



Recommendations to Improve Pedestrian & Bicycle Safety for the Community of Southwest Fresno



October 2017

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Introduction

At the invitation of the City of Fresno Department of Public Works and Cultiva La Salud, the University of California at Berkeley's Safe Transportation Research and Education Center (SafeTREC) and California Walks (Cal Walks) facilitated a community-driven pedestrian and bicycle safety action-planning workshop in Southwest Fresno to improve pedestrian safety, bicycle safety, walkability, and bikeability across the Southwest Fresno community.

Prior to the workshop, Cal Walks staff conducted an in-person site visit on June 26, 2017 to adapt the Community Pedestrian and Bicycle Safety Training Program curriculum to meet the local communities' needs and to provide context-sensitive example strategies for the community's existing conditions. Cal Walks facilitated the workshop on September 7, 2017, which consisted of: 1) an overview of multidisciplinary approaches to improve pedestrian and bicycle safety; 2) two walkability and bikeability assessments along two key routes; and 3) small group action-planning discussions to facilitate the development of community-prioritized recommendations to inform Southwest Fresno's active transportation efforts. This report summarizes the workshop proceedings, as well as ideas identified during the process and recommendations for pedestrian and bicycle safety projects, policies, and programs.

Background

Community Pedestrian and Bicycle Safety Training Program

The Community Pedestrian and Bicycle Safety Training (CPBST) program is a joint project of UC Berkeley SafeTREC and Cal Walks. Funding for this program is provided by a grant from the California Office of Traffic Safety (OTS) through the National Highway Traffic Safety Administration (NHTSA). The purpose of the CPBST program is to train local neighborhood residents and safety advocates on how to improve pedestrian and bicycle safety and to strengthen their collaboration with local officials and agency staff to make communities safer and more pleasant to walk and bike. For each training, the program convenes a multi-sector, multi-disciplinary local planning committee to tailor and refine the training's curriculum and focus to meet the community's needs. Additionally, Cal Walks staff conduct pre-training site visits to collect on-the-ground observations of existing walking and biking conditions to inform the training's scope and focus.

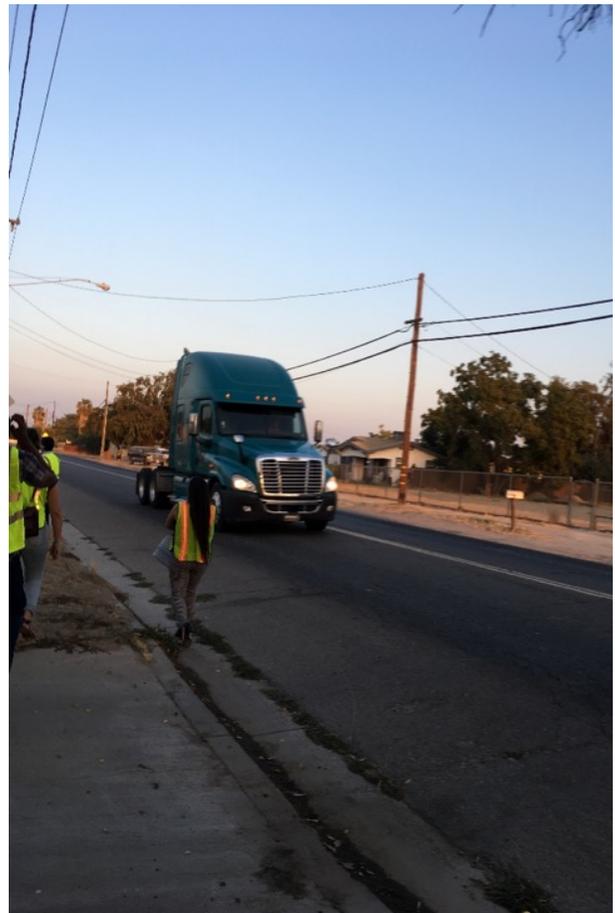
The half-day training is designed to provide participants with both pedestrian and bicycle safety best practices and a range of proven strategies (the 6 E's: Empowerment & Equity, Evaluation, Engineering, Enforcement, Education, and Encouragement) to address and improve pedestrian and bicycle safety conditions and concerns. Participants are then guided on a walkability and bikeability assessment of nearby streets before setting pedestrian and bicycle safety priorities and actionable next steps for their community.

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

Selected Pedestrian & Bicycle Safety Conditions in Southwest Fresno

High Freight Traffic Volumes & High Speeds

While the posted speed limits are 40-45 MPH on main corridors like S. Elm Avenue, W. North Avenue, and S. MLK Jr. Boulevard, the width of the streets and travel lanes are documented to encourage drivers to travel at higher speeds. While E. Annadale Avenue has School Zone signage and markings between Elm and MLK, no other speed limit signage is posted to indicate to drivers how fast they can drive when children are not present. Because of the prevailing land uses in Southwest Fresno—including industrial and agricultural facilities—and proximity to rural Fresno County, the community's roads carry a lot of freight traffic, whether they are four-lane arterials like S. Elm Avenue or narrower two-lane collectors like W. North Avenue, where sidewalks are missing along significant sections.



Pedestrians using streets often used by freight trucks.

Minimal and/or Faded Signage and Markings

While Cal Walks staff observed updated signage at marked crossings, most of the marked crosswalks were painted with plain lateral lines rather than with high-visibility longitudinal markings. Throughout Southwest Fresno, we noticed deteriorating pavement conditions and faded traffic control markings, including center and edge lines, as well as crosswalk striping. These conditions are likely exacerbated by the prevalence of freight traffic in and through the community.



Faded standard marked crosswalks Southwest Fresno.

Lack of Sidewalks

Southwest Fresno as a whole lacks a complete sidewalk network. It is clear on streets like MLK Jr. Boulevard that sidewalks were constructed in tandem with development, resulting in a mix of sidewalk widths and conditions. On corridors like W. North Avenue, the gaps in the sidewalk network are hazardous—there is not a significant paved shoulder, while the unpaved shoulder varies in width and condition and is often blocked by parked vehicles or overgrown vegetation.

