CITY OF MENDOTA
SAFE ROUTES TO SCHOOL MASTER PLAN
SAFETY DATA ANALYSIS & RECOMMENDED IMPROVEMENTS

Introduction

The City of Mendota is developing a Safe Routes to School (SRTS) Master Plan through a Caltrans Active Transportation Program (ATP) grant. The primary objectives of the SRTS Master Plan are to increase accessibility and safety for pedestrians, bicyclists, and motorists going to and from schools within the city and to improve student health by actively supporting walking and bicycling to and from school. A secondary objective is to increase driver awareness and promote safe driving habits. From January 1, 2015, to December 31, 2021, the City of Mendota reported a total of 98 collisions, resulting in 5 fatalities and 122 injuries. Most of these collisions, a total of 60 (61.2%), occurred along either State Route (SR) 33 or SR 180.

This summary includes traffic incident data in Mendota, specifically focusing on collisions occurring around the school sites being evaluated as part of the SRTS Master Plan. The Plan will look at McCabe Elementary School, Mendota Elementary School, Washington Elementary School, Mendota Junior High School, and Mendota High School. The data contained in this summary is intended to facilitate a conversation with the Public Safety Committee to gather observational data which may not be reflected in the State incident reporting tools. This summary also draws connections between trends in the incident data and potential infrastructure improvements which will be recommended in the final SRTS Master Plan. Although the final Plan will also include recommended programs and policies, this analysis focuses on physical improvements that relate to the incident data summarized below.

Incident Reporting

Incident data was pulled from the Transportation Injury Mapping System (TIMS). There are a few reasons collisions may not be included in TIMS data. First, collisions may not be reported to police and have no official incident report. Additionally, there may be reporting discrepancies between police departments and TIMS. There is also no way to report a near-miss, and anecdotal evidence of close calls can still be a good indicator of the safety of an intersection or road segment.

Data Collection & Mapping

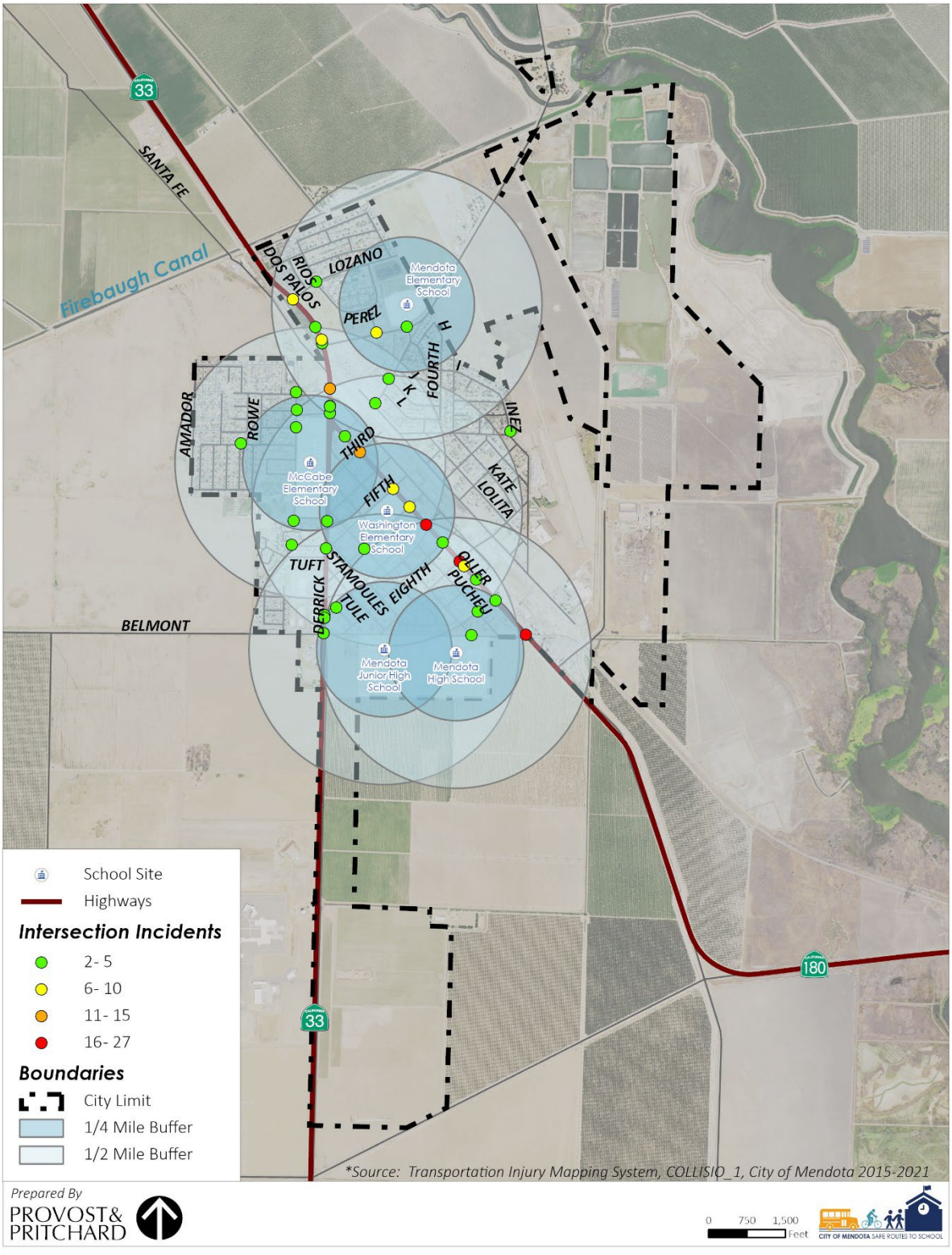
Using historical collision data from the Statewide Integrated Traffic Records System (SWITRS) and the Transportation Injury Mapping System (TIMS) from 2015 through 2021, four maps of occurrences within the City of Mendota were created detailing collision type, collision severity, pedestrian collisions by location, and pedestrian collisions by violation type. Each map is summarized below and can be seen in Figures 2 through 5. The maps provide a city-wide view of the TIMS Data from 2015 to 2021. School sites are buffered on the maps, highlighting collisions that occurred within ¼-mile and ½-mile of a school.

