

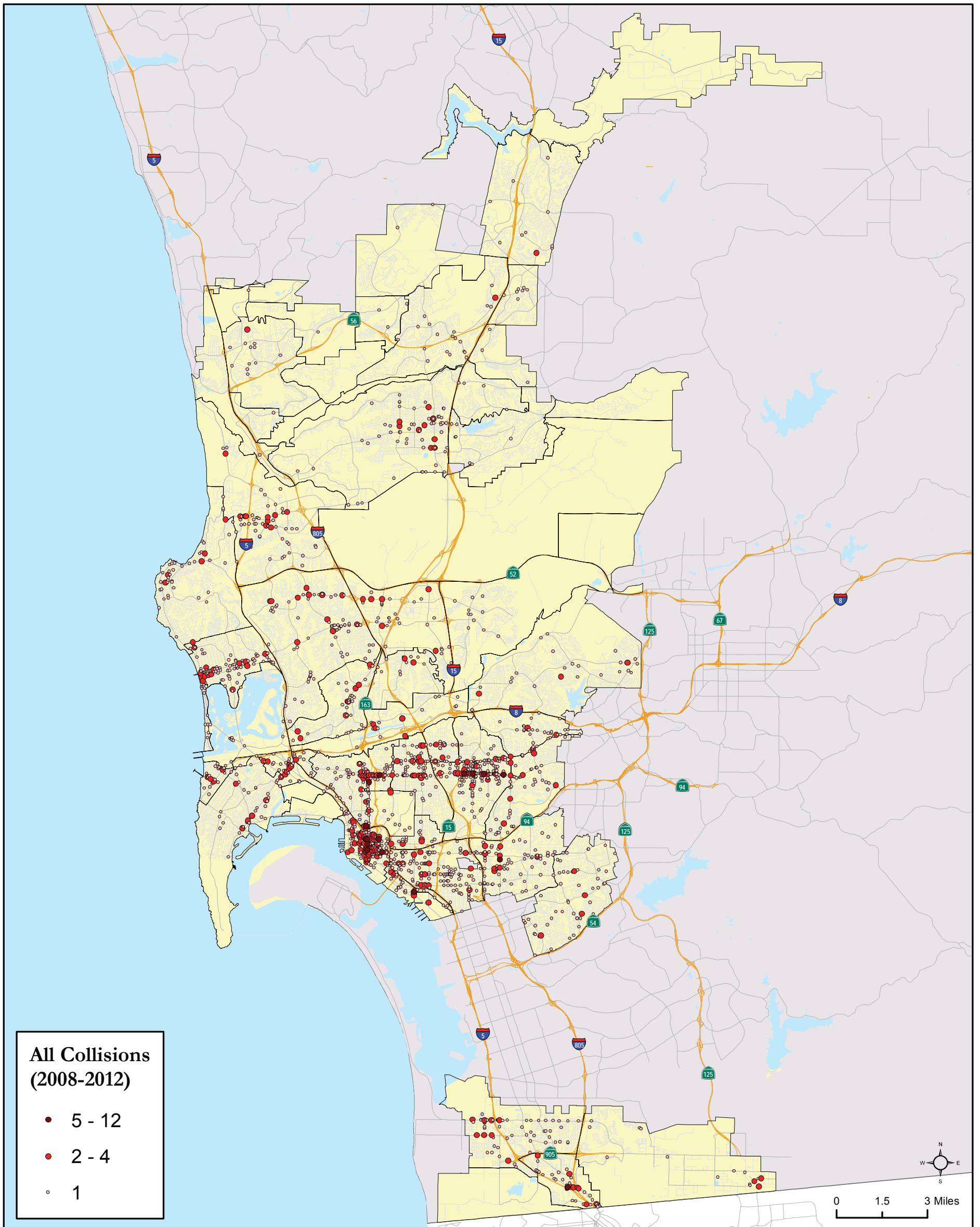


## **STATION 3**

**When, Where, and Why do  
Pedestrian Collisions Occur?**



# Citywide Pedestrian Collisions (2008 - 2012)





# Pedestrian Collision Analysis: Age



Number of Pedestrian Collisions and Rate per 100K Population by Age  
(2008 - 2012)

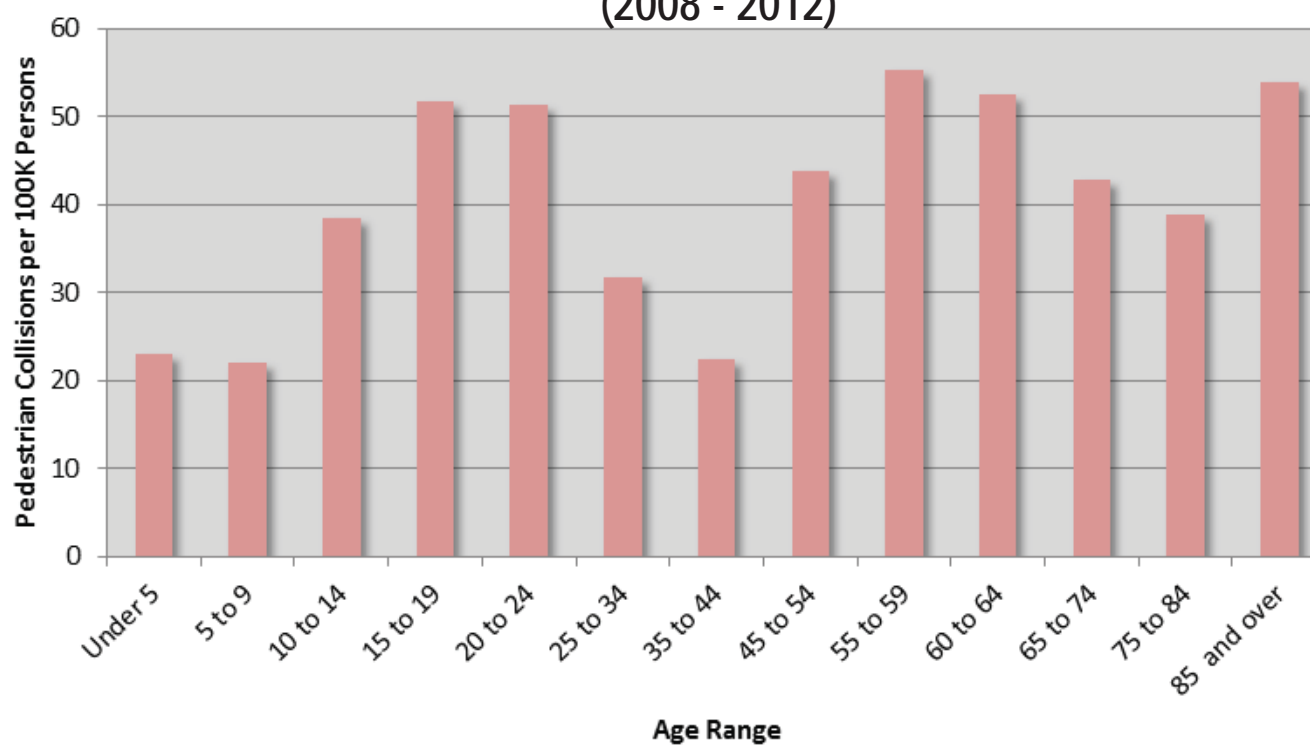
Age Group	Number of Collisions	Percent of Total	Population	Collisions per 100,000 per Year
Under 5	95	4.2%	82,523	23.0
5 to 9	96	4.3%	87,347	22.0
10 to 14	153	6.8%	79,520	38.5
15 to 19	222	9.9%	85,664	51.8
20 to 24	284	12.6%	110,614	51.4
25 to 34	344	15.3%	217,032	31.7
35 to 44	223	9.9%	198,474	22.5
45 to 54	324	14.4%	148,127	43.8
55 to 59	133	5.9%	48,016	55.4
60 to 64	100	4.5%	38,075	52.5
65 to 74	141	6.3%	65,922	42.8
75 to 84	93	4.1%	47,639	39.0
85 and over	39	1.7%	14,447	54.0
Total	2,247	100%	1,223,400	36.7

