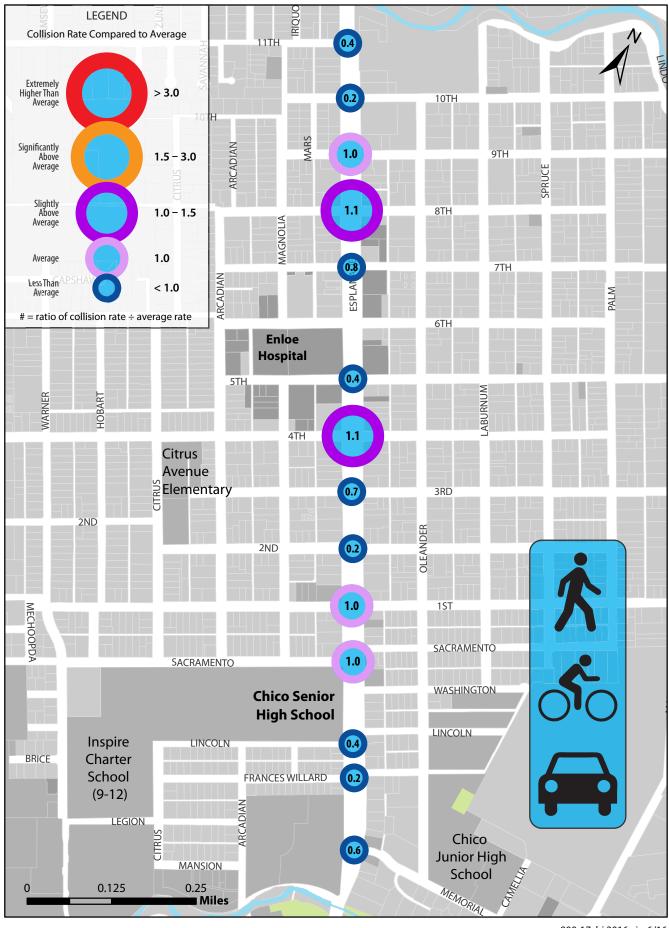
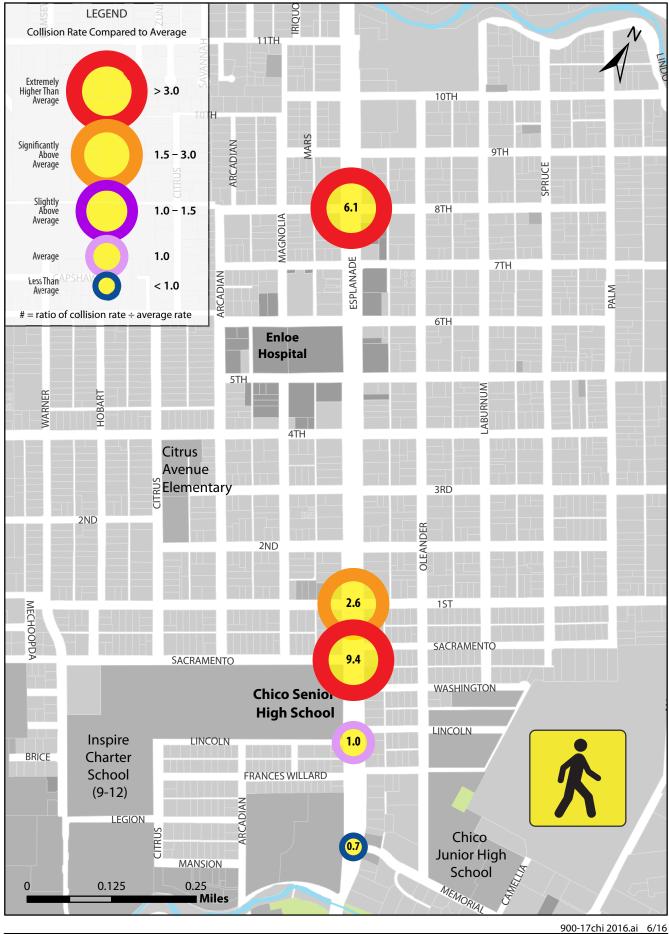
### **Appendix D**