SWITRS & TIMS

SWITRS and TIMS represent integrated systems of data reporting and mapping. SWITRS is the record system tracking incident reports. TIMS is a mapping tool which assists in spatial analysis of the reported incidents. The data is referred to as TIMS data throughout this document.

In addition to Figures 2 through 5, a map of collision instances by intersection was also created to understand generally where collisions were concentrated. The collision instances by intersection can be seen in Figure 1: Collision Frequency at Intersections. While the majority of intersections in Mendota did not have more than five collisions between 2015 and 2021, ten intersections had six or more collisions. These intersections are almost entirely located along one of the state routes, with only the intersection of Barboza Street and Bass Avenue not including a state route. The three intersections with the highest number of collisions, between 16 and 27, were all located along SR 180 (Oller Avenue) at its intersections with Belmont Avenue, 9th Street, and 7th Street.

Figure 1: Collision Frequency at Intersections



Collision Types

The TIMS data reports seven types of collisions:

- A **head-on collision** is a collision of two vehicles that are moving directly towards each other.
- A **sideswipe collision** occurs when the sides of two vehicles traveling in the same or opposite direction make impact. The two vehicles make contact, usually when one driver tries to make a lane change and does not see that there is another car in his blind spot. Other times, sideswipe accidents occur when a distracted, tired, or careless driver drifts into another lane and hits the other car.
- A **rear end collision** occurs when one driver runs into the back of another driver's vehicle. Both vehicles can experience significant damage and the drivers may suffer serious injuries.
- **Broadside collisions** are also referred to as angle collisions or T-bones and most frequently occur at intersections when the front end of one motor vehicle strikes the passenger side of another vehicle at a right angle.
- **Hit object collisions** occur when a vehicle collides with a stationary object.
- **Vehicle/pedestrian collision**s occur when there is physical contact of a pedestrian with a moving vehicle.

Out of 98 collisions throughout Mendota, rear end collisions were the most frequent with 41 occurrences. This was followed by head-on and sideswipe collisions, with 15 and 13 occurrences respectively. There were also 15 collisions between vehicles and pedestrians.[1] Additionally, there were eight broadside collisions and five hit-object collisions. Lastly, there were three motorcycle collisions, which are included within the appropriate categories reported in **Table 1: Collision Type**. No bicycle collisions were reported.

Table 1: Collison Type

Type of Crash	Count	%
Rear End	41	42%
Head-On	15	15%
Vehicle/Pedestrian	15	15%
Sideswipe	13	13%
Broadside	8	8%
Hit Object	5	5%
Not Stated	1	1%

Percentage totals may not equal 100% due to rounding.

Collision Type by School Site

Traffic data for each collision type was reviewed at each of the school sites for the SRTS Master Plan, using a ¼-mile buffer and ½-mile buffer to determine which types of collisions occurred near each school. This is summarized below and detailed in **Table 2: Collision Type by School Site**. **Figure 2: Collision Types** shows where each of the collisions occurred relative to each school site. Washington Elementary had the most collisions within both the ¼-mile and ½-mile buffers.

[1] There are some discrepancies between how data is reported by TIMS. While the collision type category reported 15 collisions between vehicles and pedestrians, pedestrians were identified as involved parties in a total of 17 collisions between 2015 and 2021.

- McCabe Elementary had nine rear end collisions, two vehicle/pedestrian collisions, one sideswipe, and one broadside collision within ¼ mile of the school. There were an additional 33 collisions within the ½-mile buffer, for a total of 46 collisions. In total there were 21 rear end collisions and 9 vehicle/pedestrian collisions within ½ mile of the school.
- Mendota Elementary had five collisions within ¼-mile of the school: three rear end collisions, one broadside collision, and one hit object. There were an additional 21 collisions within the ½-mile buffer, for a total of 26 collisions. The most common collision type within ½ mile of Mendota Elementary was rear end collisions, with 14. There were also two vehicle/pedestrian collisions within ½ mile of the school.
- Washington Elementary had 26 collisions within the ¼-mile buffer of the school, including 7 vehicle/pedestrian collisions. There were also six rear end collisions and five sideswipe collisions within this buffer. There were an additional 32 collisions within the ½-mile buffer, for a total of 58 collisions. In total, there were 22 rear end collisions and 12 vehicle/pedestrian collisions within ½-mile of the school, as well as 9 sideswipes and 8 head-on collisions.
- Mendota Junior High School had three collisions within the ¼-mile buffer: one head-on collision, one sideswipe, and one hit object. There were 36 additional collisions within the ½-mile buffer, for a total of 39 collisions. The most common collision type within ½ mile of the school was rear end collisions, with 14. There were also seven of both head-on and sideswipe collisions and six vehicle/pedestrian collisions.
- Mendota High School had six rear end collisions, one head on collision, one sideswipe collision, and one broadside collision for a total of 9 collisions within the ¼-mile buffer. There were an additional 31 collisions within the ½-mile buffer, for a total of 40 collisions. In total, there were 14 rear end collisions, 9 head-on collisions, and 6 sideswipe collisions within ½-mile of the high school. Four collisions were vehicle/pedestrian collisions.

