographics - Esri, US Census Bureau and ACS

Pedestrian Injury Collision Trend

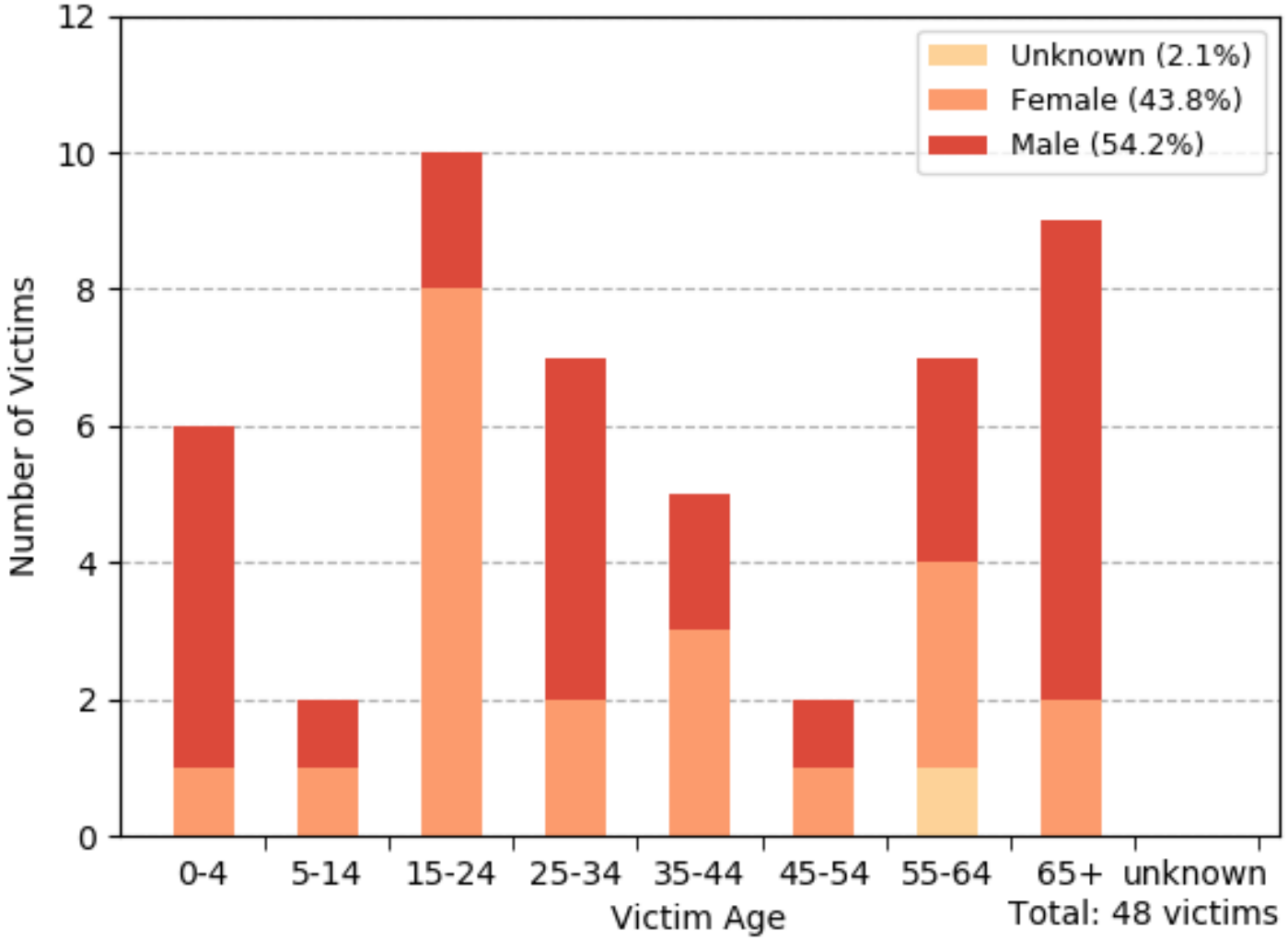
with 5-year rolling average



Data Source: Statewide Integrated Traffic Records System (SWITRS), 2008-2017; 2016 and 2017 data are provisional as of March 2019

Pedestrian Victim Injury (2013-2017)