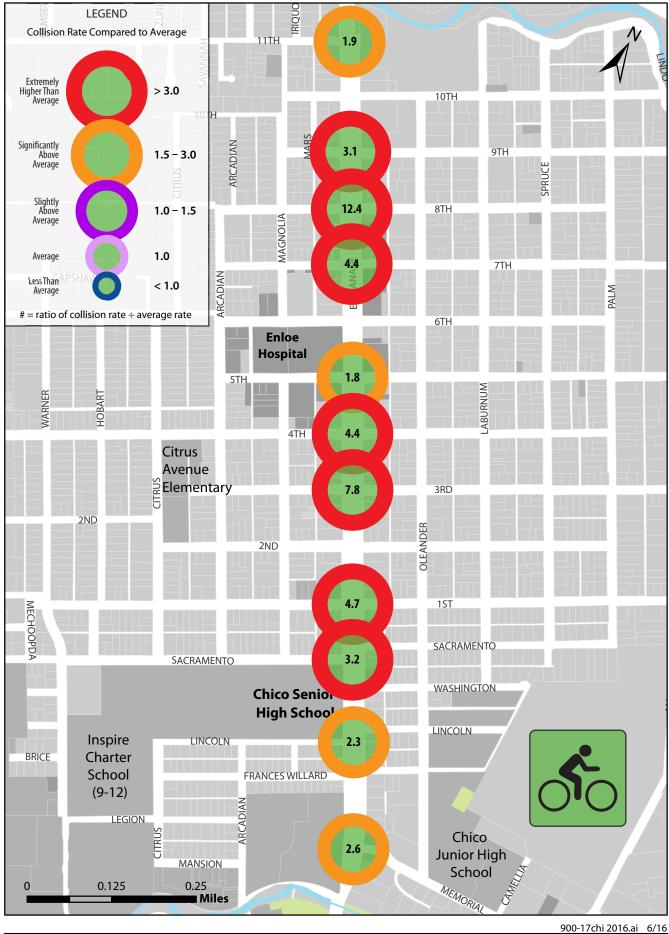
**Collision Analysis** 





**W**-Trans





#### **Esplanade Area Complete Street Plan**

Intersection # 1: Esplanade & Memorial Way

Date of Count: Thursday, May 14, 2015

Number of Collisions: 6 Number of Injuries: 5 Number of Fatalities: 0 **ADT:** 19000

Start Date: January 1, 2010 End Date: December 31, 2014

Number of Years: 5

Intersection Type: Multi-Legged Control Type: Signals

Area: Urban

collision rate = Number of Collisions x 1 Million

ADT x 365 Days per Year x Number of Years

collision rate =  $\frac{6}{19,000} \times \frac{1,000,000}{365} \times \frac{1}{1000,000}$ 

ADT = average daily total vehicles entering intersection c/mve = collisions per million vehicles entering intersection \* 2012 Collision Data on California State Highways, Caltrans

2: Esplanade & Frances Willard Avenue Intersection #

Date of Count: Thursday, May 14, 2015

Number of Collisions: 1 Number of Injuries: 1 Number of Fatalities: 0 **ADT**: 21000

Start Date: January 1, 2010 End Date: December 31, 2014

Number of Years: 5

Intersection Type: Multi-Legged Control Type: Stop & Yield Controls

Area: Urban

collision rate = Number of Collisions x 1 Million
ADT x 365 Days per Year x Number of Years

collision rate =  $\frac{1}{21,000} \frac{x}{x} \frac{1,000,000}{365} \frac{x}{x}$ 

 Study Intersection Statewide Average\*
 Collision Rate | Fatality Rate | Injury Rate |
 Injury Rate |

 0.03
 c/mve | 0.0% |
 100.0% |

 0.15
 c/mve | 1.0% |
 41.9% |

ADT = average daily total vehicles entering intersection c/mve = collisions per million vehicles entering intersection
\* 2012 Collision Data on California State Highways, Caltrans

#### **Esplanade Area Complete Street Plan**

Intersection # 3: Esplanade & Lincoln Avenue

Date of Count: Thursday, May 14, 2015

Number of Collisions: 4 Number of Injuries: 2 Number of Fatalities: 0 ADT: 20300

Start Date: January 1, 2010 End Date: December 31, 2014

Number of Years: 5

Intersection Type: Multi-Legged Control Type: Signals

Area: Urban

collision rate = Number of Collisions x 1 Million
ADT x 365 Days per Year x Number of Years

collision rate =  $\frac{4}{20,300} \times \frac{1,000,000}{365} \times \frac{5}{1000,000}$ 

 Study Intersection Statewide Average\*
 Collision Rate / 0.11 c/mve
 Fatality Rate / 0.0%
 Injury Rate / 50.0%

 0.27 c/mve
 0.4%
 41.9%

ADT = average daily total vehicles entering intersection c/mve = collisions per million vehicles entering intersection
\* 2012 Collision Data on California State Highways, Caltrans

Intersection # 4: Esplanade & Sacramento Avenue

Date of Count: Thursday, May 14, 2015

Number of Collisions: 6 Number of Injuries: 5 Number of Fatalities: 0 ADT: 21300

ADT: 21300 Start Date: January 1, 2010 End Date: December 31, 2014

Number of Years: 5

Intersection Type: Multi-Legged
Control Type: Stop & Yield Controls

Area: Urban

collision rate = Number of Collisions x 1 Million

ADT x 365 Days per Year x Number of Years

collision rate = 6 x 1,000,000 21,300 x 365 x 5

 Study Intersection Statewide Average\*
 Collision Rate | Fatality Rate | Injury Rate |
 Injury Rate |

 0.15 c/mve | 0.0% | 83.3% |
 83.3% |

 0.15 c/mve | 1.0% | 41.9% |
 41.9% |

ADT = average daily total vehicles entering intersection c/mve = collisions per million vehicles entering intersection \* 2012 Collision Data on California State Highways, Caltrans

#### **Esplanade Area Complete Street Plan**

Intersection # 5: Esplanade & 1st Avenue

Date of Count: Thursday, May 14, 2015

Number of Collisions: 14 Number of Injuries: 10 Number of Fatalities: 0 ADT: 28800

Start Date: January 1, 2010 End Date: December 31, 2014

Number of Years: 5

Intersection Type: Multi-Legged Control Type: Signals

Area: Urban

collision rate = Number of Collisions x 1 Million

ADT x 365 Days per Year x Number of Years

 Study Intersection Statewide Average\*
 Collision Rate | Fatality Rate | Injury Rate |
 Injury Rate |