The age groups with the lowest collision rates were 5 to 9 and 35 to 44.

The age groups with the highest collision rates were 55 to 59 and 85 and over.

Source: City of San Diego (2013); Chen Ryan Associates, January 2014

Pedestrian Collision Rates per 100K Population by Age Ranges  
(2008 - 2012)

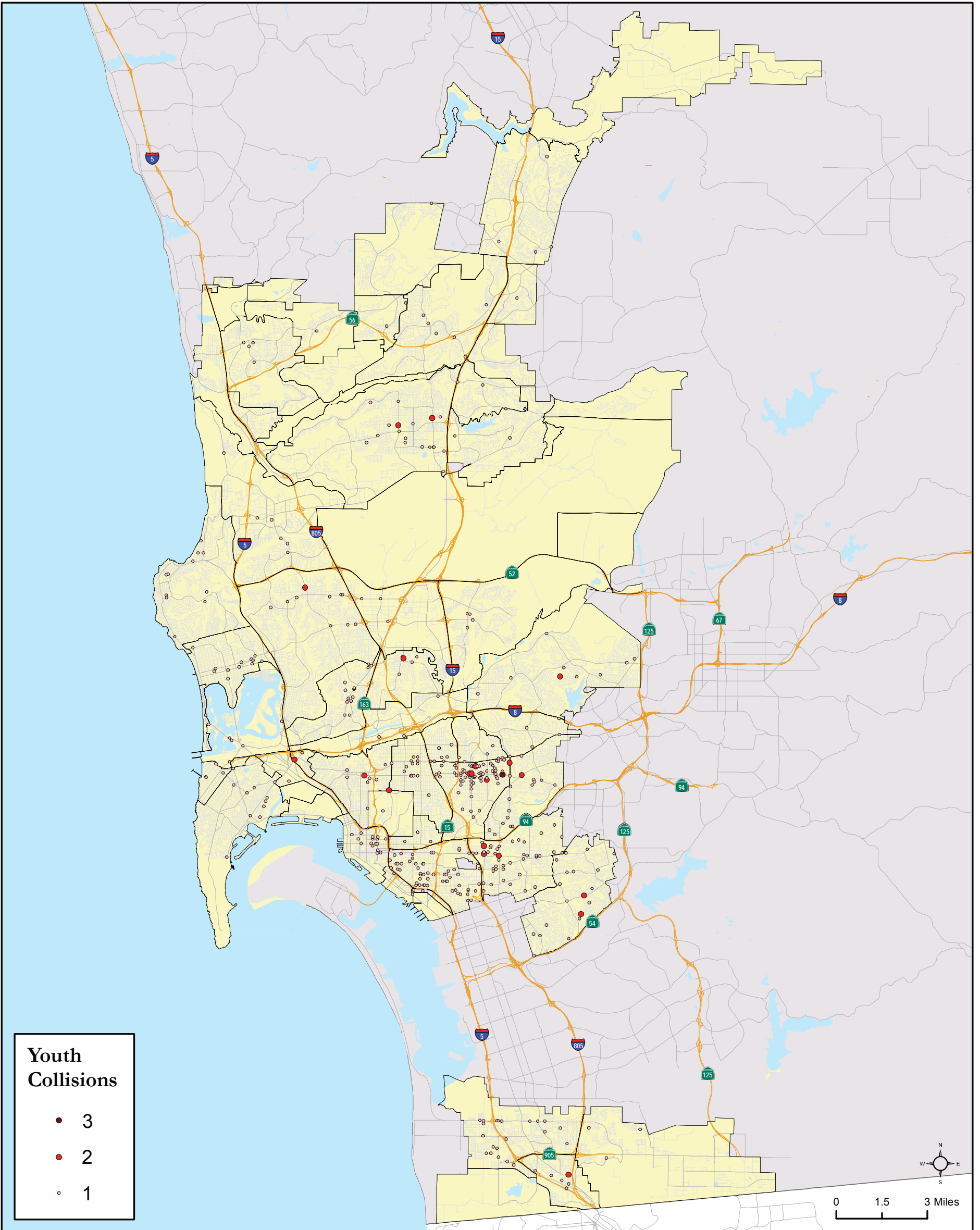


