



**County of San Diego
Health and Human Services Agency
Emergency Medical Services**

**San Diego County
Trauma System Report**

2011

January, 2015

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Board of Supervisors**

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**San Diego County
Trauma System Report**

2011

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Preface

The San Diego County Trauma System emerged as a result of dedicated physicians, nurses, and system specialists within the county working to develop an environment for the careful evolution of a regional trauma system. The input from these groups generated the discussion and in-depth analysis of relevant public health policy options.

In 1982, the Hospital Council (now the Healthcare Association) of San Diego and Imperial Counties conducted a needs assessment to determine if San Diego County would benefit from a regionalized trauma system. The study represented the first comprehensive concurrent and retrospective audit of trauma care in the nation (“Trauma Needs Assessment Study” by Amherst and Associates). The findings and recommendations of the Trauma Needs Assessment Study, released in November of 1982, led to the development of a joint Hospital Council and Medical Society plan for care of major trauma victims in San Diego County.

In October 1983, with support and direction from the San Diego County Board of Supervisors, the Department of Health Services created an Ad Hoc Trauma Advisory Task Force to assist in the review and evaluation of the Hospital Council – Medical Society Trauma Plan. The advisory group of outside trauma experts conducted public hearings and informal sessions with in-hospital and prehospital trauma care providers, and synthesized the experiences of other trauma systems into a single set of recommendations for the Department and the Board of Supervisors to consider. The recommendations urged the county to adopt trauma standards that closely approximated the American College of Surgeons guidelines. The community consensus that emerged from their effort resulted in the formal adoption of their recommendations by the County Board of Supervisors in November 1983.

Once the trauma standards were adopted, the Department implemented a competitive selection process, seeking to designate five adult trauma centers and one pediatric trauma center. Designation criteria were incorporated in a Request for Proposal and the Ad Hoc Trauma Advisory Task Force became the Proposal Review Committee to evaluate and recommend hospitals for designation. Six facilities were awarded provisional designation status based on the quality of trauma services provided.

On August 1, 1984, after sixteen months of direct preparation, major trauma victims in San Diego County began bypassing community hospitals in favor of designated trauma centers.

Since its inception, the San Diego County Trauma System has responded to nearly 250,000 patients in need of trauma care, and saved untold numbers of lives.

The six trauma centers currently designated are:

- Rady Children’s Hospital
- Scripps Mercy Hospital
- Palomar Medical Center
- Scripps Memorial Hospital – La Jolla
- Sharp Memorial Hospital
- UC San Diego Health System

Introduction

Currently, there are five adult trauma centers serving San Diego County: Palomar Medical Center, Scripps Memorial Hospital - La Jolla, Scripps Mercy Hospital, Sharp Memorial Hospital, and UCSD Medical Center. Rady Children's Hospital serves as the pediatric trauma center. Since August 1984, roughly 250,000 trauma patients have been admitted to San Diego County's designated trauma centers.

Traumatic injury, considered a preventable disease, represents a serious public health challenge for San Diego County. During 2010, 10,417 patients were evaluated at designated trauma centers (an average of 898 patients per month). In 2011, the number of trauma patients increased from 2010 by three percent. The overall number of trauma patients has increased over the last decade. However, this is simply a reflection of the increasing population in San Diego County, as revealed by the stable trauma patient rates.

Table 1.1: Trauma Center Admissions by Year: 2000 - 2011

Year	Trauma Center Admissions			
	Number	Monthly Average	% Change from Previous Year	Rate per 100,000 Population
2000	9,354	780		332.4
2001	9,285	774	-1%	325.9
2002	9,986	832	8%	345.5
2003	9,940	828	0%	339.6
2004	10,379	865	4%	351.4
2005	9,839	820	-5%	331.6
2006	9,960	830	1%	334.6
2007	10,809	901	9%	360.5
2008	10,919	910	1%	360.0
2009	10,771	898	-1%	351.5
2010	10,417	868	-3%	336.5
2011	10,778	898	3%	345.9

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Center Monthly Reports(2000 – 2002) and San Diego County Trauma Registry and Medical Examiner Data (2003 – 2011); Population Estimates, SANDAG.

Traumatic injuries are classified as either penetrating or blunt. The number of patients admitted to county trauma facilities with penetrating injuries (mostly due to firearms and cutting/piercing injuries) increased from the year 2000 to 2005. Since then, the number of penetrating injuries decreased 21% to 760 in 2011. The number of blunt injuries, primarily resulting from motor vehicle related injuries and falls, has been relatively stable, increasing by about one percent per year. Blunt force injuries make up over 90% of all injuries.

Table 1.2: Trauma Center Admissions by Injury Type: 2000 - 2011

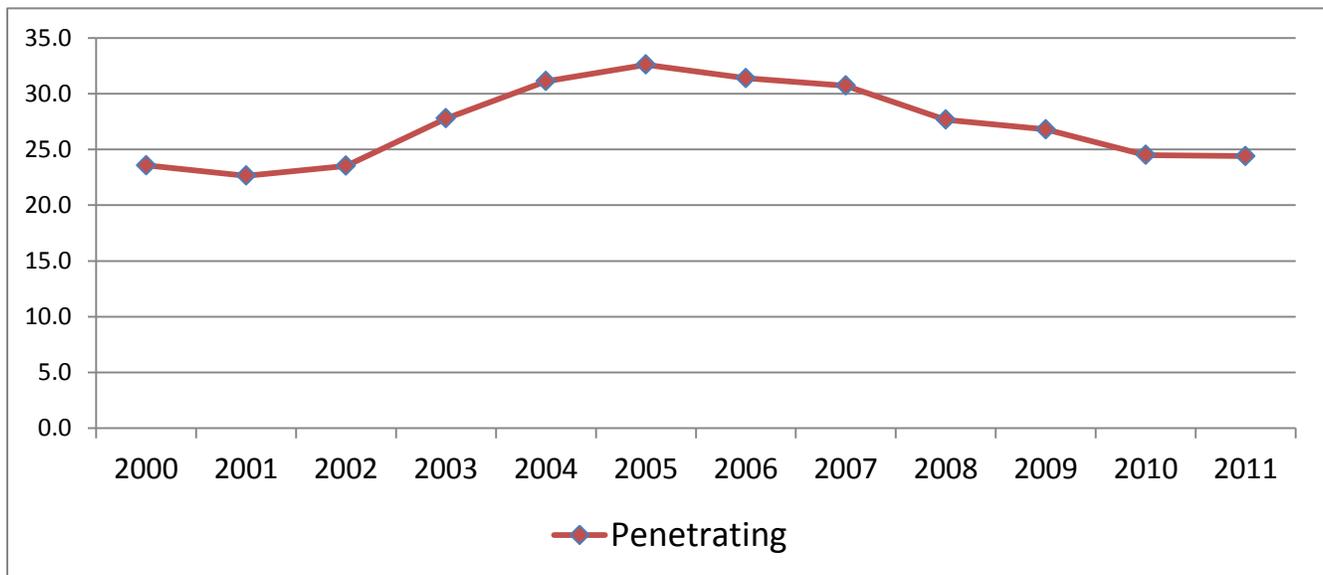
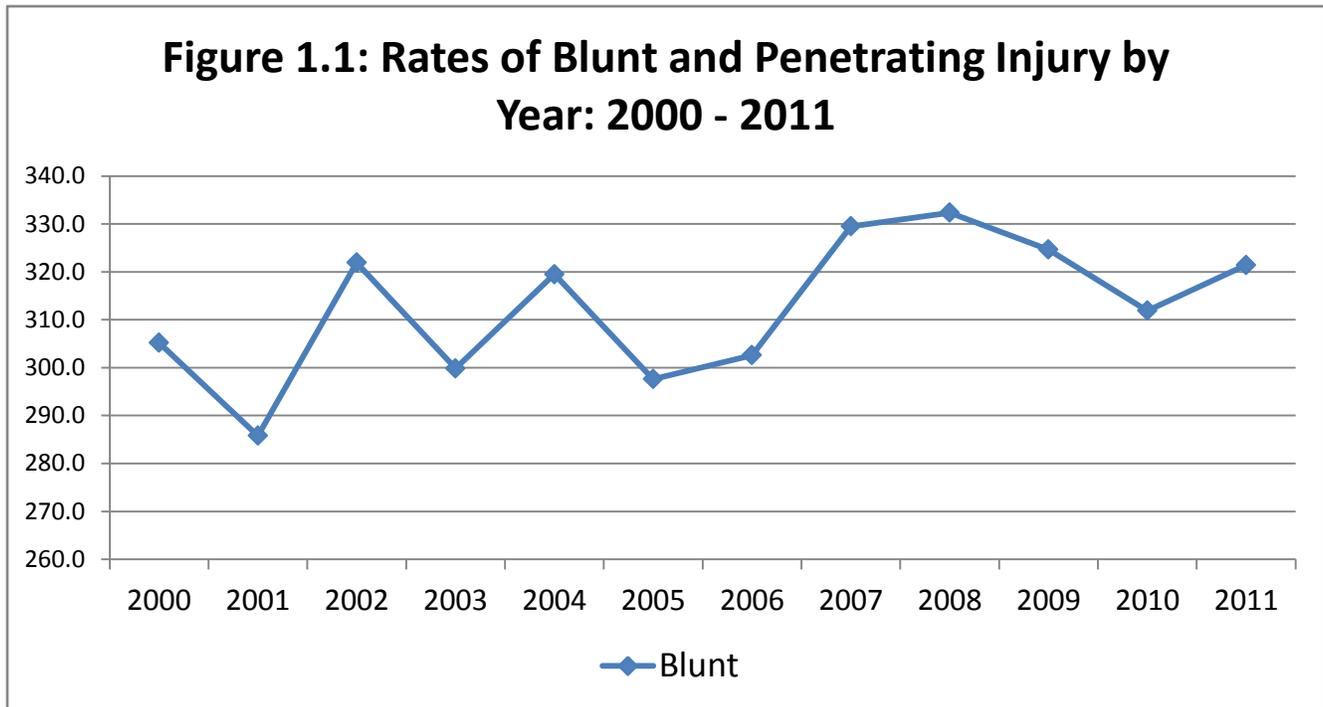
Year	Penetrating				Blunt			
	#	%	% Change from Previous Year	Rate per 100,000 Population	#	%	% Change from Previous Year	Rate per 100,000 Population
2000	663	7%	---	23.6	8,588	93%	---	305.2
2001	645	7%	-3%	22.6	8,143	93%	-5%	285.8
2002	680	7%	5%	23.5	9,305	93%	14%	321.9
2003	813	8%	20%	27.8	8,777	92%	-6%	299.8
2004	919	9%	13%	31.1	9,437	91%	8%	319.5
2005	967	10%	5%	32.6	8,830	90%	-6%	297.6
2006	934	9%	-3%	31.4	9,007	91%	2%	302.6
2007	921	9%	-1%	30.7	9,880	91%	10%	329.5
2008	839	8%	-9%	27.7	10,080	92%	2%	332.4
2009	821	8%	-2%	26.8	9,949	92%	-1%	324.7
2010	758	7%	-8%	24.5	9,654	93%	-3%	311.9
2011	760	7%	0%	24.4	10,015	93%	4%	321.4

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Center Monthly Reports (2000 – 2002) and San Diego County Trauma Registry and Medical Examiner Data (2003 – 2011); Population Estimates, SANDAG.

A rate is calculated as incidence per 100,000 population. Rates were calculated using population estimates obtained from the San Diego Association of Governments (SANDAG). Rates were not calculated for categories with fewer than five occurrences.

$$\text{Rate} = \frac{\text{Incidence} \times 100,000}{\text{Population}}$$

Figure 1.1 shows the trends for blunt and penetrating trauma activations from 2000 through 2011. The population-based rates have stayed fairly steady over this time period.



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Center Monthly Reports (2000 – 2002) and San Diego County Trauma Registry (2003 – 2011); Population Estimates, SANDAG.

Trauma Registry Data

The American College of Surgeons Committee on Trauma initiated the Major Trauma Outcome Study (MTOS) in 1982, which pooled data from more than 100 trauma centers nationwide. To be included, trauma patients had to meet specific criteria which reflect either the severity of the patient's injuries or the resources required to care for the patient.

Members of the San Diego County trauma system modified these criteria for the San Diego County Trauma Registry. Through 1999, a trauma patient must have met one of the following criteria for entry in the trauma registry: admission to the hospital for at least three days, admission to an intensive or intermediate care unit, inter-facility transfer to or from an acute care hospital, or death from traumatic injuries. In January 2000, these criteria were revised to include trauma patients who had been admitted for at least 24 hours, although admission to an ICU was no longer a criterion for inclusion. Starting in 2003, the trauma registry included all patients evaluated by a trauma surgeon, but maintained the modified MTOS criteria to identify "major" trauma patients.

Of the 10,778 patients who were admitted to a trauma center during 2011, 6,768 (63%) met modified MTOS criteria. Total trauma admissions and modified MTOS patients both increased by 3% from the previous year.