Table 2: Collision Type by School Site

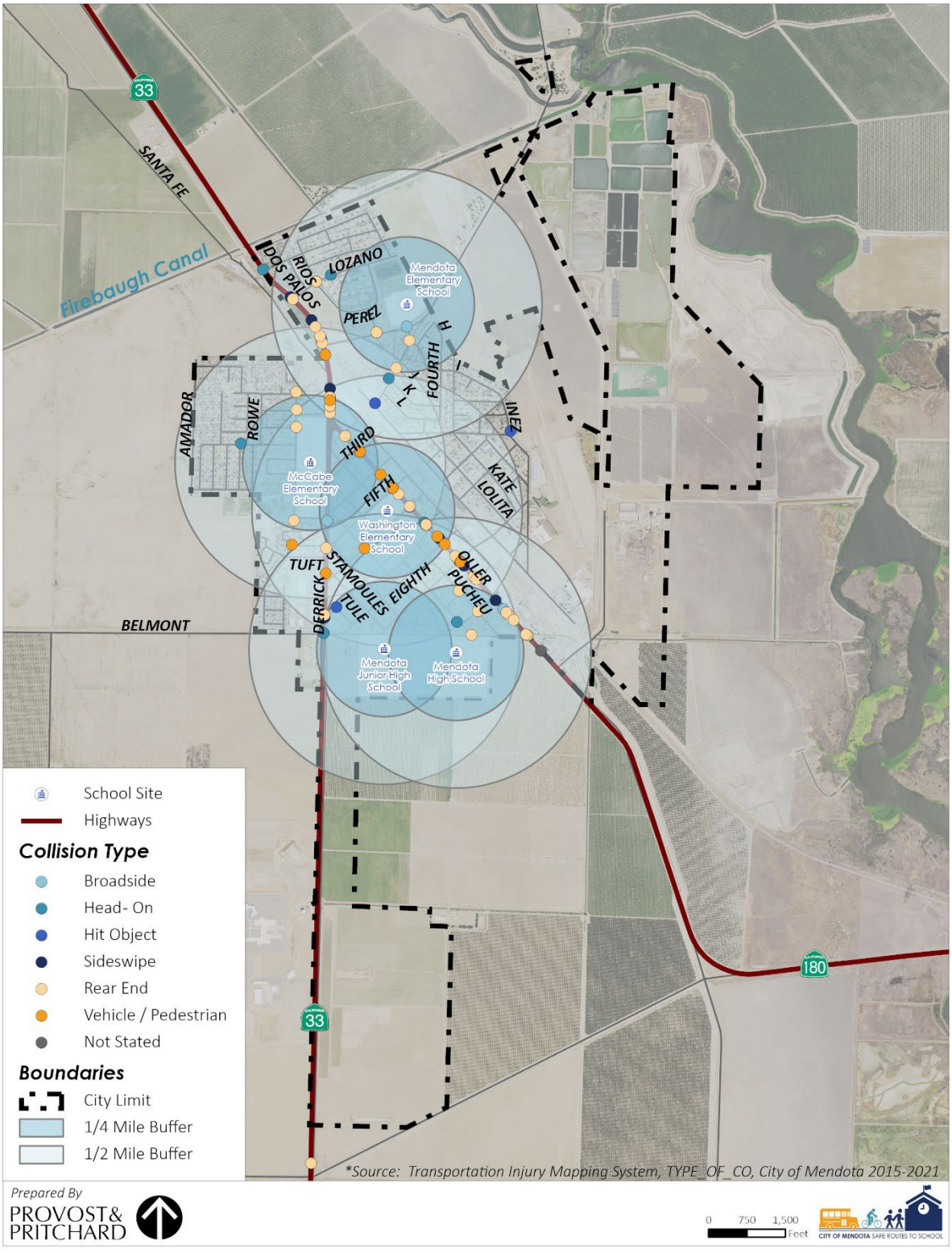
Type of Crash	Distance from School[a]	Counts by School Site[b,c]				
		McCabe Elementary	Mendota Elementary	Washington Elementary	Mendota Junior High	Mendota High
Rear End	¼-mile	**9**	3	6	0	6
	½-mile	12	11	**16**	14	8
Head-On	¼-mile	0	0	**3**	1	1
	½-mile	6	3	5	6	**8**
Vehicle/Pedestrian	¼-mile	2	0	**7**	0	0
	½-mile	**7**	2	5	6	4
Sideswipe	¼-mile	1	0	**5**	1	1
	½-mile	4	4	4	**6**	5
Broadside	¼-mile	1	1	**4**	0	1
	½-mile	2	0	0	**3**	**3**
Hit Object	¼-mile	0	**1**	**1**	**1**	0
	½-mile	**2**	1	**2**	1	**2**
Not Stated	¼-mile	0	0	0	0	0
	½-mile	0	0	0	0	**1**
TOTAL		**46**	**26**	**58**	**39**	**40**

[a] *Counts within ½-mile exclude all incidents located within ¼-mile of school site.*

[b] *Collisions occurring within ¼-mile or ½-mile distance from multiple school sites are counted within the totals for each school. Because of this, the totals in this table are not representative of the total, city-wide number of collisions.*

[c] *Bold, underline numbers indicate the highest occurrence within each category, distance, and by total number of collisions by school site.*

Figure 2: Collision Types



Collision Severity

Collision severity can be defined as the intensity of an impact of a vehicle against another vehicle, object, or person. Although specific qualitative data for each collision is unavailable, resulting injury can indicate how intense a collision was. The more severe the resulting injury, the more severe the collision can be considered, with collisions resulting in fatality being the most severe.

The collision severity map shows the 98 total collisions in Mendota based on the level of resulting injury from the incident. Of the 98 total collisions, five were fatal, with one fatal incident occurring each year between 2017 and 2021. Despite representing only 15% of total collisions in Mendota, 80% (4/5) of fatal collisions were vehicle/pedestrian collisions. Two of these fatal collisions occurred on SR 33 (Derrick Avenue). Collisions resulting in injury occurred uniformly throughout all areas of the city. 4 collisions resulted in severe injury, 32 collisions resulted in visible injury, and 57 collisions were reported with a complaint of pain. Collision severity is mapped in **Figure 3: Collision Severity**.

Table 3: Collison Severity

Collision Severity	Count	%
Fatal	5	5%
Injury (Severe)	4	4%
Injury (Other Visible)	32	33%
Injury (Complaint of Pain)	57	58%

Percentage totals may not equal 100% due to rounding.

Collision Severity by School Site

Traffic data for each collision was reviewed at each of the school sites for the SRTS Master Plan, using a ¼-mile buffer and ½-mile buffer to determine how severe the collisions that occurred near each school were, as summarized below and detailed in **Table 4: Collision Severity by School Site**. **Figure 3: Collision Severity** shows where each of the collisions occurred relative to each school site. Washington Elementary had the most collisions within both the ¼-mile and ½-mile buffers.

- **McCabe Elementary** had 13 collisions within the ¼-mile buffer, 8 that resulted in a complaint of pain, 3 with a visible injury, 1 that resulted in severe injury, and 1 that was fatal. Within the ½-mile buffer, there were 28 collisions that resulted in a complaint of pain, 12 that resulted in visible injury, 4 collisions that were fatal, and 2 with severe injury.
- **Mendota Elementary** had five collisions within the ¼-mile buffer, three that resulted in visible injury, one with a complaint of pain, and one that resulted in severe injury. Within the ½-mile buffer, there were 16 collisions that resulted in a complaint of pain, 6 that resulted in visible injury, 2 with severe injury, and 2 collisions that were fatal.
- **Washington Elementary** had 26 collisions within the ¼-mile buffer, 14 that resulted in a complaint of pain, 9 with a visible injury, 2 that were fatal, and 1 that resulted in severe injury. Within the ½-mile buffer, there were 34 collisions that resulted in a complaint of pain, 17 that resulted in visible injury, 3 with severe injury, and 4 collisions that were fatal.
- **Mendota Junior High School** had three collisions within the ¼-mile buffer, one that resulted in severe injury and two with a complaint of pain. Within the ½-mile buffer, there were 23 collisions that resulted in a complaint of pain, 12 that resulted in visible injury, 2 with severe injury, and 2 collisions that were fatal.

