



Recommendations to Improve Pedestrian & Bicycle Safety for the City of Watsonville



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Acknowledgements

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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 in the City of Watsonville.

Thank you to the City of Watsonville for providing snacks and refreshments in support of this training.

We thank the League of American Bicyclists Cycling Instructors Theresia Rogerson and Catherine VanRhee for providing instruction and guidance for the on-bike assessment in support of this training.

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

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Recommendations to Improve Pedestrian & Bicycle Safety for the City of Watsonville

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Introduction

At the invitation of Bike Santa Cruz County, California Walks (Cal Walks), the University of California at Berkeley Safe Transportation Research and Education Center (SafeTREC) and the Planning Committee collaboratively developed and facilitated a Community Pedestrian and Bicycle Safety Training (CPBST) in Watsonville on September 9, 2018. The CPBST is a community-driven pedestrian and bicycle safety action-planning workshop aimed to improve walking, and biking across California.

Bike Santa Cruz County requested a workshop to 1) assess gaps and opportunities for safety improvements along Freedom Boulevard; 2) develop consensus regarding pedestrian and bicycle safety priority and actionable next steps; 3) strengthen working relationships between various agencies and organizations and other stakeholders to ensure the best outcomes for the residents of Watsonville; and 4) provide the City of Watsonville staff, community organizations, and residents with a toolkit for promoting pedestrian and bicycle safety to inform future active transportation projects.



Mayor of the City of Watsonville, Mr. Lowell Hurst, welcomes participants to the workshop and emphasizes the importance of pedestrian and bicycle safety.

Cal Walks and SafeTREC (Project Team) facilitated the workshop from 2:00 p.m. to 5:30 p.m. on September 9, 2018. Light snacks, refreshments, a children's activities station, and simultaneous English-to-Spanish interpretation were provided to maximize community participation. Twenty (20) individuals attended the workshop, including residents, and representatives from Bike Santa Cruz, Santa Cruz County Health Services Agency, Ecology Action, City of Watsonville Public Works and Utilities, and the Santa Cruz County Cycling Club.

The three and a half (3.5) hour training consisted of: 1) two walking assessments and one on-bike biking assessment along three key routes; 2) 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; 3) small group action-planning discussions to prioritize recommendations for the City of Watsonville's active transportation efforts. This report summarizes the workshop proceedings, as well as recommendations for projects, policies, and programs for pedestrian and bicycle safety in the City of Watsonville.

Planning Process

For each training, the program convenes a local multi-disciplinary planning committee to tailor and refine the training's curriculum and focus to meet the community's needs. The Project Team conducts pre-training site visits 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.

The Watsonville CPBST planning process was initiated in March 2018. The planning process consisted of:

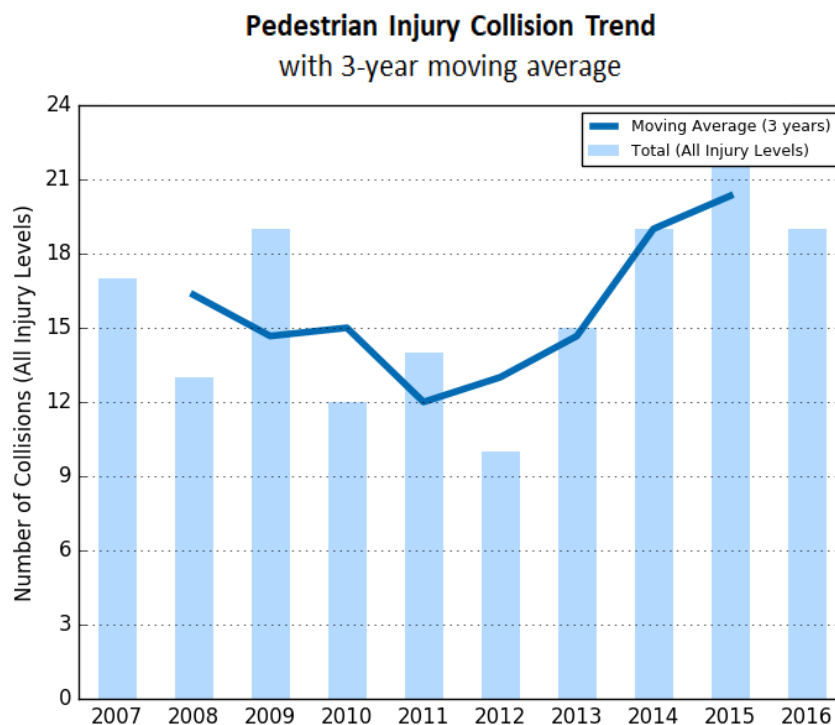
- **Community Plans and Policies Review:** Cal Walks conducted a review of current community planning documents to inform the training with local context and prepare to build off existing efforts. The following documents were reviewed prior to the site visit:
 - [Downtown Complete Streets Plan](#), 2018
 - [Watsonville Vision Zero Plan](#), 2018
 - [Community Traffic Safety Network Vision Zero Plan \(SCC Health Dept\)](#), 2016-2018
 - [Impact of Traffic Violence on Santa Cruz County](#), 2017
 - [Watsonville Trails and Bike Master Plan](#), 2012
 - [City of Watsonville Pedestrian Safety Assessment](#), 2010
 - [Watsonville Bicycle Safety Assessment](#), 2015
- **Analysis and Mapping of Pedestrian and Bicycle Injury Data:** SafeTREC used the Transportation Injury Mapping System (tims.berkeley.edu) to analyze pedestrian and bicycle collision injury data for the City of Watsonville, as well as Census data to create rates based on population. Patterns of injury collisions, victim characteristics, and demographics were analyzed inform the planning process for the CPBST and presented at the site visit and during the workshop
- **Identification of Priority Discussion Topics for Training:** The Planning Committee identified Freedom Boulevard as the focus of the Watsonville CPBST because of the high number of collisions on the corridor. The Planning Committee identified the following goals for the CPBST:
 - To determine potential solutions to make walking and biking along Freedom Boulevard safer for residents; and
 - Identify opportunities to create safe routes to school for children walking and biking across Freedom Boulevard.

- Site Visit:** The Project Team facilitated an in-person site visit on June 4, 2018 with the Planning Committee at the City of Watsonville main building to 1) review existing pedestrian and bicycle collision data for the City of Watsonville; 2) collect qualitative data based on in-person observations of existing conditions and travel behaviors and; 3) conduct preliminary walking assessments of Freedom Boulevard. The Project Team used the site visit findings to develop the workshop presentation, including featuring local infrastructure examples and developing the walking and biking assessment route maps. During the site visit, the Planning Committee identified the Mayor, United Way, Project Bike Tech, Earn-a-Bike Cohorts, and Community Bridges as key stakeholders to invite to the CPBST.

Existing Conditions

Pedestrian & Bicycle Collision History¹

Between 2012-2016, there were 86 pedestrian collisions and 94 pedestrian victims, including one (1) fatality and nine (9) severe injuries along the Freedom Boulevard corridor in Watsonville. Collisions primarily occurred during high traffic times on Monday, Tuesday, and Sunday evenings between 3:00 p.m. and 8:59 p.m. The top two collision factors for pedestrian collisions were a driver’s failure to yield the right-of-way to pedestrians at a crosswalk (54.5%) and a pedestrian’s failure to yield the right-of-way to vehicles (16.9%).² During this period, pedestrian collisions appear to be on an upward trajectory.

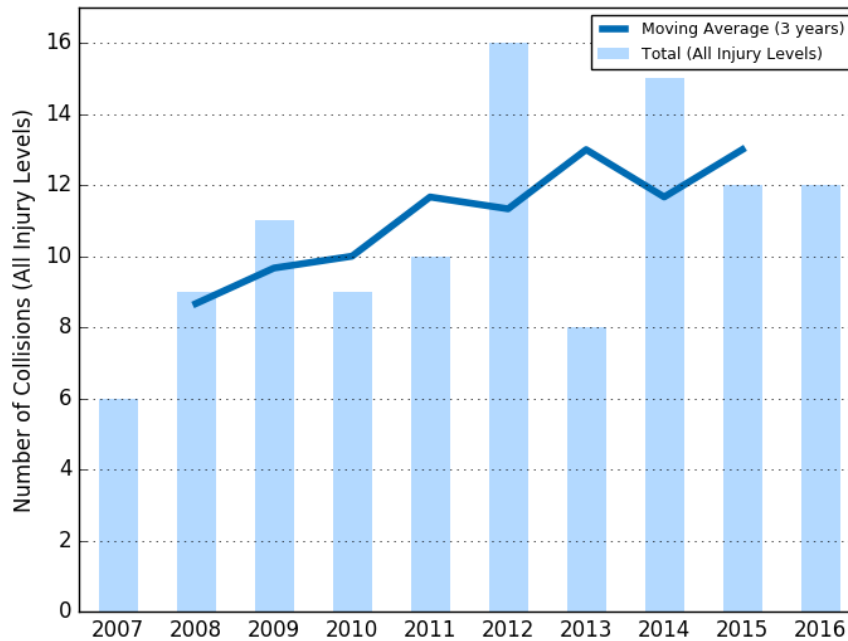


¹ 2016 SWITRS data are provisional as of March 2018.

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 63 bicycle collisions and 64 bicycle victims, including one (1) fatality and nine (9) severe injuries along the Freedom Boulevard corridor in Watsonville. Collisions primarily occurred during weekday high traffic times on Monday, Tuesday, Wednesday, Thursday and Friday evenings between 3:00 p.m. to 5:59 p.m. The top collision factor for collisions involving a bicyclist were a driver or bicyclist’s failure to drive on the right half of the roadway (26.2%), a driver or bicyclist's unsafe turning with or without signaling (18%), and a driver or bicyclist’s failure to yield the right-of-way when entering/crossing a highway (9.8%).³ During this period, bicycle collisions appear to be on an upward trajectory.