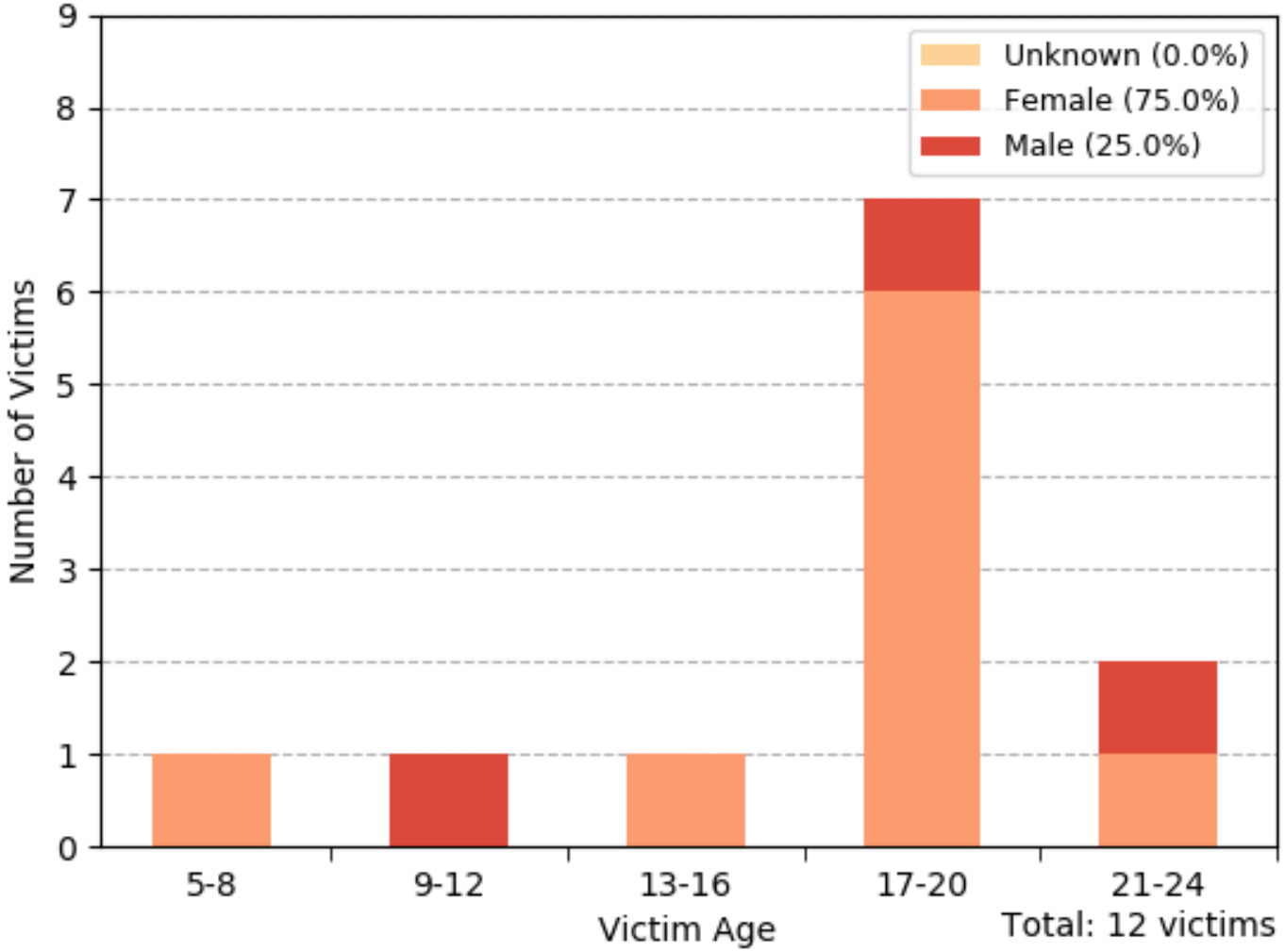
by age and gender



Data Source: Statewide Integrated Traffic Records System (SWITRS), 2013-2017. 2016 and 2017 data are provisional as of March 2019.

Pedestrian Victim Injury (2013-2017)

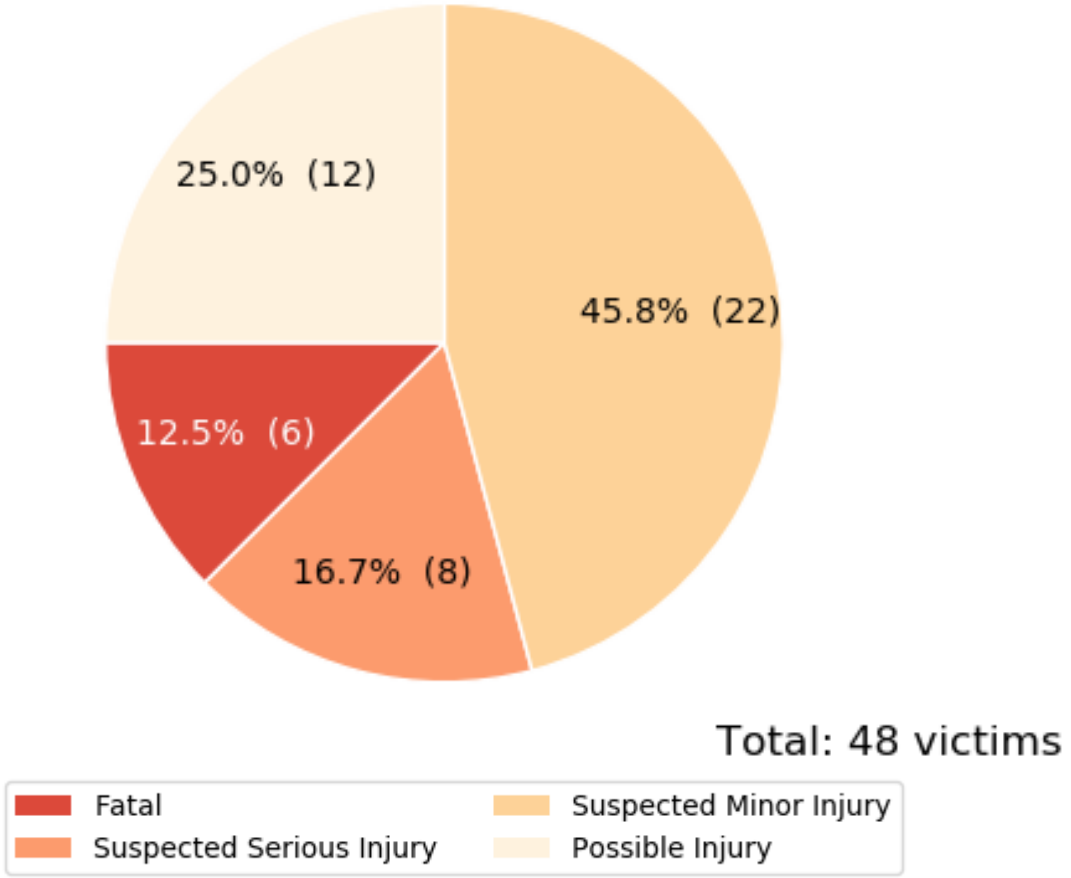
by age and gender for children & youth



Data Source: Statewide Integrated Traffic Records System (SWITRS), 2013-2017. 2016 and 2017 data are provisional as of March 2019.

Pedestrian Victim Injury (2013-2017)

by injury severity



Data Source: Statewide Integrated Traffic Records System (SWITRS), 2013-2017. 2016 and 2017 data are provisional as of March 2019.

Pedestrian Collisions (2013-2017)

by time of day and day of week

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total
09:00PM-11:59PM	2	0	0	0	2	0	1	5
06:00PM-08:59PM	2	1	0	0	4	2	1	10
03:00PM-05:59PM	2	3	2	1	0	1	2	11
Noon-02:59PM	1	0	0	2	2	0	1	6
09:00AM-11:59AM	0	0	1	0	0	1	0	2
06:00AM-08:59AM	1	3	1	2	0	0	0	7
03:00AM-05:59AM	0	0	0	0	0	0	0	0
Midnight-02:59AM	0	0	1	0	0	1	0	2
Total	8	7	5	5	8	5	5	43

Data Source: Statewide Integrated Traffic Records System (SWITRS), 2013-2017. 2016 and 2017 data are provisional as of March 2019.