Insufficient Lighting

Although we conducted our site visit during the day, it was apparent that the street lighting available during hours of darkness was minimal, and pedestrian-scale lighting—particularly at intersections and other marked crossings—is non-existent in Southwest Fresno. Because we held the workshop in the late afternoon and early evening, we were able to better observe the lighting conditions during the Walkability & Bikeability Assessment section of the workshop. There, we observed very dark conditions, both for cyclists who may be biking on the roadways, and for pedestrians walking alongside or across the roadways. Sidewalks, and paved and unpaved shoulders were dark in the assessment area.



Sidewalks vary in width and condition depending on the timeline of adjacent property development.



The majority of lighting fixtures in Southwest Fresno are standard overhead streetlights oriented towards the roadway.

Inadequate Bicycle Facilities

During our site visit, Cal Walks staff observed bike lanes installed on S. Elm Avenue, an arterial street in the community, which serves as an arterial. These lanes appeared to be the minimum width of 4-5 feet, and nearly half of the lane's width was in the gutter pan. The high speeds and traffic volumes of this street likely discourage use of the bike lane. During both the site visit and the workshop, Cal Walks staff observed people of all ages biking on the sidewalk rather than using these on-street facilities.

Pedestrian & Bicycle Collision History

Between 2011-2015,¹ there were 521 pedestrian collisions, including 68 fatalities and 64 severe injuries across the City of Fresno. Over the 10-year period between 2006-2015, the three-year moving average of pedestrian collisions shows a downward trajectory across the City, with a recent uptick beginning in 2013.² In the most recent set of data between 2011-2015, pedestrian collisions in Southwest Fresno resulted in 5 fatalities and 3 severe injuries, with collisions scattered across the community with some clusters along MLK Jr. Boulevard, E. Church Avenue, and S. Elm Avenue. The data revealed that nearly one-third of the victims in the pedestrian collisions across the City were aged 19 or younger. When examining the Primary Collision Factors (PCF), pedestrian violations accounted for 35.7% of pedestrian collisions over the 5-year period, while driver violations accounted for 37.3%. Of the pedestrian violations, the vast majority of the violations involved a pedestrian failing to yield to a driver when crossing outside of a crosswalk, while less than 3% resulted from a pedestrian crossing outside of a crosswalk between two signalized intersections.³ The majority of driver violations (62.4%) consisted of pedestrian right-of-way violations.⁴

Between 2011-2015, there were 342 bicycle collisions, including 12 fatalities and 18 severe injuries across the City of Fresno. Over the 10-year period between 2006-2015, a three-year moving average of bicycle collisions shows a downward trajectory through 2013, with a significant increase since then. In the most recent set of data between 2011-2015, bicycle collisions in Southwest Fresno resulted in 2 fatalities and 1 severe injury, with collisions concentrated on E. California Avenue, S. Elm Avenue, E. Jensen Avenue. One fatality occurred on E. North Avenue between S. MLK Jr. Boulevard and S. Elm Avenue. The data revealed that in just over one-quarter of the bicycle collisions across the City, the victims were aged 19 or younger.

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

¹ Please note 2014 and 2015 data is provisional.

² The moving or rolling average is useful for tracking trend changes over time, especially when the number of collisions is subject to variability. The generally accepted traffic safety practice is to examine a three-year moving average, where data points are the midpoint of the three years of data specified.

³ 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. This is not the same as the term "jaywalking," which refers to crossing outside of a marked or unmarked crossing between two signalized intersections. 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.

⁴ Pedestrian Right-of-Way Violations are defined as instances where a driver fails to yield to a pedestrian in a marked or unmarked crosswalk when the pedestrian has the right of way (e.g., when the pedestrian has a "Walk" signal at a signalized intersection).

September 7, 2017 Workshop

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



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

The workshop was hosted from 4:00 pm to 8:30 pm, and dinner, child watch, and simultaneous interpretation from English to Spanish and from English to Hmong were provided to maximize community participation. Twenty-seven (27) individuals attended the workshop, including residents and representatives from City of Fresno Department of Public Works, City of Fresno PARCS, City of Fresno Police Department, City of Fresno Development and Resource Management (Planning), City of Fresno Bicycle & Pedestrian Advisory Committee (BPAC), Fresno County Department of Public Health, Cultiva La Salud, Leadership Counsel for Justice & Accountability/Consejo de Liderazgo, Centro Binacional para el Desarrollo Indígena Oaxaqueño (CBDIO), Stantec/California High Speed Rail Authority, West Fresno Family Resource Center (WFFRC), Touré Associates, Sierra Club, and Fresno Cycling Club.

Reflections from Walkability & Bikeability Assessment

Workshop participants conducted walkability and bikeability assessments along 2 routes.

- Route 1 traveled on E. Annadale Avenue, S. MLK Jr. Boulevard, W. North Avenue, S. Clara Avenue, and on the informal trails through the fields behind West Fresno Elementary, West Fresno Middle School, and the Mary Ella Brown Center. This route focused on observing walking and biking conditions along Annadale Avenue, MLK Jr. Boulevard, and W. North

Avenue,⁵ as well as the trails connecting residences with the schools, soccer fields, and community center.

- Route 2 traveled on E. Annadale Avenue, S. Elm Avenue, W. North Avenue, S. Clara Avenue, and on the informal trails through the fields behind West Fresno Elementary, West Fresno Middle School, and the Mary Ella Brown Center. This route focused on observing walking and biking conditions along Annadale Avenue, S. Elm Avenue, and W. North Avenue, as well as the trails connecting residences with the schools, soccer fields, and community center.



Participants heading out on walkability and bikeability assessment during the workshop.