 0.27 c/mve | 0.0% | 71.4% |

 0.27 c/mve | 0.4% | 41.9% |

ADT = average daily total vehicles entering intersection c/mve = collisions per million vehicles entering intersection
\* 2012 Collision Data on California State Highways, Caltrans

Intersection # 6: Esplanade & 2nd Avenue

Date of Count: Thursday, May 14, 2015

Number of Collisions: 1
Number of Injuries: 1
Number of Fatalities: 0
ADT: 1944

ADT: 19400 Start Date: January 1, 2010 End Date: December 31, 2014

Number of Years: 5

Intersection Type: Multi-Legged
Control Type: Stop & Yield Controls

Area: Urban

collision rate = Number of Collisions x 1 Million

ADT x 365 Days per Year x Number of Years

collision rate =  $\frac{1}{19,400} \times \frac{1,000,000}{365} \times \frac{5}{1000}$ 

 Study Intersection Statewide Average\*
 Collision Rate | Fatality Rate | Injury Rate |
 Injury Rate |

 0.03 c/mve | 0.0% | 100.0% |
 100.0% |

 0.15 c/mve | 1.0% | 41.9% |

ADT = average daily total vehicles entering intersection c/mve = collisions per million vehicles entering intersection \* 2012 Collision Data on California State Highways, Caltrans

#### **Esplanade Area Complete Street Plan**

Intersection # 7: Esplanade & 3rd Avenue

Date of Count: Thursday, May 14, 2015

Number of Collisions: 7 Number of Injuries: 6 Number of Fatalities: 0 **ADT**: 20200

Start Date: January 1, 2010 End Date: December 31, 2014

Number of Years: 5

Intersection Type: Multi-Legged Control Type: Signals Area: Urban

collision rate = Number of Collisions x 1 Million

ADT x 365 Days per Year x Number of Years

collision rate =  $\frac{7}{20,200} \times \frac{1,000,000}{x}$ 

 Study Intersection Statewide Average\*
 Collision Rate 0.19 c/mve 0.0%
 Fatality Rate 0.0%

 0.19 c/mve 0.4%
 0.4%

ADT = average daily total vehicles entering intersection c/mve = collisions per million vehicles entering intersection \* 2012 Collision Data on California State Highways, Caltrans

Intersection # 8: Esplanade & 4th Avenue

Date of Count: Thursday, May 14, 2015

Number of Collisions: 6 Number of Injuries: 5 Number of Fatalities: 0

**ADT**: 20600 Start Date: January 1, 2010 End Date: December 31, 2014

Number of Years: 5

Intersection Type: Multi-Legged

Control Type: Stop & Yield Controls

Area: Urban

collision rate = Number of Collisions x 1 Million
ADT x 365 Days per Year x Number of Years

collision rate =  $\frac{6}{20,600}$  x

Injury Rate 83.3%

ADT = average daily total vehicles entering intersection c/mve = collisions per million vehicles entering intersection \* 2012 Collision Data on California State Highways, Caltrans

#### **Esplanade Area Complete Street Plan**

Intersection # 9: Esplanade & 5th Avenue

Date of Count: Thursday, May 14, 2015

Number of Collisions: 5 Number of Injuries: 4 Number of Fatalities: 0 ADT: 22300

Start Date: January 1, 2010 End Date: December 31, 2014

Number of Years: 5

Intersection Type: Multi-Legged
Control Type: Signals
Area: Urban

collision rate = Number of Collisions x 1 Million

ADT x 365 Days per Year x Number of Years

 Study Intersection Statewide Average\*
 Collision Rate | Fatality Rate | Injury Rate |
 Injury Rate |

 0.12 c/mve | 0.0% |
 80.0% |

 0.27 c/mve | 0.4% |
 41.9% |

ADT = average daily total vehicles entering intersection c/mve = collisions per million vehicles entering intersection
\* 2012 Collision Data on California State Highways, Caltrans

Intersection # 10: Esplanade & 6th Avenue

Date of Count: Thursday, May 14, 2015

Number of Collisions: 0 Number of Injuries: 0 Number of Fatalities: 0

ADT: 20300 Start Date: January 1, 2010 End Date: December 31, 2014

Number of Years: 5

Intersection Type: Multi-Legged
Control Type: Stop & Yield Controls

Area: Urban

collision rate = Number of Collisions x 1 Million

ADT x 365 Days per Year x Number of Years

 Study Intersection Statewide Average\*
 Collision Rate | Fatality Rate | Injury Rate |
 Injury Rate |

 0.00 c/mve | 0.0% | 0.0% |
 0.0% |

 0.15 c/mve | 1.0% |
 41.9% |

ADT = average daily total vehicles entering intersection c/mve = collisions per million vehicles entering intersection \* 2012 Collision Data on California State Highways, Caltrans

#### **Esplanade Area Complete Street Plan**

Intersection # 11: Esplanade & 7th Avenue

Date of Count: Thursday, May 14, 2015

Number of Collisions: 8 Number of Injuries: 8 Number of Fatalities: 0 ADT: 21300

Start Date: January 1, 2010 End Date: December 31, 2014

Number of Years: 5

Intersection Type: Multi-Legged
Control Type: Signals
Area: Urban

collision rate = Number of Collisions x 1 Million

ADT x 365 Days per Year x Number of Years

 Study Intersection Statewide Average\*
 Collision Rate / 0.21 c/mve
 Fatality Rate / 0.0%
 Injury Rate / 100.0%