Pedestrian Collisions (2013-2017)

by type of violation

Total: 43 Collisions

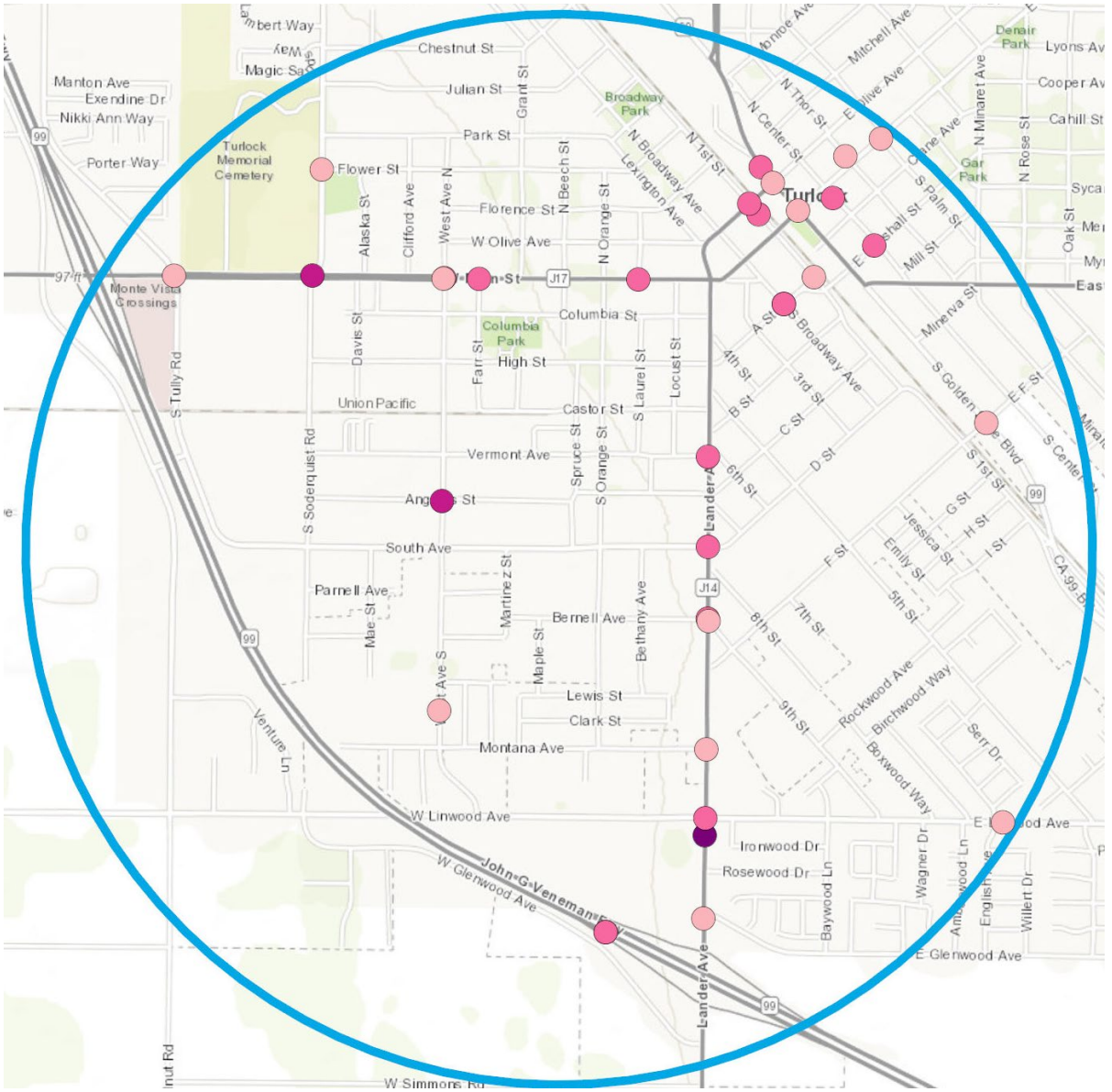
CVC No.	Description	Number of Collisions
21950	Driver failure to yield right-of-way to pedestrians at a marked or unmarked crosswalk	20 (46.5%)
21954	Pedestrian failure to yield right-of-way to vehicles when crossing outside of a marked or unmarked crosswalk	9 (20.9%)
22106	Unsafe starting or backing of a vehicle on a highway	3 (7.0%)
21453	Failure to stop at a limit line or crosswalk at a red light Failure to yield right-of-way to pedestrian when turning on a red light	2 (4.7%)
22350	Speeding on the highway / Driving at a dangerously high speed given highway conditions like weather, visibility, traffic, and highway measurements, or driving at a speed that endangers people or property	2 (4.7%)
21228	Unknown	1 (2.3%)
22107	Unsafe turning or moving right or left on a roadway Turning without signaling	1 (2.3%)
23152	Driving under the influence of alcohol (BAC 0.08+) or drugs	1 (2.3%)

Data Source: Statewide Integrated Traffic Records System (SWITRS), 2013-2017; 2016 and 2017 data are provisional as of March 2019.

Bicycle Injury Collisions (2013-2017)

Collision Severity

- Fatal (1)
- Injury (Severe) (2)
- Injury (Other Visible) (16)
- Injury (Complaint of Pain) (14)



Data Source: Statewide Integrated Traffic Records System (SWITRS), 2013-2017. 2016 and 2017 data are provisional as of March 2019.

Bicycle Injury Collisions (2013-2017)

Collision Severity (2013-2017)

- Fatal (1)
- Injury (Severe) (2)
- Injury (Other Visible) (16)
- Injury (Complaint of Pain) (14)