- **Mendota High School** had nine collisions within the ¼-mile buffer, four that resulted in visible injury and five with a complaint of pain. Within the ½-mile buffer, there were 27 collisions that resulted in a complaint of pain, 11 that resulted in visible injury, 1 with severe injury, and 1 collision that was fatal.

Table 4: Collision Severity by School Site

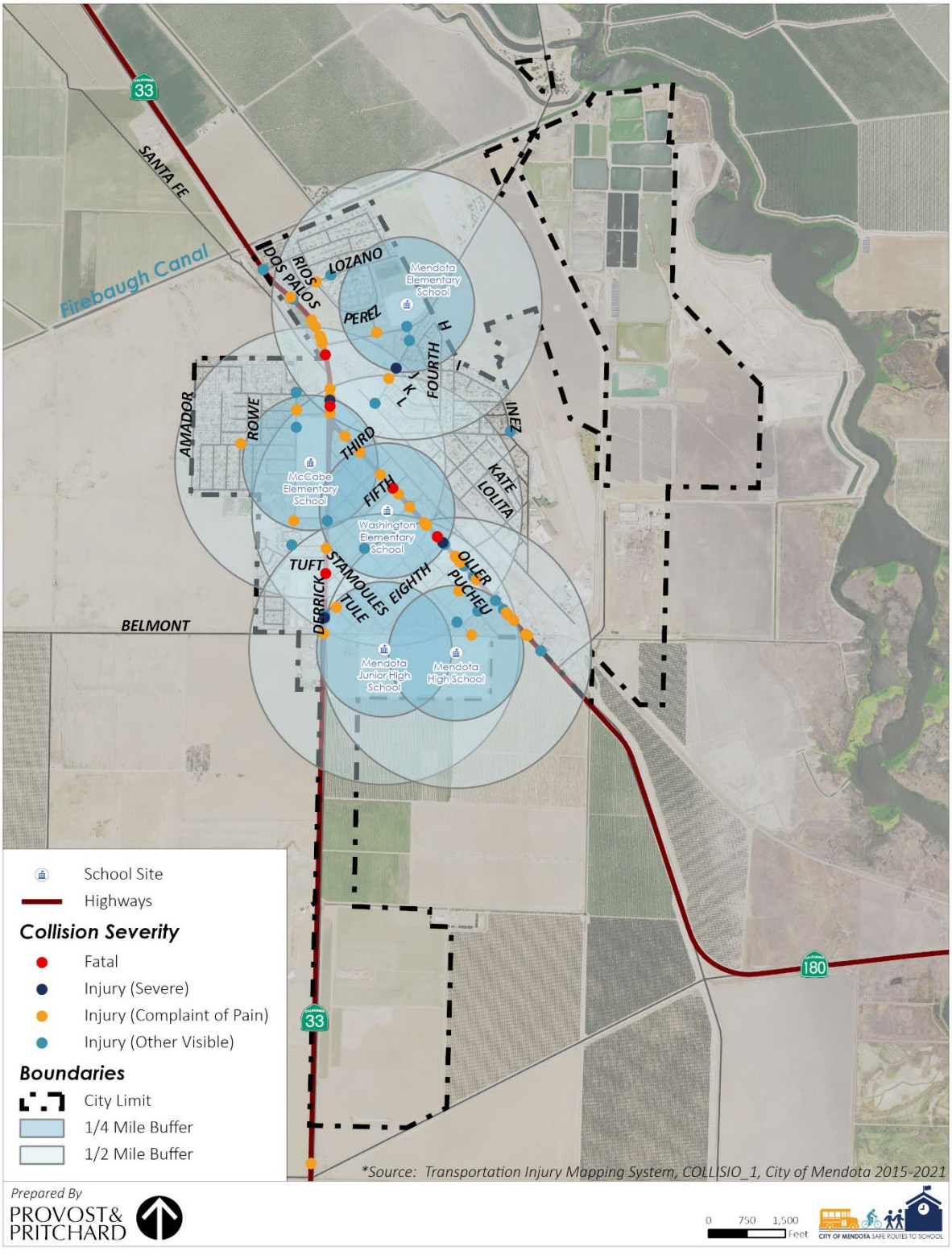
Severity of Crash	Distance from School[a]	Counts by School Site[b,c]				
		McCabe Elementary	Mendota Elementary	Washington Elementary	Mendota Junior High	Mendota High
Fatal	¼-mile	1	0	**2**	0	0
	½-mile	**3**	2	2	2	1
Injury (Severe)	¼-mile	**1**	**1**	**1**	**1**	0
	½-mile	1	1	**2**	1	1
Injury (Other Visible)	¼-mile	3	3	**9**	0	4
	½-mile	9	3	8	**12**	7
Injury (Complaint of Pain)	¼-mile	8	1	**14**	2	5
	½-mile	20	15	20	21	**22**
TOTAL		**46**	**26**	**58**	**39**	**40**

[a] *Counts within ½-mile exclude all incidents located within ¼-mile of school site.*

[b] *Collisions occurring within ¼-mile or ½-mile distance from multiple school sites are counted within the totals for each school. Because of this, the totals in this table are not representative of the total, city-wide number of collisions.*

[c] *Bold, underline numbers indicate the highest occurrence within each category, distance, and by total number of collisions by school site.*

Figure 3: Collision Severity



Pedestrian-Involved Collisions

Pedestrians were involved in 17 of the 98 collisions in Mendota between 2015 and 2021, accounting for 17% of collisions.[2] Pedestrian involvement is summarized in two ways: pedestrian location and violation type. Pedestrian location describes where the pedestrian was within the right-of-way when the collision occurred: pedestrians crossing in a crosswalk, crossing not in a crosswalk, or in the road or shoulder. Violation type identifies an at-fault party and describes the violation that occurred. Pedestrians may be at-fault if they failed to yield the right-of-way to vehicles when crossing outside of designated crossing areas. Drivers may be at-fault if they fail to yield the right-of-way to pedestrians, speed, fail to stop at a limit line or crosswalk, or start or back unsafely.