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

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

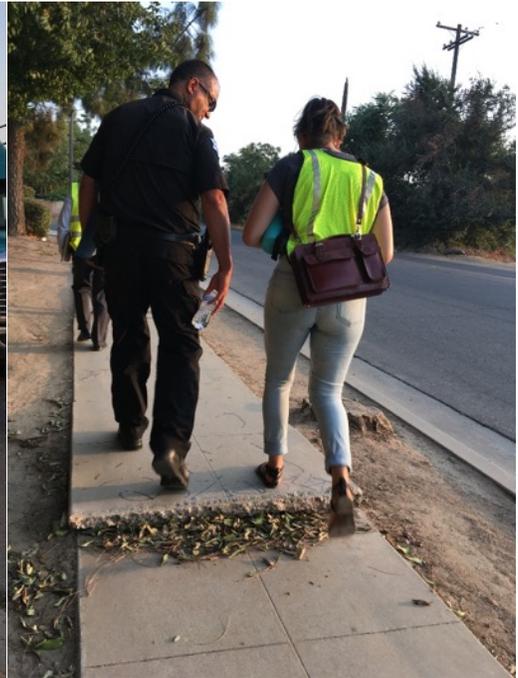
- **Poor Sidewalk Conditions and Missing Sidewalks:** Similar to what Cal Walks staff observed on their site visit, participants noted varying sidewalk conditions—including significant uplifted and cracked sidewalks that present tripping hazards—as well as the inconsistent widths of sidewalks that were built at different times and to different standards. Along W. North Avenue, which serves as a walking and biking route to West Fresno Elementary School, West Fresno Middle School, and Mary Ella Brown Center, participants noted the lack of sidewalks as well as the challenges to installing them, including utility poles and potential right-of-way issues.
- **Lack of Marked Crosswalks:** Participants observed that while most of the controlled and signalized intersections had marked crosswalks (not including the intersection of S. MLK Jr Boulevard and W. North Avenue), many crossings across side streets were not marked. Additionally, because the distance between controlled and/or signalized intersections is much

⁵ The Highway 41 + North Corridor Complete Streets Plan will be incorporated into the Southwest Fresno Specific Plan, and includes potential complete streets redesigns for the North Avenue Corridor. The Plan is available at: <https://www.fresno.gov/darm/planning-development/plans-projects-under-review/#tab-05>.

of Southwest Fresno can be significant, participants supported additional marked and controlled crossings, either at cross streets or mid-block.



Missing sidewalks on W. North Avenue.



Uplifted and narrow sidewalks on S. MLK Jr. Boulevard.

- **Lack of Speed Limit Signage:** Along the walking routes, participants noted the lack of regularly placed speed limit signage. This was particularly evident along E. Annadale Avenue, where some school zone signage is in place in both directions, although there is no indication of what the speed limit is on the street during non-school hours.
- **Lack of Bike Lanes and Secure Bike Parking:** Similar to what Cal Walks staff observed during their site visit, workshop participants highlighted the lack of bike lanes on most of the streets in Southwest Fresno, particularly along the stretches where there are no paved shoulders or sidewalks. Participants observed that S. Elm Avenue has a minimum-width bike lane that does not feel comfortable or safe given the prevailing speeds and traffic volumes along the corridor. Additionally, participants noted that ample, secure bicycle parking is not available at most destinations in Southwest Fresno.



A bicyclist rides along W. North Avenue.

- **Opportunity for Complete Streets Redesigns:** Participants noted a number of opportunities for complete streets improvements, particularly the current right-of-way and generous width of MLK Jr. Boulevard. Though configured as a two-lane thoroughfare from E. California Avenue to the north to W. North Avenue to the South, the boulevard’s width is between 50-60 feet. Between E. California Avenue and E. Florence Avenue, MLK Jr. Boulevard is configured as a three-lane street with bike lanes in each direction. South of E. Florence Avenue, the boulevard remains three lanes with intermittent bike lanes on either side of the street, though not both sides at the same time. South of E. Grove Avenue, MLK Jr. Boulevard becomes a two-lane street with no bike lanes. Sidewalks are contiguous on the west side of the boulevard, and sidewalk gaps exist along the west side of the boulevard. Because of the width of the street, participants observed that the City has an opportunity to utilize the right-of-way to make the entire length of MLK Jr. Boulevard a complete street for all users, including people on foot and on bike.
- **Strong Sense of Community:** On both of the walking routes, participants noted the strong sense of community throughout Southwest Fresno. As the late afternoon turned to dusk, many residents were out on their porches and in their yards, and workshop participants were quick to say hello and stop for a brief chat. Residents also stopped along the way to answer participant questions, and they in turn inquired about the walk. This strong sense of community is an opportunity for deeper engagement and is certainly a key asset in Southwest Fresno.

Community Resident Recommendations

Following the walkability and bikeability assessment, Cal Walks facilitated small-group action planning discussions. Workshop participants discussed two sets of questions:

- The first set of questions focused on the recently adopted Fresno Active Transportation Plan (ATP),⁶ and asked participants to discuss the projects they think are most needed in Southwest Fresno, and how the City should prioritize projects and funding.
- The second set of questions focused on the draft Southwest Fresno Specific Plan, which includes goals to create well-connected and safe pedestrian, bicycle, and trail networks.⁷ We asked participants to discuss what walking and biking issues currently affect access to parks, schools, jobs, and other community assets in Southwest Fresno.

Workshop participants provided the following recommendations for overall pedestrian and bicyclist safety improvements.

City of Fresno ATP Priorities

- **Complete Sidewalk Network:** Overwhelmingly, participants would like to see the City fill in the sidewalk gaps in Southwest Fresno. The gaps are mapped in the Fresno ATP, and this inventory should make it easier for the City to develop a targeted plan to complete the community’s sidewalk network. Additionally, participants would like to see ADA accessibility improvements

⁶ The final, adopted City of Fresno Active Transportation Plan is available at: <https://www.fresno.gov/publicworks/wp-content/uploads/sites/17/2016/09/170022FresnoATPFinal012017.pdf>.

⁷ The Southwest Fresno Specific Plan and Environmental Impact Review information and documents are available at: <https://www.fresno.gov/darm/planning-development/plans-projects-under-review/#tab-06>.

made to current sidewalks and curb ramps to ensure they are free of obstructions and tripping hazards.