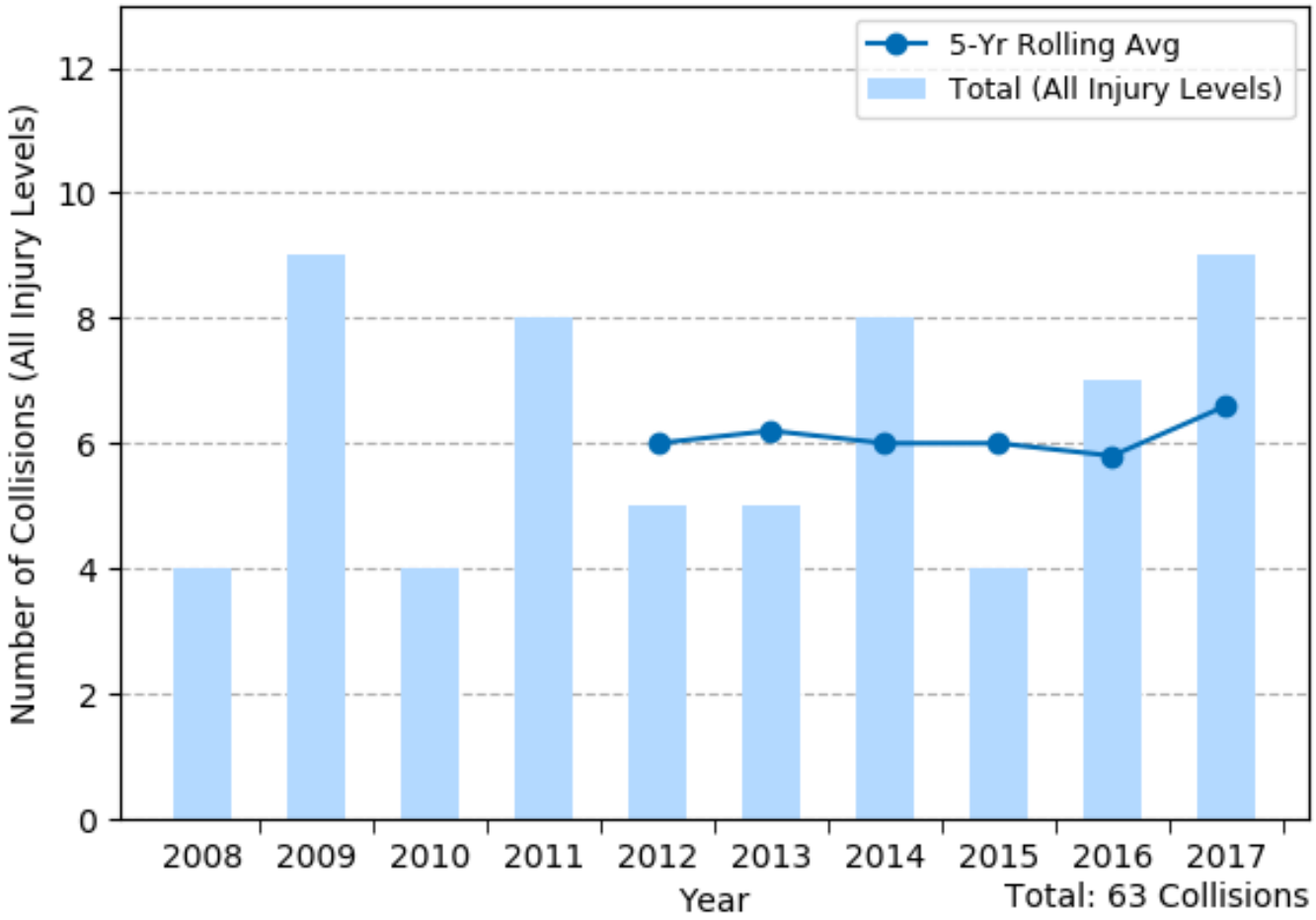
2017 Median Household Income

- < 35K
- 35K - 50K
- 50K - 75K

Data Source: Collision - Statewide Integrated Traffic Records System (SWITRS), 2013-2017; 2016 and 2017 data are provisional as of March 2019. Demographics - Esri, US Census Bureau and ACS

Bicycle Injury Collision Trend

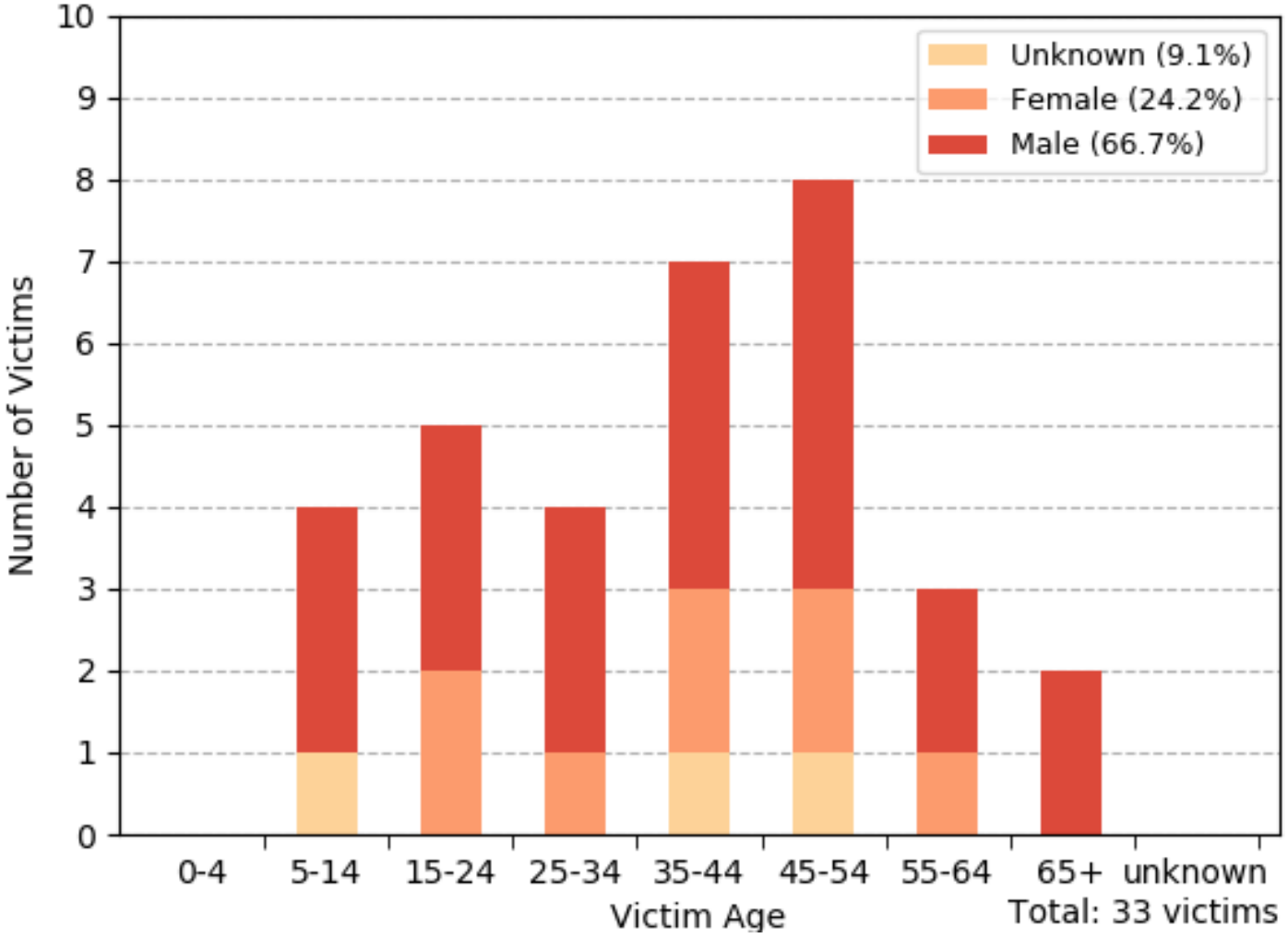
with 5-year rolling average



Data Source: Statewide Integrated Traffic Records System (SWITRS), 2008-2017; 2016 and 2017 data are provisional as of March 2019