 0.21 c/mve
 0.0%
 100.0%

 0.27 c/mve
 0.4%
 41.9%

ADT = average daily total vehicles entering intersection c/mve = collisions per million vehicles entering intersection
\* 2012 Collision Data on California State Highways, Caltrans

Intersection # 12: Esplanade & 8th Avenue

Date of Count: Thursday, May 14, 2015

Number of Collisions: 7 Number of Injuries: 6 Number of Fatalities: 0

ADT: 22100
Start Date: January 1, 2010
End Date: December 31, 2014

Number of Years: 5

Intersection Type: Multi-Legged
Control Type: Stop & Yield Controls

Area: Urban

collision rate = Number of Collisions x 1 Million

ADT x 365 Days per Year x Number of Years

 Study Intersection Statewide Average\*
 Collision Rate | Fatality Rate | Injury Rate |
 Injury Rate |

 0.17 c/mve | 0.0% | 85.7% |
 85.7% |

 0.15 c/mve | 1.0% | 41.9% |

ADT = average daily total vehicles entering intersection c/mve = collisions per million vehicles entering intersection \* 2012 Collision Data on California State Highways, Caltrans

#### **Esplanade Area Complete Street Plan**

Intersection # 13: Esplanade & 9th Avenue

Date of Count: Thursday, May 14, 2015

Number of Collisions: 11 Number of Injuries: 8 Number of Fatalities: 0

ADT: 21500 Start Date: January 1, 2010 End Date: December 31, 2014

Number of Years: 5

Intersection Type: Multi-Legged Control Type: Signals Area: Urban

collision rate = Number of Collisions x 1 Million

ADT x 365 Days per Year x Number of Years

collision rate =  $\frac{11}{21,500} \times \frac{1,000,000}{x}$ 

 Study Intersection Statewide Average\*
 Collision Rate | Fatality Rate |
 Fatality Rate |

 0.28 c/mve | 0.0%
 0.0%

 0.27 c/mve | 0.4%

ADT = average daily total vehicles entering intersection c/mve = collisions per million vehicles entering intersection \* 2012 Collision Data on California State Highways, Caltrans

Intersection # 14: Esplanade & 10th Avenue

Date of Count: Thursday, May 14, 2015

Number of Collisions: 1 Number of Injuries: 0 Number of Fatalities: 0 **ADT**: 19900

Start Date: January 1, 2010 End Date: December 31, 2014

Number of Years: 5

Intersection Type: Multi-Legged Control Type: Stop & Yield Controls

Area: Urban

collision rate = Number of Collisions x 1 Million
ADT x 365 Days per Year x Number of Years

collision rate =  $\frac{1}{19,900}$  x

Injury Rate 0.0% 41.9%

ADT = average daily total vehicles entering intersection c/mve = collisions per million vehicles entering intersection \* 2012 Collision Data on California State Highways, Caltrans

#### **Esplanade Area Complete Street Plan**

Intersection # 15: Esplanade & 11th Avenue

Date of Count: Thursday, May 14, 2015

Number of Collisions: 4 Number of Injuries: 3 Number of Fatalities: 0

ADT: 22200

Start Date: January 1, 2010

End Date: December 31, 2014

Number of Years: 5

Intersection Type: Multi-Legged Control Type: Signals Area: Urban

collision rate = Number of Collisions x 1 Million

ADT x 365 Days per Year x Number of Years

collision rate =  $\frac{4}{22,200} \times \frac{1,000,000}{x}$ 

 
 Study Intersection Statewide Average\*
 Collision Rate
 Fatality Rate

 0.10
 c/mve
 0.0%

 0.27
 c/mve
 0.4%
 75.0% 41.9%

ADT = average daily total vehicles entering intersection c/mve = collisions per million vehicles entering intersection \* 2012 Collision Data on California State Highways, Caltrans

**Chico Esplanade Collision Rates** 

Esplanade Collisions (10 years)  Memorial 4	and Ped Involved	Involved	Total	1	FC	Yokiolo ADT	Bike	Ped	Vehicle	Statewide Average	Bike Rate Compared to	Ped Rate Compared to	Vehicle Rate Compared to
	with Bike	with Ped	years)	Ę			Rate	Rate	Rate	Collision Rate	Statewide Average	Statewide Average	Statewide Average
	3	1	9	1,150	1,388	19,040	0.71	0.20	0.17	0.27	2.6	0.7	9.0
Frances Willard 0	0	0	1	1,100	675	20,970	0.00	00.0	0.03	0.15	0.0	0.0	0.2
Lincoln 3	2	1	4	875	1,038	20,250	0.63	0.26	0.11	0.27	2.3	1.0	0.4
West Sacramento 4	2	2	9	1,150	388	21,320	0.48	1.41	0.15	0.15	3.2	9.4	1.0
1st 6	2	1	14	1,075	388	28,820	1.27	0.71	0.27	0.27	4.7	2.6	1.0
2 <i>nd</i> 0	0	0	1	713	250	19,440	00.0	0.00	0.03	0.15	0.0	0.0	0.2
3rd 5	2	0	7	652	263	20,150	2.10	00.0	0.19	0.27	7.8	0.0	0.7
4th 1	1	0	9	413	225	20,570	99'0	0.00	0.16	0.15	4.4	0.0	1.1
5th 1	1	0	2	575	463	22,330	0.48	00.0	0.12	0.27	1.8	0.0	0.4
<i>6th</i> 0	0	0	0	488	313	20,320	00.0	0.00	0.00	0.15	0.0	0.0	0.0
7th 2	2	0	8	463	413	21,310	1.18	00.0	0.21	0.27	4.4	0.0	0.8
8th 5	4	1	7	288	300	22,120	1.86	0.91	0.17	0.15	12.4	6.1	1.1
<i>9th</i> 3	3	0	11	896	325	21,460	0.85	0.00	0.28	0.27	3.1	0.0	1.0
<i>10th</i> 0	0	0	1	888	350	19,890	00.00	0.00	0.03	0.15	0.0	0.0	0.2
11th 2	2	0	4	1,088	375	22,160	0.50	00.0	0.10	0.27	1.9	0.0	0.4
Average	30.0	0.9	81.0	812.1	476.9	21343.3	0.71	0.23	0.13	0.21	3.2	1.3	9.0