While pedestrian-involved collisions occurred throughout the city, the majority happened along SR 180 (Oller Street) and SR 33 (Derrick Avenue). Most collisions also occurred when pedestrians were crossing outside of designated crossing areas, with nine such collisions (53% of pedestrian-involved collisions). All pedestrian-involved incidents are mapped in **Figure 4: Pedestrian Location**.

Although nine collisions occurred when a pedestrian was crossing outside of a marked crosswalk, only four collisions were attributed to a pedestrian violation (i.e., pedestrian failure to yield the right-of-way when crossing outside of a marked or unmarked crosswalk). 12 collisions were considered driver violations, with the most common violation being drivers failing to yield the right-of-way to pedestrians crossing at a marked or unmarked crosswalk. Other driver violations include speeding, failure to stop at a limit line, failure to yield right-of-way when turning on a red light, or unsafe starting or backing of a vehicle on a highway. One collision had no violation listed. These incidents are mapped in **Figure 5: Violation**.

Table 5: Pedestrian Collisions by Pedestrian Location

Pedestrian Action	Count	%
Crossing Not in Crosswalk	9	53%
Crossing in Crosswalk at Intersection	6	35%
In Road or Shoulder	1	6%
Not Stated	1	6%

Percentage totals may not equal 100% due to rounding.

Pedestrian Involvement by Location by School Site

Traffic data for each pedestrian collision was reviewed at each of the school sites for the SRTS Master Plan, using a ¼-mile buffer and ½-mile buffer to determine where pedestrians were in the road when collisions occurred near each school, as summarized below and detailed in **Table 6: Pedestrian Involvement by Location by School Site**. **Figure 4: Pedestrian Location** shows where each of the pedestrian involved collisions occurred relative to each school site. Washington Elementary had the most pedestrian collisions within both the ¼-mile and ½-mile buffers.

- **McCabe Elementary** had two pedestrian collisions within the ¼-mile buffer: one that occurred within a crosswalk and one that occurred outside of a designated crossing area. There were 10 pedestrian collisions within the ½-mile buffer: five that occurred in a crosswalk, four that occurred outside of a designated crossing area, and one that occurred in the travel lane or shoulder.

[2] There are some discrepancies between how data is reported by TIMS. While the collision type category reported 15 collisions between vehicles and pedestrians, pedestrians were identified as involved parties in a total of 17 collisions between 2015 and 2021.

- Mendota Elementary had no pedestrian collisions within the ¼-mile buffer and three pedestrian collisions within the ½-mile buffer. Within the ½-mile buffer, one pedestrian collision occurred within a crosswalk while two occurred outside of a designated crossing area.
- Washington Elementary had seven pedestrian collisions within the ¼-mile buffer, three of which were within a crosswalk, three of which were outside of the designated crossing area, and one that occurred in the travel lane or shoulder. There were 12 pedestrian collisions within the ½-mile buffer, five of which occurred within a crosswalk, six that were outside of the designated crossing area, and one that occurred in the travel lane or shoulder.
- Mendota Junior High School had no pedestrian collisions within the ¼-mile buffer and six pedestrian collisions within the ½-mile buffer. Within the ½-mile buffer, one pedestrian collision occurred within a crosswalk, while five occurred outside of the designated crossing area.
- Mendota High School had no pedestrian collisions within the ¼-mile buffer and four pedestrian collisions within the ½-mile buffer. Within the ½-mile buffer, one pedestrian collision occurred within a crosswalk, while three occurred outside of the designated crossing area.

Table 6: Pedestrian Involvement by Location by School Site

Pedestrian Involvement	Distance from School[a]	Counts by School Site[b,c]				
		McCabe Elementary	Mendota Elementary	Washington Elementary	Mendota Junior High	Mendota High
Crossing Not in Crosswalk	¼-mile	1	0	**3**	0	0
	½-mile	3	2	3	**5**	3
Crossing in Crosswalk at Intersection	¼-mile	1	0	**3**	0	0
	½-mile	**4**	1	2	1	1
In Road or Shoulder	¼-mile	0	0	**1**	0	0
	½-mile	**1**	0	0	0	0
Not Stated	¼-mile	0	0	0	0	0
	½-mile	0	0	0	0	0
TOTAL		**10**	**3**	**12**	**6**	**4**

[a] *Counts within ½-mile exclude all incidents located within ¼-mile of school site.*
[b] *Collisions occurring within ¼-mile or ½-mile distance from multiple school sites are counted within the totals for each school. Because of this, the totals in this table are not representative of the total, city-wide number of collisions.*
[c] *Bold, underline numbers indicate the highest occurrence within each category, distance, and by total number of collisions by school site.*