Bicycle Victim Injury (2013-2017)

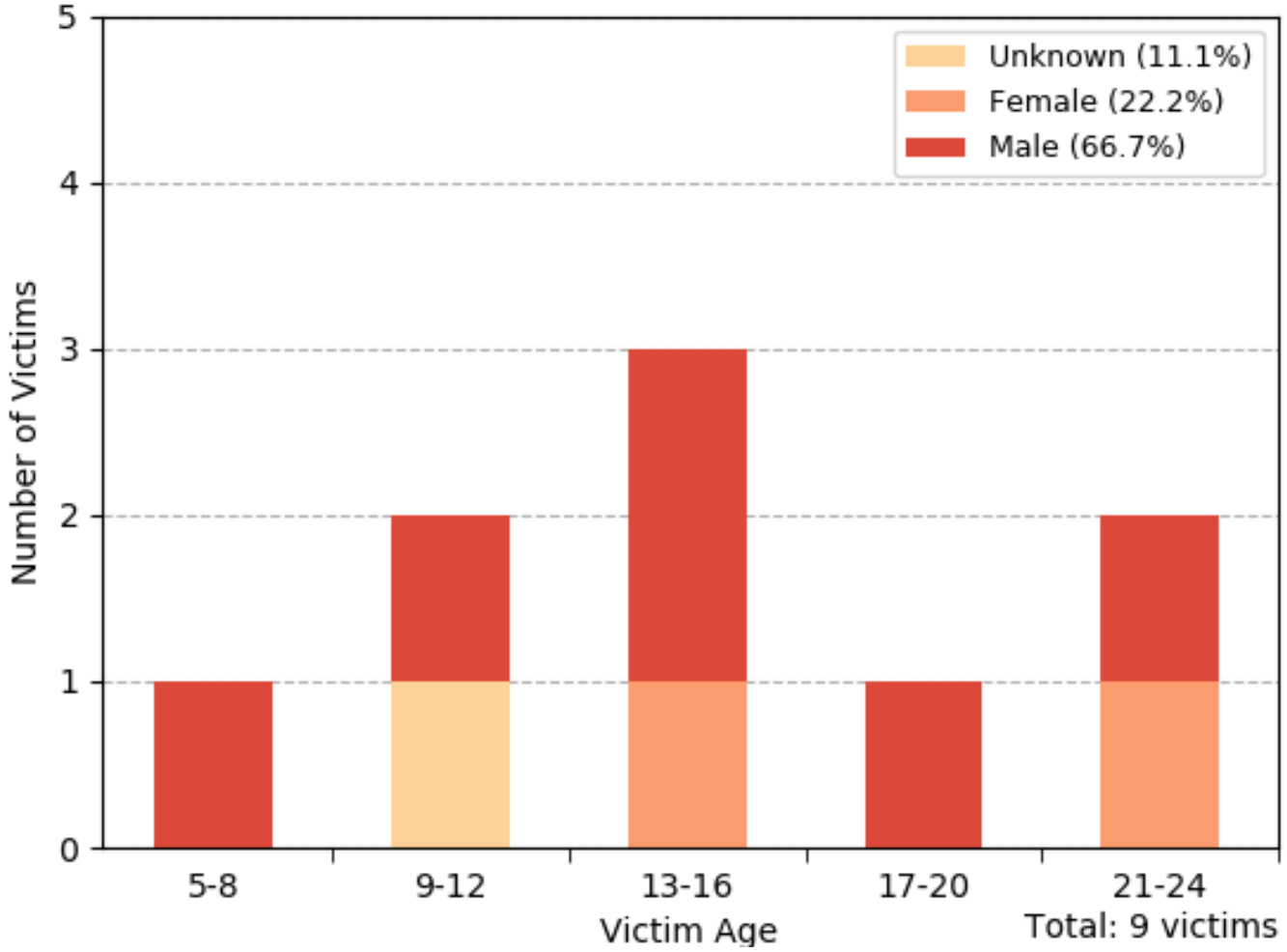
by age and gender



Data Source: Statewide Integrated Traffic Records System (SWITRS), 2013-2017; 2016 and 2017 are provisional as of March 2019.

Bicycle Victim Injury (2013-2017)