Source: City of San Diego (2013); Chen Ryan Associates, January 2014





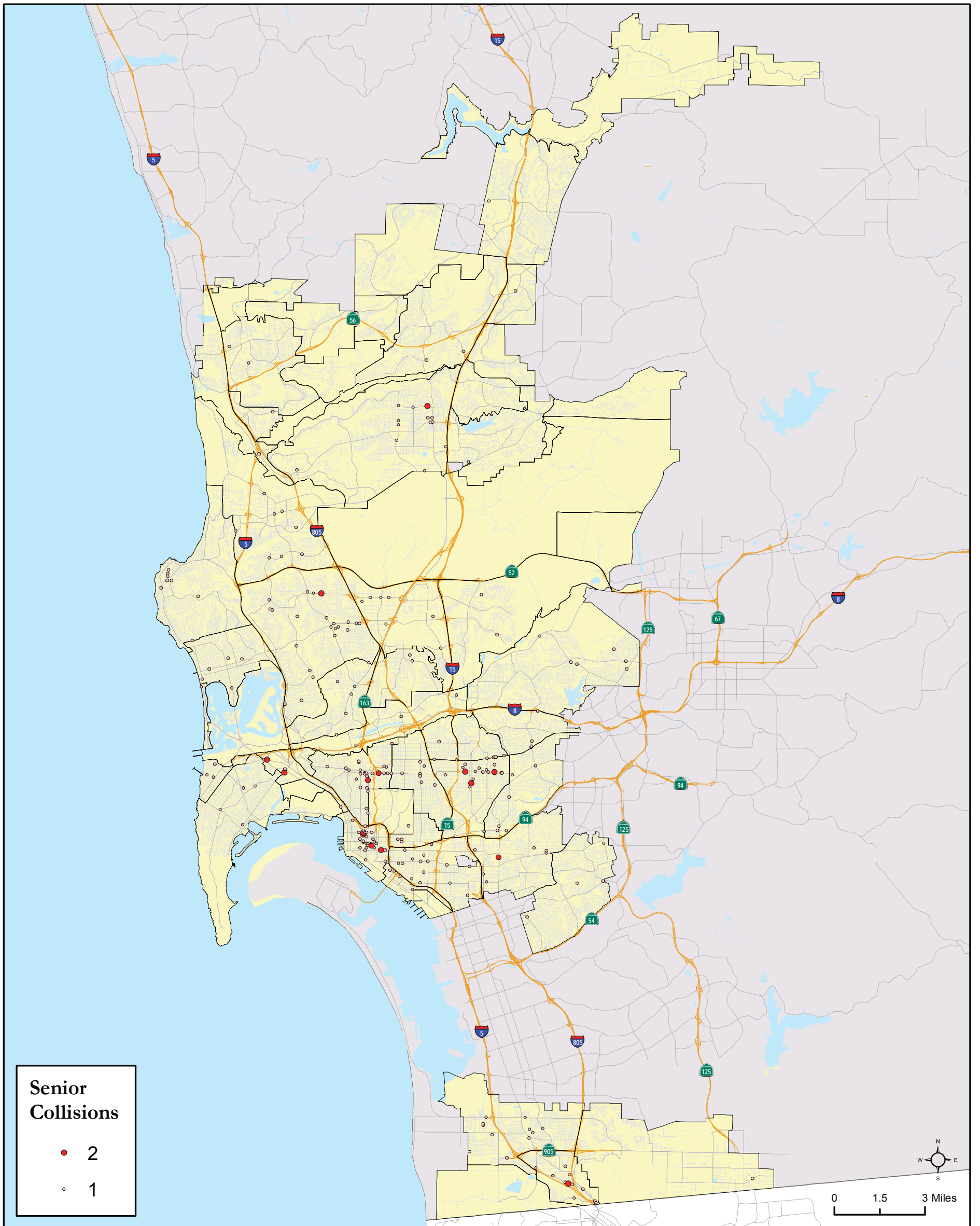
# Citywide Pedestrian Collisions (2008 - 2012) Involving Youth (Age 16 and Under)







# Citywide Pedestrian Collisions (2008 - 2012) Involving Seniors (Age 65 and Over)





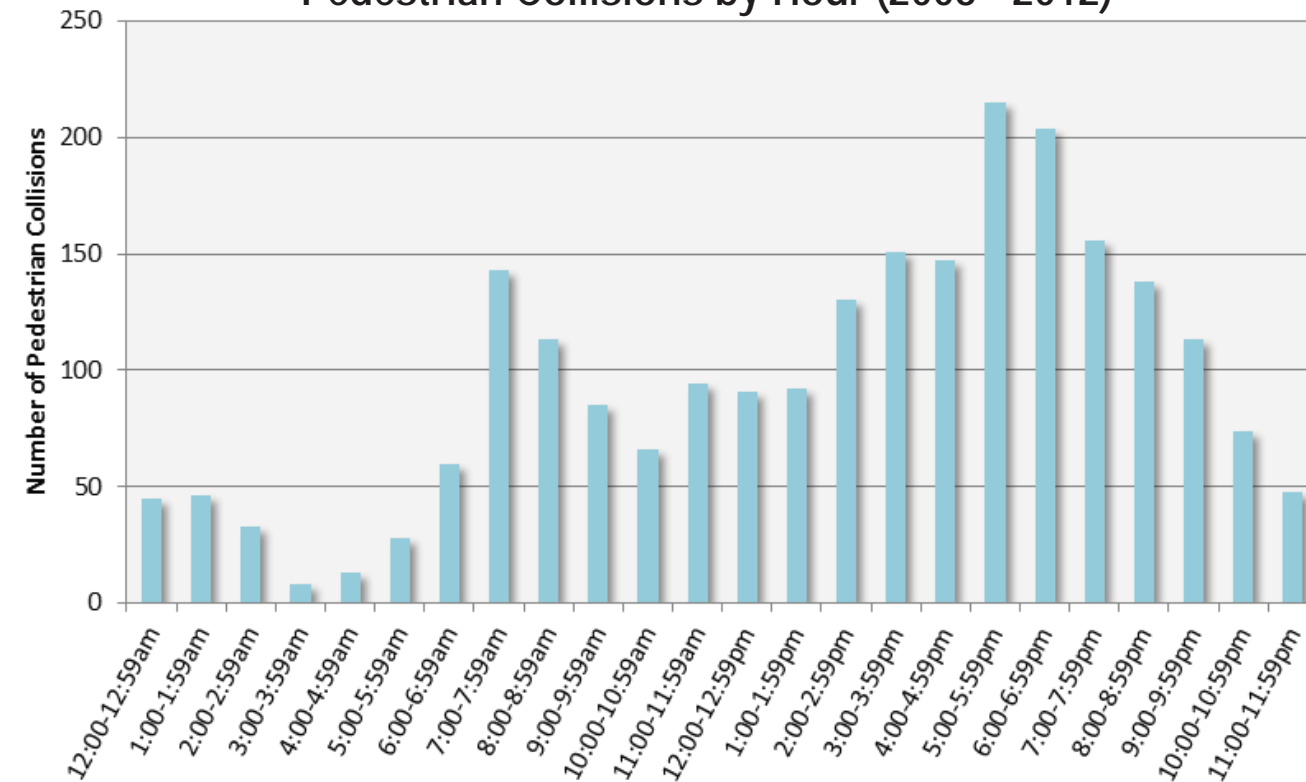
# Pedestrian Collision Analysis: Hour and Day of Week