Bicycle Injury Collision Trend
with 3-year moving average



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

Equity Concerns

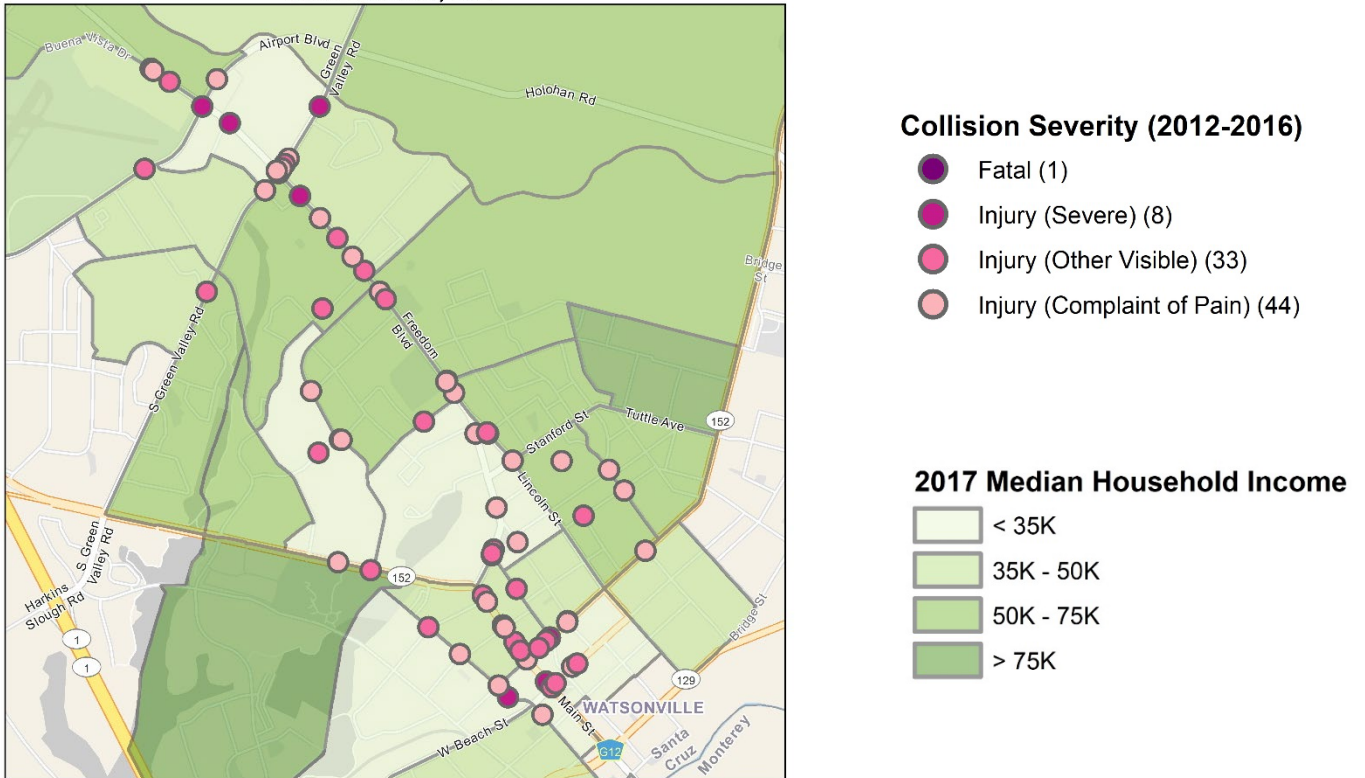
Nationwide, pedestrian fatality rates in lower-income communities are generally higher—sometimes more than twice as high⁴—when compared to higher income communities. State funding programs generally define Census tracts at or below 80% of the statewide median household income (\$51,026) as disadvantaged communities. Pedestrian collisions in Watsonville show pedestrian collisions and collision severity disproportionately concentrated and occurring more frequently along corridors and in neighborhoods with lower median household incomes, mirroring nationwide trends. Participants shared that the high injury corridors are areas with high concentrations of community hubs like stores, parks and transit stops, as well as jobs. The Census tracts surrounding Freedom Boulevard have a

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.

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

higher percentage of workers who commute to work using active transportation and transit than other parts of the state of California (73.8%, 35.8%, 56.4%, and 26.7%).⁵ This data also highlights the high number of collisions on the Freedom Boulevard corridor and the corresponding the need to prioritize investments on the corridor to ensure residents can access and use safe active transportation for everyday access to community hubs.

**Freedom Blvd Pedestrian Collision Map (2012 - 2016)
Watsonville, CA**



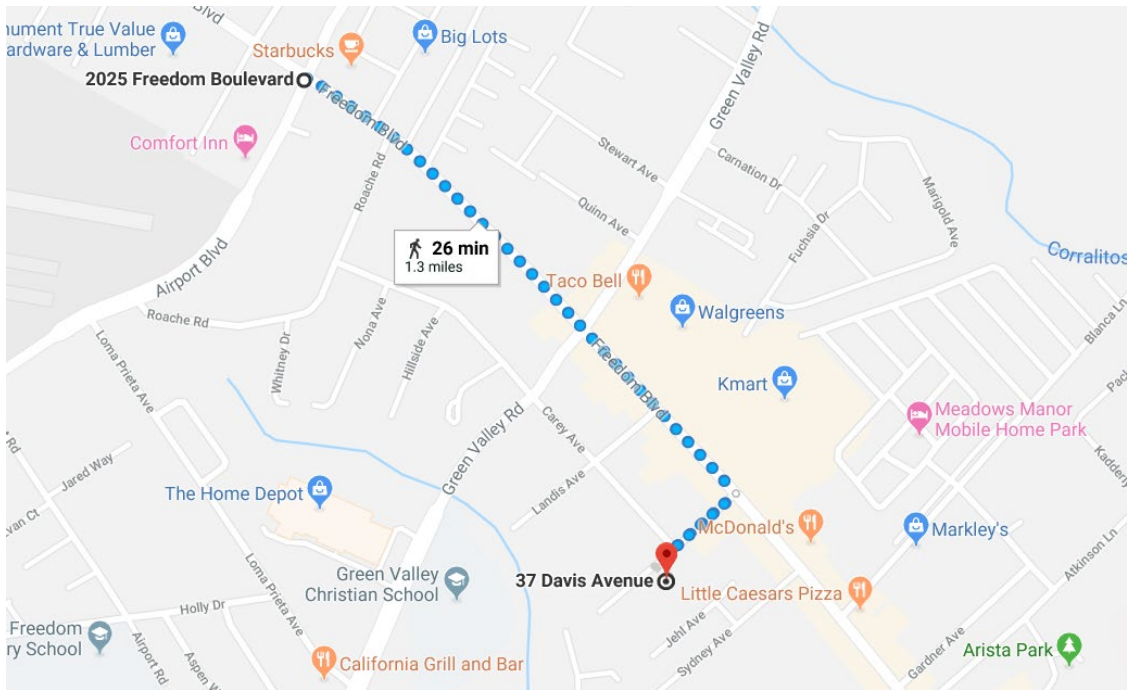
Walking & Biking Assessment Reflections

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; and 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: North Freedom Boulevard

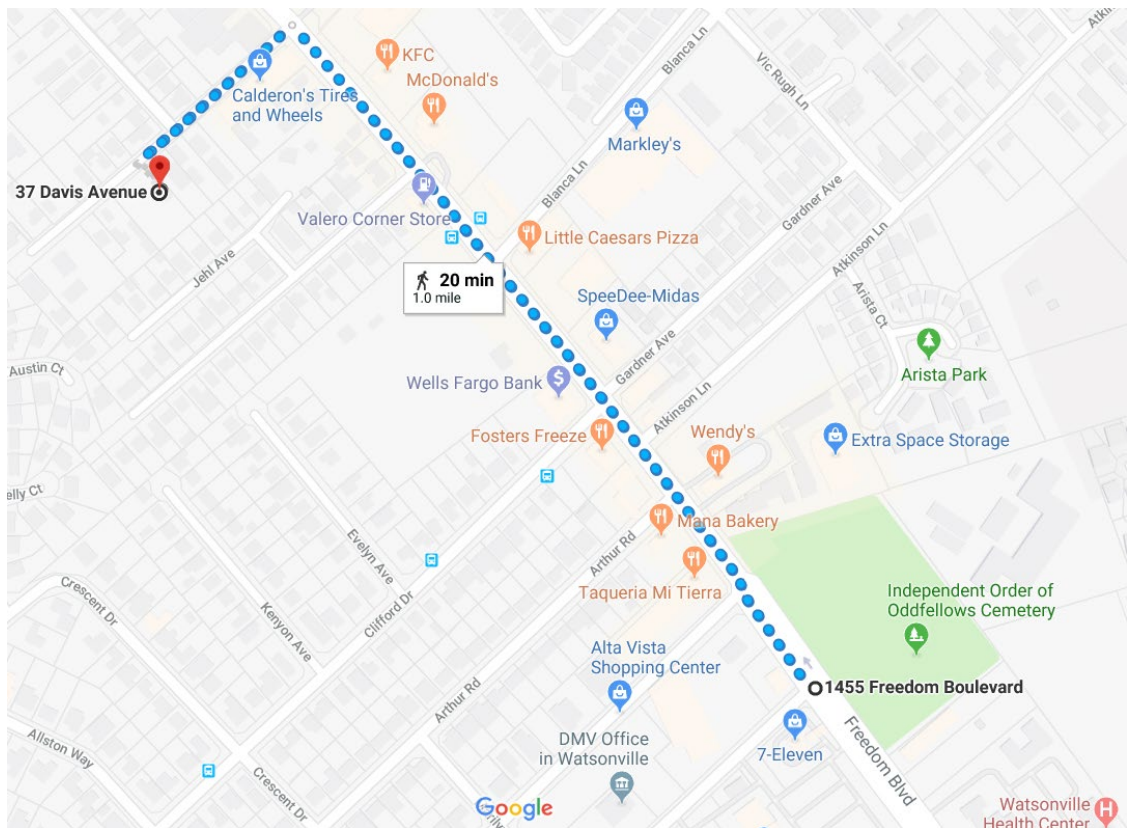
The first walking route focused on Freedom Boulevard between Davis Avenue and Airport Boulevard. The Planning Committee selected this route because it is a heavily used pedestrian and bicyclist corridor and has a very high concentration of pedestrian and bicycle collisions. Starting the walking assessment at the Police Activities League (PAL) office, participants walked east on Davis Avenue, north on Freedom Boulevard to Airport Boulevard, south on Freedom Boulevard, and west on Davis Avenue ending at the PAL office.

⁵ U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates.