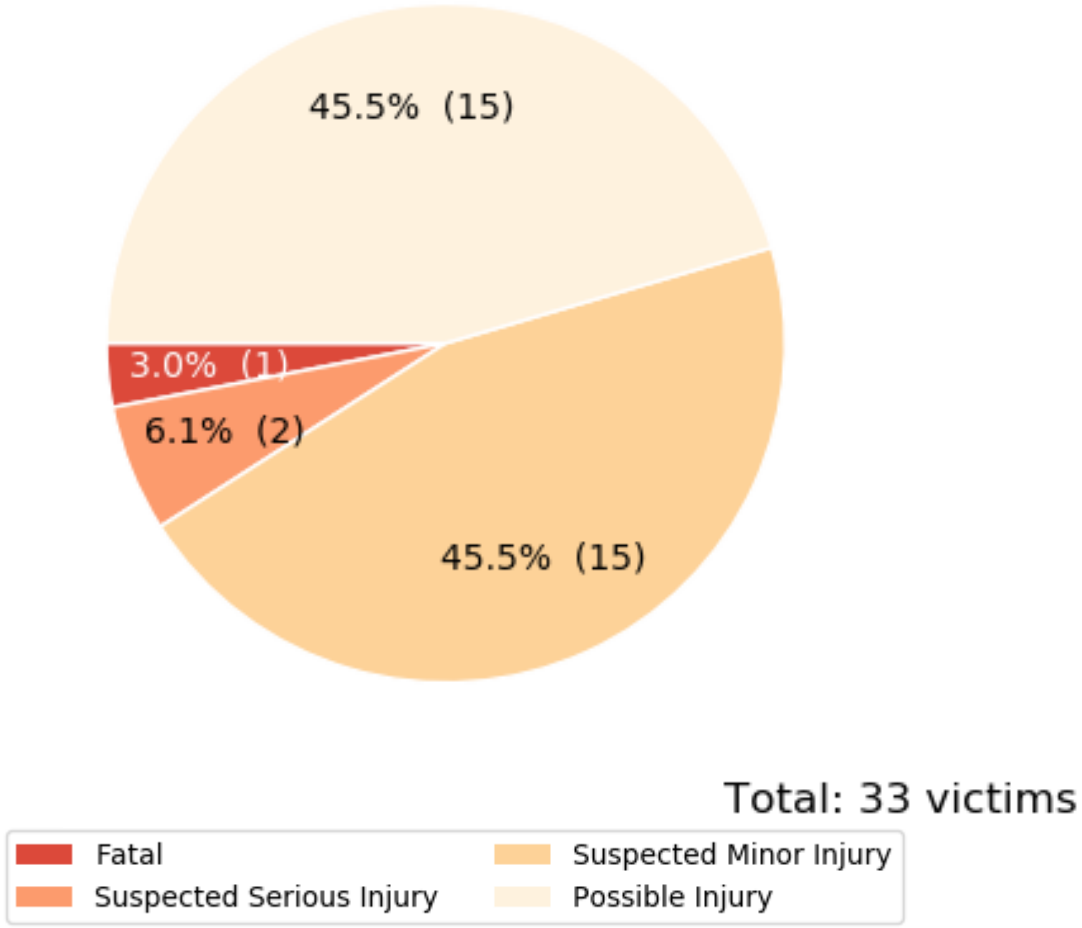
by age and gender for children & youth



Data Source: Statewide Integrated Traffic Records System (SWITRS), 2013-2017; 2016 and 2017 data are provisional as of March 2019.

Bicycle Victim Injury (2013-2017)

by injury severity



Data Source: Statewide Integrated Traffic Records System (SWITRS), 2013-2017; 2016 and 2017 data are provisional as of March 2019.

Bicycle Collisions (2013-2017)

by time of day and day of week

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total
09:00PM-11:59PM	0	0	1	0	0	1	1	3
06:00PM-08:59PM	2	1	2	1	2	0	3	11
03:00PM-05:59PM	2	0	0	2	0	0	0	4
Noon-02:59PM	2	1	0	1	1	0	1	6
09:00AM-11:59AM	2	1	0	0	2	0	0	5
06:00AM-08:59AM	0	2	0	0	1	0	0	3
03:00AM-05:59AM	0	0	1	0	0	0	0	1
Midnight-02:59AM	0	0	0	0	0	0	0	0
Total	8	5	4	4	6	1	5	33

Data Source: Statewide Integrated Traffic Records System (SWITRS), 2013-2017; 2016 and 2017 data are provisional as of March 2019.

Bicycle Collisions (2013-2017)

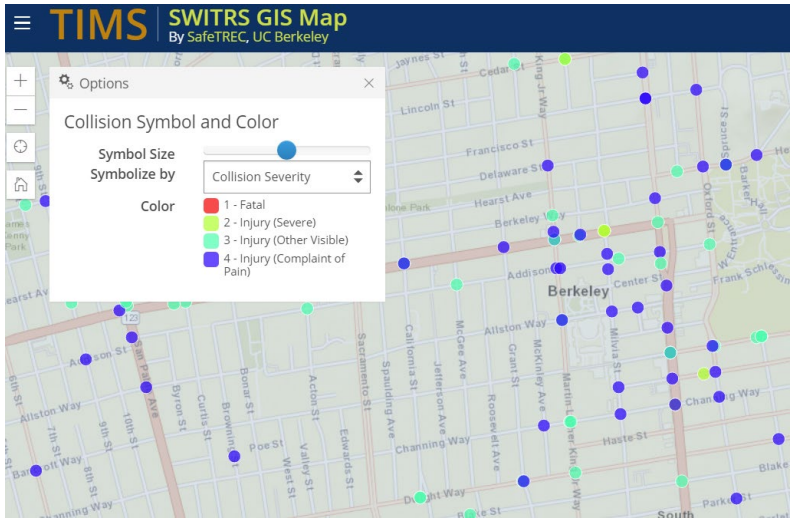
by type of violation

Total: 33 Collisions

CVC No.	Description	Number of Collisions
21804	Driver failure to yield right-of-way when entering/crossing a highway	6 (18.2%)
21202	Bicyclist failure to ride on right edge of roadway if riding below the normal speed of traffic	4 (12.1%)
22107	Unsafe turning or moving right or left on a roadway Turning without signaling	4 (12.1%)
21453	Failure to stop at a limit line or crosswalk at a red light Failure to yield right-of-way to pedestrian when turning on a red light	3 (9.1%)
21650	Failure to drive/ride on right half of the roadway (with some exceptions)	3 (9.1%)
21802	Failure to stop or yield right-of-way at a stop sign	3 (9.1%)
22450	Driver failure to stop at a limit line or crosswalk at a stop sign / (ND): Driver failure to stop for a stop sign before a limit line; otherwise, a crosswalk or intersection entrance Driver failure to stop at limit line before railroad; or, before entering	2 (6.1%)

Data Source: Statewide Integrated Traffic Records System (SWITRS), 2013-2017; 2016 and 2017 data are provisional as of March 2019.

Additional Resources



Transportation Injury Mapping System (TIMS)

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

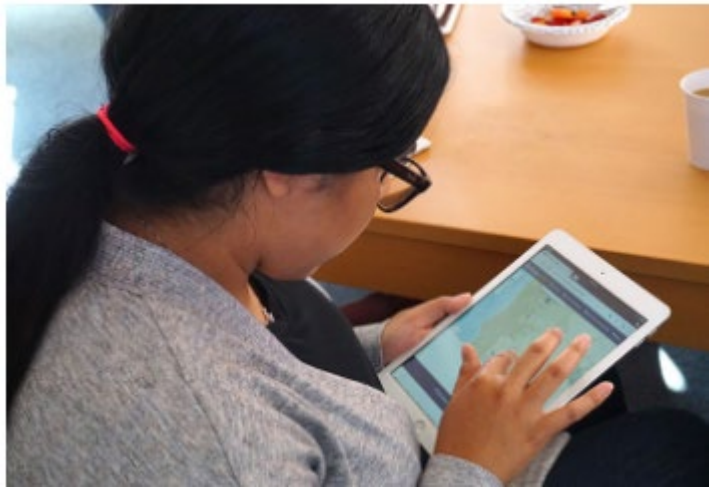
To further explore collision data, register for a free account to access the tools and resources on TIMS.

https://tims.berkeley.edu

Street Story

Street Story is a tool for collecting community feedback on transportation safety issues. Share stories on Street Story of where you've been in a crash or near miss, or where you feel safe or unsafe traveling.

https://streetstory.berkeley.edu



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Post-Site Visit Data Update

1. Updated Maps and Data

We have attached a new version of the site visit presentation with this update. The updated presentation contains new data from the corrected map. The previous map did not correctly measure a one-mile radius around Wakefield Elementary. After correcting the radius measurement, the data set now includes more collisions and the presentation has been updated based on this larger set. The additional information presented later in this update is also based on the larger set of collisions.