Table 1.3: Total MTOS Patients and Trauma Center Admissions: 2000 - 2011

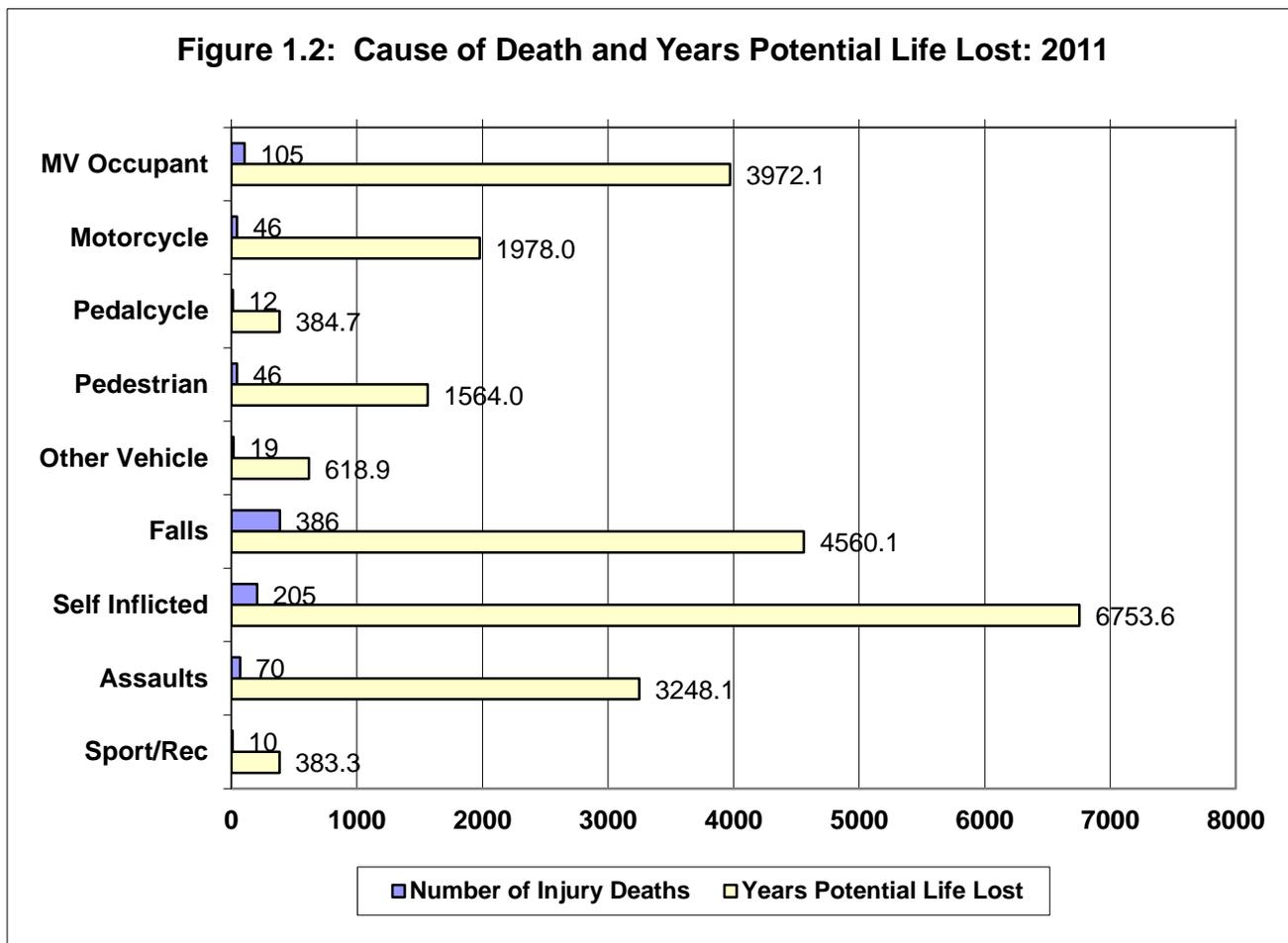
Year	Total Trauma Admissions	% Change from Previous Year	Modified MTOS Patients	% Change from Previous Year	MTOS Percent of Total
2000	9,354	---	5,128	---	55%
2001	9,285	-1%	5,013	-2%	54%
2002	9,986	8%	5,726	14%	57%
2003	9,940	0%	5,813	2%	58%
2004	10,379	4%	6,143	6%	59%
2005	9,839	-5%	6,168	0%	63%
2006	9,960	1%	6,310	2%	63%
2007	10,809	9%	6,813	8%	63%
2008	10,919	1%	6,907	1%	63%
2009	10,771	-1%	6,861	-1%	64%
2010	10,417	-3%	6,587	-4%	63%
2011	10,778	3%	6,768	3%	63%

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Trauma Center Monthly Reports, 2000 - 2011.

Years of Potential Life Lost (YPLL) calculates the years of life lost due to a death using the average life expectancy as an estimate for the total length of life. Life expectancy was derived from the Vital Statistics Life Tables (Centers for Disease Control and Prevention). For age groups, YPLL was calculated using the life expectancy for the median age for the group.

$$YPLL = (\text{Expected years of life} - \text{median age}) \times \text{Number of deaths}$$

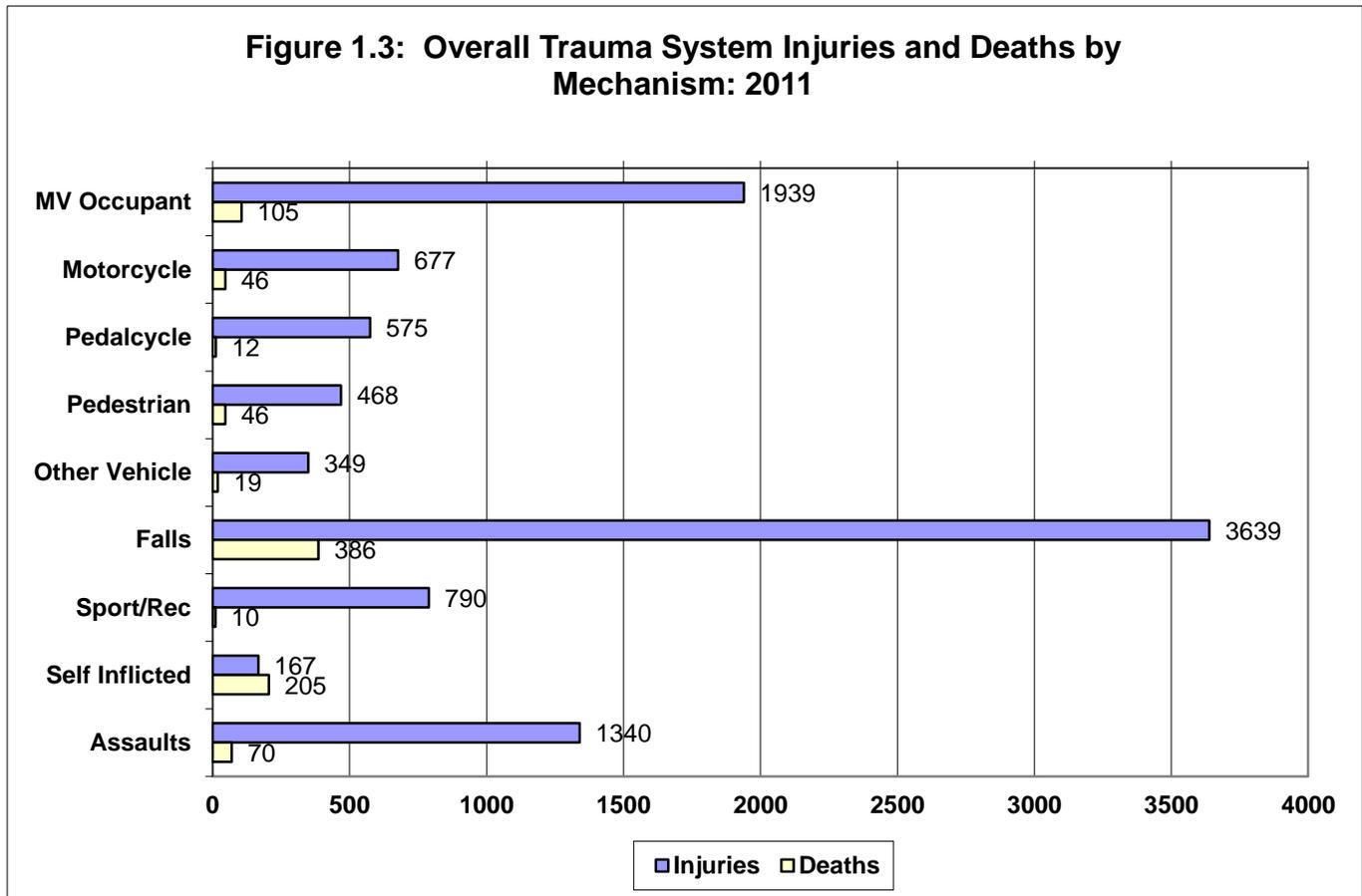
Among trauma deaths, falls were the leading cause of death (386) and the leading total for YPLL. While there were many fewer suicides and assault deaths, their total YPLL was higher because these tend to be younger victims.



Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner database, 2011
 Life Table data obtained from Arias E. *United States life tables, 2003. National vital statistics reports; vol 54 no 14. Hyattsville, MD: National Center for Health Statistics. 2006.*

Current Overview of Traumatic Injury in San Diego County

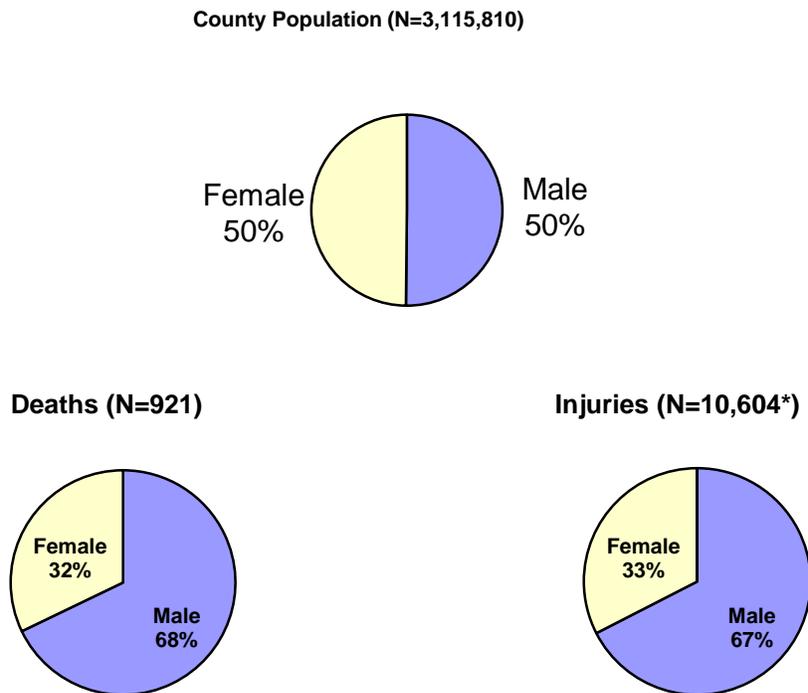
During 2011, there were 921 traumatic deaths in San Diego County. However, the vast majority of trauma center patients are successfully treated and discharged. Figure 1.3 breaks out deaths and injuries by mechanism. The three leading causes of traumatic injury were falls, motor vehicle occupant crashes, and assaults. The leading cause of traumatic deaths was falls.



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011.

Although males made up half the county's population, they accounted for 67% of all trauma center injuries and 68% of trauma center deaths in 2011.

Figure 1.4: Comparison of County Population to Deaths and Injuries by Gender: 2011



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner Database, 2011. Population estimates, SANDAG, January 1, 2011.

*Total number of injuries includes 11 patients with unspecified gender.

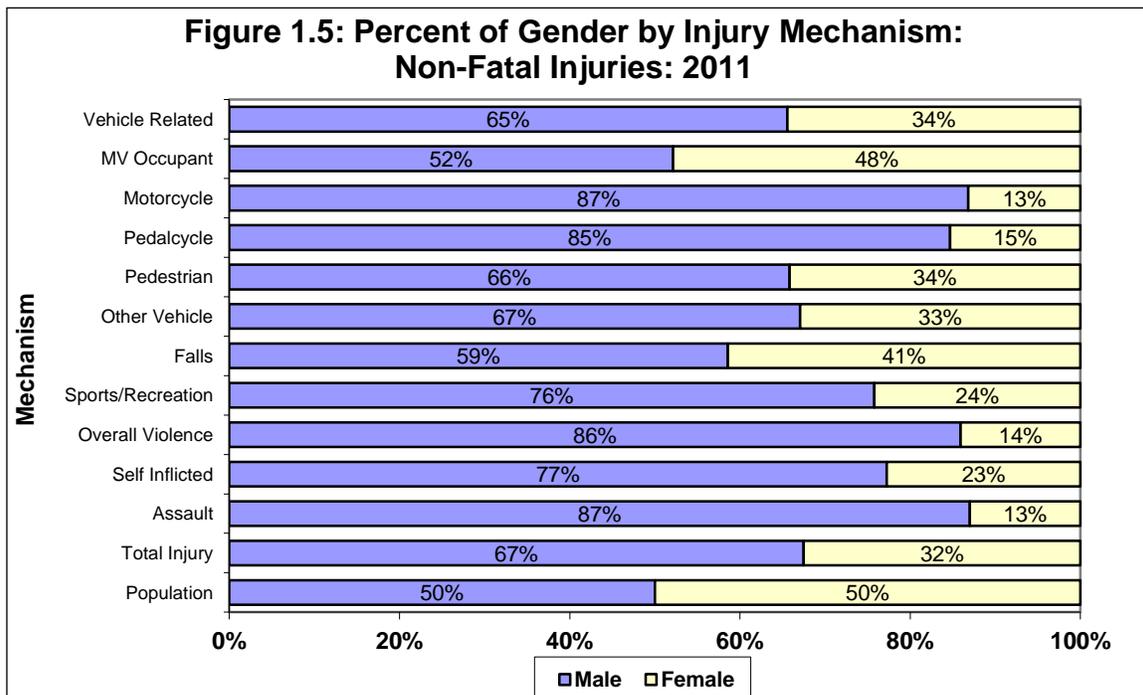
Patterns of injury were suggested by gender. Males accounted for 67% of all nonfatal injuries, and were especially highly represented in assaults (87%), motorcycle crashes (87%), and pedalcycle crashes (85%). Falls and assaults were the leading causes of injury for males, while falls and motor vehicle occupant crashes were the leading causes of injury for females.

Table 1.4: Trauma System Non-Fatal Injury by Mechanism and Gender: 2011

	Male		Female		Total	
	Number	Percent	Number	Percent	Number	Percent
Vehicle Related	2,624	36.7%	1,379	40.1%	4,008	37.8%
<i>MV Occupant</i>	1,010	14.1%	927	26.9%	1939	18.3%
<i>Motorcycle</i>	586	8.2%	89	2.6%	677	6.4%
<i>Pedalcycle</i>	486	6.8%	88	2.6%	575	5.4%
<i>Pedestrian</i>	308	4.3%	160	4.6%	468	4.4%
<i>Other Vehicle</i>	234	3.3%	115	3.3%	349	3.3%
Falls	2,129	29.8%	1,506	43.7%	3,639	34.3%
Sports/Recreation	598	8.4%	191	5.5%	790	7.5%
Overall Violence	1,295	18.1%	212	6.2%	1,507	14.2%
<i>Self Inflicted</i>	129	1.8%	38	1.1%	167	1.6%
<i>Assault</i>	1,166	16.3%	174	5.1%	1,340	12.6%
Other	485	6.7%	148	4.3%	634	6.0%
Unknown	18	0.3%	7	0.2%	25	0.2%
Total	6,744	100.0%	3,443	100.0%	10,603	100.0%

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry, 2011.

Note: total includes patients with unspecified gender.



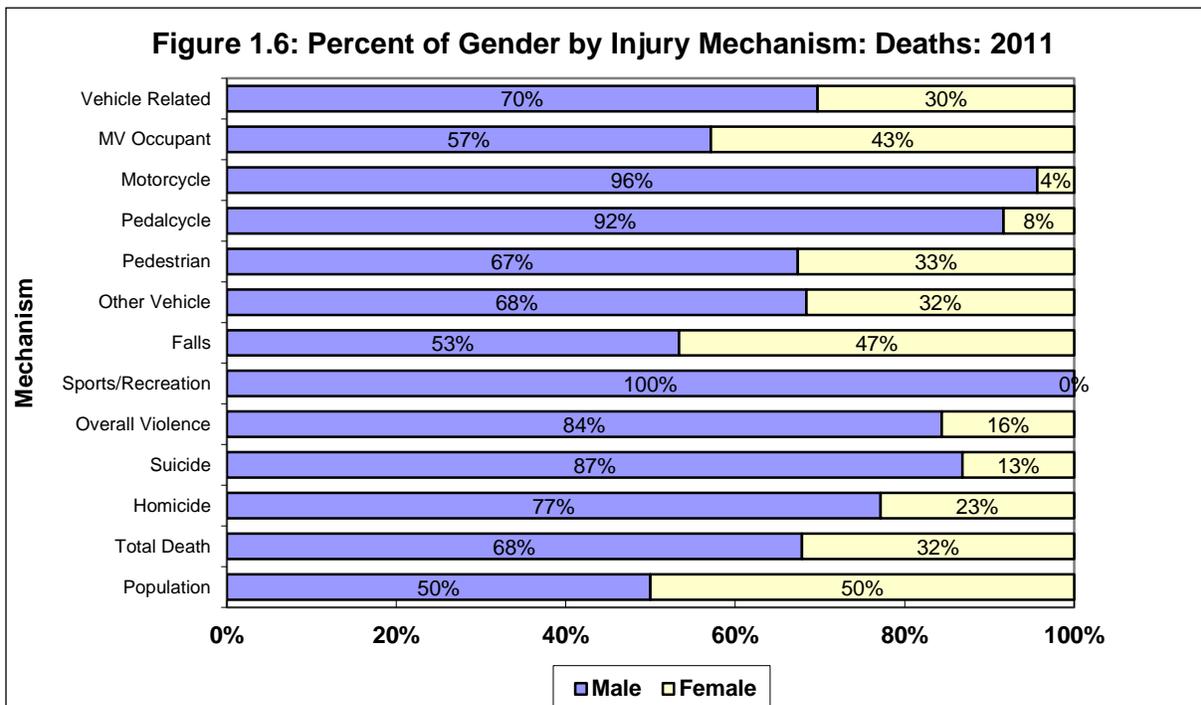
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011.