Figure 4: Pedestrian Location

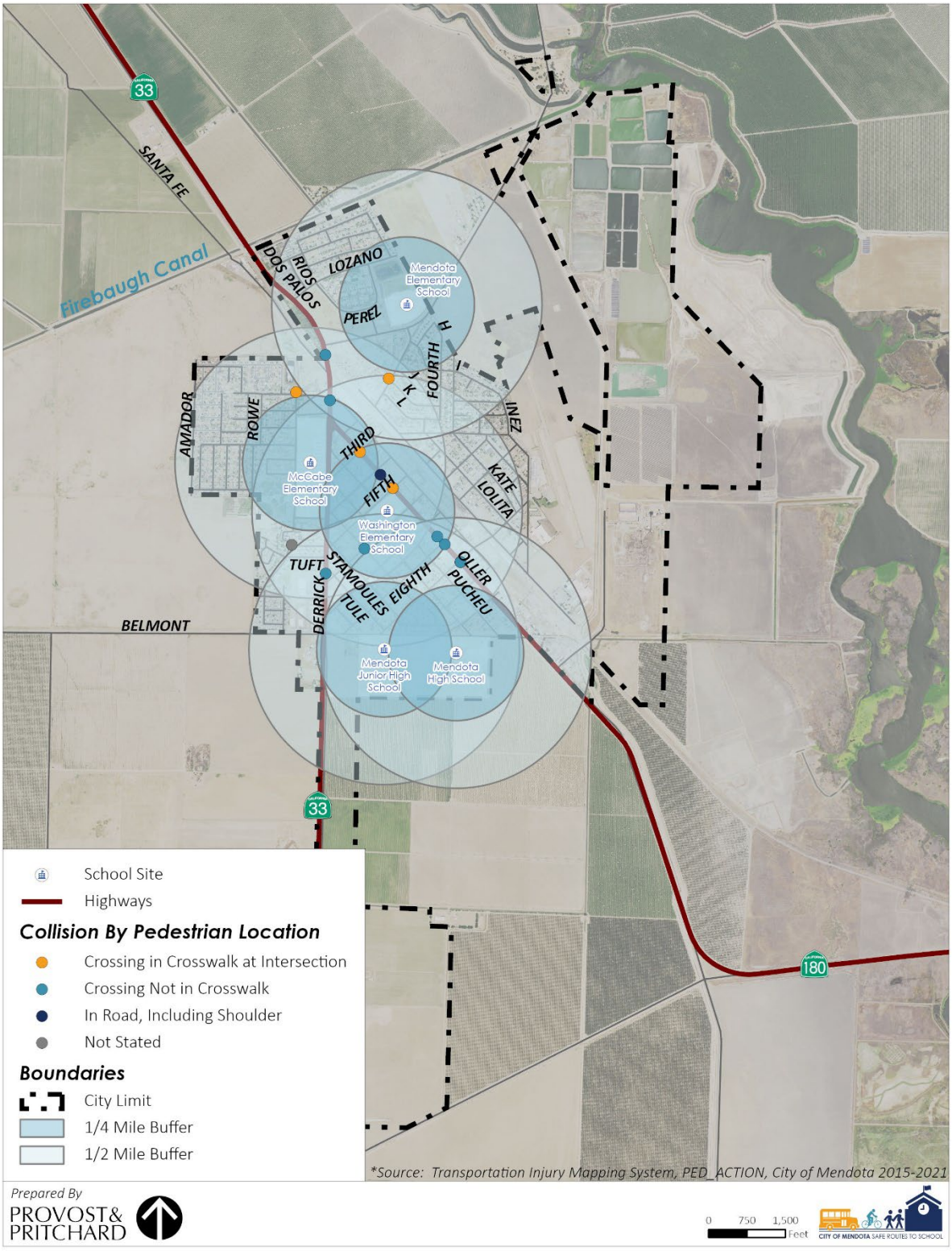


Table 7: Pedestrian Collisions by Violation Type

Party Violation Classification	Violation Description	Count	%
Pedestrian	Pedestrian failure to yield right-of-way to vehicles when crossing outside of a marked or unmarked crosswalk	4	25%
Driver	Driver failure to yield right-of-way to pedestrians at a marked or unmarked crosswalk	5	29%
Driver	Speeding on the highway, driving at a dangerously high speed given highway conditions, or driving at a speed that endangers people or property	3	18%
Driver	Failure to stop at a limit line or crosswalk at a red light or failure to yield right-of-way to a pedestrian when turning on a red light	2	12%
Driver	Unsafe starting or backing of a vehicle on a highway	2	12%
Not Stated	Not Stated	1	6%

Percentage totals may not equal 100% due to rounding.

Pedestrian Involvement by Violation Type by School Site

Traffic data for each pedestrian collision was reviewed at each of the school sites for the SRTS Master Plan, using a ¼-mile buffer and ½-mile buffer to determine who was at fault when pedestrian collisions occurred near each school, as summarized below and detailed in **Table 8: Pedestrian Involvement by Violation Type by School Site**. **Figure 5: Violation Type** shows where each of the violation types occurred relative to each school site. Washington Elementary had the most pedestrian collisions within both the ¼-mile and ½-mile buffers.

- **McCabe Elementary** had two pedestrian collisions within the ¼-mile buffer, both considered the fault of the driver. One was attributed to driver failure to stop at a limit line or crosswalk and one attributed to failure to yield the right-of-way. Within the ½-mile buffer around the school, there were eight additional pedestrian collisions, for a total of ten. The primary violation type was driver failure to yield the right-of-way, with five collisions. The driver was also considered at fault for one failure to stop at a limit line or crosswalk, one unsafe starting or backing, and one speeding collision. Two collisions were considered a pedestrian failure to yield the right-of-way to vehicles.
- **Mendota Elementary** had no pedestrian collisions within the ¼-mile buffer and three pedestrian collisions within the ½-mile buffer. One of these collisions was considered a pedestrian failure to yield the right-of-way. The remaining two collisions found the driver to be at fault: one for speeding and one for failure to stop at a limit line or crosswalk.
- **Washington Elementary** had seven pedestrian collisions within the ¼-mile buffer, only one of which was attributed to a pedestrian failure to yield the right-of-way. The remaining six were driver violations, with two collisions attributed to speeding and four attributed to a driver failure to yield the right-of-way. There were 5 additional pedestrian collisions within the ½-mile buffer, for a total of 12 collisions. In total, the pedestrian failure to yield the right-of-way within the ¼-mile buffer is the only pedestrian violation near Washington Elementary. There were two driver failures to stop at a limit line or crosswalk, three instances of speeding causing a collision, and five driver failures to yield the right-of-way. One collision did not have a violation recorded.
- **Mendota Junior High School** had no pedestrian collisions within the ¼-mile buffer and six pedestrian collisions within the ½-mile buffer. Only one of these collisions was considered a pedestrian violation (i.e., failure to yield right-of-way to vehicles). The driver was considered at fault in four collisions: two were speeding violations, one was a failure to stop at a limit line or crosswalk, and one was a failure to yield the right-of-way to a pedestrian. One collision did not have a violation recorded.

- Mendota High School had no pedestrian collisions within the ¼-mile buffer and four pedestrian collisions within the ½-mile buffer. None of these collisions were considered a pedestrian violation. Two were attributed to the driver speeding and one was attributed to a failure to stop at a limit line or crosswalk.