- **Improved Lighting:** Participants expressed the need to improve both street lighting and pedestrian-scale lighting across Southwest Fresno to improve safety for people walking and biking.
- **Improved Transit Stops:** Many of the transit stops in Southwest Fresno are minimal. At best, there may be an older-style shelter to provide shade and protection from the rain, a bench, and a trash can. On the other end of the spectrum is a bus stop with simply a sign. The stops may or may not be near a street light. At a minimum, the stops should be fully accessible, have a bench and trash can, be well-lit, and have marked crossings nearby for people to walk and bike to and from their stops.
- **Safer School Zones:** Participants expressed concern over the lack of sidewalks nearby schools in Southwest Fresno, particularly along routes where students walk and bike to school. Additionally, participants would like to have more marked crosswalks, and more high-visibility striping, particularly in school crossings and at busy intersections.
- **Youth Pedestrian & Bicycle Safety Education and Encouragement:** Participants believe that the City and the Washington Unified School District should prioritize education and encouragement programs for youth, including bicycle safety education, more crossing guards at school crossings, and walking school buses to and from school.
- **Improved Bicycle Infrastructure & Trails:** Participants identified the need for new and improved bike lanes throughout Southwest Fresno. Updating existing bike lanes and installing new ones on streets with enough right-of-way, like MLK Jr. Boulevard, should be the priority. Participants would also like to see the City work with the Washington Unified School District to complete the informal trail network behind West Fresno Elementary School, West Fresno Middle School, and Mary Ella Brown Center.

Southwest Fresno Specific Plan Priorities

- **Complete the Sidewalk & Trail Network:** Participants echoed their earlier concerns about the sidewalk and trail networks, making it clear that this is a top priority for them in the City's planning processes.
- **Narrowing Wide Streets:** Research has demonstrated that wide streets and wide travel lanes are associated with higher vehicle speeds,⁸ which affect safety for people walking and bicycling. Participants identified the need to narrow wide streets and lanes in order to reduce speeds and make the streets safer.
- **Development that Serves the Community's Needs:** Participants would like to see development that fills in current gaps in Southwest Fresno, including new grocery stores, more businesses and employment opportunities, and additional parks.
- **Perceptions of Safety:** Participants would like to see the City address the community's concerns over personal safety in addition to traffic safety. Concerns identified at the workshop include feeling safe outside at night, cleaning up trash in public spaces, trimming trees and shrubs that encroach and may block visibility, and providing additional resources for people who are homeless.

⁸ See Kay Fitzpatrick, Paul Carlson, Marcus Brewer, and Mark Wooldridge, "Design Factors That Affect Driver Speed on Suburban Arterials": *Transportation Research Record* 1751 (2000):18–25.

- **Traffic Safety Education:** Participants noted that it is important to have accessible traffic safety education for all roadway users—that is, for people who drive, walk, bike, and use transit. They feel there is confusion about who has the right-of-way under different circumstances (i.e., pedestrian right-of-way in marked and unmarked crosswalks, etc.), and community members would benefit from additional outreach and education.
- **Safe Routes to School:** Participants repeated earlier concerns about youth safety when traveling to and from school, particularly on foot and by bike. In addition to building safer infrastructure—including filling in sidewalk gaps and enhancing school crossings—participants would like to see walking school bus programs and more student safety education.
- **Interjurisdictional Partnerships:** Much of Southwest Fresno is directly adjacent to unincorporated Fresno County, and a number of state highways run through the community, creating infrastructural barriers between communities in the City of Fresno. Participants would like the City to proactively work with the County, Caltrans, and other relevant jurisdictions and agencies to coordinate traffic safety projects.

California Walks/SafeTREC Recommendations

California Walks and SafeTREC also submit the following recommendations for consideration by the Kern County Department of Public Health, Kern County Department of Public Works, City of Bakersfield Public Works, and residents:

- **Integrate Complete Streets into Maintenance Projects:** We recommend that the City integrate a complete streets approach in the Department of Public Works’ maintenance projects through the use of a complete streets/paving project coordination checklist⁹ to help ensure that regular road maintenance projects include pedestrian and bicycle safety improvements whenever possible. This is a cost-effective approach that we have seen work in other communities to dramatically expand their bicycle networks and to improve pedestrian and bicycle safety.



A fading high-visibility school crossing on North Avenue and Clara Avenue near West Fresno Elementary School.



Deteriorating pavement quality and faded markings at S. Santa Clara Avenue & E. Chester Avenue

- **Complete Citywide Connections:** Cal Walks and SafeTREC encourage the City to keep a critical eye on cross-city connections as it works to improve the walking and bicycling network within

⁹ See City of Oakland Checklist for Complete Streets/Paving Project Coordination as an example. Available at https://safety.fhwa.dot.gov/road_diets/guidance/docs/oakland_chklist.pdf

Southwest Fresno. Many of the destinations community members want and/or need to access are in other parts of the City, including grocery stores, healthcare, and jobs, and it is important to make sure that they are able to travel to those destinations by any mode safely and directly, including on foot, by bike, and on transit. This will mean paying close attention not only to cross-city corridors but also to the local streets that connect residents to those corridors. Additionally, because both State Route 41 and 99 run through Southwest Fresno, it is important to consider how these highways act as barriers within the community and how the connections to and across them can be improved.



An informal pedestrian trail in Southwest Fresno.

- **Proactively Involve Community Members in Planning Processes:** During the workshop, Cal Walks and SafeTREC staff repeatedly heard concerns that Southwest Fresno residents do not get enough notice for community workshops and meetings, and that when they do, they are not always comfortable attending those meetings and/or speaking up in a public setting. Participants also expressed frustration over how the streets may be reconfigured to accommodate bike lanes and other complete streets improvements. We recommend that the City continue to involve Southwest Fresno community members in planning processes and in funding and implementation discussions. While members of the community have been engaged in the Southwest Fresno Specific Plan process—especially those involved in the Plan’s steering committee—it is clear that others continue to feel left out. As the City works to implement the recommendations in the Fresno ATP and the Southwest Fresno Specific Plan, and as the Transformative Climate Communities funding and resulting projects begin to come online, it is critical to continue to involve community members and to proactively engage those who are not yet at the table. We encourage the City to make workshops and meetings interactive and accessible, including providing child care, refreshments, interpretation services, and holding the meetings on days/times when different segments of the population can attend at locations most convenient to residents, not agency staff.

Acknowledgments

We would like to thank the City of Fresno—including Jill Gormley, Scott Sehm, and Shelby MacNab from the Department of Public Works, and Anthony Molina from the Fresno Bicycle & Pedestrian Advisory Committee), along with Esther Postiglione from Cultiva La Salud, for inviting us into their community and for hosting the Community Pedestrian and Bicycle Safety 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.