Males also made up the majority of traumatic deaths for all causes of injury. Falls were the leading cause of traumatic death for both men and women.

Table 1.5: Trauma System Deaths by Mechanism and Gender: 2011

	Male		Female		Total	
	Number	Percent	Number	Percent	Number	Percent
Vehicle Related	159	25.4%	69	23.3%	228	24.8%
<i>MV Occupant</i>	60	9.6%	45	15.2%	105	11.4%
<i>Motorcycle</i>	44	7.0%	2	0.7%	46	5.0%
<i>Pedalcycle</i>	11	1.8%	1	0.3%	12	1.3%
<i>Pedestrian</i>	31	5.0%	15	5.1%	46	5.0%
<i>Other Vehicle</i>	13	2.1%	6	2.0%	19	2.1%
Falls	206	33.0%	180	60.8%	386	41.9%
Sports/Recreation	10	1.6%	0	0.0%	10	1.1%
Overall Violence	232	37.1%	43	14.5%	275	29.9%
<i>Self Inflicted</i>	178	28.5%	27	9.1%	205	22.3%
<i>Assault</i>	54	8.6%	16	5.4%	70	7.6%
Other	18	2.9%	4	1.4%	22	2.4%
Unknown	0	0.0%	0	0.0%	0	0.0%
Total	625	100.0%	296	100.0%	921	100.0%

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner Database, 2011.



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner Database, 2011.

Table 1.6 describes both the mean and median ages¹ by mechanism of injury for both injuries and deaths. As this table shows, different mechanisms have distinct age distributions. Injuries due to sports and recreational activities occurred among the youngest patients (median=20, mean=26 years), while fall injuries occurred among older patients (median=62, mean=57). Half of all those who died from falls were older than 84 years. For all mechanisms of injury, patients who died were older, on average, than those who survived.

Table 1.6: Mean and Median Age by Mechanism of Injury and Outcome: 2011

	Survived			Expired		
	Count	Median Age	Mean Age	Count	Median Age	Mean Age
Vehicle Related	4008	33	37	228	46	46
<i>MV Occupant</i>	1939	33	38	105	43	46
<i>Motorcycle</i>	677	33	37	46	35	39
<i>Pedalcycle</i>	575	31	34	12	49	52
<i>Pedestrian</i>	468	31	37	46	52	50
<i>Other Vehicle</i>	349	33	37	19	48	53
Falls	3639	62	57	386	84	80
Sport/Rec	790	20	26	10	43	45
Overall Violence	1507	29	33	275	48	48
<i>Self Inflicted/Suicide</i>	167	38	38	205	51	52
<i>Assault/Homicide</i>	1340	28	32	70	30	36
Other	634	35	37	22	52	49
Unknown	25	28	32	0	--	--
Total	10603	40	43	921	63	61

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner Database, 2011.

¹ The mean is the average age. The median is the middle age when all of the ages are put into numerical order. In the event of an abnormally high or low age (an outlier), the median age is not as likely to be influenced as the mean age.

Adults aged 75 years and older made up 6% of the county population in 2011, but accounted for 16% of all trauma patients (injuries and deaths) and 35% of fall-related injuries. Younger adults between 20 and 44 years of age are still the major contributors to non-fall related injuries, representing 62% of all traumatic motorcycle injuries, 56% of self-inflicted, and 64% of assault injuries.

Table 1.7: Trauma System Injuries by Mechanism and Age Group in Years: 2011

	0-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	Total
Vehicle Related	80	126	164	358	606	783	462	603	441	209	123	53	4008
<i>MV Occupant</i>	42	51	47	178	325	372	202	282	204	123	77	36	1939
<i>Motorcycle</i>	0	4	9	29	131	183	104	113	78	22	2	2	677
<i>Pedalcycle</i>	5	36	70	62	48	90	71	98	67	21	4	3	575
<i>Pedestrian</i>	17	26	35	52	46	74	41	62	59	26	21	9	468
<i>Other Vehicle</i>	16	9	3	37	56	64	44	48	33	17	19	3	349
Falls	215	65	63	104	142	219	249	419	452	435	674	602	3639
Sports/Recreation	16	44	154	166	88	110	69	80	44	13	2	4	790
Overall Violence	29	3	12	189	286	406	263	189	97	19	9	5	1507
<i>Self Inflicted</i>	0	0	1	17	20	36	37	34	15	4	2	1	167
<i>Assault</i>	29	3	11	172	266	370	226	155	82	15	7	4	1340
Other	53	25	47	38	55	86	91	86	68	30	31	24	634
Unknown	5	0	0	2	4	5	2	2	2	1	1	1	25
Total	398	263	440	857	1181	1609	1136	1379	1104	707	840	689	10603

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner Database, 2011.

Adults aged 75 years and older made up more than one-third (37%) of all traumatic deaths. Eighty-three percent of these were due to falls. Forty-nine percent of homicide victims were aged 15 to 34.

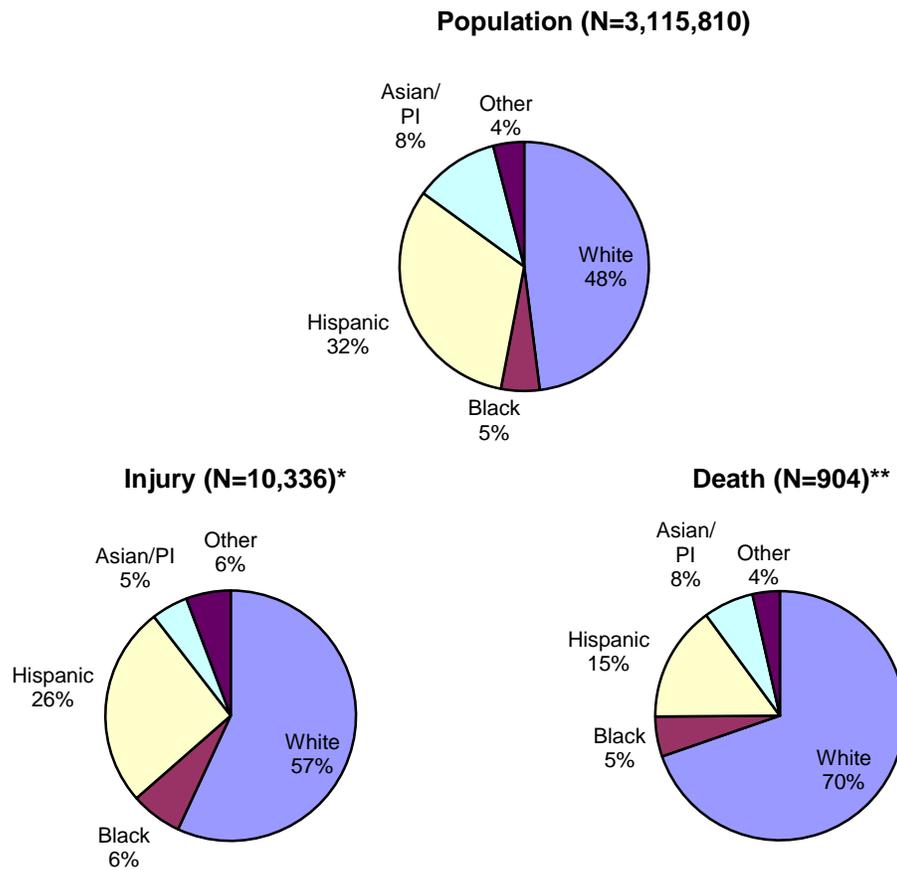
Table 1.8: Trauma System Deaths by Mechanism and Age Group in Years: 2011

	0-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	Total
Vehicle Related	0	1	0	8	36	43	20	43	32	20	13	12	228
<i>MV Occupant</i>	0	0	0	6	18	20	9	18	10	9	8	7	105
<i>Motorcycle</i>	0	0	0	0	13	9	5	9	7	3	0	0	46
<i>Pedalcycle</i>	0	1	0	0	0	0	2	4	3	1	1	0	12
<i>Pedestrian</i>	0	0	0	2	2	12	2	9	8	5	3	3	46
<i>Other Vehicle</i>	0	0	0	0	3	2	2	3	4	2	1	2	19
Falls	0	1	0	2	0	1	9	17	28	41	101	186	386
Sports/Recreation	0	0	1	0	1	2	2	1	0	2	1	0	10
Overall Violence	2	1	2	13	27	39	36	57	44	28	18	8	275
<i>Self Inflicted</i>	0	0	0	6	14	25	30	45	34	25	18	8	205
<i>Homicide</i>	2	1	2	7	13	14	6	12	10	3	0	0	70
Other	2	0	0	0	2	2	4	5	1	1	4	1	22
Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	4	3	3	23	66	87	71	123	105	92	137	207	921

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner Database, 2011.

The relative distribution of traumatic injuries and deaths by race/ethnicity was more highly represented by whites than would have been predicted by the population distribution.

Figure 1.7: Comparison of County Population to Injuries and Deaths By Race/Ethnicity: 2011



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner Database 2011. Population estimates, SANDAG, updated August 2012.

*267 Injuries missing race/ethnicity. **17 Deaths missing race/ethnicity

Whites made up 48% of the overall county population, but made up a larger proportion of injuries and deaths from motorcycle crashes (66% of injuries, 76% of deaths), falls (64% of injuries, 78% of deaths), and motor vehicle related, pedalcycle crashes (61% of injuries). Blacks, with 5% of the total population, were more severely impacted by assaults (14%) and homicides (24%).

Table 1.9: Trauma System Injuries by Mechanism and Race/Ethnicity: 2011

	White	Black	Hispanic	Asian/PI	Other	Unknown	Total
Vehicle Related	2065	292	1101	225	222	103	4008
<i>MV Occupant</i>	877	143	613	136	118	52	1939
<i>Motorcycle</i>	446	42	119	18	30	22	677
<i>Pedalcycle</i>	353	27	134	21	29	11	575
<i>Pedestrian</i>	197	53	154	28	24	12	468
<i>Other Vehicle</i>	192	27	81	22	21	6	349
Falls	2313	141	733	190	183	79	3639
Sports/Recreation	527	22	156	19	50	16	790
Overall Violence	602	196	524	37	91	57	1507
<i>Self Inflicted</i>	110	6	33	5	9	4	167
<i>Assault</i>	492	190	491	32	82	53	1340
Other	364	31	164	18	45	12	631
Unknown	11	4	6	0	4	0	25
Total	5882	686	2684	489	595	267	10603

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry, 2011.

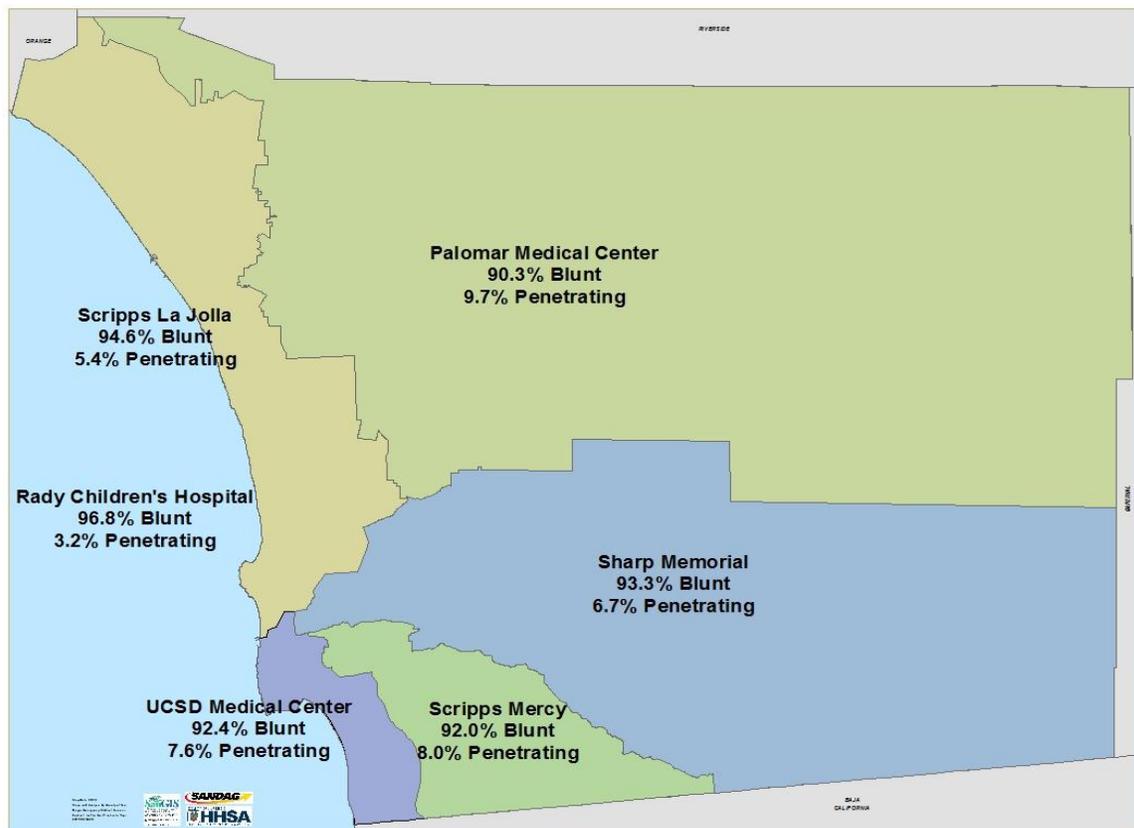
Table 1.10: Trauma System Deaths by Mechanism and Race/Ethnicity: 2011

	White	Black	Hispanic	Asian/Other	Missing	Unknown	Total
Vehicle Related	129	10	49	25	11	4	228
<i>MV Occupant</i>	54	5	24	15	5	2	105
<i>Motorcycle</i>	35	2	4	4	1	0	46
<i>Pedalcycle</i>	6	1	3	1	0	1	12
<i>Pedestrian</i>	21	1	15	5	4	0	46
<i>Other Vehicle</i>	13	1	3	0	1	1	19
Falls	300	6	43	20	9	8	386
Sports/Recreation	6	1	0	2	1	0	10
Overall Violence	184	28	38	9	11	5	275
<i>Suicide</i>	161	11	20	5	6	2	205
<i>Homicide</i>	23	17	18	4	5	3	70
Other	11	2	6	3	0	0	22
Unknown	0	0	0	0	0	0	0
Total	630	47	136	59	32	17	921

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner Database, 2011.