Table 8: Pedestrian Involvement by Violation by School Site

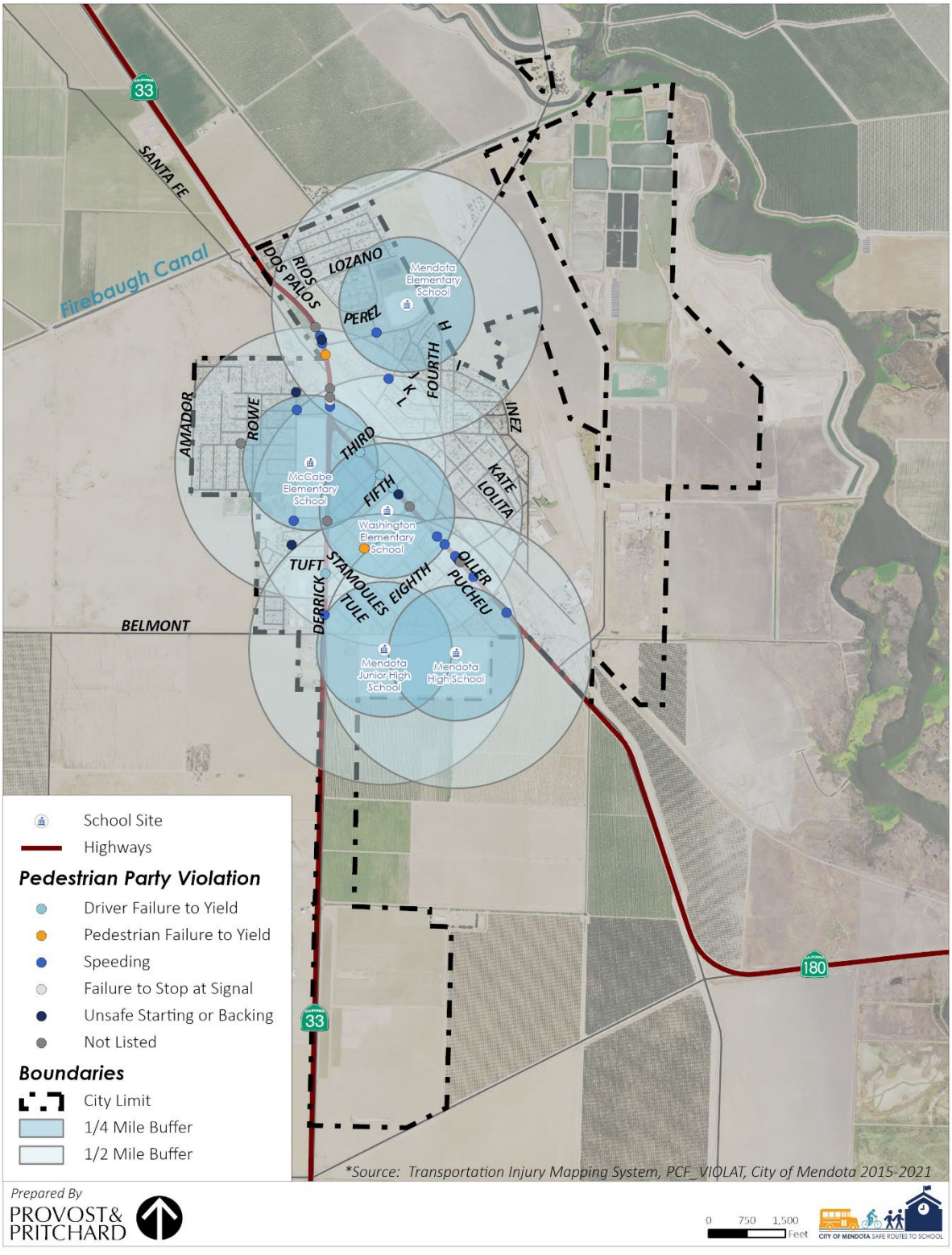
Violation Type	Distance from School[a]	Counts by School Site[b,c]				
		McCabe Elementary	Mendota Elementary	Washington Elementary	Mendota Junior High	Mendota High
Pedestrian Violation						
Failure to Yield	¼-mile	0	0	**1**	0	0
	½-mile	**2**	1	0	1	0
Driver Violation						
Failure to Yield	¼-mile	1	0	**4**	0	0
	½-mile	**4**	0	1	1	0
Speeding	¼-mile	0	0	**2**	0	0
	½-mile	1	1	1	**2**	**2**
Failure to Stop	¼-mile	**1**	0	0	0	0
	½-mile	0	1	**2**	1	1
Unsafe Starting or Backing	¼-mile	0	0	0	0	0
	½-mile	**1**	0	0	0	0
Not Stated	¼-mile	0	0	0	0	0
	½-mile	0	0	**1**	**1**	**1**
TOTAL		**10**	**3**	**12**	**6**	**4**

[a] Counts within ½-mile exclude all incidents located within ¼-mile of school site

[b] Collisions occurring within ¼-mile or ½-mile distance from multiple school sites are counted within the totals for each school. Because of this, the totals in this table are not representative of the total, city-wide number of collisions.

[c] Bold, underline numbers indicate the highest occurrence within each category, distance, and by total number of collisions by school site.

Figure 5: Violation Type



Recommended Improvements

The following recommendations reflect general improvements to the built environment that could address safety concerns that result in collisions. These recommended improvements also have mobility and health benefits, but for the purpose of this analysis are primarily organized by safety concern addressed. These improvement types will be refined by location and identified in the SRTS Master Plan as recommended improvements. The SRTS Master Plan will also identify recommended programs and policy changes in response to public feedback from outreach events. However, the purpose of this Safety Analysis is to focus on physical improvements that may be recommended to address safety issues. Therefore, recommended programs and policy changes are not identified in this document but will be included in the Plan.

Crosswalk Adjustments

53% (9/17) of pedestrian-involved collisions occurred when pedestrians were crossing the street outside of a crosswalk. Additional crosswalks should be considered in the areas where pedestrians are crossing without pedestrian facilities. This may include some key intersections along routes to schools that are currently missing crosswalks, as well as some drive entrances at schools that students must cross.

An additional 35% (6/17) of pedestrian-involved collisions occurred when a pedestrian was crossing within a crosswalk. Improvements to crosswalk design may be employed to address safety concerns. In some locations, existing crosswalks are difficult to see. Re-applying high-visibility striping would help improve the safety of these facilities. Using alternative materials, such as brick, or using alternative striping pull driver attention towards the crosswalk and would improve driver awareness of pedestrians attempting to cross. Bulb-outs or curb extensions can reduce the distance pedestrians need to cross and make pedestrians more visible to drivers before they enter the street. Additionally, some existing crosswalks in Mendota are misaligned with other existing pedestrian infrastructure, including ramps, which poses a safety hazard. Adjusting the location of existing crosswalks to better match the other pedestrian infrastructure in place is also recommended.