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

Appendix A

Pedestrian and Bicycle Collision Data Analysis

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

PEDESTRIANS

Number of Collisions Involving Pedestrians, 2006-15



The **blue** line shows the number of pedestrian collisions where a fatality and/or injury occurred. There were 1,327 people injured or killed in 1,190 pedestrian collisions over the last 10 years.

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

The following analyses are based on the most current five years, 2011 to 2015, of data for Fresno, CA. There were 571 people killed or injured in 521 pedestrian collisions.

Top Violation Types for Collisions Involving Pedestrians

Type of Violation	Collisions N (%)
Pedestrian yield, upon roadway outside crosswalk.	136 (26.2%)
Other violation	142 (27.3%)
Driver must yield to pedestrian right of way in a crosswalk.	121 (23.3%)
Unsafe speed for prevailing conditions (use for all prima facie limits).	45 (8.7%)
Walking on roadway, other than pedestrian's left edge.	19 (3.7%)
'Walk' pedestrian failure to yield right-of-way to vehicles already in crosswalk.	17 (3.3%)
Starting or backing while unsafe.	15 (2.8%)
Red or stop, vehicles must stop at limit line or crosswalk.	13 (2.5%)
Jaywalking, between signal controlled intersections	13 (2.5%)
Total	521 (100.0%)

Pedestrian Actions in Collisions Involving Pedestrians

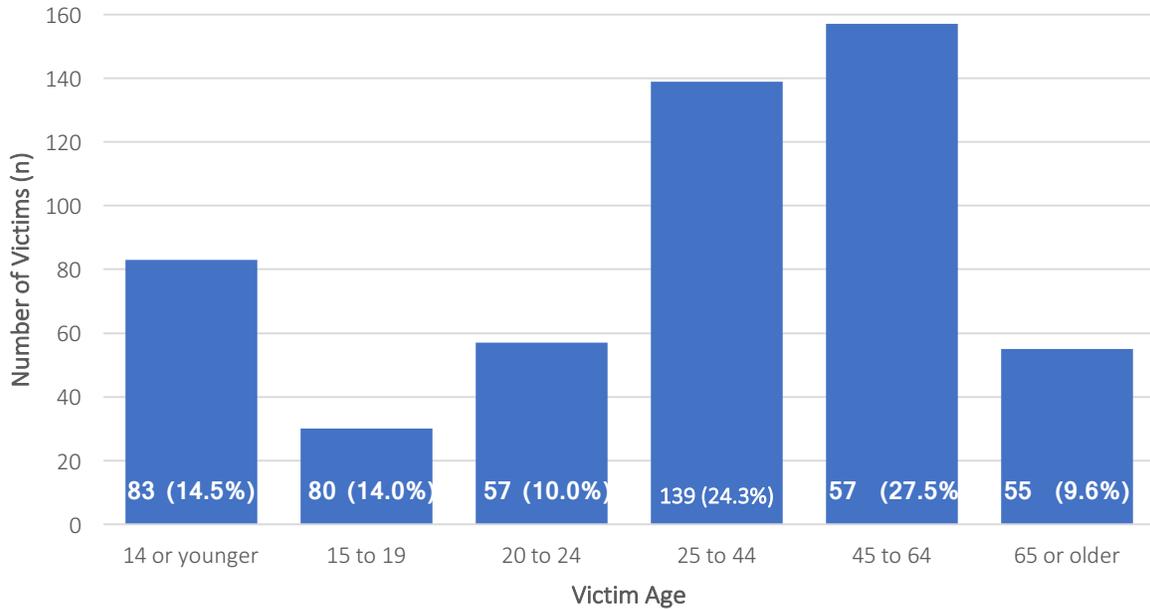
Pedestrian Action	Collisions N (%)
Crossing not in crosswalk	185 (35.5%)
Crossing in crosswalk at intersection	168 (32.2%)
In road, including shoulder	103 (19.8%)
Not in road	43 (8.3%)
Not stated	13 (2.5%)
Crossing in crosswalk not at Intersections	9 (1.7%)
Total	521 (100.0%)

* Data Source: California Statewide Integrated Traffic Records System (SWITRS). Collision data for 2014 and 2015 are provisional at this time.

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

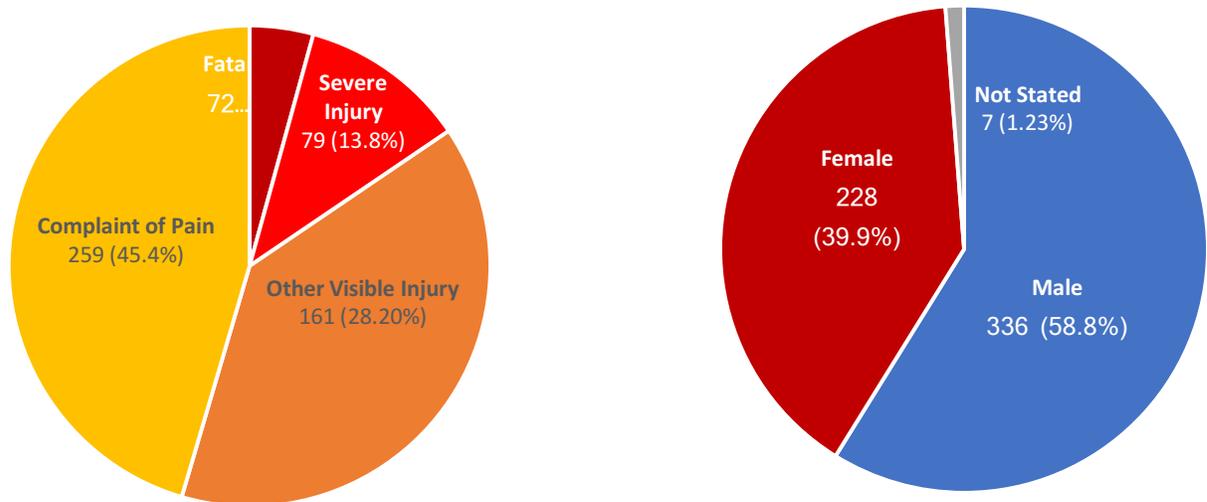
Pedestrian Victim Demographics

The age of pedestrian victims ranged considerably across all age groups, with youth age 19 or younger accounting for 28.5 percent of all victims. Victims were primarily male.