Among patients seen at trauma facilities in San Diego County, 93% of injuries were blunt in nature (e.g., motor vehicle related, falls, or assaults with a blunt object). Ninety-seven percent of Rady Children’s Hospital’s trauma patients sustained blunt injuries. Palomar Medical Center, Scripps Mercy Hospital, and UCSD Medical Center received the highest percentages of penetrating injuries among each facility’s trauma patients (9.7% of trauma patients at Palomar, 7.6% at UCSD and 8.0% at Scripps Mercy). Penetrating injuries include stab and gunshot wounds primarily, so tend to indicate the proportion of injuries due to violence.

Figure 1.8: Distribution of Trauma Center Patients by Hospital and Injury Type: 2011



Source: San Diego County Trauma Center Monthly Reports, 2011.

Trauma System Resources

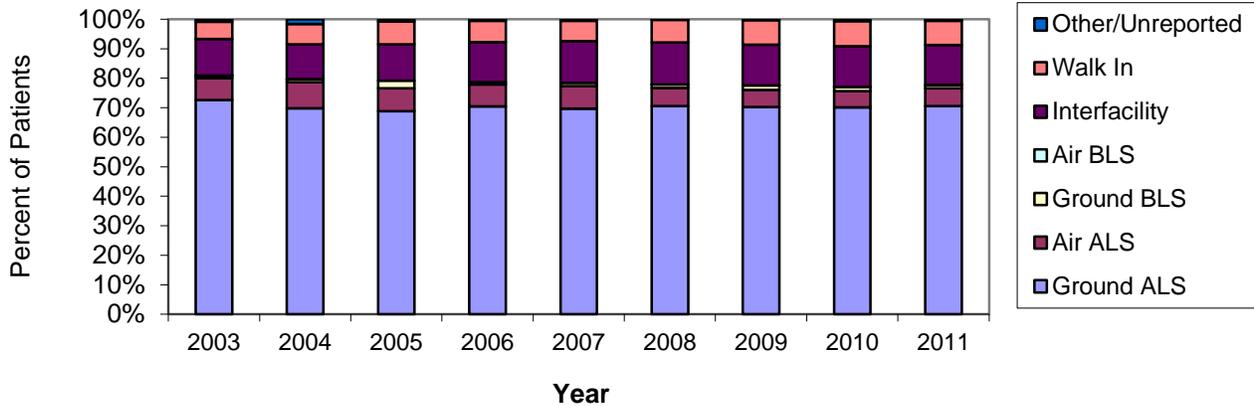
During 2011, San Diego County had 18 civilian and two military emergency departments. The 18 civilian hospitals included seven base hospitals, five adult trauma centers, and one pediatric trauma center. The prehospital setting consisted of 21 ground transport agencies equipped to deliver advanced life support (ALS) services, one air transport agency, and 33 basic life support (BLS) agencies. In 2011, 71% of trauma patients were transported to trauma centers by ground ALS ambulance units.

Table 1.11: Trauma Patient Mode of Arrival: 2003 - 2011

Transport Mode	2003	2004	2005	2006	2007	2008	2009	2010	2011
Ground ALS	6,960	7,244	6,757	6,991	7,551	7,707	7,574	7,288	7,612
Air ALS	707	915	759	733	827	676	638	580	655
Ground BLS	89	107	254	83	116	128	156	140	118
Air BLS	1	2	0	0	0	1	1	1	3
Interfacility	1,182	1,227	1,206	1,346	1,531	1,553	1,486	1,433	1,443
Walk In	561	709	762	720	748	831	905	892	891
Other/Unreported	82	173	71	49	54	27	30	65	56
Total	9,582	10,377	9,809	9,922	10,827	10,923	10,790	10,399	10,778

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data: 2003 - 2011.

Figure 1.9: Mode of Arrival by Year: 2003 - 2011



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data: 2003 - 2011.

Trauma Patient Outcomes

Please note that the following section only includes patients who were admitted to designated trauma centers and does not include patients who died at a non-trauma center or on scene. Of the trauma patients who were admitted to designated trauma centers in 2011, 97% survived to discharge.

The severity of a trauma patient's injuries is given by the Injury Severity Score (ISS), which is a measure of the three most severely injured body regions, and increases in relation to the severity of the injuries. Trauma patients with an ISS of less than 9 have a 99.8% survival rate in San Diego County. As shown in the table below, as a patient's ISS increases to 15 or more, the survival rate from injuries decreased to 89% in 2011. One of the most important achievements of the San Diego County Trauma System has occurred over the last 10 years in those with an ISS of 15 or greater, as the survival rate of this group increased from 80.5% in 2000 to 89.3% in 2011.

Table 1.12: Trauma Patient Outcomes by Injury Severity Score: 2000 - 2011

Year	Injury Severity Score					
	<9		9-14		15+	
	Survived (%)	Expired (%)	Survived (%)	Expired (%)	Survived (%)	Expired (%)
2000	3678 (99.5%)	18 (0.5%)	1776 (99.1%)	17 (0.9%)	1026 (80.5%)	249 (19.5%)
2001	3420 (99.7%)	11 (0.3%)	1672 (99.2%)	14 (0.8%)	1041 (83.1%)	212 (16.9%)
2002	3902 (99.5%)	18 (0.5%)	1919 (99.4%)	12 (0.6%)	1257 (83.2%)	254 (16.8%)
2003	5709 (99.8%)	13 (0.2%)	2163 (99.0%)	22 (1.0%)	1354 (82.8%)	282 (17.2%)
2004	6185 (99.8%)	13 (0.2%)	2357 (99.2%)	20 (0.8%)	1453 (84.3%)	271 (15.7%)
2005	5550 (99.8%)	9 (0.2%)	2372 (99.5%)	13 (0.5%)	1526 (84.0%)	291 (16.0%)
2006	5665 (99.8%)	14 (0.2%)	2318 (99.4%)	13 (0.6%)	1638 (86.9%)	247 (13.1%)
2007	6237 (99.8%)	15 (0.2%)	2433 (99.1%)	22 (0.9%)	1831 (86.9%)	277 (13.1%)
2008	6167 (99.7%)	20 (0.3%)	2490 (99.4%)	16 (0.6%)	1932 (88.6%)	248 (11.4%)
2009	5989 (99.6%)	22 (0.4%)	2506 (99.3%)	18 (0.7%)	1852 (87.5%)	265 (12.5%)
2010	5849 (99.8%)	14 (0.2%)	2348 (99.3%)	17 (0.7%)	1918 (90.2%)	208 (9.8%)
2011	6112 (99.8%)	15 (0.2%)	2421 (99.2%)	20 (0.8%)	2017 (89.3%)	241 (10.7%)

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry: 2000 – 2011.

The Injury Severity Score (ISS) is a modification of the Abbreviated Injury Scale (AIS) developed to deal with multiple injuries. The ISS incorporates the AIS scores for the most significant injuries in three different body regions. The ISS is calculated by summing the squares of the AIS scores for these injuries. AIS scores up to five are squared, so that the maximum ISS is 75. An AIS score of 6 in any body region is an automatic ISS of 75.

One measure of the demand on the trauma system is hospital length of stay (LOS). During 2011, trauma patients spent a total of 35,641 days admitted to trauma facilities. This means that the trauma system cared for an average of 98 patients per day. Pedestrian victims (mean 5.5 days) and those with self-inflicted injuries (5.3 days) spent the most time in the hospital on average. Falls resulted in the highest total number of patient days in trauma facilities, making up 35.5% of the overall length of stay.

Table 1.13: Patient Length of Stay (LOS) in Days, by Mechanism of Injury and Death: 2011

	Survived				Expired			
	Patients	Median LOS	Mean LOS	Total LOS	Patients	Median LOS	Mean LOS	Total LOS
Vehicle Related	4008	1.12	3.39	13605.87	77	0.39	3.56	274.1
<i>MV Occupant</i>	1939	1.02	2.97	5749.28	23	0.35	2.59	59.55
<i>Motorcycle</i>	677	1.95	3.85	2607.15	16	0.13	1.35	21.53
<i>Pedalcycle</i>	575	1.1	2.53	1454.35	6	0.87	1.54	9.23
<i>Pedestrian</i>	468	1.56	5.6	2620.4	19	1.11	2.19	41.69
<i>Other Vehicle</i>	349	1.14	3.37	1174.69	13	0.4	10.93	142.1
Falls	3639	1.71	3.32	12080.86	123	2.71	4.76	586.09
Sports/Recreation	790	1.12	2.44	1926.97	7	3.83	4.54	31.8
Overall Violence	1507	1.07	2.99	4507.11	59	0.16	2.42	143
<i>Self Inflicted/Suicide</i>	167	1.88	5.61	936.96	29	0.23	3.62	104.95
<i>Assault/Homicide</i>	1340	0.96	2.66	3570.15	30	0.16	1.27	38.05
Other	634	1.06	3.63	2291.63	10	1.94	4.18	41.82
Unknown	25	2.22	6	150.09	0	.	.	.
Total	10603	1.25	3.26	34564.45	276	1.24	3.9	1076.82

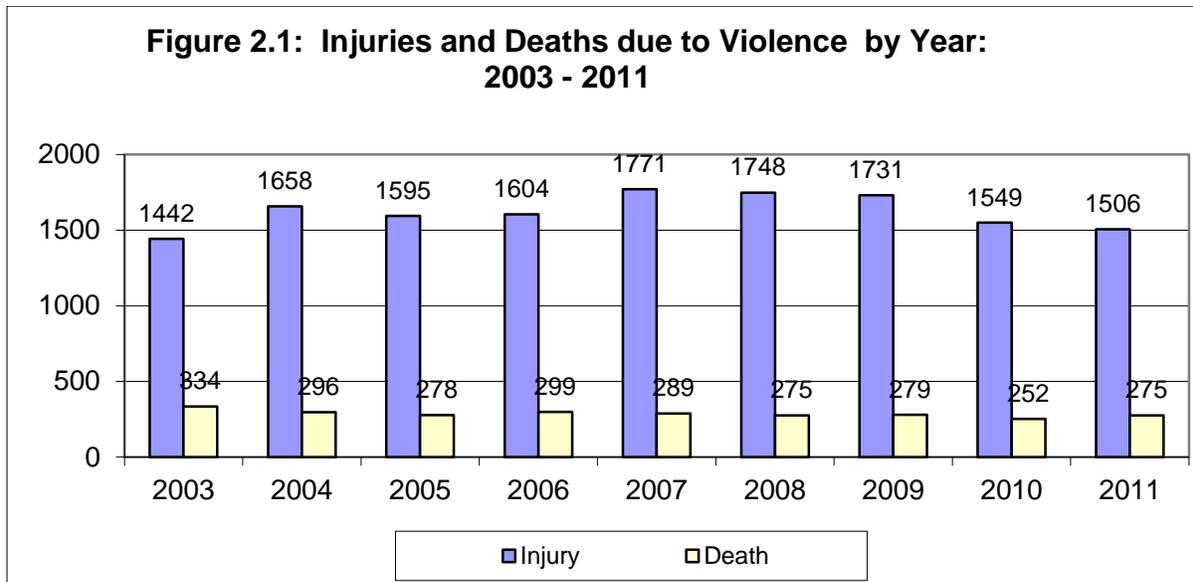
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry, 2011.

	Total (Survived + Expired)			
	Patients	Median LOS	Mean LOS	Total LOS
Vehicle Related	4085	1.11	3.4	13879.97
<i>MV Occupant</i>	1962	1.02	2.96	5808.84
<i>Motorcycle</i>	693	1.93	3.79	2628.68
<i>Pedalcycle</i>	581	1.1	2.52	1463.58
<i>Pedestrian</i>	487	1.54	5.47	2662.09
<i>Other Vehicle</i>	362	1.13	3.64	1316.79
Falls	3762	1.72	3.37	12666.95
Sport/Rec	797	1.14	2.46	1958.77
Overall Violence	1566	1.03	2.97	4650.11
<i>Self Inflicted/Suicide</i>	196	1.65	5.32	1041.91
<i>Assault/Homicide</i>	1370	0.96	2.63	3608.2
Other	644	1.06	3.64	2333.45
Unknown	25	2.22	6	150.09
Total	10879	1.25	3.28	35641.28

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry, 2011.

Violent Injuries

Violence that results in injury can be interpersonal (assault, homicide, legal intervention) or self-inflicted (self-inflicted injury or suicide). From 2003 through 2011 there were more than 10 times as many interpersonal-related non-fatal injuries as self-inflicted non-fatal injuries, but the majority of fatal violent injuries were self-inflicted. The nonfatal injury rate due to violence (both assault and self-inflicted) experienced a gradual increase from 2003 to 2007 but has subsequently decreased through 2011.



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2003 – 2011.

Table 2.1: Number and Rate (per 100,000) of Injuries and Deaths from Violence by Year: 2003 - 2011

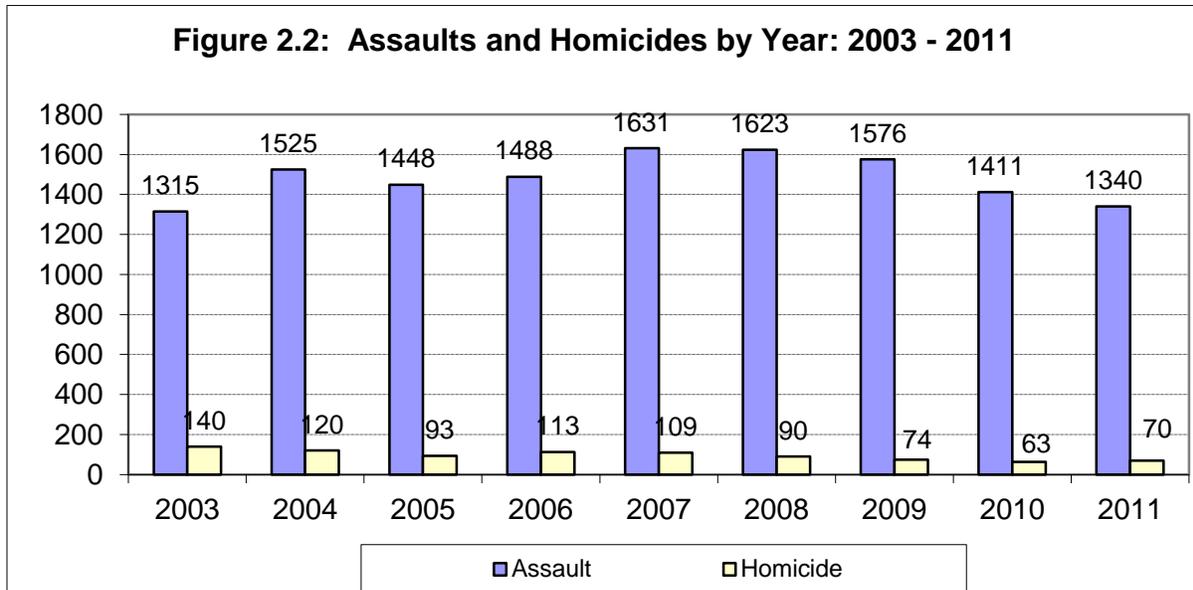
Year	Injury		Death		Total	
	Incidence	Rate	Incidence	Rate	Incidence	Rate
2003	1,442	49.26	334	11.41	1,776	60.67
2004	1,658	56.13	296	10.02	1,954	66.15
2005	1,595	53.76	278	9.37	1,873	63.13
2006	1,604	53.89	299	10.05	1,903	63.93
2007	1,771	59.06	289	9.638	2,060	68.7
2008	1,748	57.64	275	9.068	2,023	66.71
2009	1,731	56.49	279	9.104	2,010	65.59
2010	1,549	50.04	252	8.141	1,801	58.18
2011	1,506	48.33	275	8.826	1,781	57.16

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2003 – 2011.

