



# **Station 3**

## **Study Site Selection Process and Preliminary Study Sites**



# Study Site Selection Process



7,500+ Pedestrian Collisions in San Diego between 1998 - 2012

Identify Pedestrian Collision Cause

Driver At-Fault

Pedestrian At-Fault

Speed -Related

Turn -Related

Improper Start

Failure to Stop

Attempting to Cross at Midblock

Inappropriate Crossing at Intersection

In the Road (Distracted)

In the Road (Not Distracted)

Define Factors Relevant to Pedestrian Risk

Collision Location

Intersection Control

Roadway Environment

Intersection

Midblock

Signalized

Unsignalized

Road Width

Road Speed

Sample from historic pedestrian collision locations to reflect a similar distribution of factors at our study sites



# Pedestrian Collision Stratification (Driver At-Fault)



Collision Location, Intersection Control & Roadway Environment		TOTAL COLLISIONS (Driver At-Fault)		PEDESTRIAN COLLISION CAUSES									
				Speed-Related		Turn-Related		Improper Start		Failure to Stop		Other	
DRIVEWAY/ ALLEY <sup>1</sup>	High Speed and Few Lanes	14	100%	1	7.1%	1	7.1%	3	21.4%	2	14.3%	7	50.0%
	High Speed and Many Lanes	74	100%	2	2.7%	14	18.9%	35	47.3%	4	5.4%	19	25.7%
	Low Speed and Few Lanes	77	100%	4	5.2%	8	10.4%	14	18.2%	0	0.0%	51	66.2%
	Low Speed and Many Lanes	15	100%	1	6.7%	1	6.7%	6	40.0%	1	6.7%	7	46.7%
MID-BLOCK	High Speed and Few Lanes	32	100%	3	9.4%	11	34.4%	3	9.4%	1	3.1%	15	46.9%
	High Speed and Many Lanes	103	100%	17	16.5%	32	31.1%	14	13.6%	2	1.9%	40	38.8%
	Low Speed and Few Lanes	219	100%	32	14.6%	51	23.3%	23	10.5%	3	1.4%	111	50.7%
	Low Speed and Many Lanes	36	100%	5	13.9%	13	36.1%	6	16.7%	0	0.0%	14	38.9%
SIGNALIZED	High Speed and Few Lanes	164	100%	2	1.2%	104	63.4%	22	13.4%	9	5.5%	30	18.3%
	High Speed and Many Lanes	1,047	100%	24	2.3%	544	52.0%	195	18.6%	97	9.3%	218	20.8%
	Low Speed and Few Lanes	272	100%	6	2.2%	165	60.7%	34	12.5%	17	6.3%	55	20.2%
	Low Speed and Many Lanes	261	100%	7	2.7%	139	53.3%	37	14.2%	32	12.3%	53	20.3%
UN- SIGNALIZED	High Speed and Few Lanes	89	100%	5	5.6%	30	33.7%	20	22.5%	8	9.0%	27	30.3%
	High Speed and Many Lanes	232	100%	15	6.5%	76	32.8%	56	24.1%	29	12.5%	66	28.4%
	Low Speed and Few Lanes	510	100%	30	5.9%	179	35.1%	120	23.5%	39	7.6%	156	30.6%
	Low Speed and Many Lanes	75	100%	5	6.7%	23	30.7%	20	26.7%	4	5.3%	25	33.3%
<b>Totals by Collision Causes</b>		<b>3,220</b>	<b>100%</b>	<b>159</b>	<b>4.9%</b>	<b>1,391</b>	<b>43.2%</b>	<b>60</b>	<b>18.9%</b>	<b>248</b>	<b>7.7%</b>	<b>894</b>	<b>27.8%</b>

Source: Chen Ryan Associates, October 2013

Notes:

1. Pedestrian collisions occurring at driveways and alleys were not included as potential study sites.



# Pedestrian Collision Stratification

## (Pedestrian At-Fault)



Collision Location, Intersection Control & Roadway Environment		TOTAL COLLISIONS (Pedestrian At-Fault)		PEDESTRIAN COLLISION CAUSES									
				Attempting to Cross Mid-Block		Inappropriate crossing at intersection		In the Road / Distracted		In the Road / Not Distracted		Other	
DRIVEWAY/ ALLEY <sup>1</sup>	High Speed and Few Lanes	2	100%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	100.0%
	High Speed and Many Lanes	18	100%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	18	100.0%
	Low Speed and Few Lanes	53	100%	3	5.7%	0	0.0%	0	0.0%	0	0.0%	50	94.3%
	Low Speed and Many Lanes	3	100%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	100.0%
MID-BLOCK	High Speed and Few Lanes	188	100%	146	77.7%	3	1.6%	18	9.6%	20	10.6%	1	0.5%
	High Speed and Many Lanes	698	100%	560	80.2%	9	1.3%	58	8.3%	58	8.3%	13	1.9%
	Low Speed and Few Lanes	1,152	100%	696	60.4%	13	1.1%	271	23.5%	157	13.6%	15	1.3%
	Low Speed and Many Lanes	135	100%	107	79.3%	2	1.5%	11	8.1%	14	10.4%	1	0.7%
SIGNALIZED	High Speed and Few Lanes	33	100%	2	6.1%	21	63.6%	4	12.1%	3	9.1%	3	9.1%
	High Speed and Many Lanes	405	100%	8	2.0%	331	81.7%	25	6.2%	16	4.0%	25	6.2%
	Low Speed and Few Lanes	63	100.0%	1	1.6%	50	79.4%	5	7.9%	2	3.2%	5	7.9%
	Low Speed and Many Lanes	58	100.0%	1	1.7%	49	84.5%	4	6.9%	0	0.0%	4	6.9%
UN-SIGNALIZED	High Speed and Few Lanes	24	100.0%	0	0.0%	14	58.3%	3	12.5%	2	8.3%	5	20.8%
	High Speed and Many Lanes	93	100.0%	2	2.2%	63	67.7%	8	8.6%	7	7.5%	13	14.0%
	Low Speed and Few Lanes	146	100.0%	3	2.1%	83	56.8%	14	9.6%	21	14.4%	25	17.1%
	Low Speed and Many Lanes	33	100.0%	2	6.1%	17	51.5%	3	9.1%	3	9.1%	8	24.2%
<b>Totals by Collision Causes</b>		<b>3,104</b>	<b>100%</b>	<b>1,531</b>	<b>49.3%</b>	<b>655</b>	<b>21.1%</b>	<b>424</b>	<b>13.7%</b>	<b>303</b>	<b>9.8%</b>	<b>191</b>	<b>6.2%</b>

Source: Chen Ryan Associates, October 2013

Notes:

1. Pedestrian collisions occurring at driveways and alleys were not included as potential study sites.



## Study Site Sampling by Location, Intersection Control and Roadway Environment Patterns (Total Drive and Pedestrian at-Fault)

Location and Roadway Environment Factors	Signalized				Unsignalized				Mid-Block				Total
	35mph and >	35mph and >	<35mph	<35mph	35mph and >	35mph and >	<35mph	<35mph	35mph and >	35mph and >	<35mph	<35mph	
	4-Ln and >	<4-Ln	4-Ln and >	<4-Ln	4-Ln and >	<4-Ln	4-Ln and >	<4-Ln	4-Ln and >	<4-Ln	4-Ln and >	<4-Ln	
	10	2	3	3	3	1	1	6	8	1	1	11	50
	18 (36%)				11 (22%)				21 (42%)				50