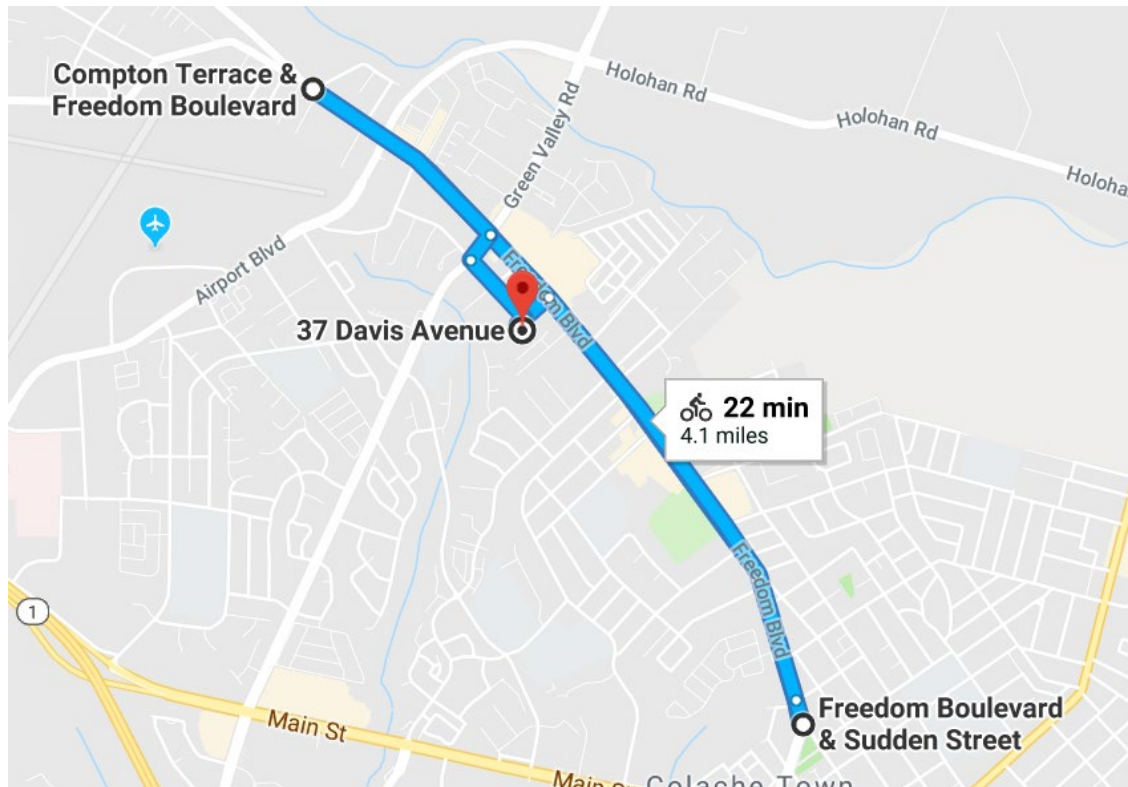
Route 2: South Freedom Boulevard

The second walking route focused on Freedom Boulevard between Davis Avenue and Alta Vista Avenue. The Planning Committee selected this route because it is a heavily used pedestrian and bicyclist corridor and has a very high concentration of pedestrian and bicycle collisions. Starting the walking assessment at the PAL office, the group of observers walked east on Davis Avenue, south on Freedom Boulevard to Alta Vista Avenue, north on Freedom Boulevard, and west on Davis Avenue ending at the PAL office.



Route 3: Freedom Boulevard by Bike

The third route was a biking assessment conducted on-bike of Freedom Boulevard between Compton Terrace Road and Sudden Street. This route was selected by the Planning Committee to observe conditions for bicyclists traveling on Freedom Boulevard. Starting the biking assessment at the PAL office, participants biked east on Davis Avenue, north on Freedom Boulevard to Compton Terrace Road, south on Freedom Boulevard, southeast on Sudden Street, northeast on Sudden Street, north on Freedom Boulevard, and west on Davis Avenue ending at the PAL office.



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

- **Poor Sidewalk Conditions and Accessibility Challenges:** Participants noted that although there are sidewalks along most streets, there are gaps in sidewalks along key routes used by the community, including along Freedom Boulevard. Portions of the sidewalk at Davis Avenue and Alta Vista Avenue were extremely deteriorated or non-existent and pose challenges for community residents walking with strollers or assisted mobility devices. The northeast section of Freedom Boulevard had sidewalks fully separated from drivers with landscape buffers and tree wells, and participants noted the contrast of infrastructure in this location to other sections of Freedom Boulevard. Participants strongly supported extending this section of sidewalk improvements for the length of the road. The quality of curb ramps also varied greatly along Freedom Boulevard, with some intersections having no curb ramps. Improperly placed utility posts and boxes and pedestrian facilities, such as bus stop benches, created barriers for people walking at numerous locations on Freedom Boulevard, including: north of Davis Avenue; the northwest corner of Clifford Avenue/Freedom Boulevard; and at Ford Street. On the west side of Freedom Boulevard, frequent driveways created numerous conflict points with pedestrians due to limited visibility caused by buildings and the placement of the driveways.

Participants also noted the contrast in these driveways with the more recently developed shopping center on the east side of Freedom Boulevard.



Large crack in sidewalk on Alta Vista Avenue was a reported barrier for community residents who rely on an assisted mobility device.

- **High Vehicle Speed and Unsafe Driver Behavior:** Participants the bicycling assessment reported feeling unsafe in the areas where Freedom Boulevard narrowed (e.g., north of Green Valley Road) due to high driver speed and close proximity to bicyclists. Participants felt that cars were not reducing speed as roads narrowed and were not giving bicyclists three feet of distance as a buffer. Participants on the biking assessment also experienced aggressive motorists who did not yield to or give enough passing space to bicyclists. Participants also noted decreased motorist speed traveling south on Freedom Boulevard as they approach Main Street at Callaghan Park because of pedestrian and vehicle traffic congestion toward the downtown area. While decreased speed is good for safety, the congestion of both pedestrian and vehicle traffic highlights potential risk without safe infrastructure for pedestrians. They noticed increased motorist speeds traveling north on Freedom Boulevard as the corridor stretches into strip malls and other commercial areas.



At Freedom Boulevard and Mariposa Avenue: No pedestrian crossing signage is present, there is no curb ramp on the east side of the crossing, and utility poles block part of the crossing and visibility of oncoming motorists.

- Lack of Signage and Faded Markings:** The biking assessment participants noted that existing signs communicated to drivers that they should “Share the Road”, but sharrows were placed incorrectly in the far right of Freedom Boulevard going south of Alta Vista Avenue, rather than in the center of the lane. The improper sharrow placement may increase the potential for conflicts between drivers and cyclists. Motorist lane markings were faded and could potentially cause some driver confusion, particularly with turning movements from the center lane. Crosswalk markings were faded, and accompanying signage was either not the current fluorescent yellow-green (like at the Freedom Boulevard/Sydney Avenue intersection) or was not installed (including at the Freedom Boulevard/Mariposa Avenue intersection), which lacks pedestrian crossing signage, advanced yield markings, and curb ramps on the east side of the crossing. Participants on Route 1 noted a need to improve wayfinding signs at the Green Valley Road/Freedom Boulevard intersection, due to small lettering on existing signage.



Road maintenance and repair needs as visible from a bicyclist perspective traveling north on Freedom Boulevard and Davis Avenue Intersection (left). The lack of bicycle facilities along Freedom Boulevard creates opportunities for unpredictable and potentially unsafe bicyclist behaviors (right).

- Dilapidated and Missing Biking Infrastructure:** Infrastructure to support safe biking was severely limited on Freedom Boulevard. Drivers frequently parked cars blocking the bike lane on the west side of Freedom Boulevard, which further restricts bicyclists to a narrow passage directly in driver door zones. A small stretch of a bike lane is clearly marked for bicyclists traveling south on Freedom Boulevard at the Airport Boulevard intersection; however, the bike lane abruptly ends once bicyclists pass the intersection and places bicyclists in direct conflict with drivers at the south end of the intersection. Much of Freedom Boulevard is in disrepair, causing bicyclists to maneuver frequently around road hazards. This condition might exacerbate conflicts with drivers. Participants observed numerous potholes, raised surfaces, and uneven textured roadways that negatively affected the bike riding experience.

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 preliminarily planned infrastructure projects and community programs aimed at 1) reducing the number of injuries and fatalities and; 2) increasing the number and the frequency of people walking and biking in Watsonville.

Through a group prioritization process during the training, participants chose to focus on and preliminarily plan for on ADA Accessibility and Pedestrian Facilities Improvements, Bicycle Facilities improvements, Safe Routes to School Programs, and Community Education Programs to encourage safe walking, and biking behaviors. Participants 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.



Workshop participants work on action plans for both short- and long-term implementations.

Community Recommendations

Workshop participants provided the following recommendations and next steps for overall pedestrian and bicyclist safety improvements:

Infrastructure Projects

- **ADA Accessibility and Pedestrian Facilities Improvements:** Participants discussed the lack of Americans with Disability Act (ADA)-compliant sidewalks both on public right-of-way and private businesses, including the general lack of clarity about the process for reporting issues to the appropriate city agency. Residents shared that many community members do not know who to call to report an issue, and businesses may not know how to report public right-of-way issues affecting their businesses. To address this, participants identified an education/information-sharing campaign geared toward business owners and the general public as a strategy for encouraging increased reporting of non-ADA-compliant sidewalks, parking lots, and other business areas. Participants also identified the potential creation of an Accessibility Task Force to oversee implementation of the educational campaign, as well as to provide a centralized and ongoing forum for addressing maintenance and improvements. The Task Force would include the City of Watsonville Public Works and Utilities Department and disability rights advocates who would spearhead the development and testing of messages and educational materials. This Task Force could be modeled after the City of Oakland's Mayor's Commission on Persons with Disabilities, which was established in 1980 and continues to this day.

In addition to the educational campaign, participants also discussed specific improvements to the Freedom Boulevard/Compton Street intersection, where there is a school bus stop on the southeast side of the intersection and no marked crossing for at least 800 feet in either direction. The group made a preliminary action plan to conduct outreach to Pájaro Valley Unified School District, Santa Cruz County Regional Transportation Commission (SCCRTC), the City of Watsonville, and Santa Cruz County to identify strategies to make the bus stop crossing safer by enhancing crosswalks and/or relocating the bus stop.