Homicide and Assault

Homicide was the fourth leading cause of traumatic death and years of potential life lost during 2011 (see figure 1.2). For every homicide in 2011, trauma centers cared for 19 nonfatal assaults.

Nonfatal assaults increased by 24% from 2003 to 2007, but have dropped by 18% from 2007 to 2011. The homicide number and rate in 2011 (70, 2.25 per 100,000) also continue an ongoing decreasing trend.



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2003-2011.

Table 2.2: Number and Rate (per 100,000) of Assaults and Homicides by Year: 2003 - 2011

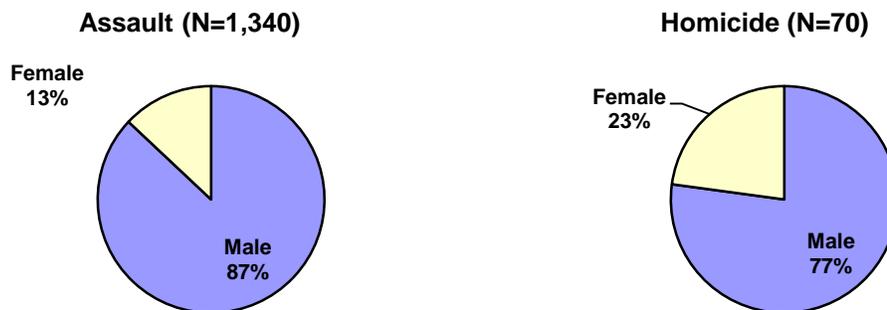
Year	Assault		Homicide		Total	
	Incidence	Rate	Incidence	Rate	Incidence	Rate
2003	1,315	44.92	140	4.78	1,455	49.71
2004	1,525	51.63	120	4.06	1,645	55.69
2005	1,448	48.81	93	3.13	1,541	51.94
2006	1,488	49.99	113	3.80	1,601	53.79
2007	1,631	54.39	109	3.64	1,740	58.03
2008	1,623	53.52	90	2.97	1,713	56.48
2009	1,576	51.43	74	2.41	1,650	53.84
2010	1,411	45.59	63	2.04	1,474	47.62
2011	1,340	43.01	70	2.25	1,410	45.25

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2003 - 2011.

Males were disproportionately affected by interpersonal violence, with 87% of nonfatal injuries from assaults and 77% of homicides.

The age- and gender-specific assault and homicide rates show that males 20-24 years of age were at highest risk for assault injuries (159 per 100,000) and deaths (7.62 per 100,000). The highest risk age group for females was also 20 to 24 years, with an assault rate of 30 per 100,000.

Figure 2.3: Assaults and Homicides by Gender: 2011



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data; 2011.

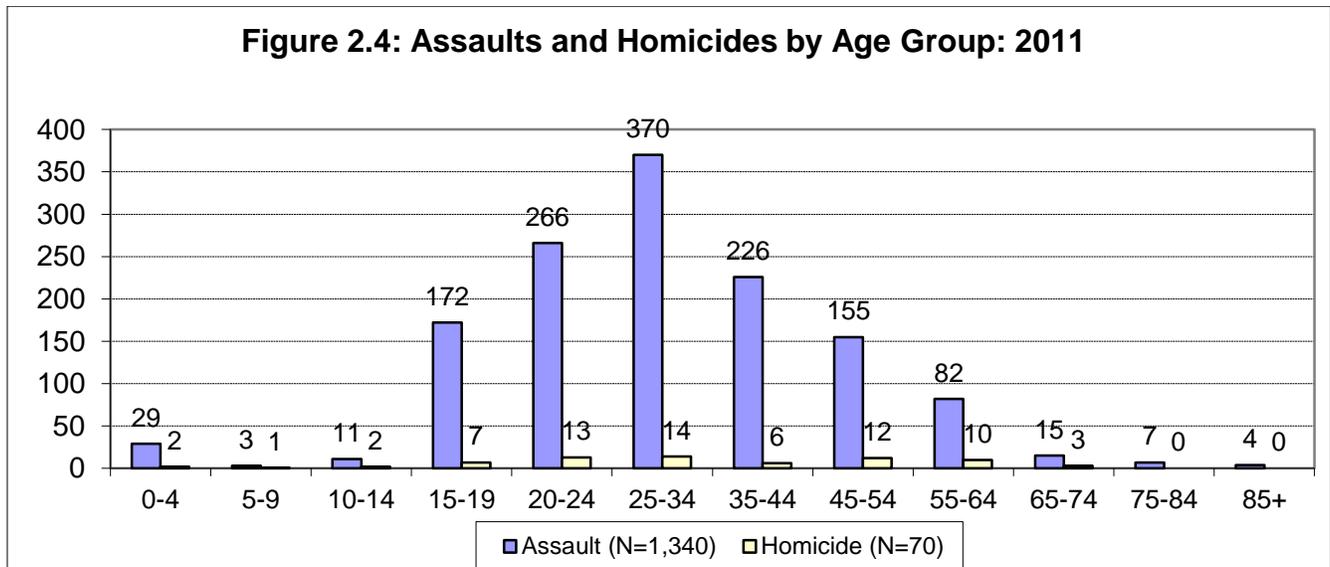
Table 2.3: Number and Rate (per 100,000) of Assaults and Homicides by Age Group and Gender: 2011

Age Group	Assault						Homicide						Overall Total	
	Male		Female		Total		Male		Female		Total			
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
0-4	18	17.84	11	11.36	29	14.67	1	*	1	*	2	*	31	15.68
5-9	1	*	2	*	3	*	0	0.00	1	*	1	*	4	*
10-14	10	9.62	1	*	11	5.46	1	*	1	*	2	*	13	6.45
15-19	156	126.80	16	14.42	172	73.52	7	5.69	0	0.00	7	2.99	179	76.51
20-24	230	159.39	36	29.93	266	100.53	11	7.62	2	*	13	4.91	279	105.45
25-34	332	135.52	38	16.61	370	78.10	13	5.31	1	*	14	2.96	384	81.05
35-44	205	97.82	21	10.12	226	54.18	4	*	2	*	6	1.44	232	55.61
45-54	126	59.07	29	13.49	155	36.19	7	3.28	5	2.33	12	2.80	167	38.99
55-64	69	41.72	13	7.33	82	23.93	8	4.84	2	*	10	2.92	92	26.85
65-74	10	11.63	5	4.99	15	8.06	2	*	1	*	3	*	18	9.67
75-84	6	11.86	1	*	7	5.94	0	0.00	0	0.00	0	0.00	7	5.94
85+	3	*	1	*	4	*	0	0.00	0	0.00	0	0.00	4	*
Total	1166	74.61	174	11.20	1340	43.01	54	3.46	16	1.03	70	2.25	1410	45.25

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data; 2011; Population estimates, SANDAG.

*Rates not calculated on less than five incidents.

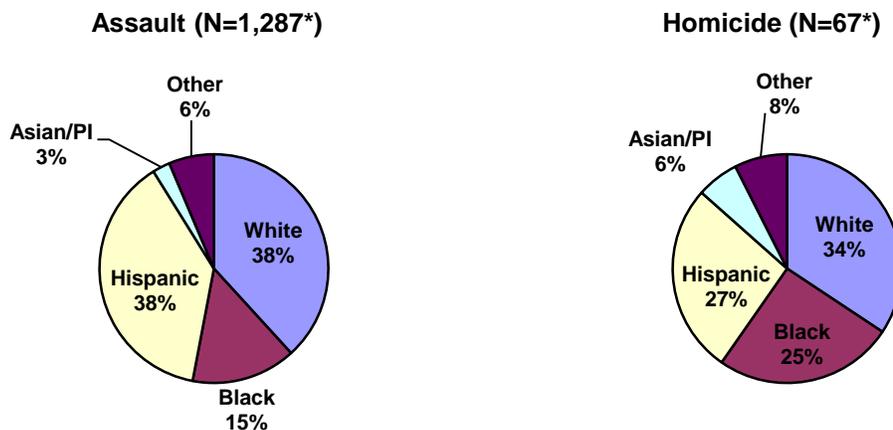
Figure 2.4 shows the age distribution of assault and homicide. Violent interpersonal injuries cluster strongly in teenagers and young adults, with persons aged 15-34 years sustaining 60% of assaults and 49% of homicides.



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011.

The Black population was most over-represented among assault and homicide victims. In spite of making up only five percent of the county population (see figure 1.7), 15% of assaults and 25% of homicide victims were Black.

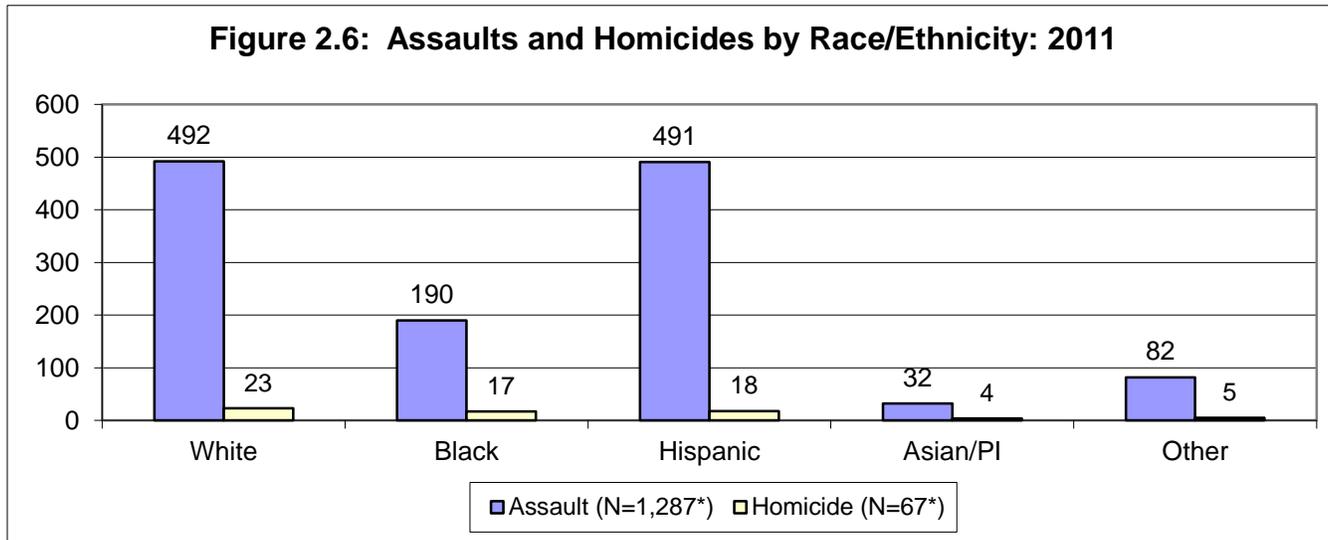
Figure 2.5: Assaults and Homicides by Race/Ethnicity: 2011



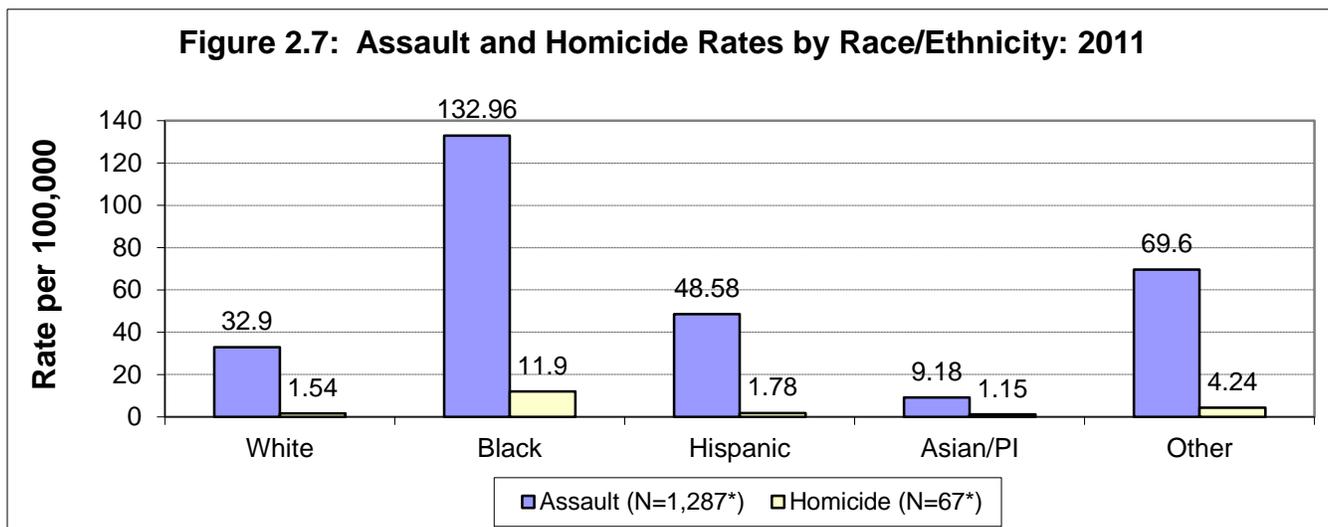
*53 assaults and 3 homicides with unspecified race/ethnicity were removed.

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011.

Figure 2.6 shows the number of assaults and homicides by race/ethnicity, while figure 2.7 illustrates the rate per 100,000 population. The highest number of assaults and homicides are seen among the White and Hispanic populations. The rates shown in figure 2.7, however, show that the Black population is at the highest risk of injury and death from assault.