Victim Injury Severity, 2011-15

Most collisions resulted in minor injuries.



* Data Source: California Statewide Integrated Traffic Records System (SWITRS). Collision data for 2014 and 2015 are provisional at this time.

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

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

BICYCLISTS

Number of Collisions Involving Bicyclists, 2006-2015



The **blue** line shows the number of bicycle collisions where a fatality and/or injury occurred. There were 801 people killed or injured in 770 bicycle collisions over the last 10 years.

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

The following analyses are based on the most current five years, 2011 to 2015, of data for Fresno, CA. There were 352 people killed or injured in 342 bicycle collisions.

Top Violation Types for Collisions Involving Bicycles

Type of Violation	Collisions N(%)
Wrong Side of Road	101 (29.5%)
Automobile Right of Way	61 (17.8%)
Traffic Signals and Signs	41 (12.0%)
Not Stated/Unknown	33 (9.6%)
Improper Turning	26 (7.6%)
Other Hazardous Violation	16 (4.7%)
Unsafe Speed	13 (3.8%)
Other Violation	51 (14.9%)
Total	342 (100%)

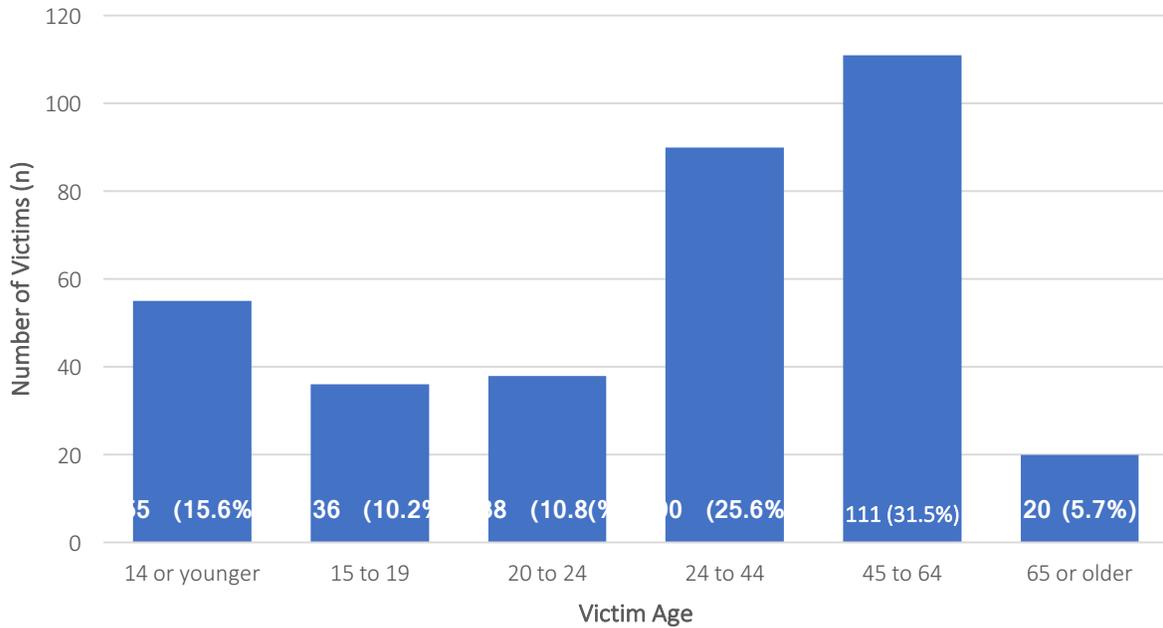
Bicycling Victims Demographics

* Data Source: California Statewide Integrated Traffic Records System (SWITRS). Collision data for 2014 and 2015 are provisional at this time.

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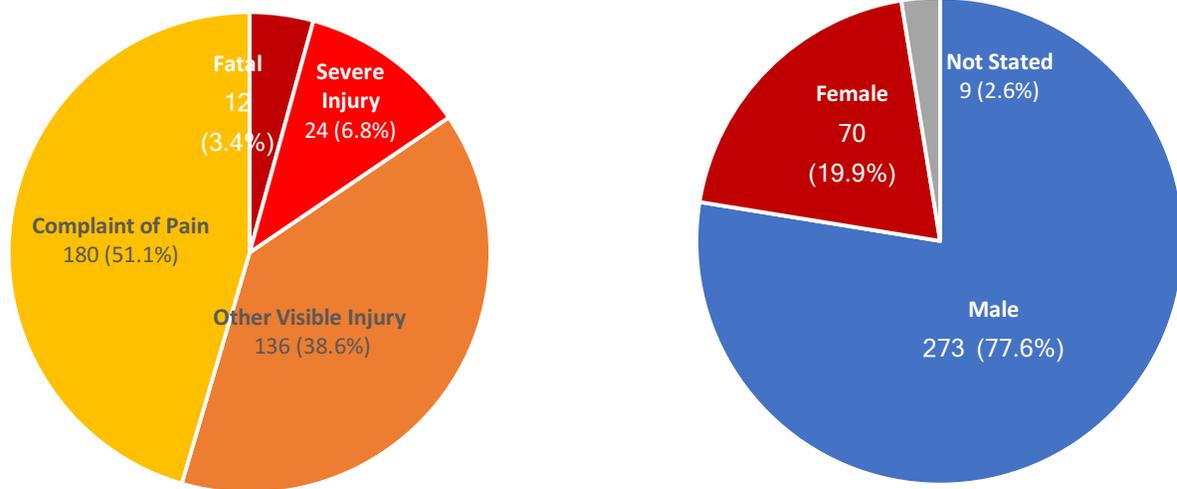
Community Pedestrian and Bicyclist Safety Workshop – Fresno, CA – Pedestrian and Bicycle Collision Analyses, 2006-15*

The age of bicycling collision victims varied across all age groups, with youth age 19 or younger accounting for 25.8 percent of victims. The majority of victims were male.



Victim Injury Severity, 2011-15

Most collisions resulted in minor injuries.