- **Bicycle Facilities Improvements:** Participants noted the lack of dedicated space for bicyclists on Freedom Boulevard and the lack of an alternative north-south route in and out of the City for all road users. Freedom Boulevard is the primary north-south route through Watsonville, thus it's configuration greatly impacts all road users in the community. Participants identified a road diet—where space on Freedom Boulevard is better allocated to accommodate people walking and biking, potentially even including separated bikeways—as the long-term goal for the corridor that would align with Santa Cruz County's Vision Zero policy goals. To work toward this long-term goal, participants identified assembling a multi-sectoral stakeholder team as the first step, which would include the City Council, City of Watsonville Public Works and Utilities Department, the local agricultural community, businesses along the Freedom Boulevard corridor, residents adjacent to the Freedom Boulevard corridor, schools on and adjacent to the corridor, transit operator Santa Cruz METRO and transit riders on the corridor. Once the stakeholder group has been assembled, participants identified establishing a clear timeline with short- and long-term steps for implementing a road diet on Freedom Boulevard by 2025. During this session, participants identified the following short- and long-term actions that would need to occur:

- **Short-term Action Steps**
 - Develop Public Service Announcements (PSAs) for radio to inform residents how to travel safely on Freedom Boulevard, including how to share the current space safely, and to communicate any upcoming infrastructural changes along the corridor;
 - Plan for cost-effective paint and signage improvements that could be integrated into the next pavement maintenance project for the corridor and;
 - Implement a pop-up/temporary demonstration of a protected bike lane to expose residents to what a reconfigured Freedom Boulevard could look like. The demonstration could be paired with Bike to Work Day celebrations and/or the next Open Streets event.
- **Mid-term Action Steps**
 - Commit Measure D funding for pavement maintenance on Freedom Boulevard to implement cost-effective paint and signage improvements for bicyclists. Improvements may include vehicle lane-width reductions; bike lanes where there is adequate right-of-way (i.e., between Green Valley Road to the south and Buena Vista Drive to the north); fluorescent green conflict zone markings at intersections; high-visibility crosswalks with advance yield markings and accompanying signage where applicable; and wayfinding signage for bicyclists.
- **Long-term Action Steps**
 - Build underground utilities along the Freedom Boulevard corridor;
 - Establish shared paths where the right-of-way may be constricted (e.g., at the Independent Order of Oddfellows Cemetery) that provide combined sidewalks and protected bicycle facilities and;
 - Expand the right-of-way to allow for wider sidewalks and protected bike lanes as a part of the road diet.

Community Programs, Policies, and Campaigns

- **Safe Routes to School Program:** Participants identified the need for programming to support children walking to and from school as a high priority. This group decided to focus on developing a Youth Ambassadors program that would connect high school and middle school to elementary school youth, where the older children would receive crossing guard training and model safe walking and biking behaviors, as well as accompany the younger kids in their walk or bike to school. The group also discussed incorporating encouragement events on a monthly basis to build awareness of pedestrian and bicycle safety, as well as to create a culture of walking and biking in the community. The group identified existing stakeholders and groups that can support the effort, including: Bike Santa Cruz County, Ecology Action, Police Activities League (PAL), residents, and the County of Santa Cruz Human Services Department. Additionally, the group identified high school and middle school youth as key participants in planning fun encouragement events, such as bike rodeos and walk/bike to school days.

The group identified the following preliminary action steps:

- Identify and use existing grant support to build champions, including parents, community residents, key stakeholders, and youth;
- Have identified champions help select a target elementary school for the second year programming activities and assign youth ambassadors and;

- Leverage the Santa Cruz County Health Services Agency and Ecology Action’s Community Mode Shift through SRTS Pilot Project to lay the foundation for future funding support for incentive items.
- **Community Education:** Participants identified community-wide education as a key strategy for encouraging safe walking and biking behaviors. The group shared that community programming to raise awareness at the family and adult level was a priority. The target audience of that campaign should be youth and families, migrant workers, and company wellness programs. Participants outlined an education campaign that would include temporary demonstrations; an “Adopt Freedom Boulevard” program component to engage local businesses; community and cultural art pieces integrated into intersections, crosswalks, and roundabouts; and people-centered signage that would help give a human face to the traditional figures on street signage.

The group identified the following preliminary action steps:

- Coordinate with the Complete Streets Plan and Safe Routes to School to implement preliminary outreach to community residents;
- Develop a one, two, and five-year work plan for the program and;
- Coordinate an artwork contest with a local school.

Cal Walks/SafeTREC Recommendations

The Project Team submits the following recommendations for consideration by the City of Watsonville, Planning Committee, and workshop participants:

- **Bicycling Assessments on Watsonville’s major arterials:** The Project Team *encourages and recommends Planning Committee members and the City of Watsonville to collaborate and perform additional community-wide bicycling assessments* with residents to solicit feedback about unsafe areas and potential bike lane improvements. Wide, marked, and separated bike lanes can provide safety and security and improve the overall well-being of bicyclists and all road users.
- **Establish a Bicycle & Pedestrian Advisory Committee:** The Project Team *encourages the City of Watsonville to establish a formal Watsonville Bicycle and Pedestrian Advisory Committee (BPAC)* to advise the City Council and staff on pedestrian and bicycle safety plans, projects, and policy development. The City of Watsonville is currently developing a Complete Streets Plan for their downtown area, as well as a Vision Zero plan. Both planning projects have ongoing community engagement efforts slated for the upcoming year. A BPAC could help review project plans and engage their community networks to provide feedback on the development of the Complete Streets and Vision Zero plans. This committee would be chaired and include appointed community residents that represent the diversity and needs of the city. The committee would help increase the connection and outreach efforts of the City to community residents, which will lead to better planning and execution of projects that meet the needs of entire community.
- **Tree and Landscaping Assessment:** The Project Team *recommends the City of Watsonville conduct a tree and landscaping assessment along Freedom Boulevard* to identify locations where trees can be planted along city property to provide shade for people walking and bicycling to and from commercial areas along the corridor. The Project Team also *recommends that the City of Watsonville apply for an [Urban Greening Grant Program](#)* during the next application cycle, especially for frequented walking and biking routes leading to the commercial

areas along Freedom Boulevard. The Project Team ***recommends collaboration with a local tree and urban greening organization*** to ensure selection of native, drought tolerant, minimal seasonal foliage, and shade-providing species. Trees provide many benefits that can contribute to the overall health and vitality of a community, including absorption of air and water pollution, noise abatement, and urban cooling and energy conservation.

Appendix A

Pedestrian and Bicycle Collision Data Analysis

2012-2016 FREEDOM BLVD DATA ANALYSES

Community Pedestrian and Bicycle Safety Training Workshop Watsonville, CA | September 9, 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 your community better prioritize recommendations that emerge from this workshop.

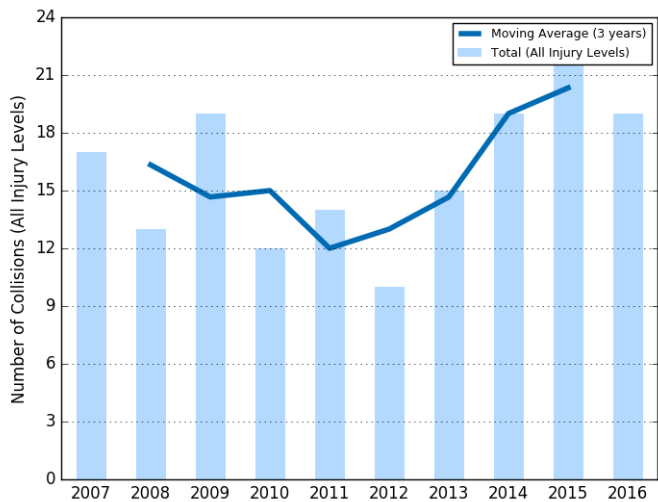
PEDESTRIANS



178 people were killed or injured in **161** pedestrian collisions in the last 10 years (2007-2016).

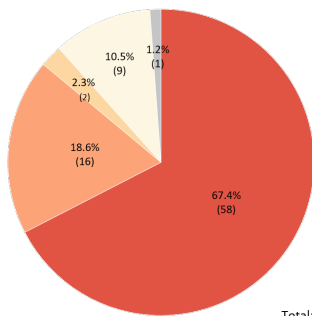
The **three-year moving average** line shows an **upward** trend in pedestrian collisions.*

There were **23** pedestrian collisions in 2015, but an average of **20.3** 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.

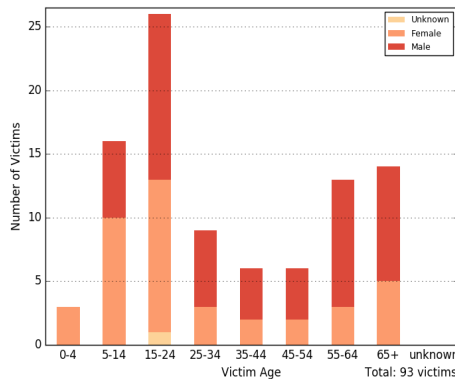
67.4% driver violations
VS.
18.6% pedestrian violations



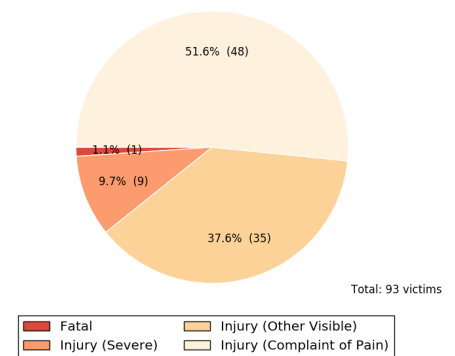
Total: 86 collisions

■ Driver Violation ■ Pedestrian Violation ■ Unclear Violation
■ Unknown ■ Bicyclist Violation

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



55.9% of victims were male
38.7% of victims were age 18 & under
15.0% of victims were age 65+



Total: 93 victims

10.8% of victims (or 10 people) were **KILLED** or **SEVERELY INJURED**

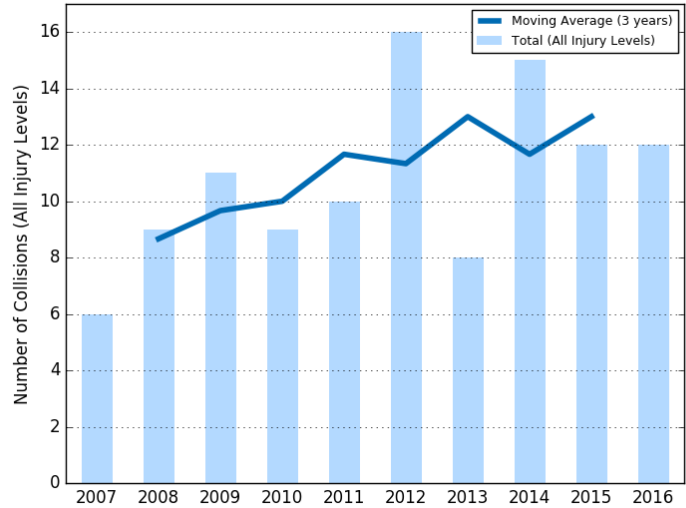
BICYCLES



109 people were killed or injured in 108 bicycle collisions in the last 10 years (2007-2016).