2. Census Blocks

The household income data on the maps that overlay collisions with ranges of average household income is presented by census block.

3. Families in Pedestrian Collisions

There were four pedestrian or bicycle collisions with multiple victims. Three of these collisions had multiple pedestrian victims, with nine pedestrian victims total. The table below presents details of these three collisions with multiple pedestrian victims.

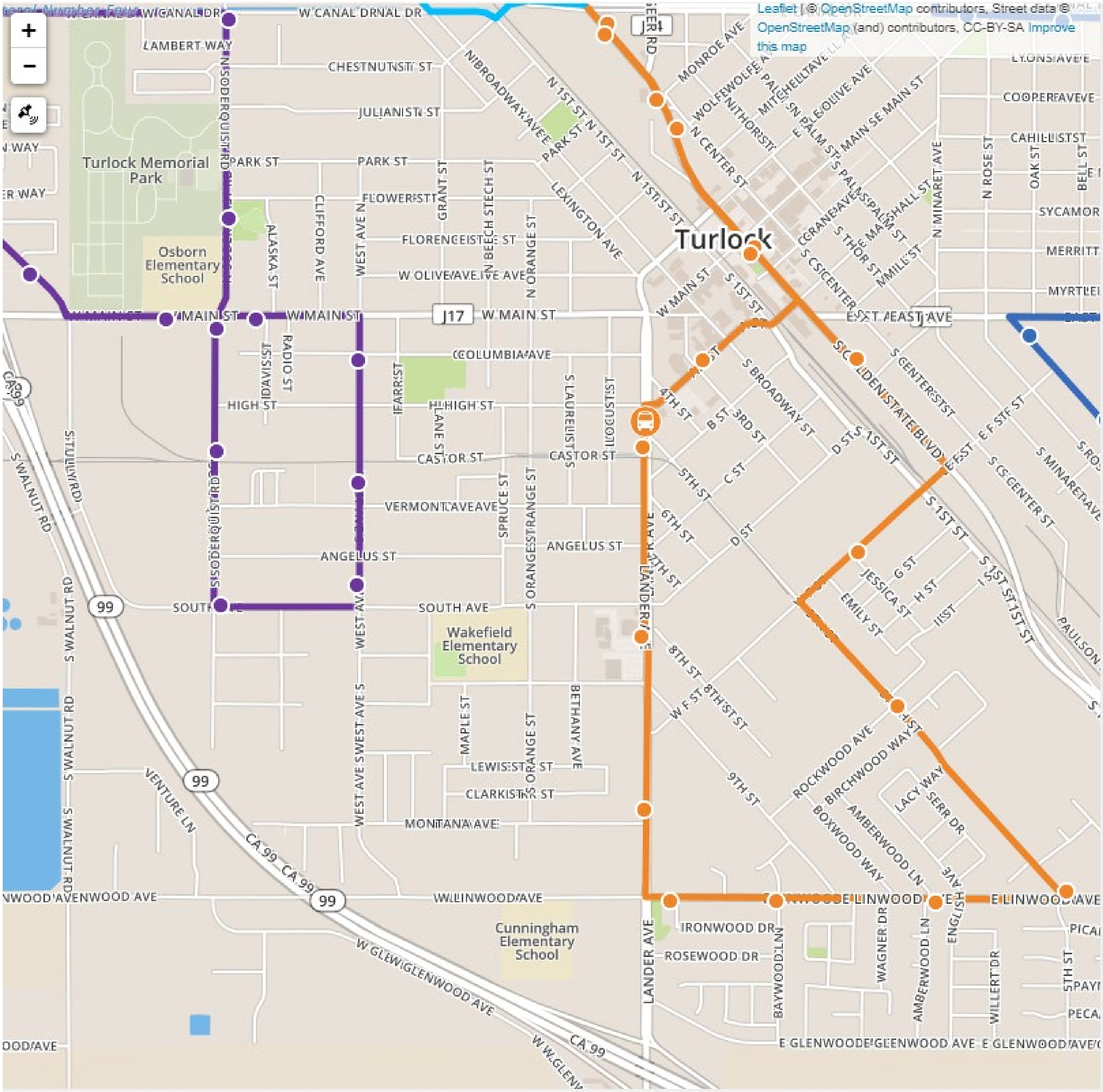
	Location	Number of Victims and Ages	Injury Severity
1.	Intersection of Rockwood Avenue & Boxwood Way	Two adults and one child	Three fatally injured
2.	Intersection of Main Street & West Avenue	One teenager and three children	One serious injury, three minor injuries
3.	Intersection of 1st Street & Olive Avenue	Two adults	Two possible injuries