Note: All collision rates = # collisions per million vehicles (or bike or ped) entering intersection

Collision rate near the average (less than 1.5 x average)	
Collision rate above the average by 1.5 to 2.5 x average	
Collision rate above the average by 2.5 to 3.0 x average	
Collision rate above the average by 3.0 x average and above	

#### Œ Œ JSDA, USGS, AE ≥ Œ 4 Œ ESACRAMENTO AVE JAN JO ~ ui II PALMAVE G Œ EAST AVE SPRUCEAVE 0 MANGROVE AVE Œ ESPLANADE ~ Œ **Z** 0 ESTH ME **1 I** A Z I (m) 0 C $( \mathbf{r} )$ Œ California State University, Chico Œ ESPLANADE ESTH ME I W SACRAMENTO AVE OLEANDER AVE C . Z Œ 0 N Œ $\mathbf{\Omega}$ ~ U Œ Hospital Campus Z 9 ⋖ 0 Œ 2 Œ **M (2)** To Chico Airport Bicycle & Pedestrian Collisions 2011-2016 Class II - Existing Bike Lane Class I - Existing Bike Path Ш **Chico Bike Facilities** 1 FATALITY AT EACH LOCATION Œ - 7 Collisions - 3 Collisions WATHALE Project Location -South Esplanade Œ 1 Collision (Labeled with Actual Count) CAPSHAW CT **Bus Stop** C School 4 City of