Pedestrian Collisions by Hour and Day of Week (2008 - 2012)

Hour	By hour	Mon	Tue	Wed	Thu	Fri	Sat	Sun
By Day	2,296	348	354	350	351	366	284	243
12:00-12:59am	45	4	6	2	4	4	14	11
1:00-1:59am	46	5	3	1	2	8	13	14
2:00-2:59am	33	2	4	2	2	4	10	9
3:00-3:59am	8	0	0	1	1	1	1	4
4:00-4:59am	13	2	0	3	3	2	0	3
5:00-5:59am	28	6	8	2	5	4	2	1
6:00-6:59am	60	7	11	14	17	9	2	0
7:00-7:59am	143	22	34	29	28	23	7	0
8:00-8:59am	113	15	21	27	19	21	7	3
9:00-9:59am	85	15	14	18	9	9	12	8
10:00-10:59am	66	8	14	17	8	4	9	6
11:00-11:59am	94	11	17	12	15	12	17	10
12:00-12:59pm	91	14	10	13	16	18	9	11
1:00-1:59pm	92	10	11	6	16	18	14	17
2:00-2:59pm	130	16	22	24	18	25	11	14
3:00-3:59pm	151	25	28	14	33	22	13	16
4:00-4:59pm	147	32	20	23	25	17	15	15
5:00-5:59pm	215	45	30	40	29	36	18	17
6:00-6:59pm	204	33	35	30	29	35	22	20
7:00-7:59pm	156	21	23	24	23	26	20	19
8:00-8:59pm	138	19	20	14	23	21	21	20
9:00-9:59pm	113	22	13	16	15	15	21	11
10:00-10:59pm	74	7	4	15	9	17	13	9
11:00-11:59pm	48	6	5	3	2	15	12	5
Unknown	3	1	1	0	0	0	1	0

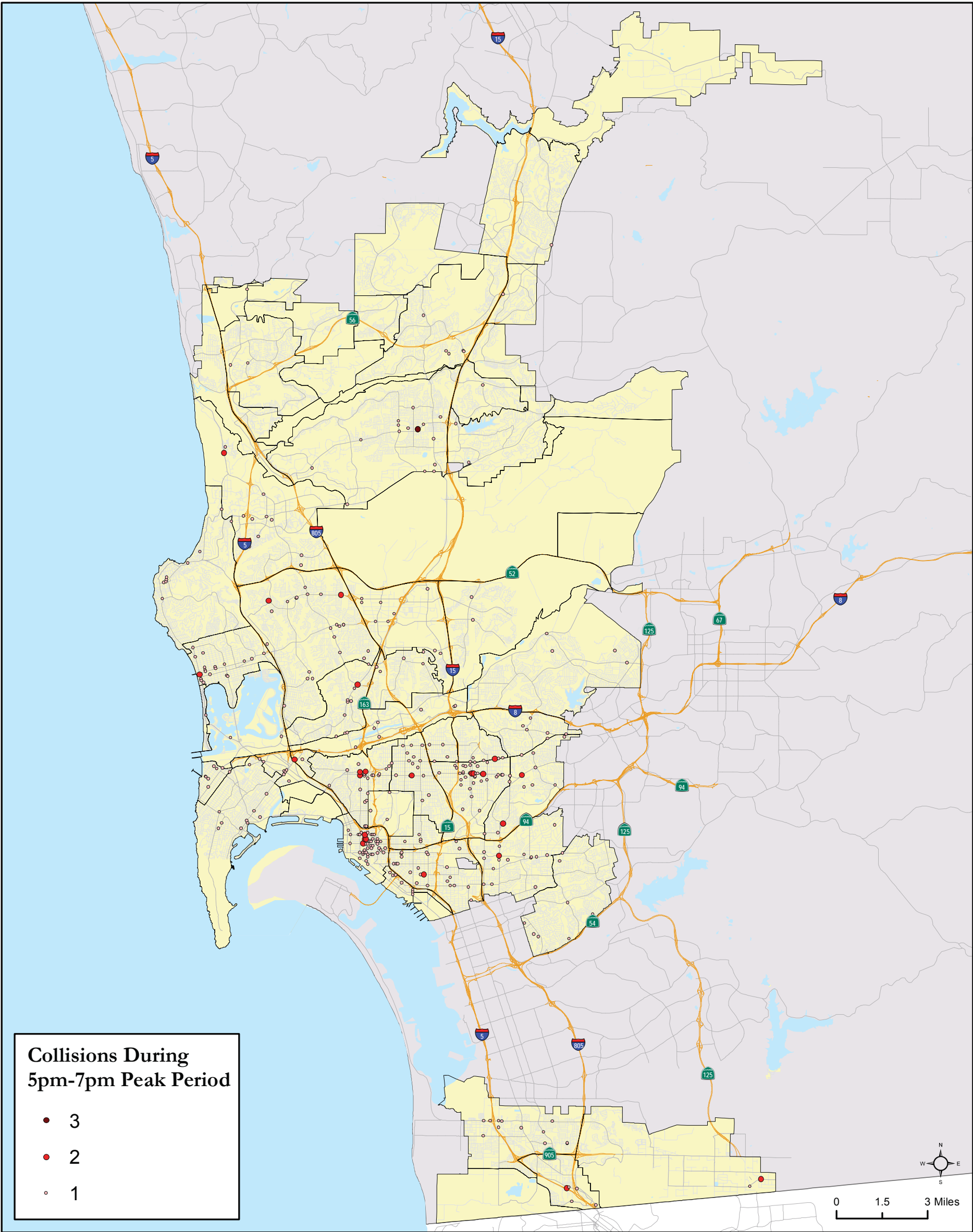
Pedestrian Collisions by Hour (2008 - 2012)



The greatest number of pedestrian collisions (2008 - 2012) occurred during the evening peak period from 5:00pm to 7:00pm on weekdays.