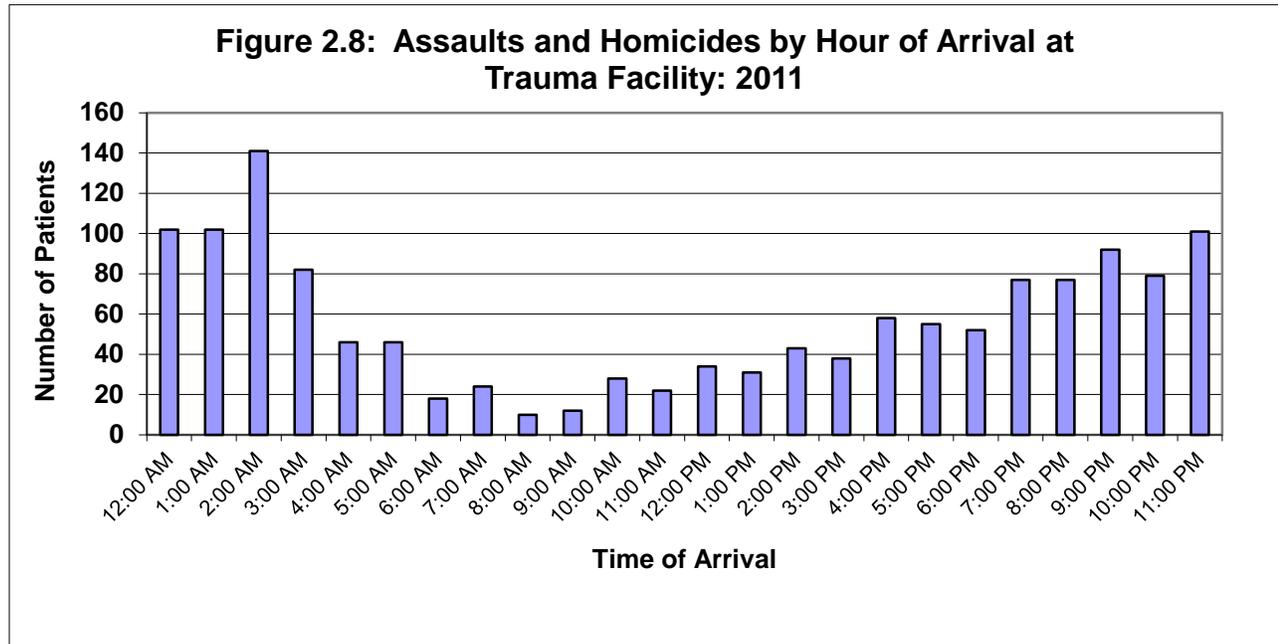


*53 assaults and 3 homicides with unspecified race/ethnicity were removed.
 Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, FY 2011.



*53 assaults and 3 homicides with unspecified race/ethnicity were removed.
 Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011.

The nocturnal demand on trauma facilities is shown in figure 2.8, which shows that about one third of assault-related trauma patients arrived during the four hour period between midnight and 4:00 a.m.

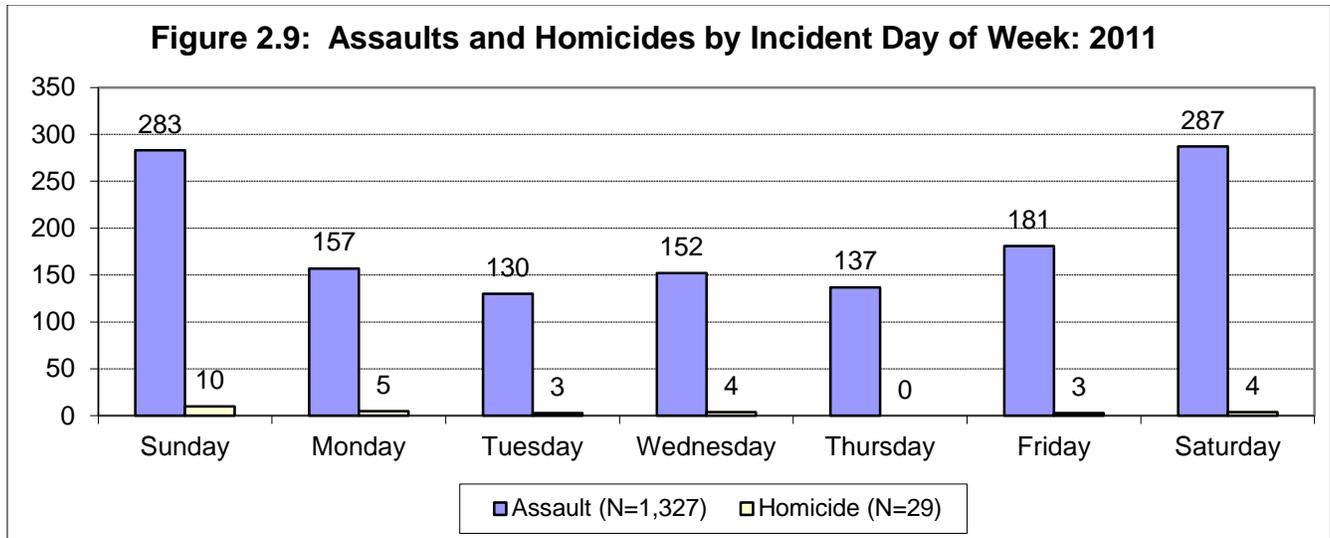


All times are in one hour increments, for example, 6:00 - 6:59 = 6:00

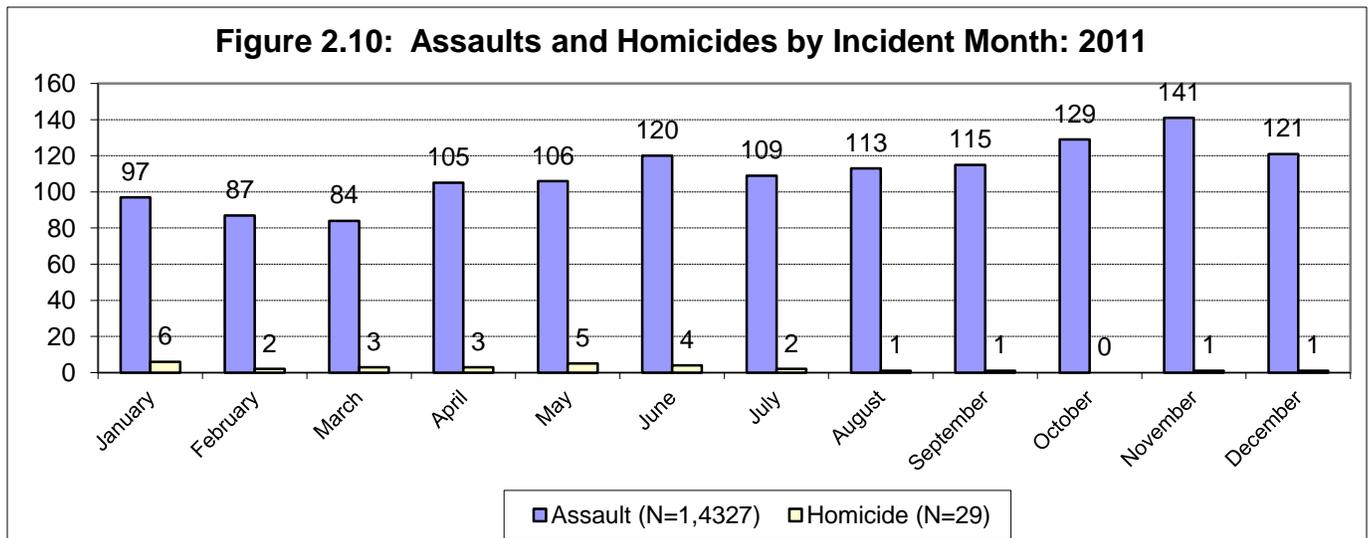
*Note: limited to patients arriving at trauma facilities (deaths on scene not applicable).

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011.

Weekends saw the highest number of assaults and homicides, with 43% of assaults and 48% of homicides taking place on Saturdays and Sundays. Although seasonal patterns were not evident, November had the highest number of assaults (141) and January had the most homicides (6).

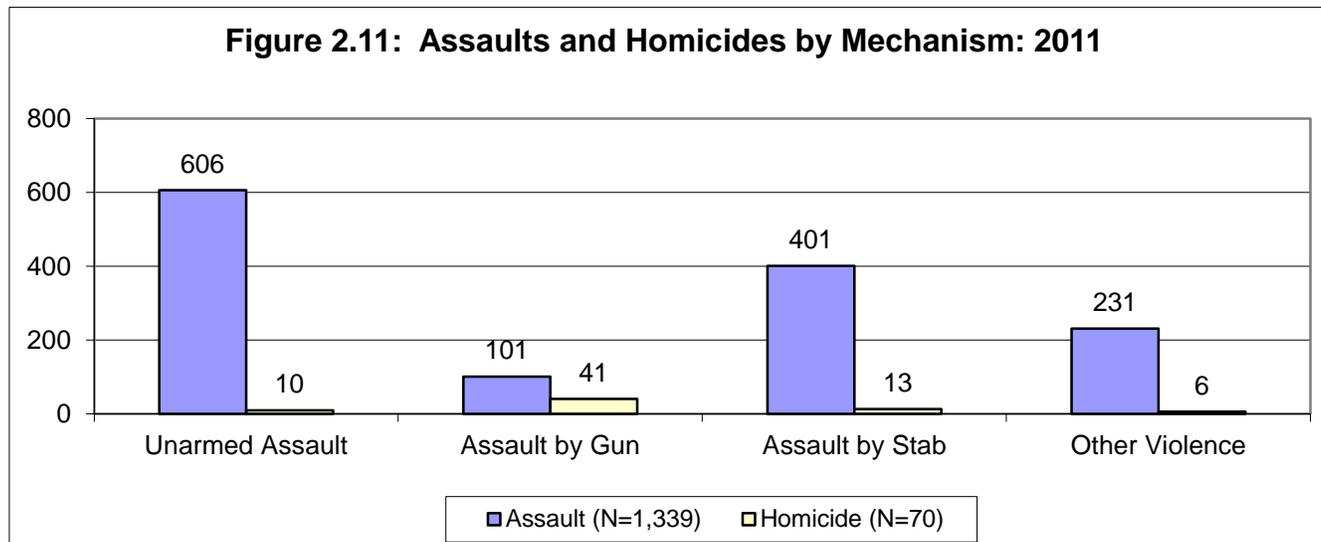


Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011.



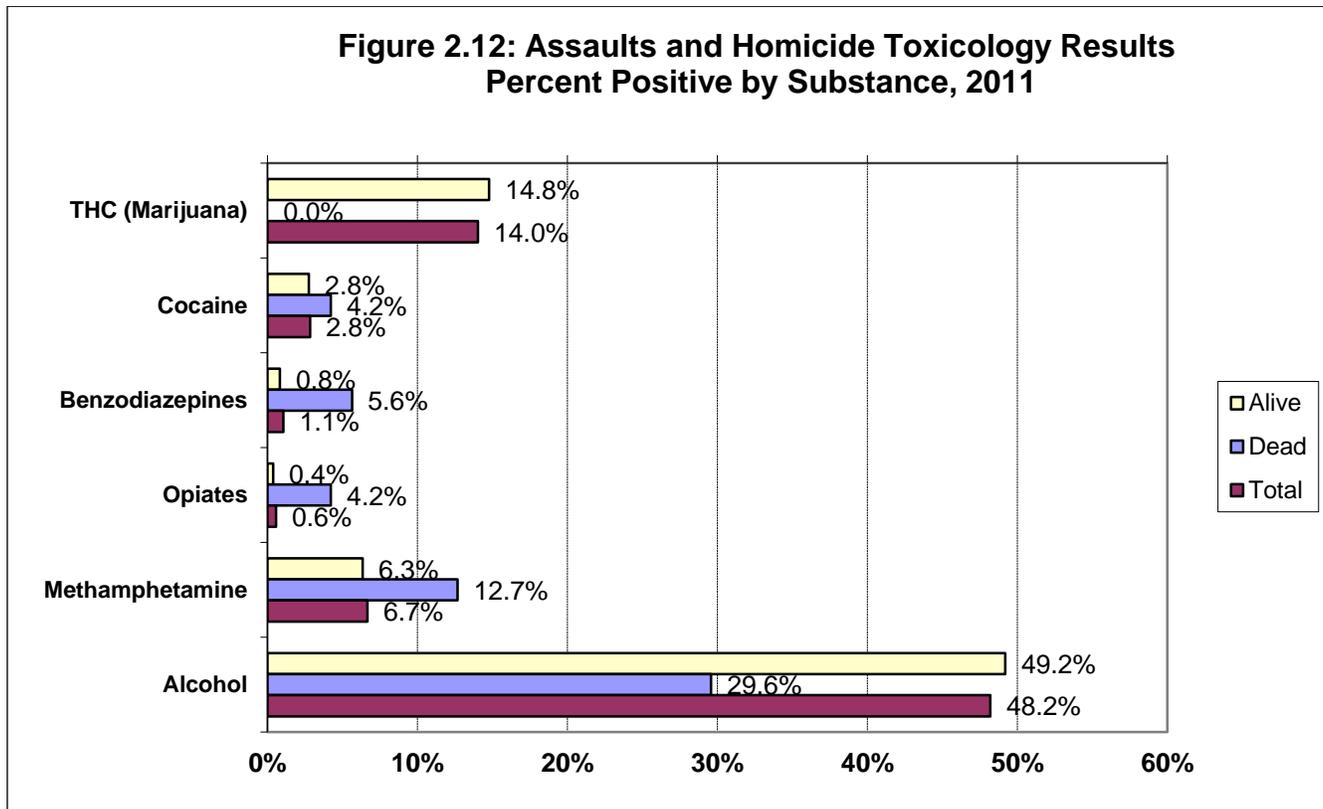
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

Figure 2.11 shows a breakdown of mechanism of injury for homicides and assaults. Unarmed assaults and stabbings were the leading causes of nonfatal injury, while firearms were the most common mechanism of homicide.



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

In general, traumatic assault and homicide victims tested positive for drugs at a higher rate than other causes of injury. Almost one half of assaults and more than a quarter of homicides victims tested positive for alcohol. Marijuana was also relatively high in assault victims at 14.8%.