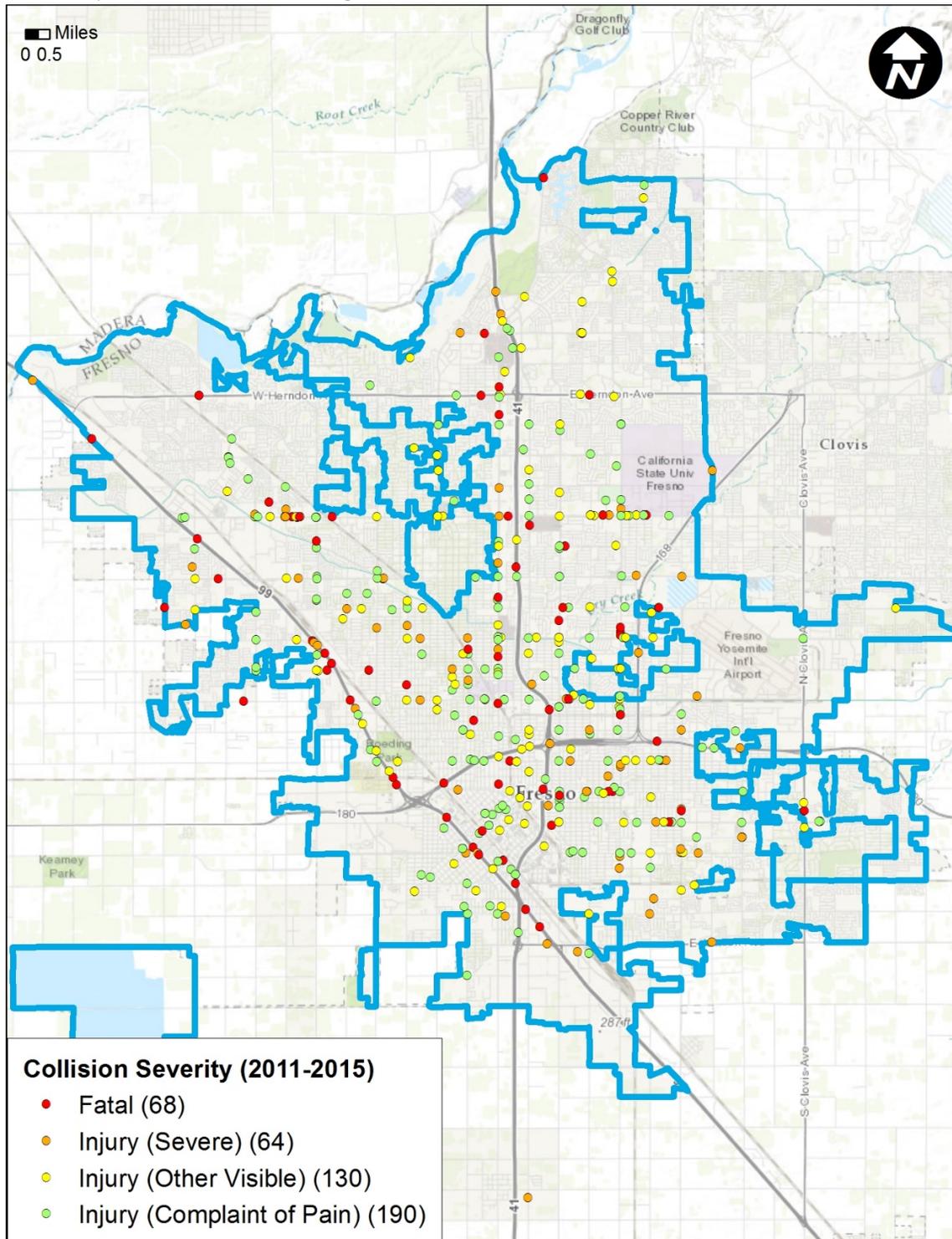


* Data Source: California Statewide Integrated Traffic Records System (SWITRS). Collision data for 2014 and 2015 are provisional at this time.

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

Pedestrian Collision Locations, 2011-15

Note: Only 454 of 521 collisions are geo-coded.



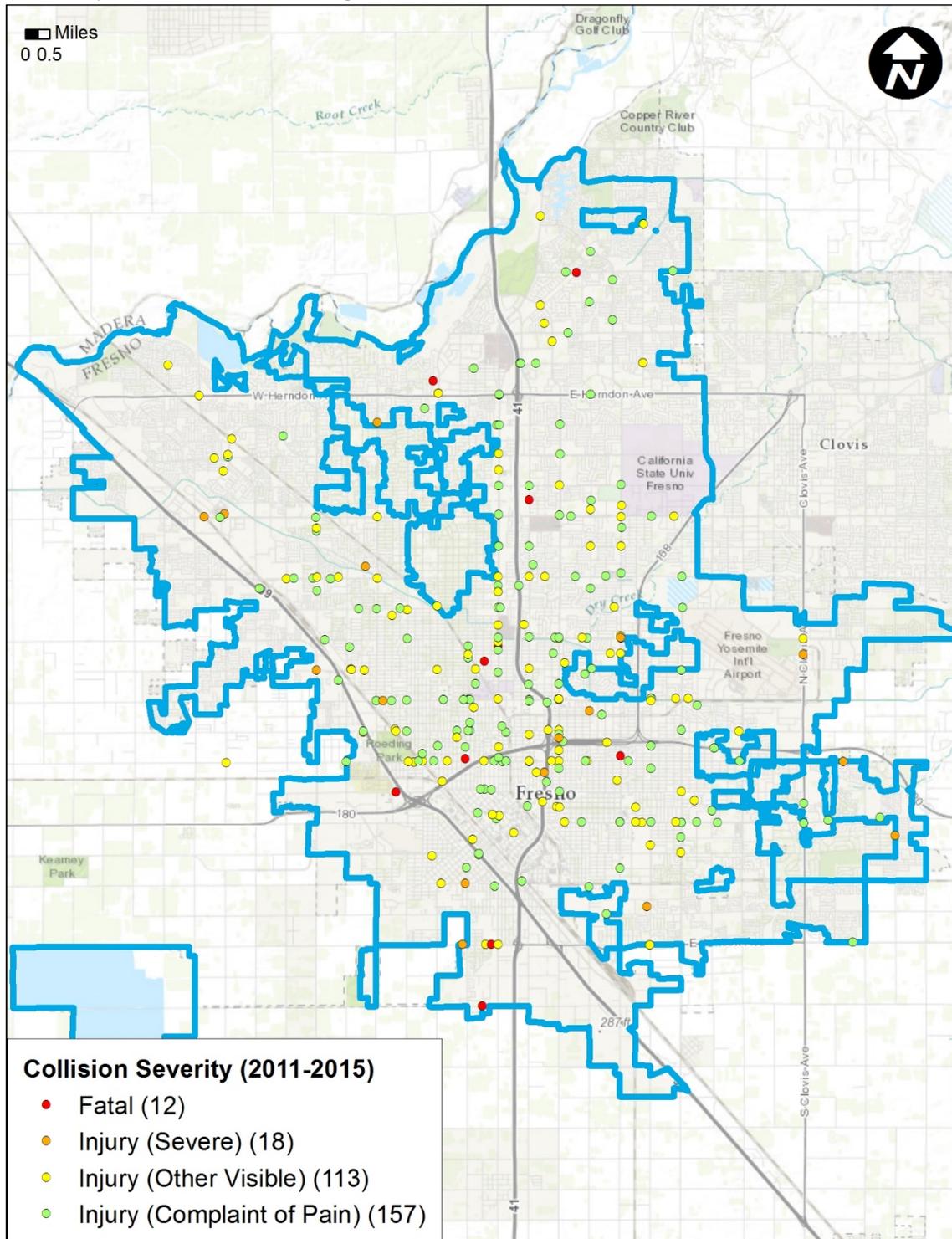
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Bicycle Collision Locations, 2011-15