Alternative Materials

Changing the material of the crosswalk highlights the prevalence of pedestrians in the area.

Alternative Striping

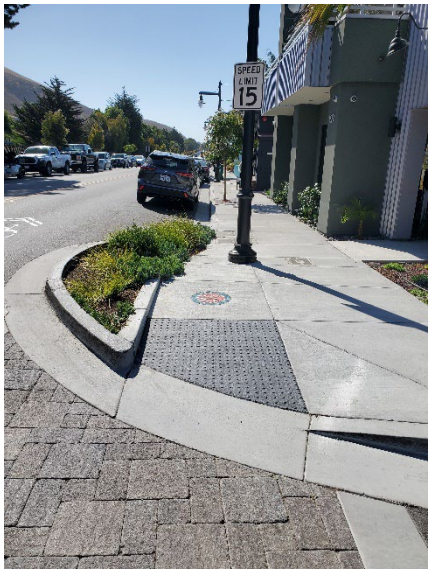
Alternative striping methods can be a less expensive way to highlight pedestrian activity in an area without changing the crosswalk material.

Lane Reduction

18% (3/17) of pedestrian-involved collisions were caused by drivers speeding. Public outreach and City staff accounts noted that speeding is a prevalent problem in Mendota, especially along SR 33, SR 180, and Belmont Avenue. Drivers tend to operate their vehicles at the speed they feel safe to do so, no matter what the posted speed limit is. Street design can help reduce driver speed in several ways. Reducing the width of travel lanes or removing travel lanes altogether can help limit the speed of drivers. Furthermore, reworking lanes can also make traffic move more efficiently through a corridor, even despite lower speeds or reduced lanes.

Several tools can be employed to reduce the number or width of lanes. Bulb-outs or curb extensions could be used to designate parking areas, narrow the travel lane, and augment pedestrian infrastructure at crossings. The addition of a designated left-turn lane, striped parking lanes, and/or bike lanes could all be considered depending on the existing street design and use. Bike lanes also provide additional mobility benefits. The design of bike lanes is also dependent on existing street design and use, but a complete bike lane network that connects Mendota is ideal for greater alternative mobility options. Additional study will be necessary to identify what level of bicycle infrastructure is needed in any given location and which locations should be prioritized for additional infrastructure.

To help address high speeds on state routes through Mendota, Caltrans completed a road diet along SR 33 (Derrick Ave) and SR 180 (Oller Street) in June 2022, which removed travel lanes and added bike lanes. A second project along these routes is planned to add flashing pedestrian beacons and bulb-outs. It may be appropriate to add additional pedestrian facilities following the implementation of these projects, which will require coordination with Caltrans. Furthermore, there may be opportunities for lane reductions on other streets in Mendota, such as Belmont Ave.



Bulb-outs

Bulb-outs extend the curb into the intersection, protecting pedestrians and making them more visible as they prepare to cross the street. They also narrow the visual lane and encourage slower travel speeds.

Parking Protected Lane

Parking protected bike lanes provide an additional barrier between bicyclists and moving traffic.

Green Striping

Green paint is often used to indicate conflict zones in bike lanes, where vehicles and bicyclists are likely to interact. This draws attention to the area and the likelihood for conflict.

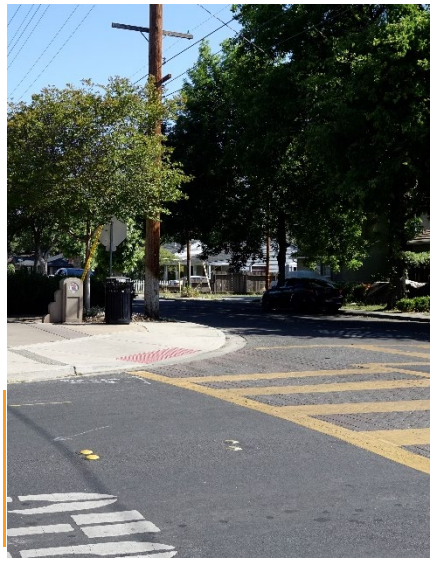
Sidewalk Infrastructure

While only one pedestrian-involved collision occurred in the road or shoulder, site audits and public outreach efforts also indicated that gaps in the sidewalk network pose a safety threat to students walking to school. These gaps require students to walk in the street or cross at unmarked locations in order to remain on the sidewalk. Sidewalk gaps also present accessibility issues, as they are difficult or impossible to navigate with mobility aids such as walkers or wheelchairs.

Pedestrian ramps at intersections may either point into the center of the road (non-directional) or towards the specific direction of the crossing (directional). Non-directional ramps direct pedestrians into the intersection with cross-traffic, so directional ramps are typically preferred. While many locations appear on paper to be good candidates for directional ramps, existing conditions on the ground may make their installation infeasible or impossible if additional infrastructure is needed (such as a bulb-out) or if existing utility poles or other obstacles, such as drainage facilities or trees, are present. Where directional ramps are not feasible, striping should encompass the entire area pedestrians may need to use in order to cross the street in either direction.

Directional Ramps

Directional ramps are preferred to protect pedestrians and separate them from moving traffic.



Adjusted Striping

If a directional crossing cannot be added, striping should encapsulate the area where pedestrians may be within the intersection.

Signage

Signage should be used to address incidents within designated pedestrian crossing areas. Signs can highlight where pedestrian activity is most likely and provide clarity on how pedestrian infrastructure should be used. This may help reduce incidents where drivers fail to yield to pedestrians in crossing areas as well as help pedestrians use crossing infrastructure, such as push-button activated lights. These improvements should also be considered when new crosswalks are being constructed.

In some locations in Mendota, existing signage creates confusion about what pedestrian facilities are present. Flashing pedestrian beacons should be push-button activated and close to crosswalks so lights indicate pedestrian presence in the area. Some locations may also benefit from additional signage, especially where curves or other road infrastructure limit advance visibility.

Flashing Beacon

Flashing beacons can be activated by pedestrians to alert drivers to people crossing the road.

Sign Location

Signs should be located with a clear relationship to an intersection or crossing.