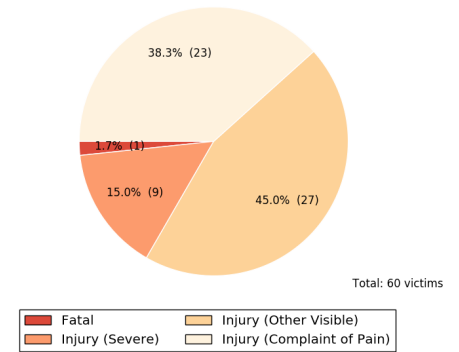
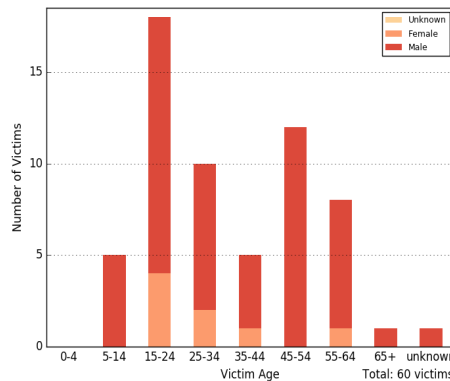
The **three-year moving average** line shows an **upward** trend in bicycle collisions.*

There were **12** bicycle collisions in 2015, but an average of **13** 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.



- **86.7%** of victims were male
- **30%** of victims were under age 20
- **Ages 15-18:9; 19-21:5; 22-24:4**

16.7%
of victims (or 10 people)
KILLED or SEVERELY INJURED

SUMMARY



62.8 pedestrian fatalities & injuries per 100,000 population over the last five years in the City of Watsonville, which is **61.9% more than** Santa Cruz County and **74.9% more than** California



33.8 bicyclist fatalities & injuries per 100,000 population over the last five years in the City of Watsonville, which is **52.7% less than** Santa Cruz County and **1.5% more than** California

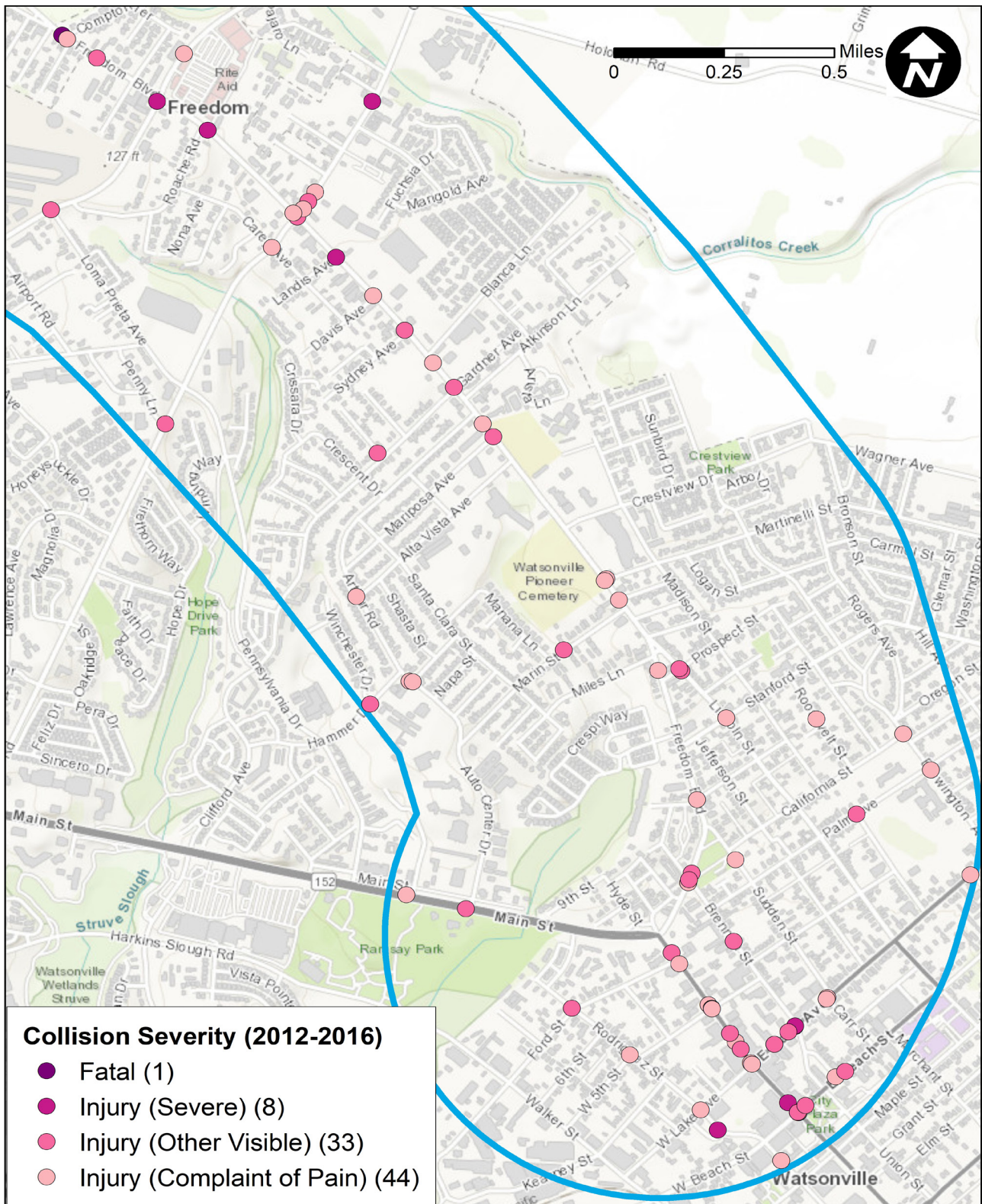
	Yearly Population Rate of Fatalities & Injuries per 100,000 Population Calculated Over a 5-year Period*	
	Pedestrian	Bicyclist
Watsonville	62.8	33.8
Santa Cruz	38.8	71.4
California	35.9	33.3

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

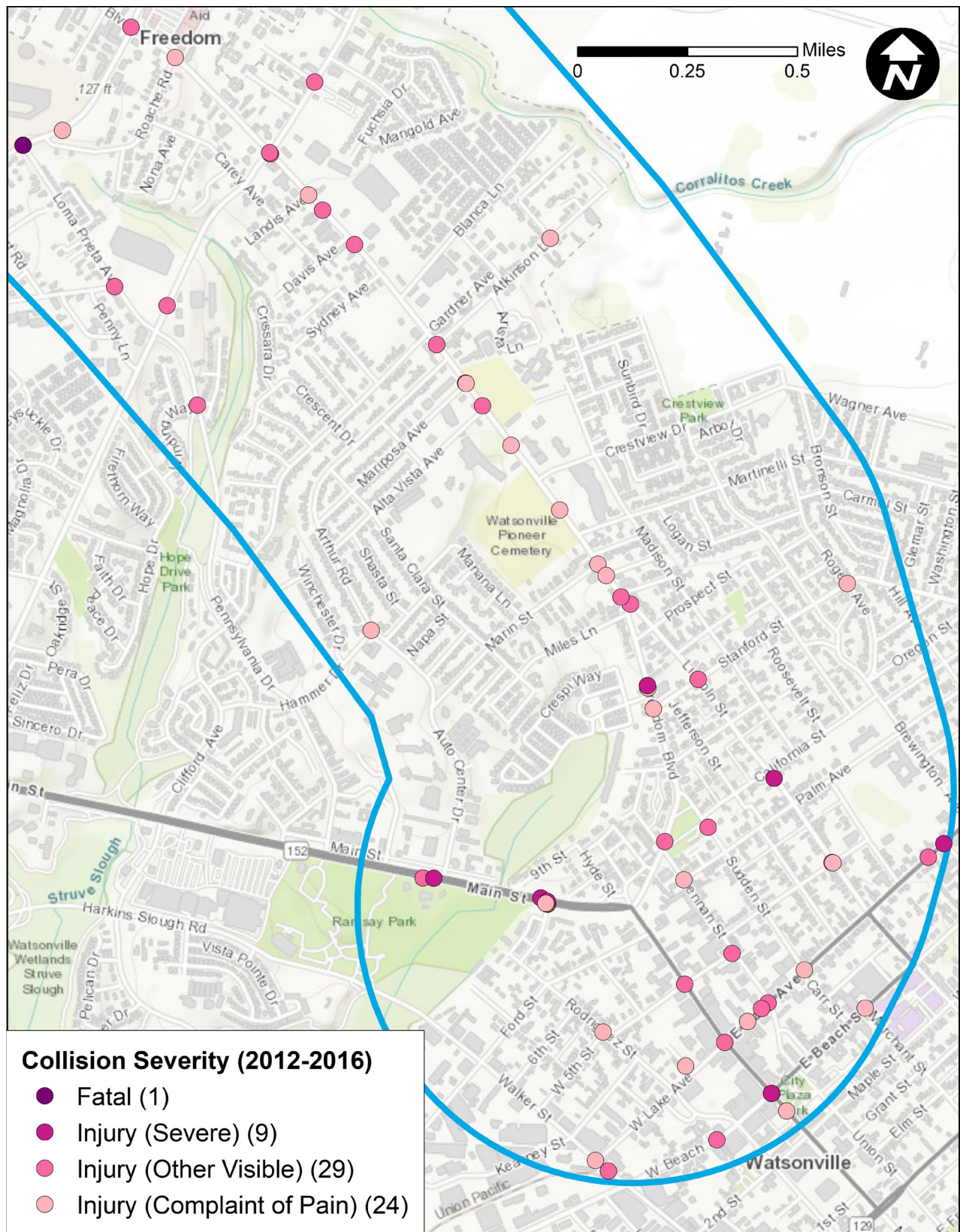
86 collisions mapped within a 1/2 mile buffer from Freedom Blvd in Watsonville, CA.



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

63 collisions mapped within a 1/2 mile buffer from Freedom Blvd in Watsonville, CA.