Source: Chen Ryan Associates, October 2013



## Twenty-One Proposed Mid-Block Study Sites

Community Planning Area	Study Site	Roadway Environment	Number of Collisions
City Heights	University Ave, west of Euclid Ave	High/Few	1
City Heights	Euclid Ave, south of El Cajon Blvd	Low/Few	1
Clairemont Mesa	Balboa Ave, west of Mt Rias Pl	High/Many	1
Encanto	47 <sup>th</sup> St, south of Market St	High/Many	2
Encanto	Imperial Ave, east of 50 <sup>th</sup> St	High/Many	1
Kearney Mesa	Convoy St, south of Balboa Ave	High/Many	1
Linda Vista	Comstock St, east of Linda Vista Rd	Low/Few	1
Midway	Rosecrans St, north of Sports Arena Blvd	High/Many	2
Mira Mesa	Mira Mesa Blvd, east of Camino Ruiz	High/Many	1
Mission Beach	Mission Blvd, south of Isthmus Ct	Low/Few	1
North Park	30 <sup>th</sup> St, north of University Ave	Low/Few	1
Otay Mesa	Otay Mesa Rd, west of Hawken Dr	Low/Few	1
Otay Nestor	16 <sup>th</sup> St, south of Dahlia Ave	Low/Few	1
Pacific Beach	Garnet Ave, west of Dawes St	Low/Few	1
San Ysidro	Cottonwood Rd, south of Blanche St	Low/Few	1
San Ysidro	San Ysidro Blvd, south of Bolton Hall Rd	Low/Few	1
Southeastern	Commercial St, east of 25 <sup>th</sup> St	Low/Few	1
University	La Jolla Village Dr, west of Executive Way	High/Many	1
University	Regents Rd, south of Nobel Dr	High/Many	1
Uptown	6 <sup>th</sup> Ave, south of Nutmeg St	Low/Many	1
Uptown	5 <sup>th</sup> Ave, north of Brookes Ave	Low/Few	1
Total Mid-Block Study Site Pedestrian Collisions			23

Source: Chen Ryan Associates, October 2013

Notes:  
 \*Low\* refers to less than 35mph; \*High\* refers to 35 mph or greater.  
 \*Low\* refers to less than 4 lanes; \*Many\* refers to 4 lanes or more.



## Eleven (11) Proposed Unsignalized Study Sites

Community Planning Area	Study Site	Roadway Environment	Number of Collisions
City Heights	Menlo Ave / University Ave	High/Few	8
City Heights	Highland Ave / Orange Ave	Low/Few	6
La Jolla	La Jolla Blvd / Forward St	Low/Few	3
Mira Mesa	Westonhill Dr / Capricorn Way	Low/Few	4
Normal Heights	34 <sup>th</sup> St / Adams Ave	Low/Few	2
Ocean Beach	Sunset Cliffs Blvd / Brighton Ave	Low/Few	1
Otay Nestor	Churrituck Dr / Palm Ave	High/Many	3
Paradise Valley	Brandywood St / Las Lidia Ct	Low/Few	3
Pacific Beach	Mission Blvd / Hornblend St	High/Many	3
University	I-5 SB Ramps / La Jolla Village Dr	High/Many	2
Uptown	Centre St / University Ave	Low/Many	5
Total Unsignalized Study Site Pedestrian Collisions			40

Source: Chen Ryan Associates, October 2013

Notes:  
 \*Low\* refers to less than 35mph; \*High\* refers to 35 mph or greater.  
 \*Low\* refers to less than 4 lanes; \*Many\* refers to 4 lanes or more.



## Eighteen (18) Proposed Signalized Study Sites

Community Planning Area	Study Site	Roadway Environment	Number of Collisions
Barrio Logan	Harbor Dr / Sampson St	High/Many	4
City Heights	Marlborough St / University Avenue	Low/Many	16
City Heights	52nd St / University Ave	High/Many	13
Downtown	6 <sup>th</sup> Ave / Broadway	High/Many	8
Downtown	1st Ave / Washington St	High/Many	6
Downtown	5 <sup>th</sup> Ave / Market St	Low/Many	5
Downtown	G St / 14 <sup>th</sup> St	Low/Few	1
Eastern	Euclid Ave / Federal Blvd	High/Many	4
Encanto	Euclid Ave / Naranja St	High/Many	12
Mira Mesa	Greenford Dr / Mira Mesa Blvd	High/Many	9
Old Town	San Diego Ave / Old Town Ave	High/Few	2
Old Town	Juan St / Taylor St	High/Many	7
Pacific Beach	Mission Blvd / Garnet St	High/Many	8
Peninsula	W. Point Loma Blvd / Groton St	High/Many	1
Southeastern	30 <sup>th</sup> St / National Ave	Low/Few	4
Southeastern	32 <sup>nd</sup> St / National Ave	High/Few	4
Southeastern	28th St / K St	Low/Few	2
Southeastern	25th St / J St	Low/Many	1
Total Signalized Study Site Pedestrian Collisions			107

Source: Chen Ryan Associates, October 2013

Notes:  
 \*Low\* refers to less than 35mph; \*High\* refers to 35 mph or greater.  
 \*Low\* refers to less than 4 lanes; \*Many\* refers to 4 lanes or more.