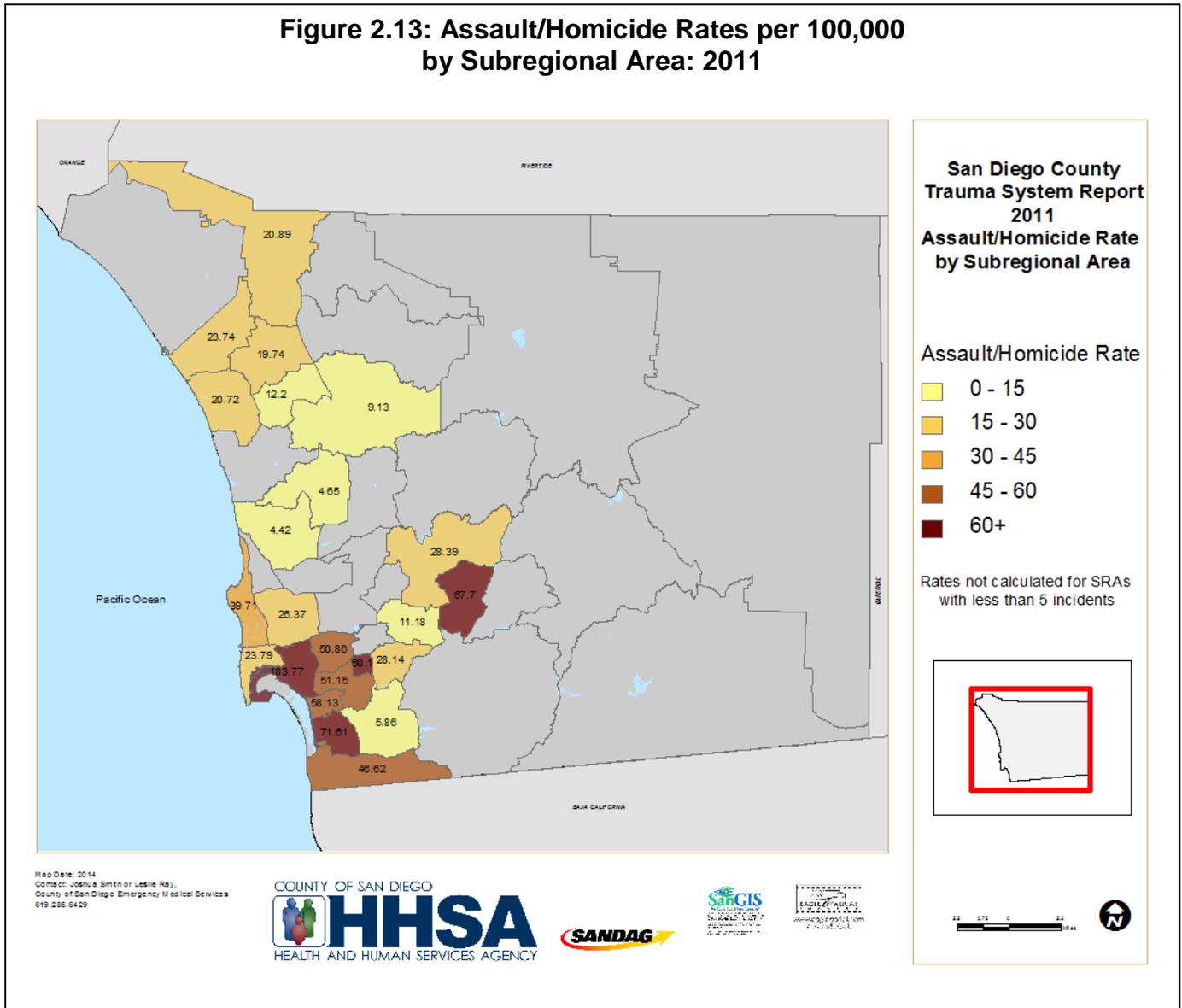


Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

Note: excludes opiates and benzodiazepines that were documented as clinician administered.

Rates of injury by subregional areas (SRAs) and Health and Human Services Agency (HHSA) region were calculated from the zip code where the incident took place. The subregional areas with the highest assault rates were Central (184 per 100,000), Chula Vista (72), Harbison Crest (68), and Lemon Grove (60). The Central HHSA Region, which includes the Central, Mid-City, and Southeast SRAs, had an assault/homicide rate (96) that was double the rate for the county overall. When incident zip code was known, the Central HHSA region accounted for 34% of assaults and 26% of homicides.

Figure 2.13: Assault/Homicide Rates per 100,000 by Subregional Area: 2011



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data; 2011

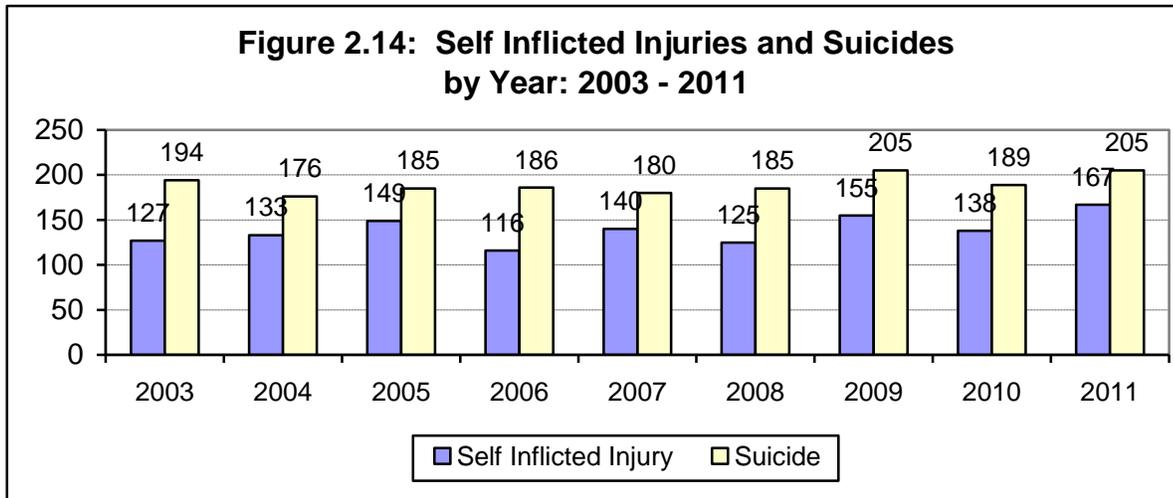
Table 2.4: Assaults and Homicides by Incident HHS Region: 2011

HHS Region	Assaults		Homicides		Total	
	Number	Rate	Number	Rate	Number	Rate
North Coastal	74	14.51	10	1.96	84	16.48
North Central	96	15.74	5	0.82	101	16.56
Central	450	92.67	18	3.71	468	96.38
South	187	39.83	6	1.28	193	41.11
East	82	17.57	12	2.57	94	20.14
North Inland	43	7.48	7	1.22	50	8.70
Unknown	408		12		420	
Total	1340	43.01	70	2.25	1410	45.25

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data; 2011

Suicides and Self-Inflicted Injuries

Suicide¹ was the second leading cause of traumatic death and the number one cause of years of potential life lost during 2011 (see figure 1.2). The figure below shows the number of suicides and self-inflicted injuries by year. The number of traumatic suicides has been stable during this time period, averaging 189 per year. Non-fatal self-inflicted traumatic injury numbers are consistently lower than deaths because traumatic means of suicide attempts such as gunshots and jumping from high places tend to be highly fatal.



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2003 - 2011

Table 2.5: Number and Rate (per 100,000) of Self Inflicted Injuries and Deaths by Year: 2003 - 2011

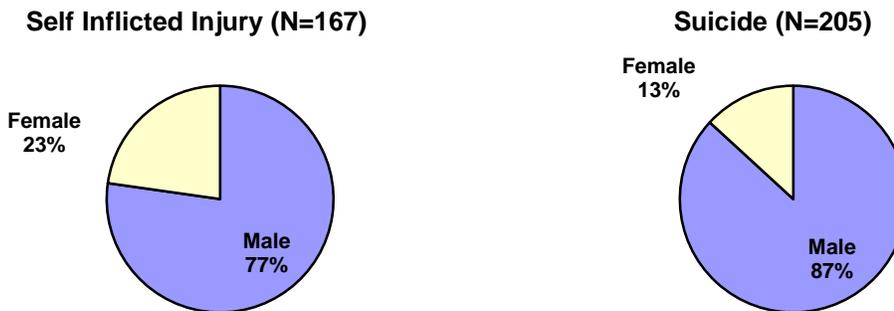
Year	Injury		Death		Total	
	Incidence	Rate	Incidence	Rate	Incidence	Rate
2003	127	6.63	194	6.63	321	10.97
2004	133	5.96	176	5.96	309	10.46
2005	149	6.24	185	6.24	334	11.26
2006	116	6.25	186	6.25	302	10.15
2007	140	6.00	180	6.00	320	10.67
2008	125	6.10	185	6.10	310	10.22
2009	155	6.69	205	6.69	360	11.75
2010	138	6.11	189	6.11	327	10.56
2011	167	5.36	205	6.58	372	11.94

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2003 - 2011

¹ For the purpose of this report, suicide and self-inflicted injury exclude deaths and severe injuries due to poisoning, overdose, drowning, or suffocation as they are considered medical rather than traumatic in nature.

Males made up 77% of traumatic self-inflicted injuries and 87% of suicides. As Table 2.6 shows, the traumatic suicide rate is highest among older men, with the rate among 75 to 84 year olds 3 times higher than the rate for all men combined.

Figure 2.15: Self Inflicted Injuries and Suicides by Gender: 2011



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

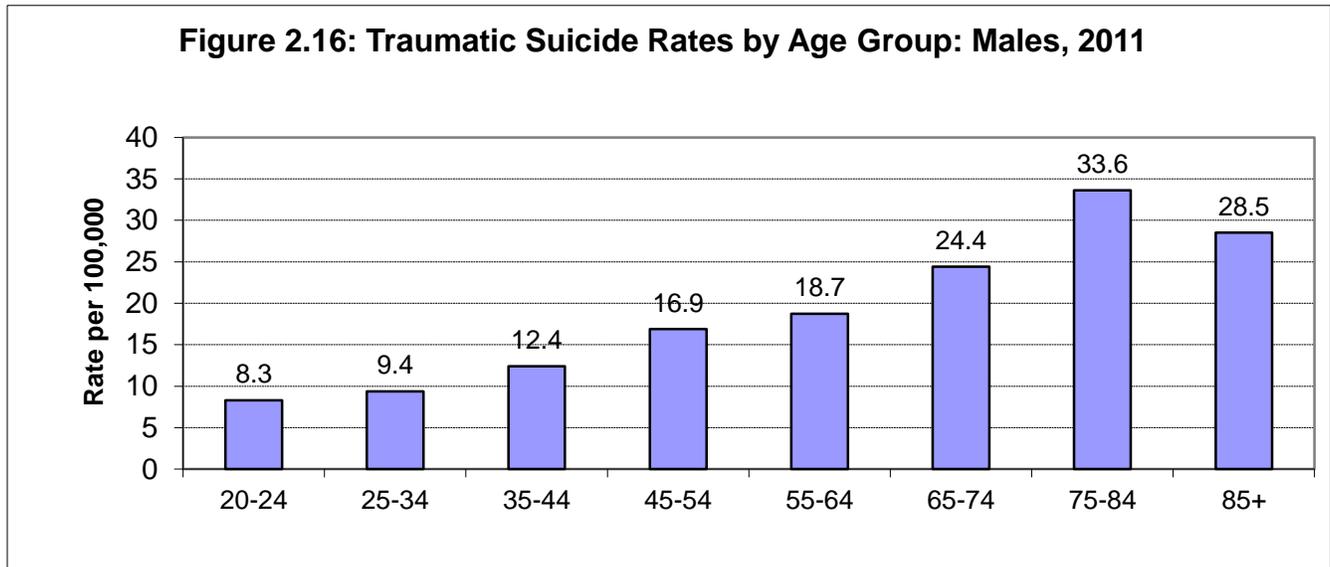
Table 2.6: Number and Rate (per 100,000) of Self Inflicted Injuries and Suicides by Age Group and Gender: 2011

Age Group	Self-Inflicted Injury						Suicide						Overall Total	
	Male		Female		Total		Male		Female		Total			
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
0-4	0	*	0	*	0	*	0	*	0	*	0	*	0	*
5-9	0	*	0	*	0	*	0	*	0	*	0	*	0	*
10-14	1	*	0	*	1	*	0	*	0	*	0	*	1	*
15-19	12	9.75	5	4.51	17	7.27	6	4.88	0	*	6	2.56	23	9.83
20-24	14	9.70	6	4.99	20	7.56	12	8.32	2	*	14	5.29	34	12.85
25-34	31	12.65	5	2.19	36	7.60	23	9.39	2	*	25	5.28	61	12.88
35-44	29	13.84	8	3.85	37	8.87	26	12.41	4	*	30	7.19	67	16.06
45-54	33	15.47	1	*	34	7.94	36	16.88	9	4.19	45	10.51	79	18.45
55-64	6	3.63	9	5.08	15	4.38	31	18.74	3	*	34	9.92	49	14.30
65-74	1	*	3	*	4	*	21	24.42	4	*	25	13.43	29	15.58
75-84	2	*	0	*	2	*	17	33.60	1	*	18	15.28	20	16.98
85+	0	0.00	1	*	1	*	6	28.53	2	*	8	13.81	9	15.54
Total	129	8.25	38	2.45	167	5.36	178	11.39	27	1.74	205	6.58	372	11.94

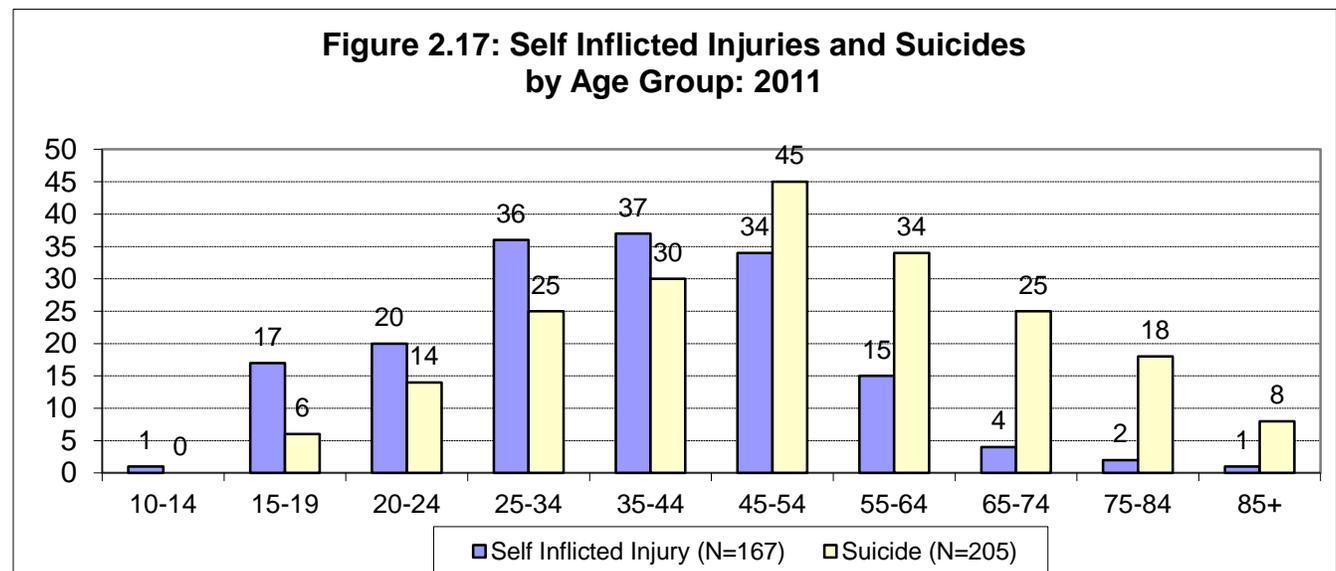
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011; Population Estimates, SANDAG

*Rates not calculated on less than five incidents.

While the highest rates of suicide were found in elderly males, the highest numbers of nonfatal injury, and therefore the group with the greatest impact on the trauma system, were younger than 55 years. For men and women combined, 64% of nonfatal self-inflicted injuries and 49% of deaths from traumatic suicide were between 25 and 54 years of age.