# Citywide Pedestrian Collisions (2008 - 2012) Occurring in 2-Hour Peak Period (5pm - 7pm)







# Citywide Pedestrian Collisions (2008 - 2012) Per Capita by Community Planning Area



Per Capita Ranking	Community Planning Area (CPA)	CPA Population	Number of Collisions per CPA	Collisions per 1,000 Persons by CPA
1	Midway-Pacific Highway	3,762	53	14.1
2	Barrio Logan	4,227	43	10.2
3	Downtown	36,125	305	8.4
4	Kearny Mesa	6,212	40	6.4
5	Uptown	36,515	149	4.1
6	Pacific Beach	40,593	123	3.0
7	Mid-City: City Heights	75,929	217	2.9
8	Southeastern San Diego	57,973	151	2.6
9	Ocean Beach	13,413	32	2.4
10	Mid-City: Kensington-Talmadge	14,383	34	2.4

Midway and Barrio Logan have the highest pedestrian collision rate with 14.1 and 10.2 collisions per 1,000 residents, respectively.

Downtown has the highest number of total pedestrian collisions with 305, and the third highest collision rate with 8.4.

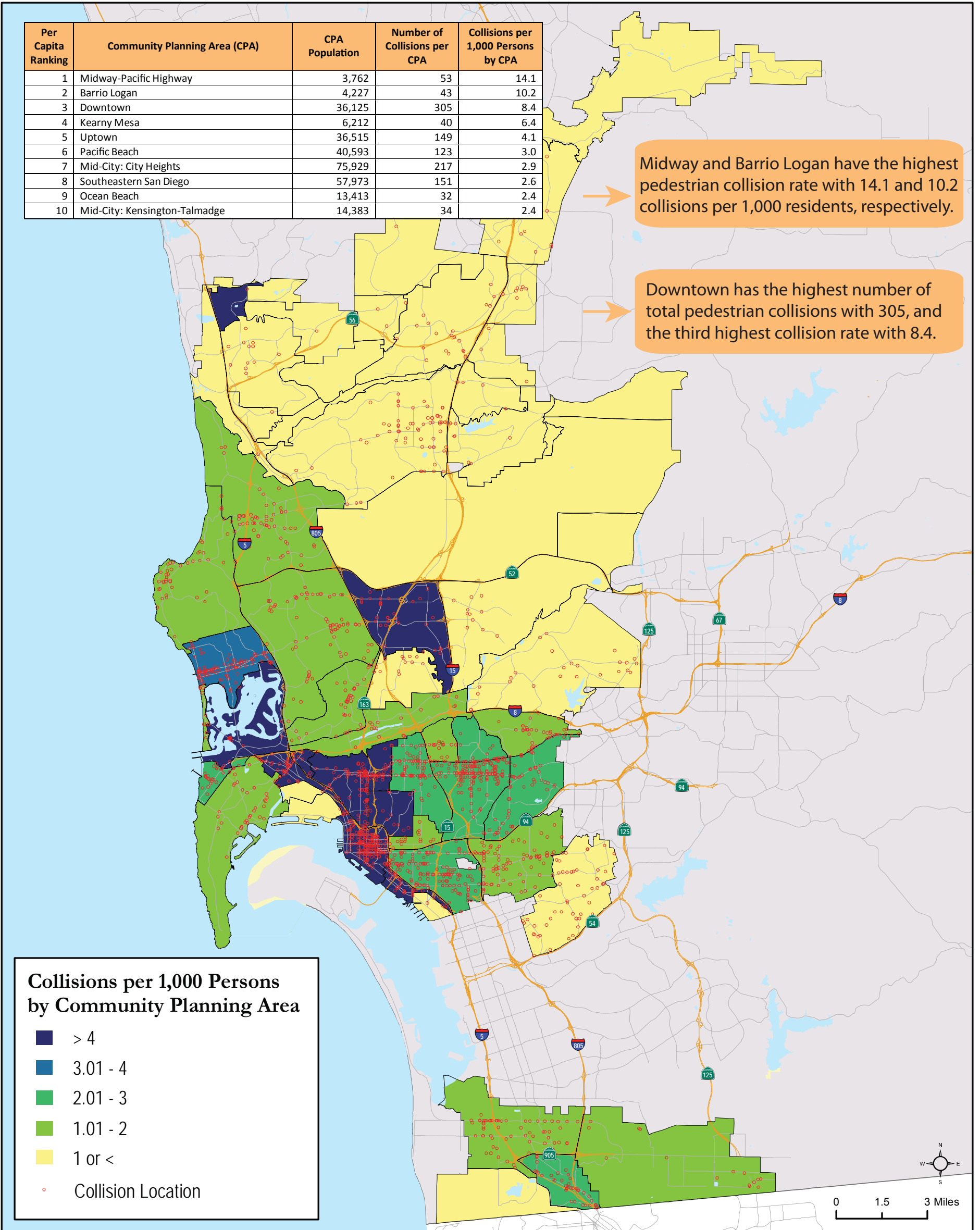
### Collisions per 1,000 Persons by Community Planning Area