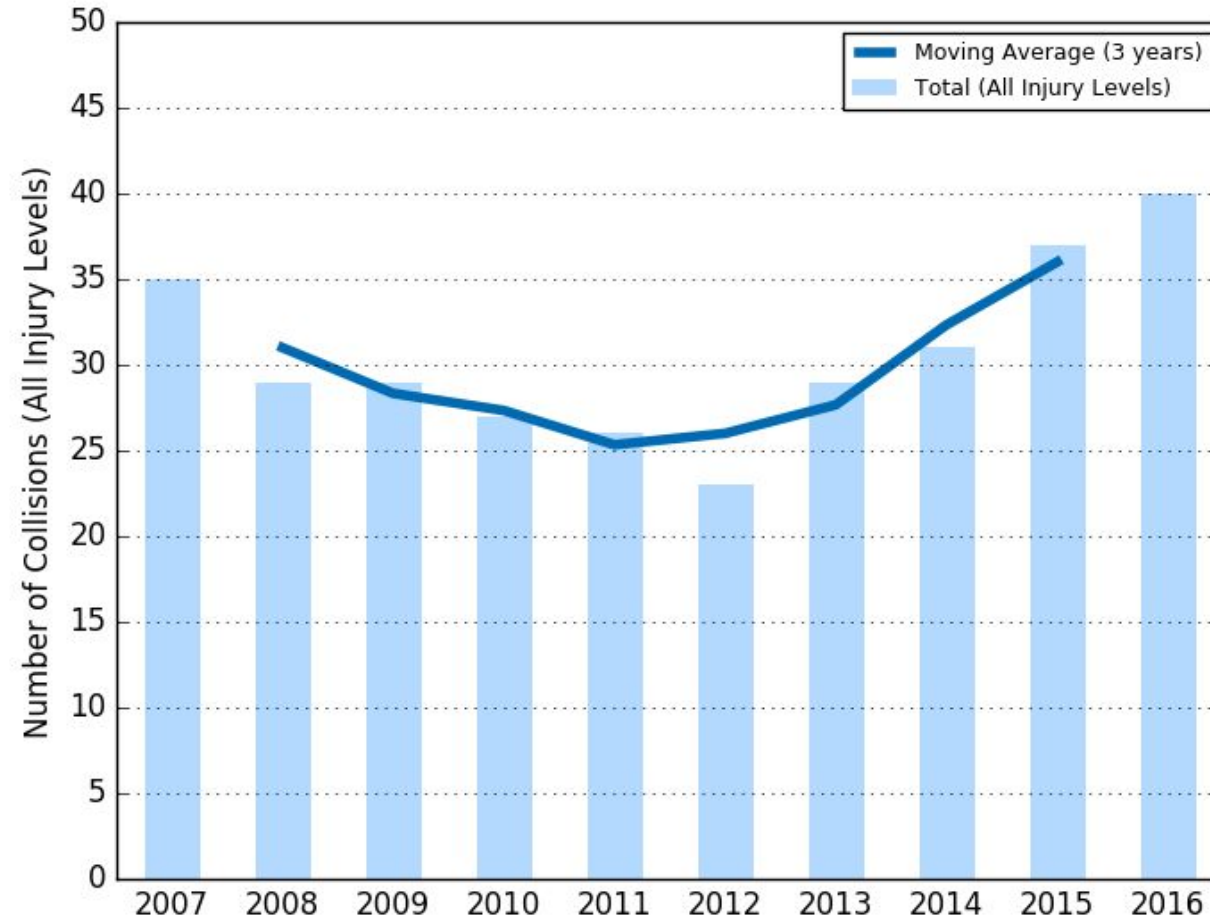
Data Source: California Statewide Integrated Traffic Records System (SWITRS). Collision data for 2015 and 2016 are provisional as of November 2017.

Appendix B

Pedestrian and Bicycle Collision Data Analysis
Site Visit Presentation

Community Pedestrian and Bicycle Safety Workshop Site Visit Watsonville, CA 6/4/18

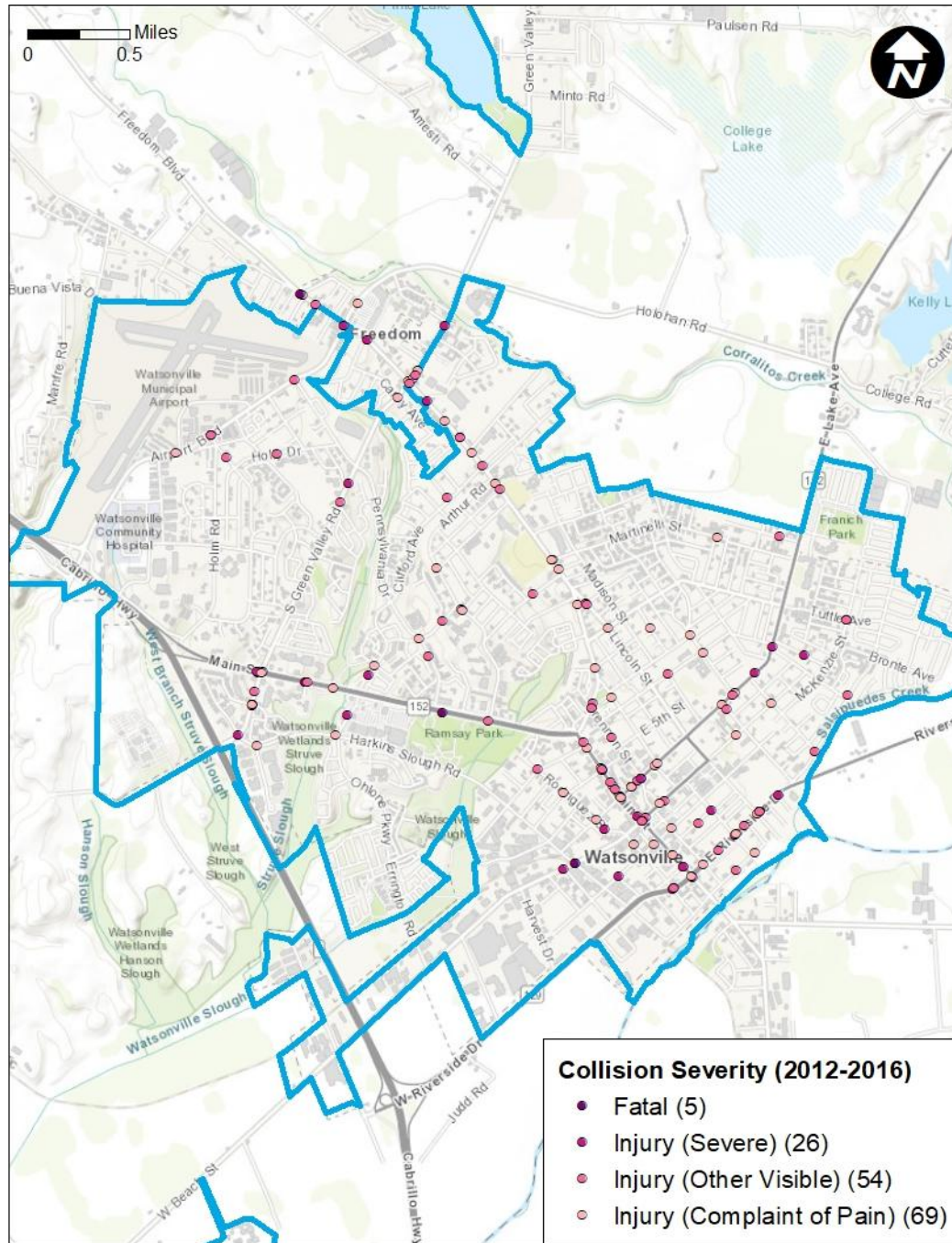
Pedestrian Collision Trend with 3-year moving average



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

Watsonville Pedestrian Collisions 2012-2016

154 of 169 collisions are mapped



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

Watsonville Pedestrian Collision Map (2012 - 2016)



Collision Severity (2012-2016)

- Fatal (4)
- Injury (Severe) (26)
- Injury (Other Visible) (54)
- Injury (Complaint of Pain) (68)

2017 Median Household Income

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

Pedestrian Collisions by Time of Day and Day of Week

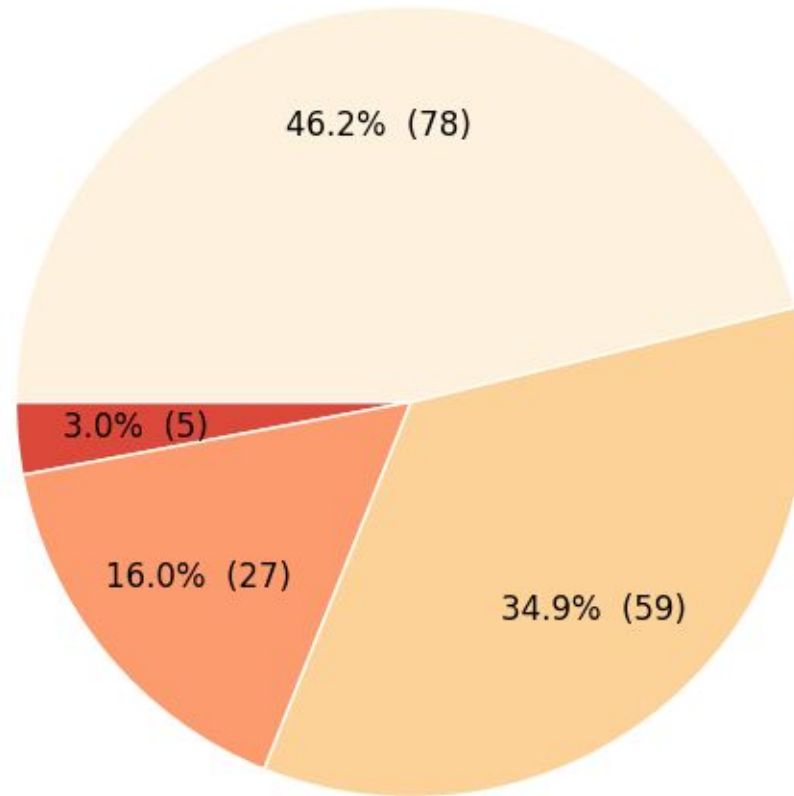
09:00PM-11:59PM	0	1	1	0	3	3	4
06:00PM-08:59PM	5	9	4	3	3	3	4
03:00PM-05:59PM	10	8	5	3	4	2	8
Noon-02:59PM	2	4	6	7	5	1	3
09:00AM-11:59AM	1	1	1	0	1	4	1
06:00AM-08:59AM	3	9	7	10	3	1	1
03:00AM-05:59AM	0	1	1	0	0	1	0
Midnight-02:59AM	0	0	0	1	1	1	0
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