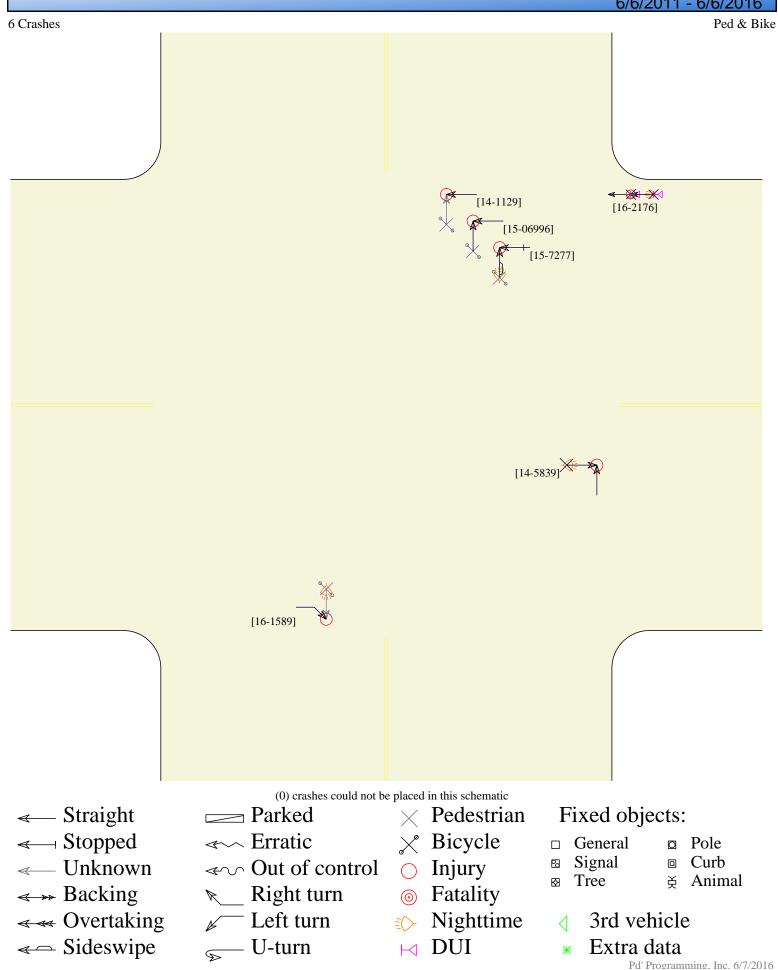


ESPLANADE SAFETY AND ACCESSIBILITY PROJECT

BICYCLE & PEDESTRIAN COLLISIONS - 2011-2016



### Esplanade & E 1st Ave 6/6/2011 - 6/6/2016

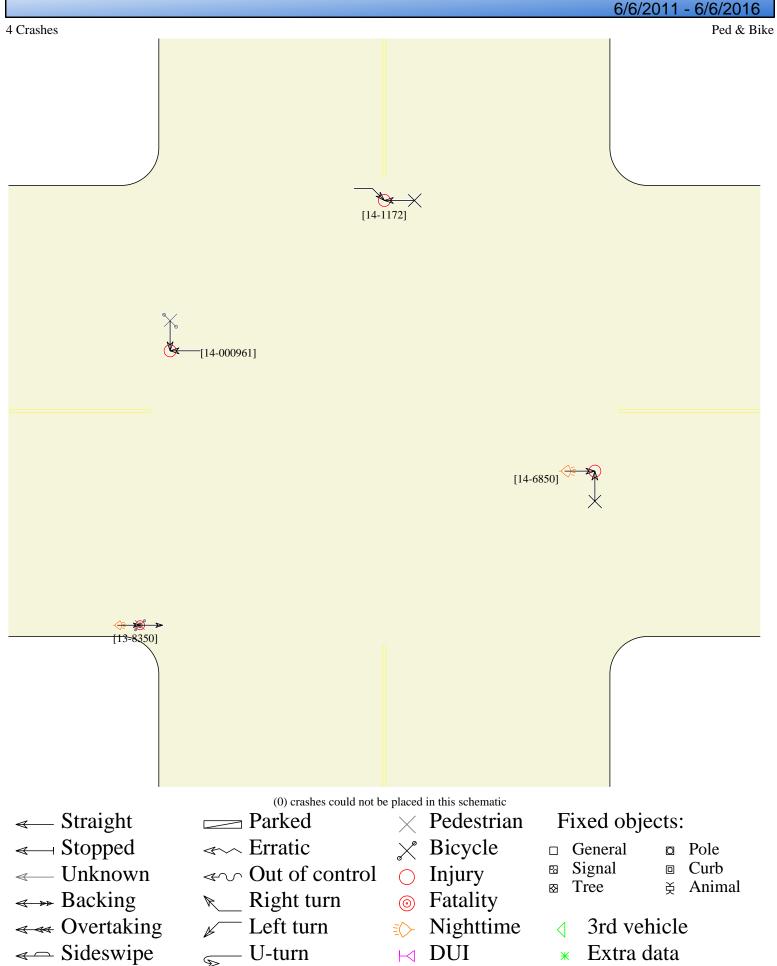


### Oleander & Memorial 6/6/2011 - 6/6/2016 3 Crashes Ped & Bike [14-005416] ×[15-004249] [TP152400164] (0) crashes could not be placed in this schematic Fixed objects: Straight Parked Pedestrian < → Stopped × Bicycle Erratic General Pole Signal Unknown Curb ← Out of control Injury Tree Animal \_\_ Right turn Second « Backing Overtaking Left turn Nighttime 3rd vehicle ≪ Sideswipe — U-turn DUI Extra data Pd' Programming. Inc. 6/6/2016

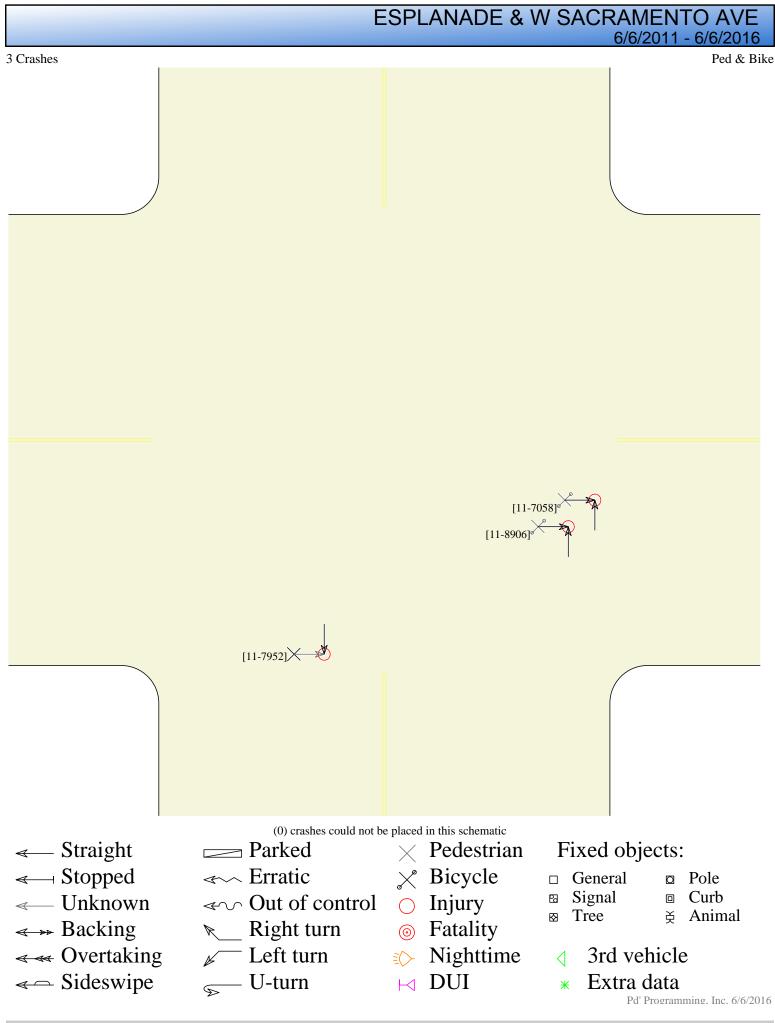
### Oleander & E Frances Willard 6/6/2011 - 6/6/2016 1 Crashes Ped & Bike (0) crashes could not be placed in this schematic <-- Straight Fixed objects: Parked × Pedestrian < → Stopped × Bicycle Erratic General Pole Signal Curb Unknown ← Out of control Injury Tree Animal \_\_ Right turn Second → Backing Overtaking Left turn Nighttime 3rd vehicle ≪ Sideswipe — U-turn DUI Extra data