- > 4
- 3.01 - 4
- 2.01 - 3
- 1.01 - 2
- 1 or <

Collision Location



0 1.5 3 Miles





# Citywide Pedestrian Collisions (2008 - 2012) and 2010 Median Household Income



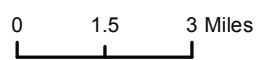
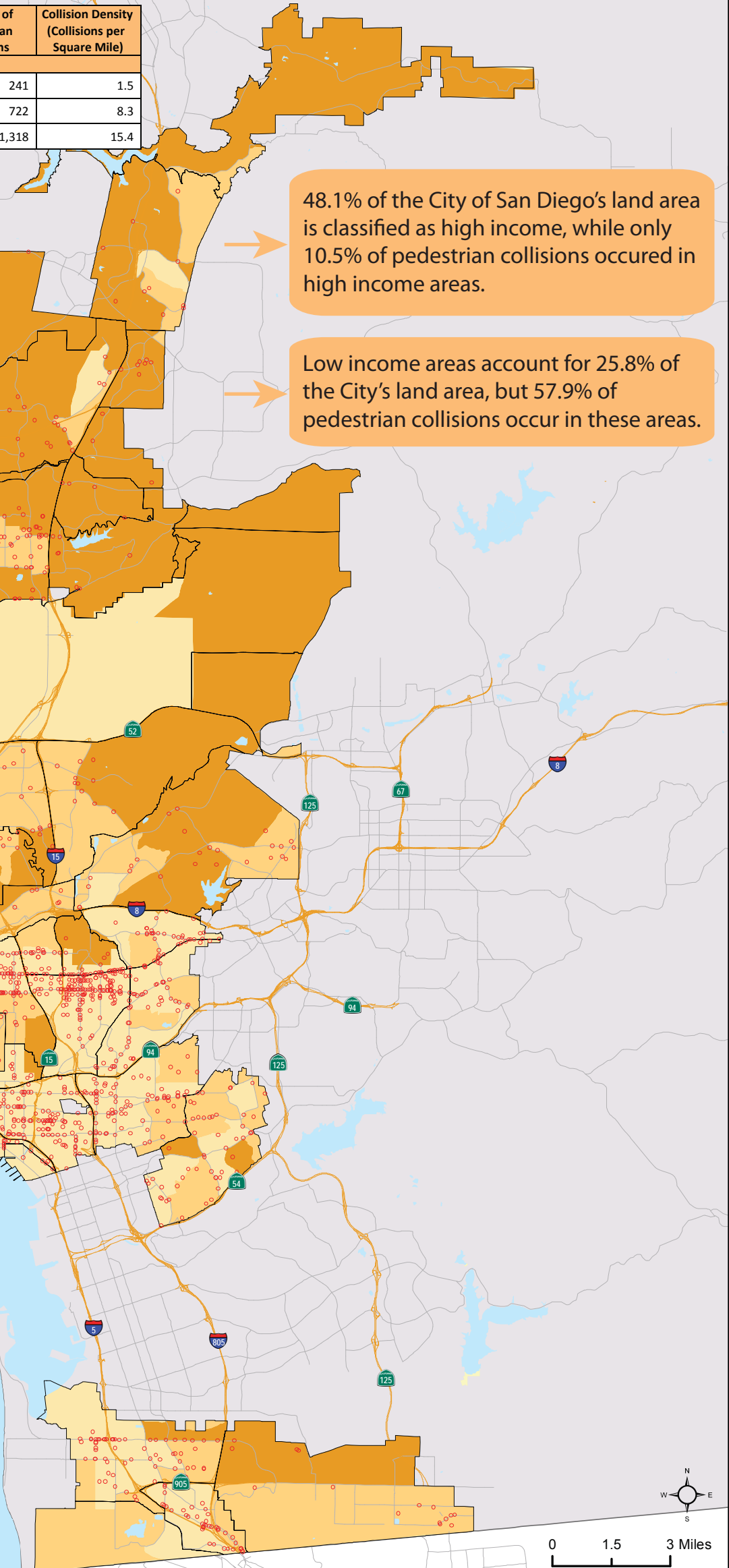
Value Range	City of San Diego Square Miles	Percent Area of City of San Diego	Number of Pedestrian Collisions	Collision Density (Collisions per Square Mile)	
<b>2010 Median Household Income by Census Tract</b>					
High	>\$78,242	160.0	48.1%	241	1.5
Medium	\$54,081 to \$78,242	86.5	26.1%	722	8.3
Low	<\$54,081	85.5	25.8%	1,318	15.4

48.1% of the City of San Diego's land area is classified as high income, while only 10.5% of pedestrian collisions occurred in high income areas.

Low income areas account for 25.8% of the City's land area, but 57.9% of pedestrian collisions occur in these areas.

**Median Household Income by Census Tract**

- > \$78,242
- \$54,081 - \$78,242
- < \$54,081
- Collision Location





# Citywide Pedestrian Collisions (2008 - 2012) and 2009 Employment Density



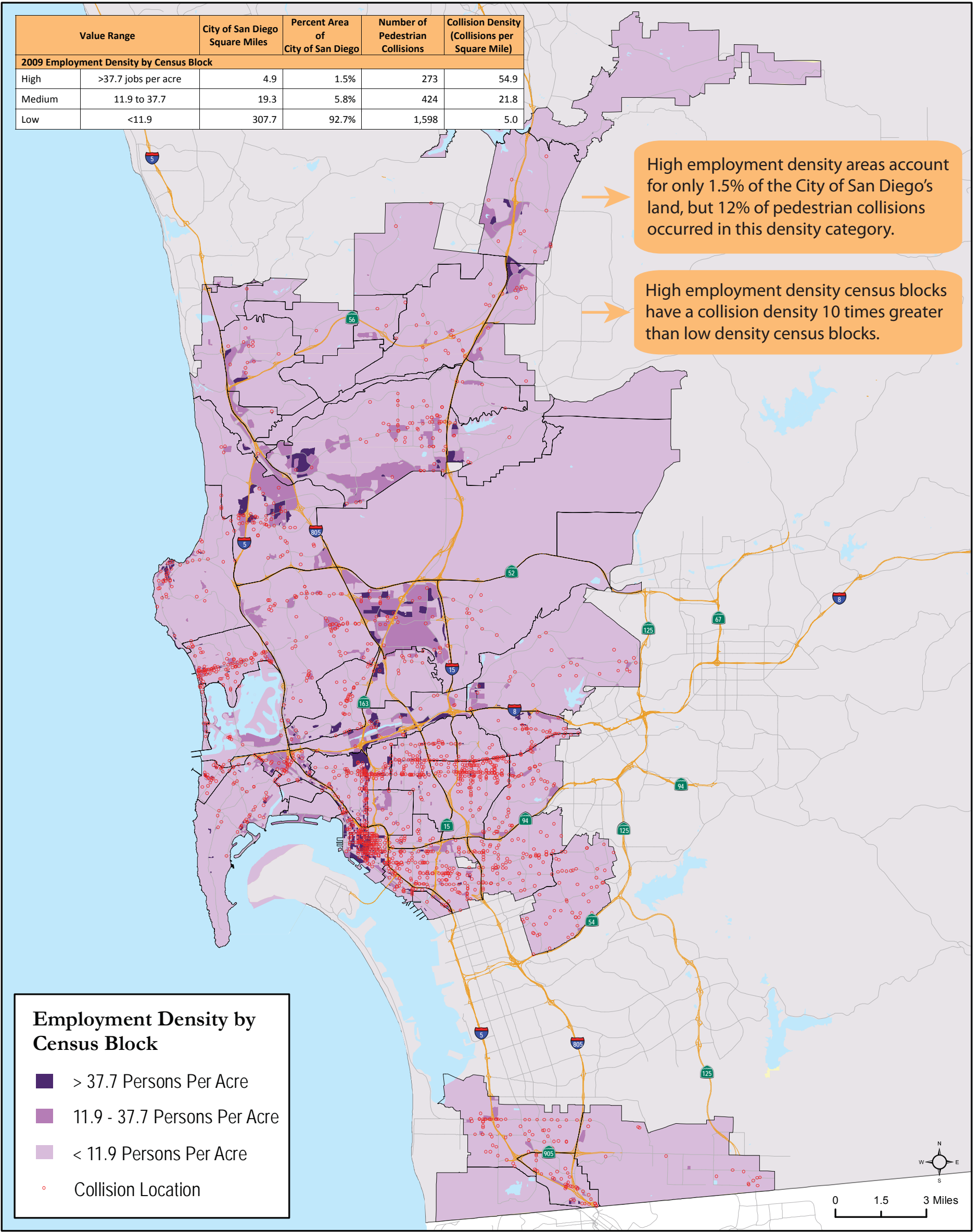
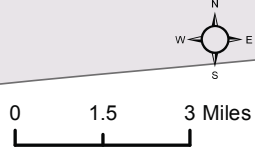
Value Range	City of San Diego Square Miles	Percent Area of City of San Diego	Number of Pedestrian Collisions	Collision Density (Collisions per Square Mile)
<b>2009 Employment Density by Census Block</b>				
High	>37.7 jobs per acre	4.9	1.5%	273
Medium	11.9 to 37.7	19.3	5.8%	424
Low	<11.9	307.7	92.7%	1,598