Top 10 Violations in Pedestrian Collisions (with # and %)

Total: 152 collisions

CVC No.	Description	Freq.	Percent
21950	Driver failure to yield right-of-way to pedestrians at a crosswalk	85	53.1%
21954	Pedestrian failure to yield right-of-way to vehicles	29	18.1%
0	Unknown	14	8.8%
22350	Speeding on the highway	7	4.4%
21952	Motor vehicle drivers must yield to pedestrians	4	2.5%
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	3	1.9%
21804	Driver failure to yield right-of-way when entering/crossing a highway	3	1.9%
22106	Unsafe starting or backing of vehicle	3	1.9%
21456	"Walk" pedestrian failure to yield right-of-way to vehicles already in crosswalk	2	1.2%
21951	Vehicle shall not pass another vehicle that has stopped at a crosswalk	2	1.2%
Total		152	95.0%

Pedestrian Victim Injury Severity

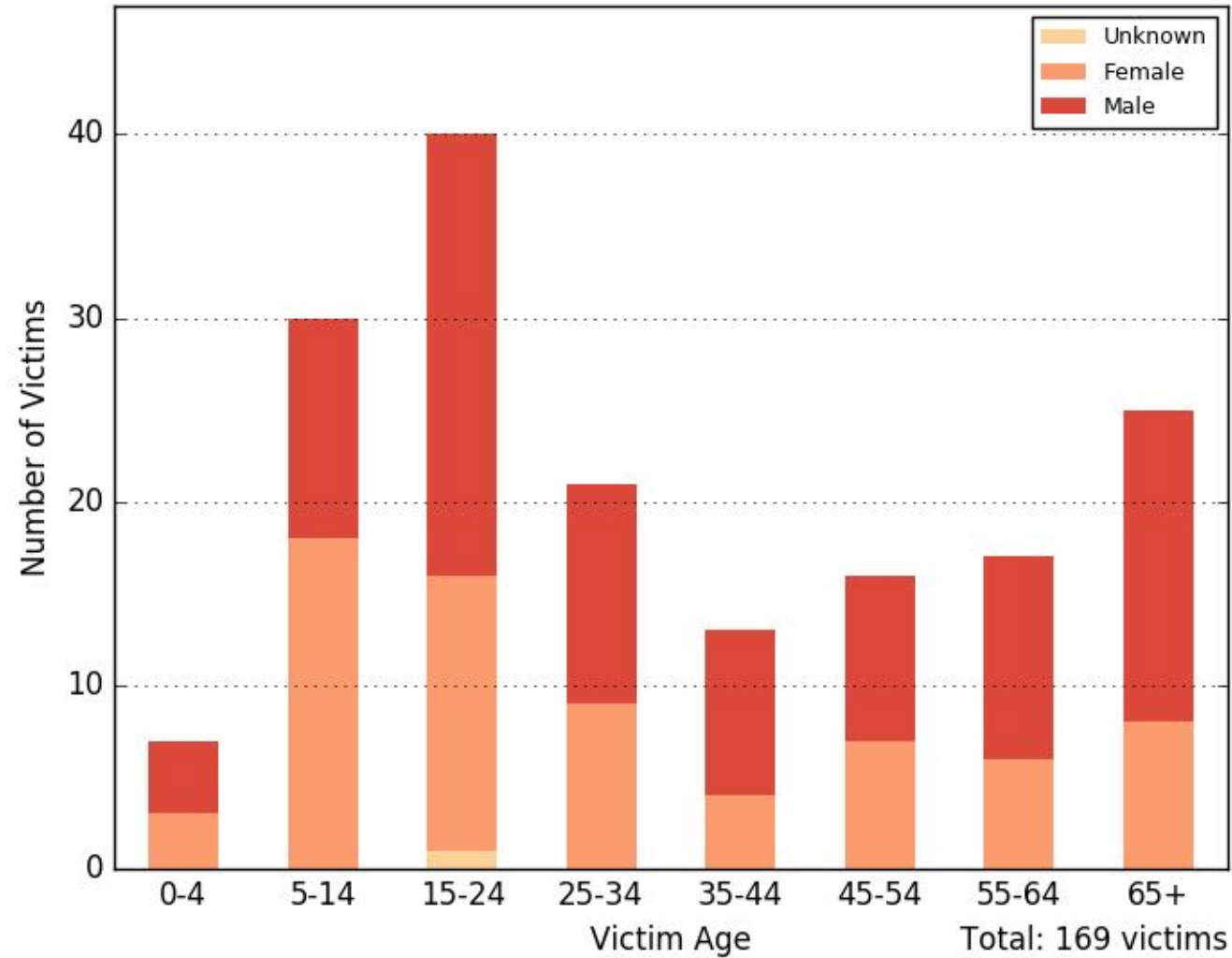


Total: 169 victims

 Fatal	 Injury (Other Visible)
 Injury (Severe)	 Injury (Complaint of Pain)

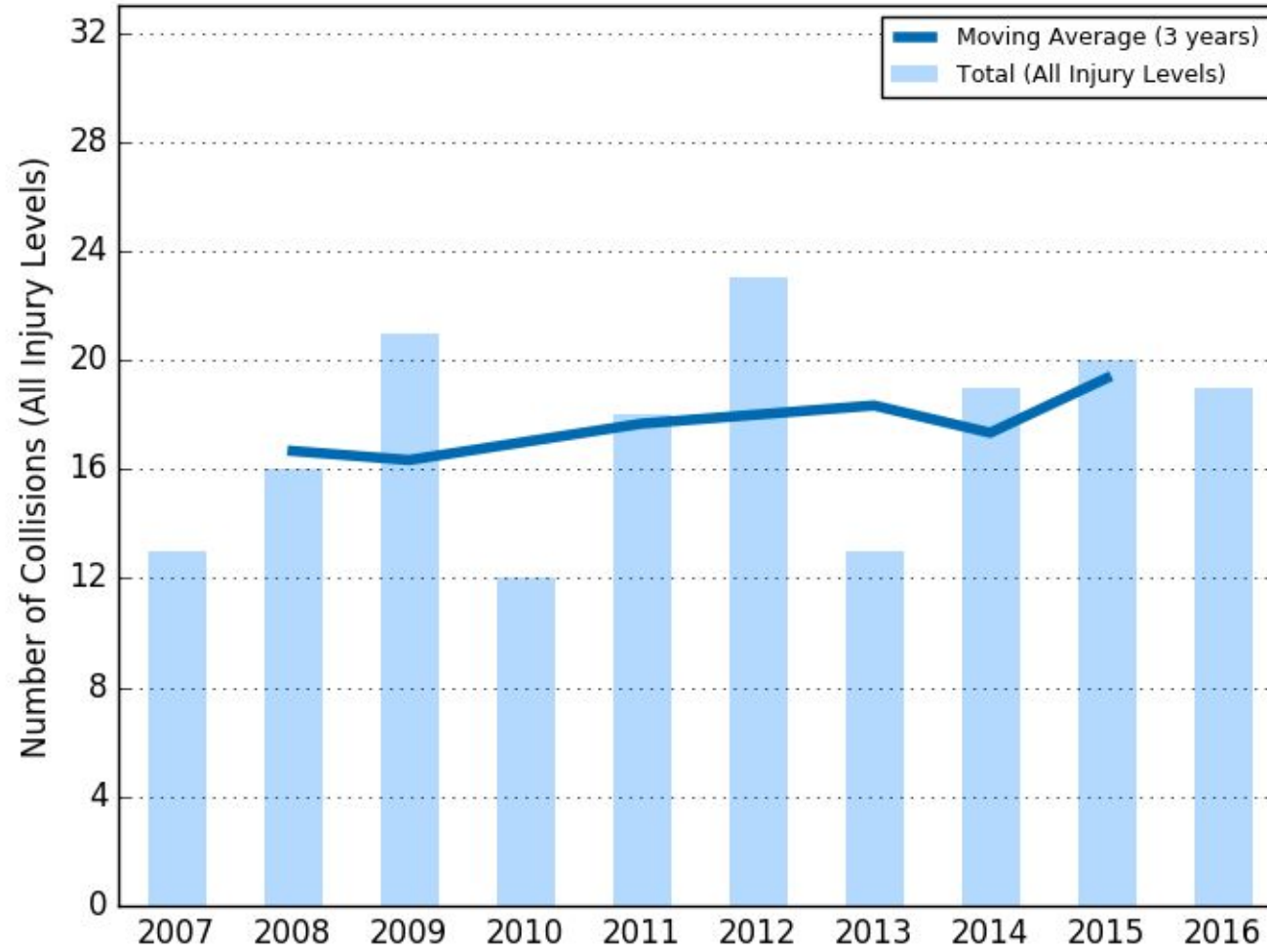
Note: 2015 and 2016 SWITRS data are provisional as of November 2017.