Pd' Programming. Inc. 6/7/2016

### Oleander & E 1st Ave



Pd' Programming. Inc. 6/7/2016



### ESPLANADE & W 11TH AV 6/13/2011 - 6/13/2016 2 Crashes Ped & Bike (0) crashes could not be placed in this schematic Fixed objects: Straight Parked × Pedestrian < → Stopped × Bicycle Erratic General Pole Signal Unknown Curb ← Out of control Injury Tree Animal \_\_ Right turn Second « Backing Overtaking Left turn Nighttime 3rd vehicle ≪ Sideswipe — U-turn ⊢ DUI Extra data

Pd' Programming. Inc. 6/13/2016

## Esplanade & W 8th Ave 6/6/2011 - 6/6/2016 2 Crashes Ped & Bike (0) crashes could not be placed in this schematic Fixed objects: Straight Parked Pedestrian < → Stopped × Bicycle Erratic General Pole Signal Unknown Curb ← Out of control Injury Tree Animal Right turn Second « Backing Overtaking Left turn 3rd vehicle Nighttime

DUI

≪ Sideswipe

S U-turn

Pd' Programming. Inc. 6/7/2016

Extra data

### Esplanade & W 7th Ave 6/6/2011 - 6/6/2016 1 Crashes Ped & Bike (0) crashes could not be placed in this schematic Fixed objects: Straight Parked Pedestrian < → Stopped × Bicycle Erratic General Pole Signal Unknown Curb ← Out of control Injury Tree Animal \_\_ Right turn Second « Backing Overtaking Left turn Nighttime 3rd vehicle ≪ Sideswipe S U-turn DUI Extra data