High employment density areas account for only 1.5% of the City of San Diego's land, but 12% of pedestrian collisions occurred in this density category.

High employment density census blocks have a collision density 10 times greater than low density census blocks.

**Employment Density by Census Block**

- > 37.7 Persons Per Acre
- 11.9 - 37.7 Persons Per Acre
- < 11.9 Persons Per Acre
- Collision Location







# Citywide Pedestrian Collisions (2008 - 2012) and 2010 Population Density



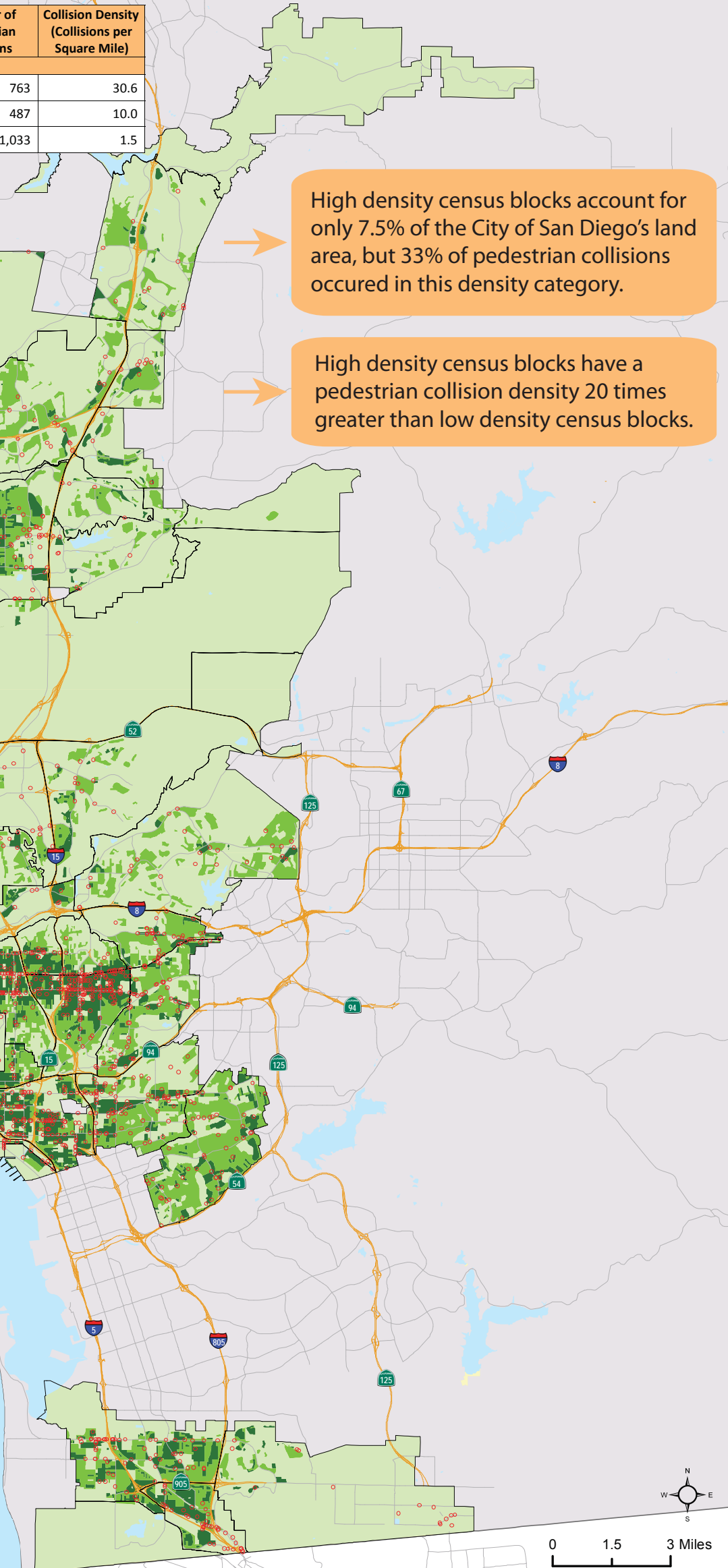
Value Range	City of San Diego Square Miles	Percent Area of City of San Diego	Number of Pedestrian Collisions	Collision Density (Collisions per Square Mile)
<b>2010 Population Density by Census Block</b>				
High	>20.7 persons per acre	24.8	763	30.6
Medium	9.6 to 20.7	48.5	487	10.0
Low	<9.6	258.7	1,033	1.5

High density census blocks account for only 7.5% of the City of San Diego's land area, but 33% of pedestrian collisions occurred in this density category.

High density census blocks have a pedestrian collision density 20 times greater than low density census blocks.

**Population Density by Census Block**

- > 20.7 Persons Per Acre
- 9.6 - 20.6 Persons Per Acre
- < 9.6 Persons Per Acre
- Collision Location





# Pedestrian Collision Analysis: Party-At-Fault and Location



## Pedestrian Collision Frequency by Party at Fault and Location in Roadway (2008 - 2012)

Location in the Roadway	Total Pedestrian Collisions <sup>1</sup>		Driver-At-Fault		Pedestrian-At-Fault	
	Number of Collisions	Percent	Number of Collisions	Percent	Number of Collisions	Percent
At Signalized Intersection	906	39.7%	643	58.8%	197	26.5%
At Mid-Block Location	836	36.6%	118	10.8%	447	60.2%
At Unsignalized Intersection	470	20.6%	312	28.5%	92	12.4%
At Driveway/Alley/Private Property	71	3.1%	20	1.9%	7	0.9%
	2,283	100%	1,093	100%	743	100%

Source: City of San Diego (2013); SANDAG (2013); Chen Ryan Associates, January 2014

### Notes:

1. Driver-at-fault collisions and pedestrian-at-fault collisions do not sum up to the number reported in the first column (total number of pedestrian collisions) because 447 collisions were not assigned a "fault".