4. Interaction between Turlock Transit Routes and Pedestrian Collisions

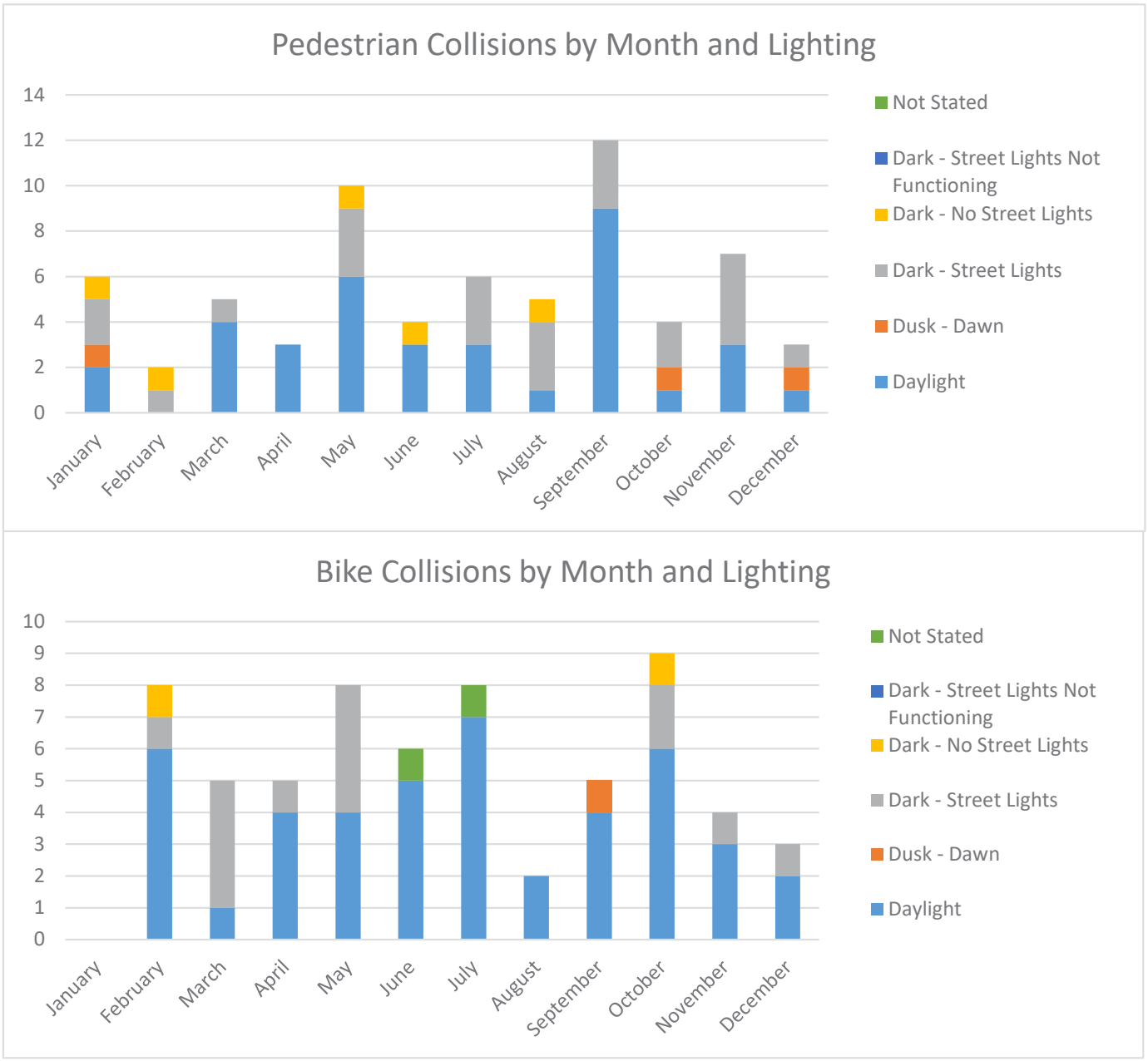
The map on the next page shows the Turlock Transit routes near Wakefield Elementary. The orange line shows route 5 and the purple line shows route 6. The dots are bus stops.

When comparing this map to the pedestrian collision map in the site visit slides, the orange line overlaps with many pedestrian collisions along Lander Avenue. On the parts of the route near downtown, including A Street and Marshall Street, it overlaps with several collisions. Finally, the route overlaps with a few collisions, including one severe collision, on Golden State Boulevard.

The purple line does not overlap with any collisions on the loop south of Main Street, but the route overlaps with a couple of severe collisions on Main Street itself.


Leaflet | © OpenStreetMap contributors, Street data © OpenStreetMap (and) contributors, CC-BY-SA Improve this map
Turlock
Turlock Memorial Park
Osborn Elementary School
Wakefield Elementary School
Cunningham Elementary School
W CANAL DR
LAMBERT WAY
CHESTNUT ST
JULIAN ST
PARK ST
FLOWER ST
FLORENCE ST
W OLIVE AVE
W MAIN ST
J17
COLUMBIA AVE
HIGH ST
CASTOR ST
VERMONT AVE
ANGELUS ST
SOUTH AVE
LEWIS ST
CLARK ST
MONTANA AVE
W LINWOOD AVE
E LINWOOD AVE
IRONWOOD DR
ROSEWOOD DR
W GLENWOOD AVE
E GLENWOOD AVE
E EAST AVE
LYONS AVE
COOPER AVE
CAHILL ST
SYCAMORE
MERRITT
MYRTLE
N SODERQUIST RD
S SODERQUIST RD
ALASKA ST
CLIFFORD AVE
WEST AVE N
WEST AVE S
GRANT ST
BEECH ST
N ORANGE ST
S ORANGE ST
SPRUCE ST
S LAUREL ST
LOCUST ST
BETHANY AVE
MAPLE ST
LANDER AVE
S WALNUT RD
S TULLY RD
VENTURE LN
CA 99
99
N BROADWAY AVE
LEXINGTON AVE
N 1ST ST
S 1ST ST
N CENTER ST
S CENTER ST
S BROADWAY ST
GOLDEN STATE BLVD
S MINARET AVE
N MINARET AVE
N ROSE ST
OAK ST
BELL ST
MONROE AVE
WOLFE AVE
4TH ST
5TH ST
6TH ST
7TH ST
8TH ST
9TH ST
B ST
C ST
D ST
E F ST
G ST
H ST
JESSICA ST
EMILY ST
ROCKWOOD AVE
BIRCHWOOD WAY
BOXWOOD WAY
AMBERWOOD LN
LACY WAY
SERR DR
BAYWOOD LN
WAGNER DR
WILLERT DR
5TH ST
PAULSON

5. Seasonal Collision Patterns and the Role of Darkness on Collision Patterns



The two charts show the number of pedestrian and bicycle collisions by month (based on 2008 to 2017 SWITRS data from within 1 mile of Wakefield Elementary), with colored sections showing the number of collisions in each month by lighting condition.

There were pedestrian collisions involving darkness or twilight in every month except April, but darkness- or twilight-involved collisions made up more than half of all collisions in each month from October to February, as well as August. May and September saw peaks of daylight pedestrian collisions.

There were no bicycle collisions involving darkness or twilight in June, July, or August. March was the only month with more than half darkness- or twilight-involved collisions, while May was exactly half. Daylight bicycle collisions do seem to rise from March to the peak in July before falling again. The unexpectedly high number of bicycle collisions in February may be related to the absence of collisions in January.