Pd' Programming. Inc. 6/7/2016

DUI

≪ Sideswipe

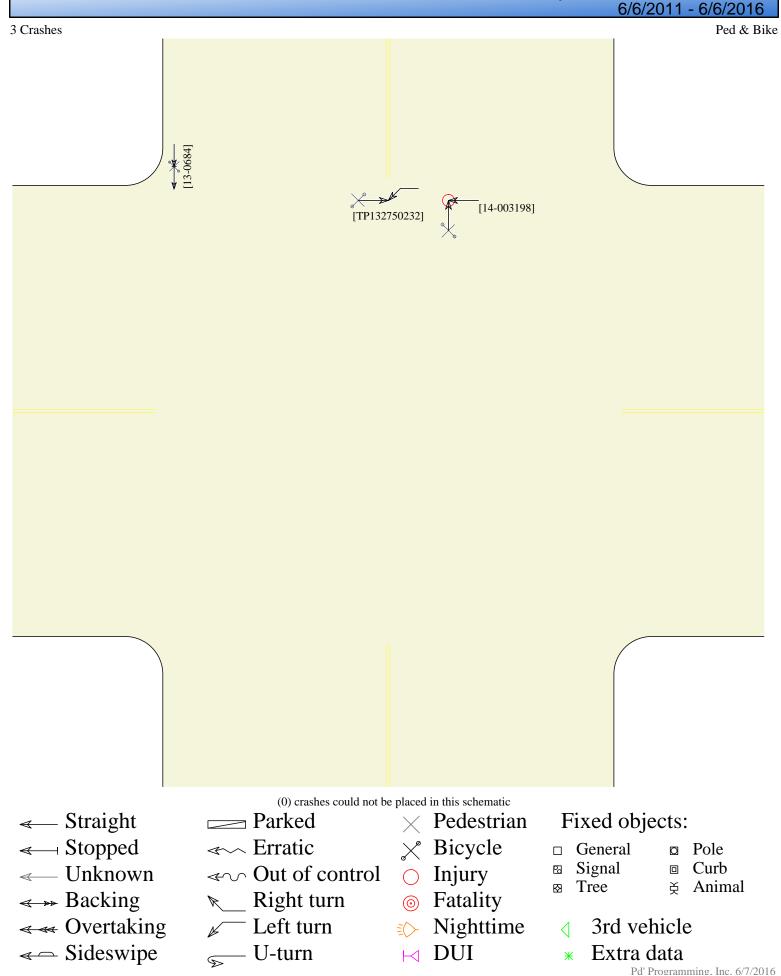
S U-turn

Pd' Programming. Inc. 6/7/2016

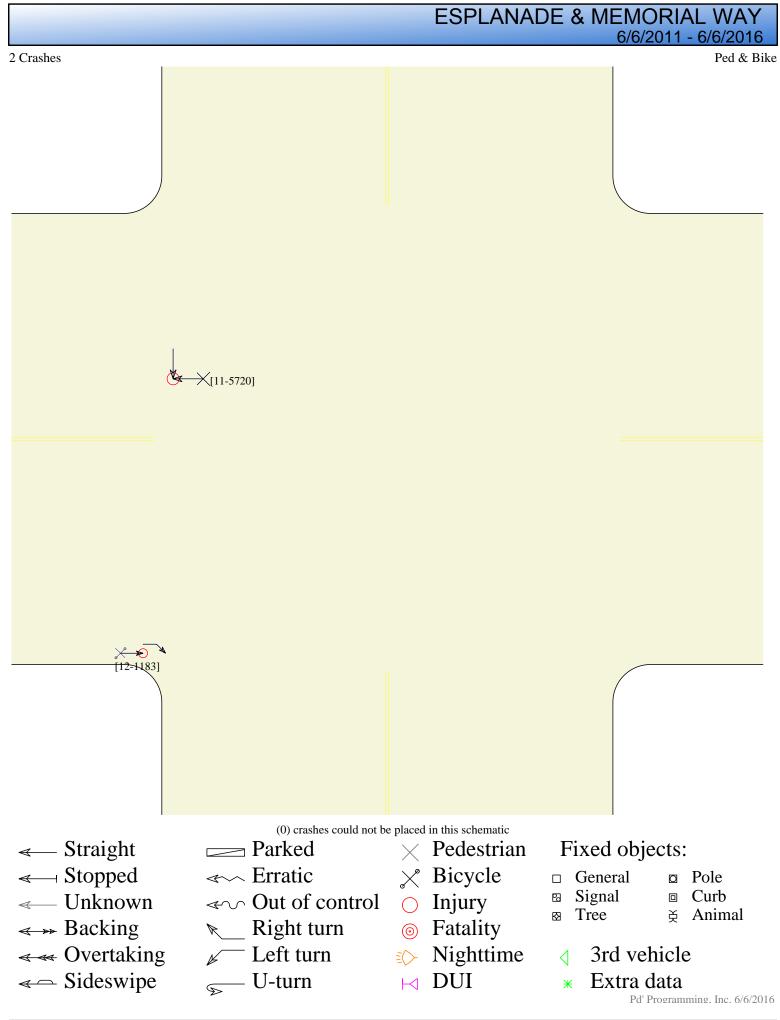
Extra data

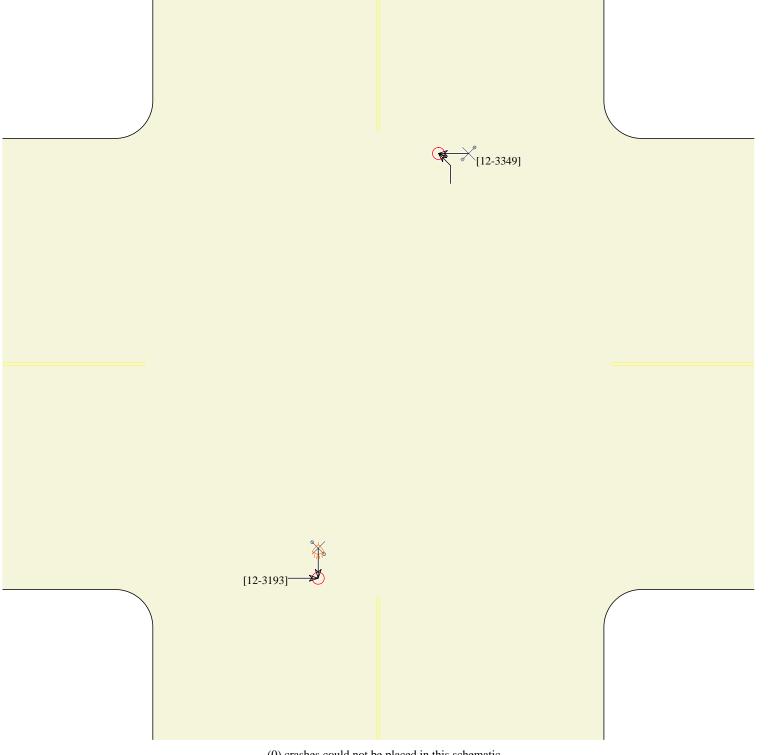
### Esplanade & W 4th Ave 6/6/2011 - 6/6/2016 1 Crashes Ped & Bike (0) crashes could not be placed in this schematic <-- Straight Fixed objects: Parked Pedestrian < → Stopped × Bicycle Erratic General Pole Signal Unknown Curb ← Out of control Injury Tree Animal \_\_ Right turn Second → Backing Overtaking Left turn Nighttime 3rd vehicle ≪ Sideswipe — U-turn DUI Extra data Pd' Programming. Inc. 6/7/2016

# Esplanade & W 3rd Ave 6/6/2011 - 6/6/2016



### Esplanade & W 1st Ave 6/6/2011 - 6/6/2016 1 Crashes Ped & Bike X \* [12-7070] (0) crashes could not be placed in this schematic Fixed objects: Straight Parked Pedestrian < → Stopped × Bicycle Erratic General Pole Signal Unknown Curb ← Out of control Injury Tree Animal Right turn Second « Backing Overtaking Left turn Nighttime 3rd vehicle ≪ Sideswipe — U-turn DUI Extra data Pd' Programming. Inc. 6/7/2016





(0) crashes could not be placed in this schematic

Straight

< → Stopped

Unknown

→ Backing

Overtaking

≪ Sideswipe

Parked

Erratic

← Out of control

\_\_ Right turn

Left turn

— U-turn

Pedestrian

× Bicycle

Injury

Second Second

Nighttime

DUI

Fixed objects:

General

Pole 

Signal

Curb

Tree

Animal

3rd vehicle

Extra data

Pd' Programming. Inc. 6/7/2016