58.8% of pedestrian collisions where the driver was at fault occurred at signalized intersections (2008 - 2012).

60.2% of pedestrian collisions where the pedestrian was at fault occurred at mid-block locations (2008 - 2012).



# Citywide Pedestrian Collisions (2008 - 2012) Where Driver is at Fault



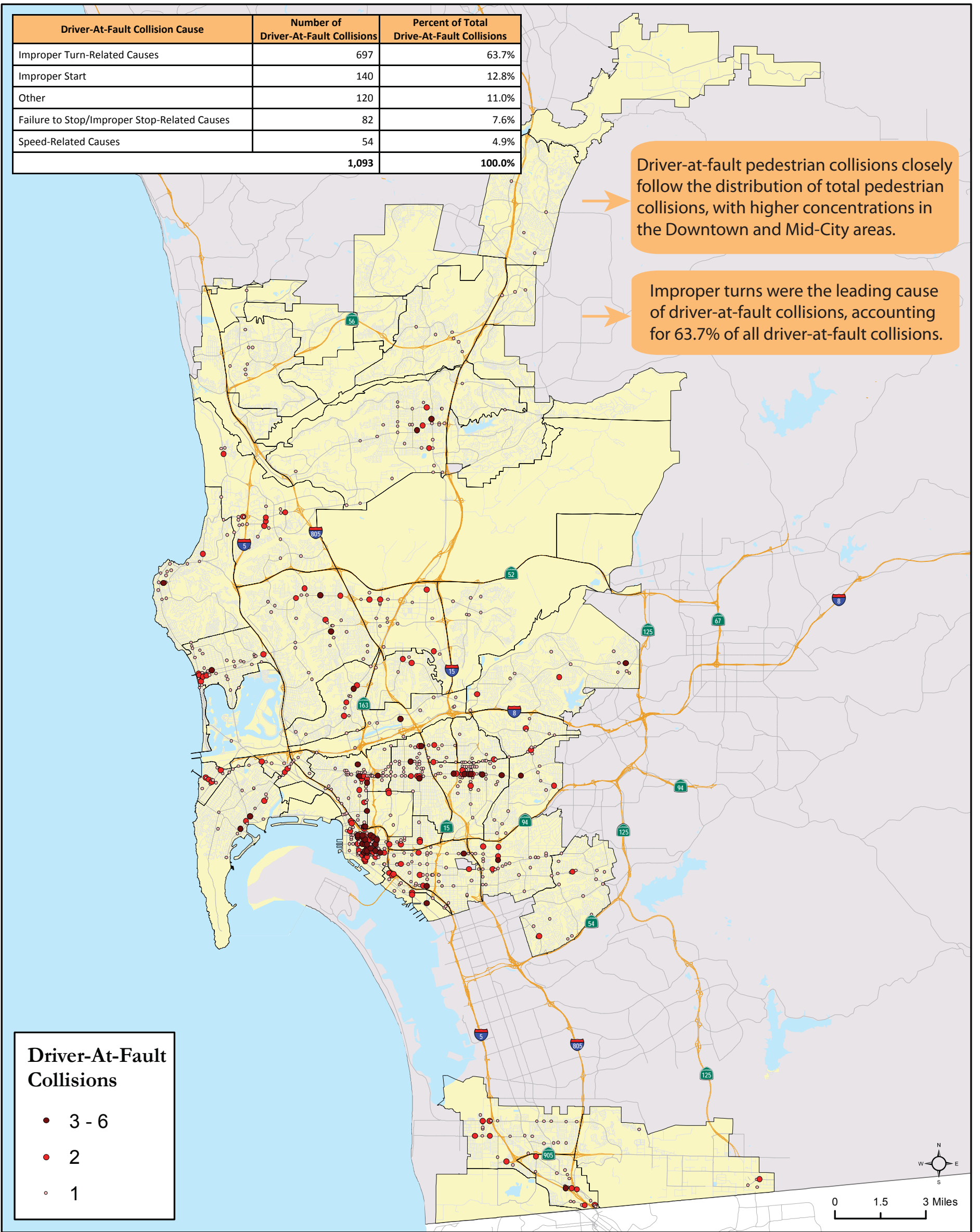
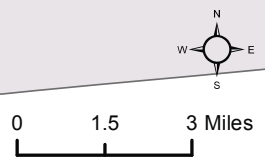
Driver-At-Fault Collision Cause	Number of Driver-At-Fault Collisions	Percent of Total Drive-At-Fault Collisions
Improper Turn-Related Causes	697	63.7%
Improper Start	140	12.8%
Other	120	11.0%
Failure to Stop/Improper Stop-Related Causes	82	7.6%
Speed-Related Causes	54	4.9%
	<b>1,093</b>	<b>100.0%</b>

Driver-at-fault pedestrian collisions closely follow the distribution of total pedestrian collisions, with higher concentrations in the Downtown and Mid-City areas.

Improper turns were the leading cause of driver-at-fault collisions, accounting for 63.7% of all driver-at-fault collisions.

**Driver-At-Fault Collisions**

- 3 - 6
- 2
- 1







# Citywide Pedestrian Collisions (2008 - 2012) Where Pedestrian is at Fault



Pedestrian Fault Category	Number of Pedestrian At-Fault Collisions	Percent of Total Pedestrian At-Fault Collisions
Improper Mid-Block Crossing Attempt	358	48.2%
Improper Intersection Crossing Attempt	197	26.5%
Pedestrian in the Roadway (not paying attention to traffic)	86	11.6%
Other	54	7.3%
Pedestrian in the Roadway (not attempting to cross)	48	6.5%

Pedestrian-at-fault collisions have a higher concentration in the Downtown and Mid-City areas, similar to driver-at-fault and total pedestrian collision patterns.

The leading cause of pedestrian-at-fault collisions was improper Mid-Block crossing attempts, accounting for 48.2% of all pedestrian-at-fault collisions.

**Pedestrian-At-Fault Collisions**

- 3
- 2
- 1