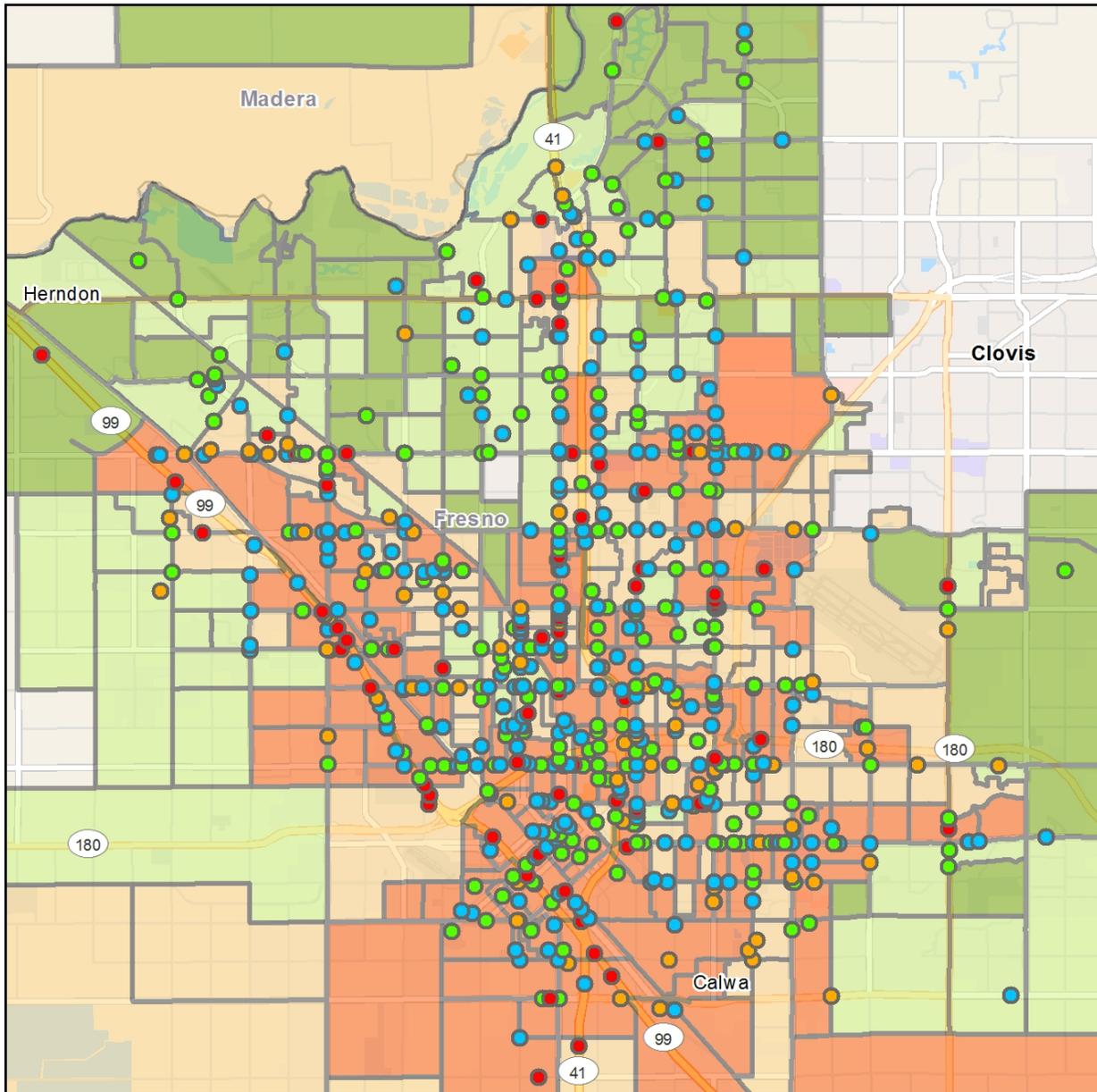
Note: Only 301 of 342 collisions are geo-coded.



* Data Source: California Statewide Integrated Traffic Records System (SWITRS). Collision data for 2014 and 2015 are provisional at this time.

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

Fresno Bicycle/Pedestrian Collision Map (2011 - 2015)



Collision Severity (2011-2015)

- Fatal (80)
- Injury (Severe) (80)
- Injury (Other Visible) (245)
- Injury (Complaint of Pain) (337)

2016 Median Household Income

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