Pedestrian Victims by Age and Gender



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

Bicycle Collision Trend with 3-year moving average

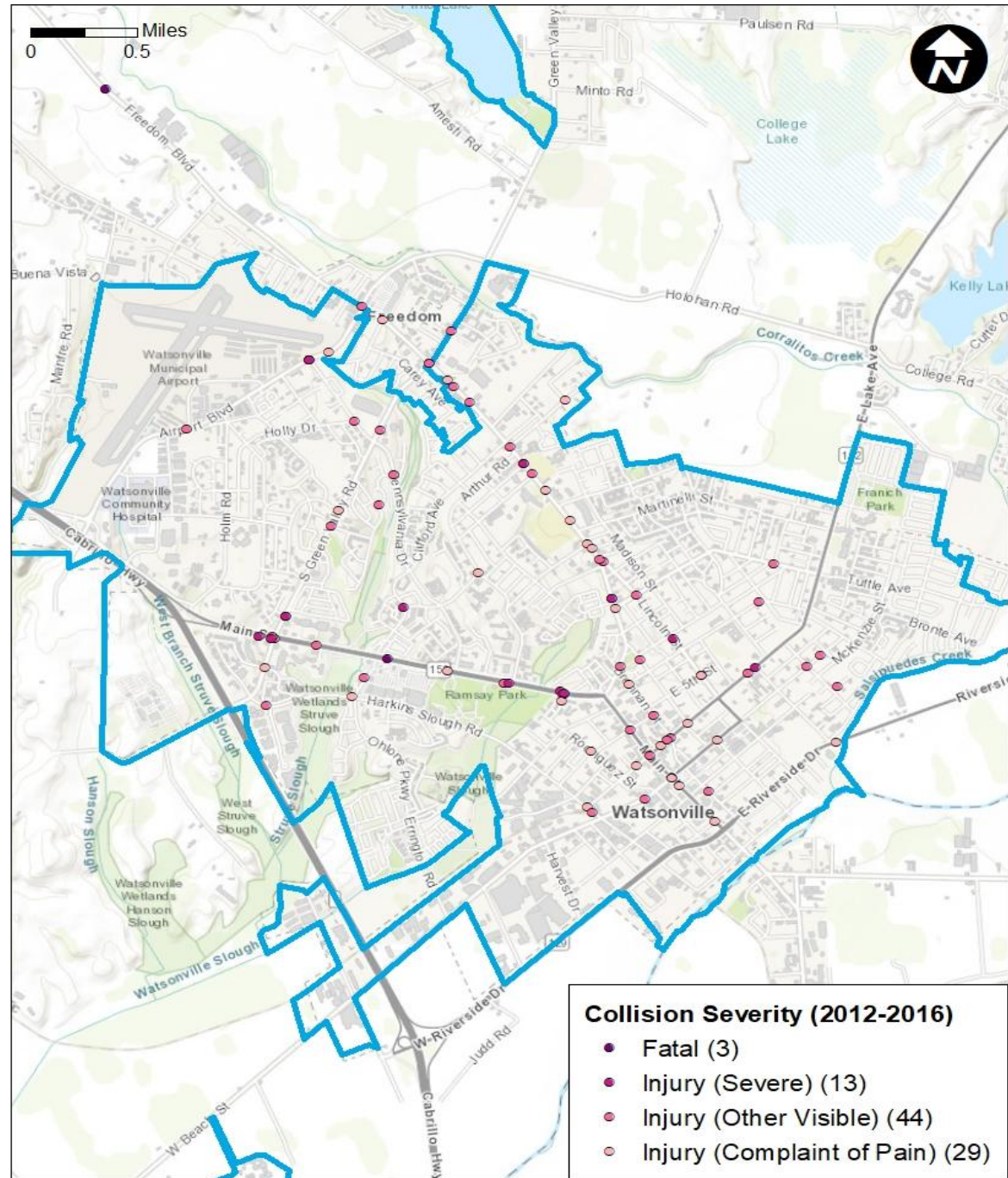


Note: 2015 and 2016 SWITRS data are provisional as of November 2017.

Bicycle Collisions 2012-2016

89 of 94 collisions are mapped.

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



Watsonville Bicycle Collision Map (2012 - 2016)



Collision Severity (2012-2016)

- Fatal (2)
- Injury (Severe) (13)
- Injury (Other Visible) (44)
- Injury (Complaint of Pain) (29)

2017 Median Household Income

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

Bicycle Collisions by Time of Day and Day of Week

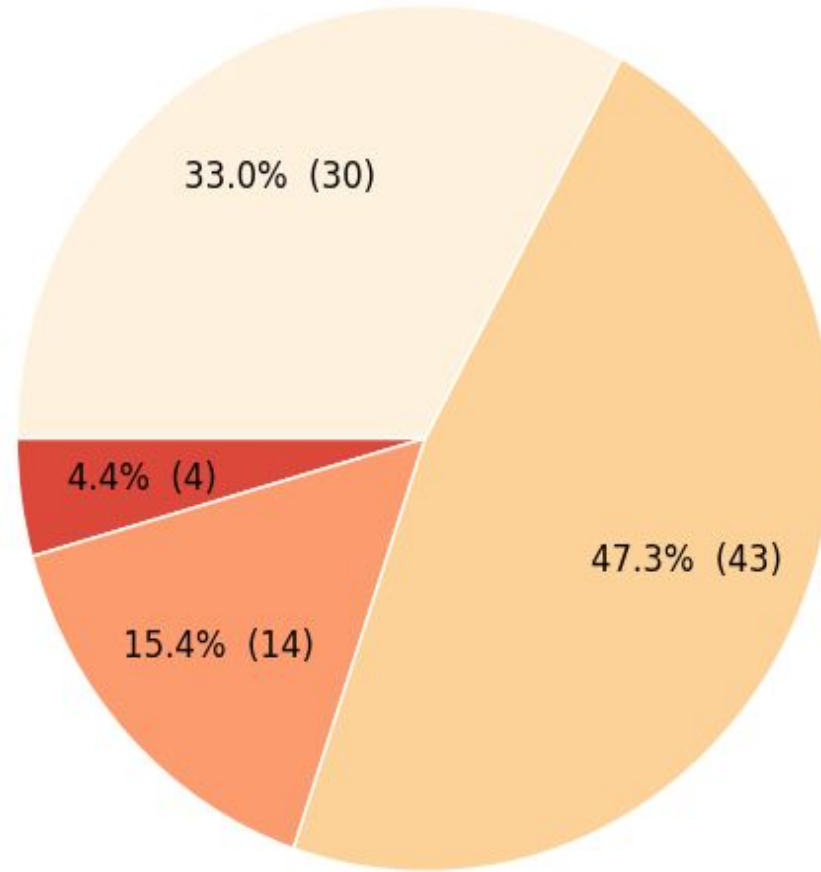
09:00PM-11:59PM -	0	1	0	0	0	3	0
06:00PM-08:59PM -	0	2	1	1	3	4	3
03:00PM-05:59PM -	8	4	7	6	7	0	3
Noon-02:59PM -	4	3	4	1	0	1	3
09:00AM-11:59AM -	4	3	0	2	4	5	2
06:00AM-08:59AM -	1	1	0	0	1	0	0
03:00AM-05:59AM -	0	0	0	0	0	0	0
Midnight-02:59AM -	1	0	0	0	0	1	0
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday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

Top 10 Violations in Bicycle Collisions (with # and %)

Total: 78 collisions

CVC No.	Description	Freq.	Percent
21650	Failure to drive on right half of the roadway (with some exceptions)	21	22.3%
22107	Unsafe turning with or without signaling	13	13.8%
21804	Driver failure to yield right-of-way when entering/crossing a highway	11	11.7%
0	Unknown	6	6.4%
21801	Failure to yield right-of-way to incoming cars while turning left or making U-turn	6	6.4%
21202	Bicyclist, failure to use right edge of roadway	6	6.4%
22450	Driver failure to stop at a limit line or crosswalk at a stop sign	5	5.3%
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	4	4.3%
22350	Speeding on the highway	3	3.2%
22100	Left and right-hand turns should be made as close to the respective roadway edges as possible	3	3.2%
Total		78	83.0%

Bicycle Victim Injury Severity

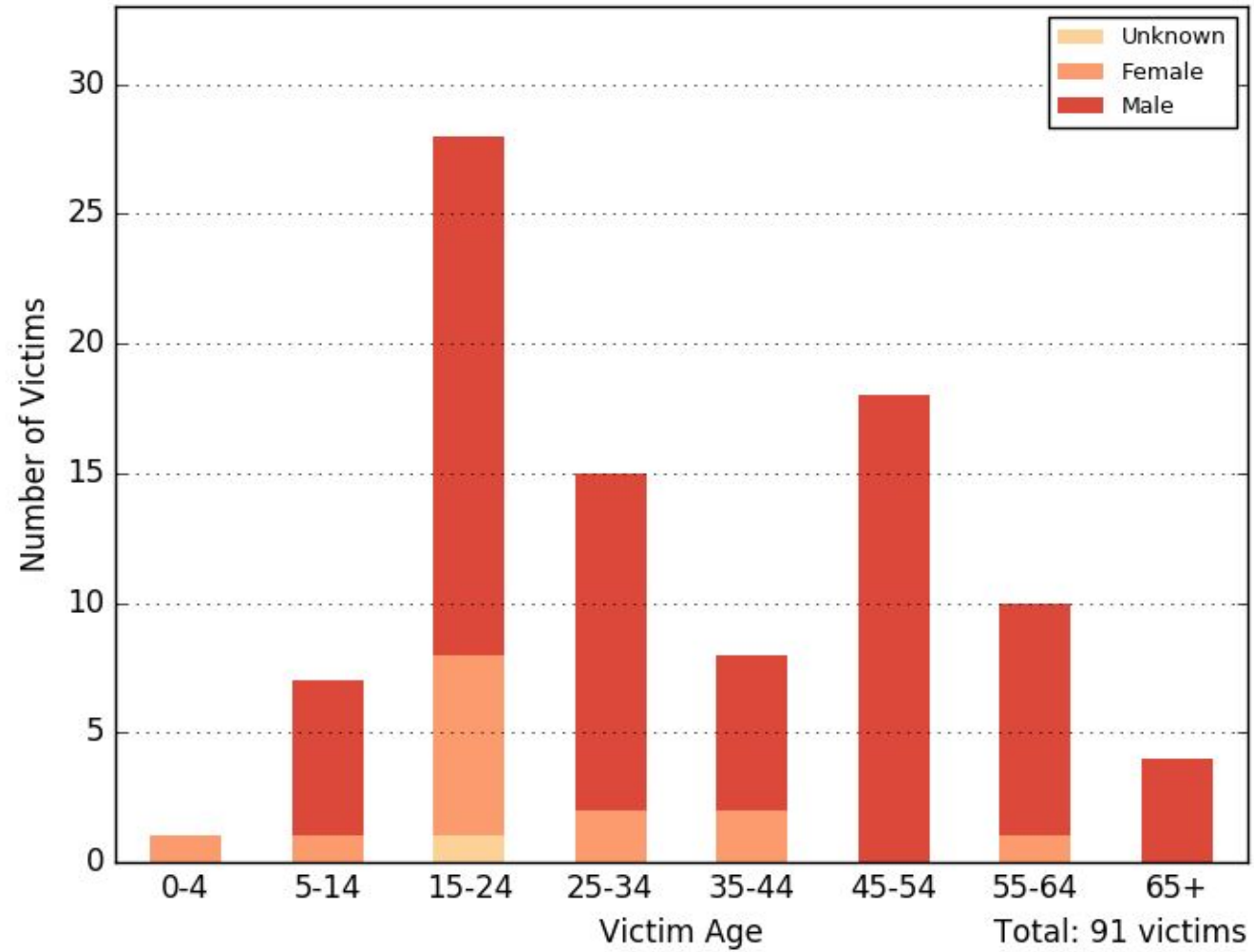


Total: 91 victims



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

Bicycle Victims by Age and Gender



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