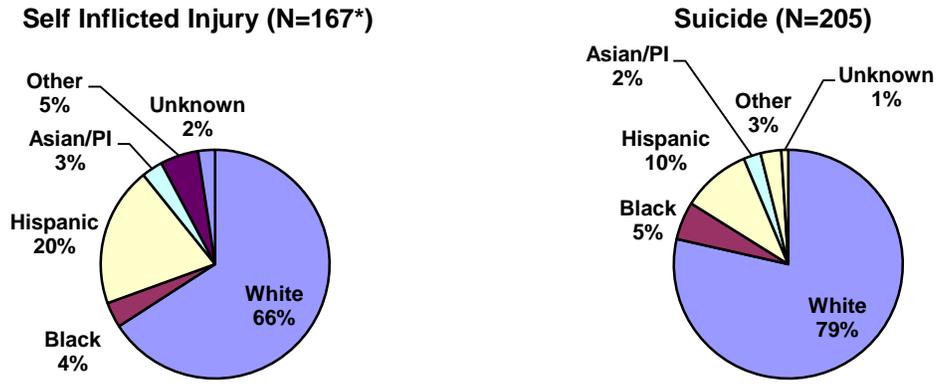
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011; Population Estimates, SANDAG



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011; Population Estimates, SANDAG

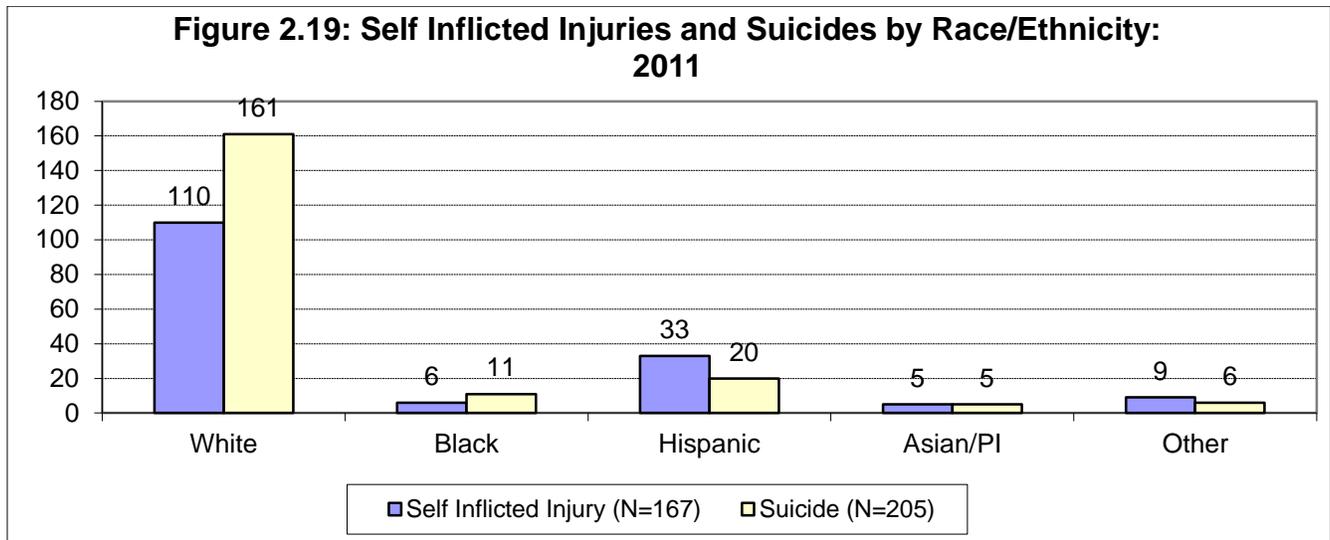
The White population makes up 48% of the county, but 79% of deaths from traumatic suicide and 66% of nonfatal traumatic self-inflicted injuries.

Figure 2.18: Self Inflicted Injuries and Suicides by Race/Ethnicity: 2011

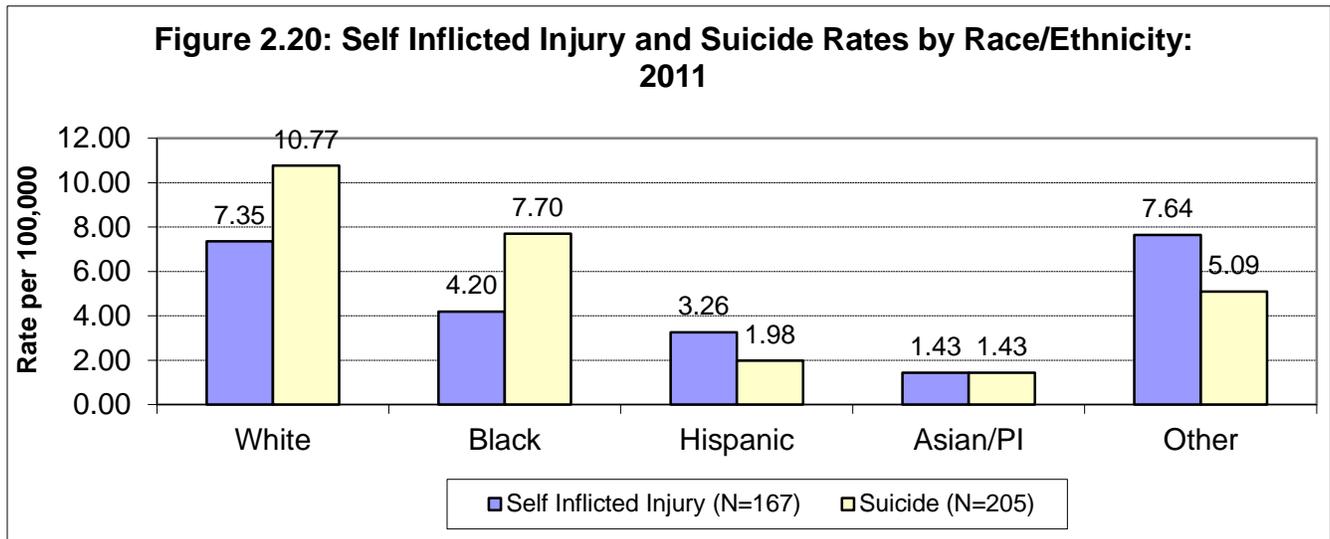


Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data; 2011

The self-inflicted injury rate and the traumatic suicide rate in the White population was considerably higher than in any other race/ethnic group.

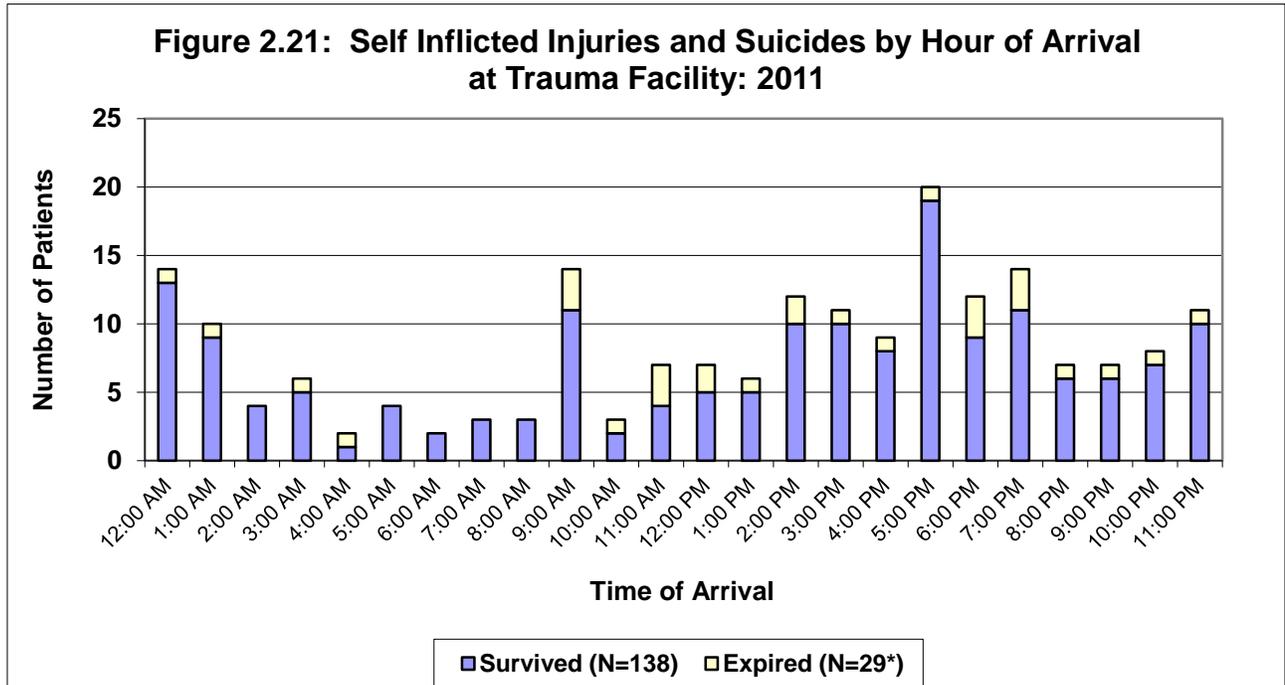


*Totals include 4 self-inflicted injuries and 2 suicides with unspecified race/ethnicity.
 Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011



*Totals include 4 self-inflicted injuries and 2 suicides with unspecified race/ethnicity.
 Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

Self-inflicted injuries and suicides occurred more frequently in the afternoon and evening hours.

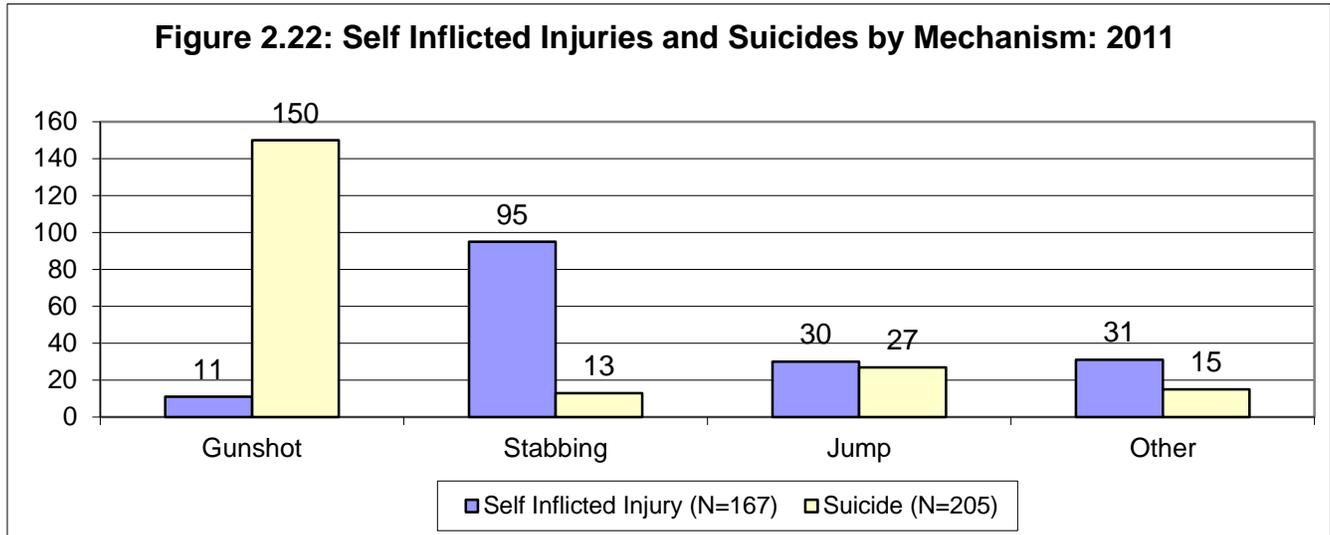


All times are in one hour increments, for example, 6:00 - 6:59 = 6:00

*Note: limited to patients arriving at trauma facilities (deaths on scene not applicable)

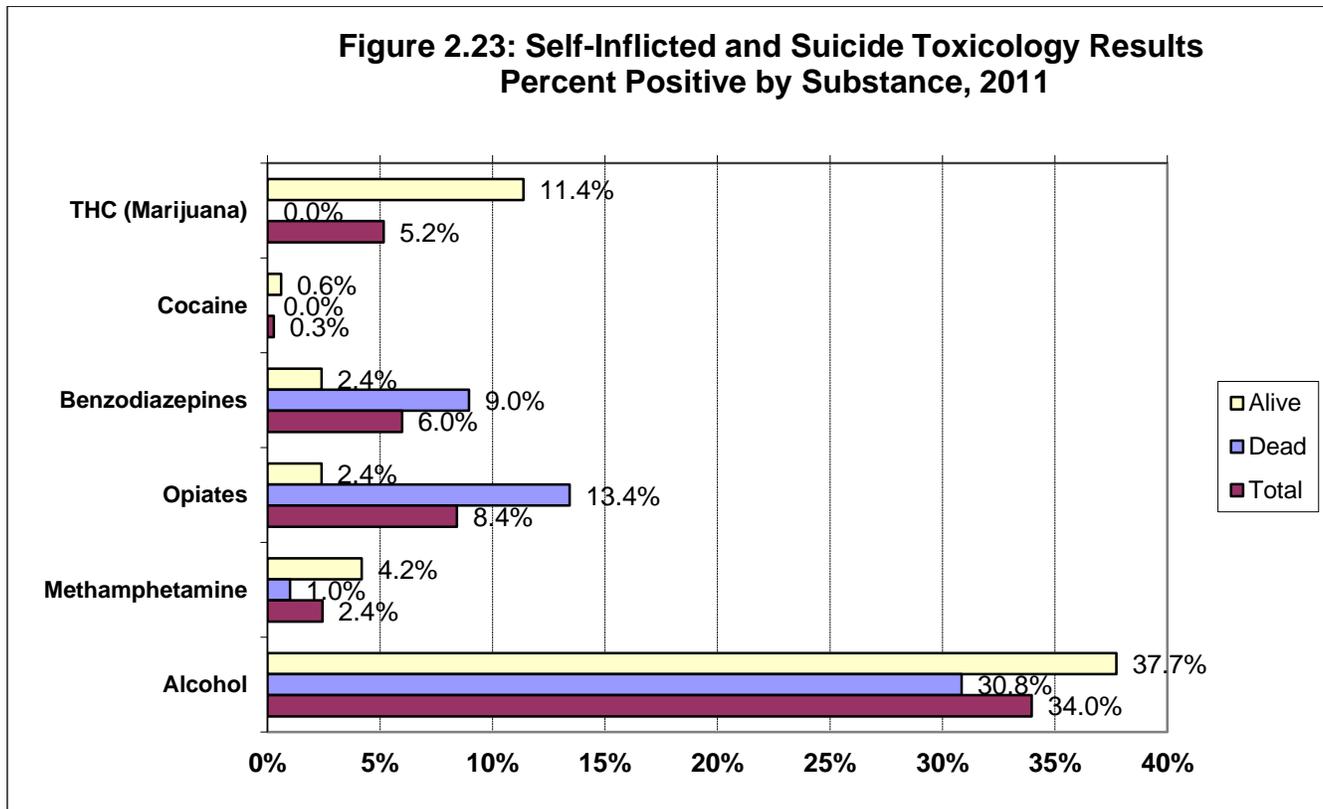
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry, 2011

Nonfatal self-inflicted injuries were very different from suicides with regard to the mechanism of injury. Gunshot wounds were the mechanism for 73% of suicides, but only made up 7% of nonfatal self-inflicted injuries. Self-inflicted cut or stab wounds, meanwhile, made up only 6% of suicides, but 57% of nonfatal self-inflicted injuries.



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

Self-Inflicted traumatic injuries and suicides also tested positive for drugs at a higher rate than other causes of injury. More than one third of self-inflicted/suicides tested positive for alcohol. Among suicides, 13.4% tested positive for opiates and 9% for benzodiazepines.

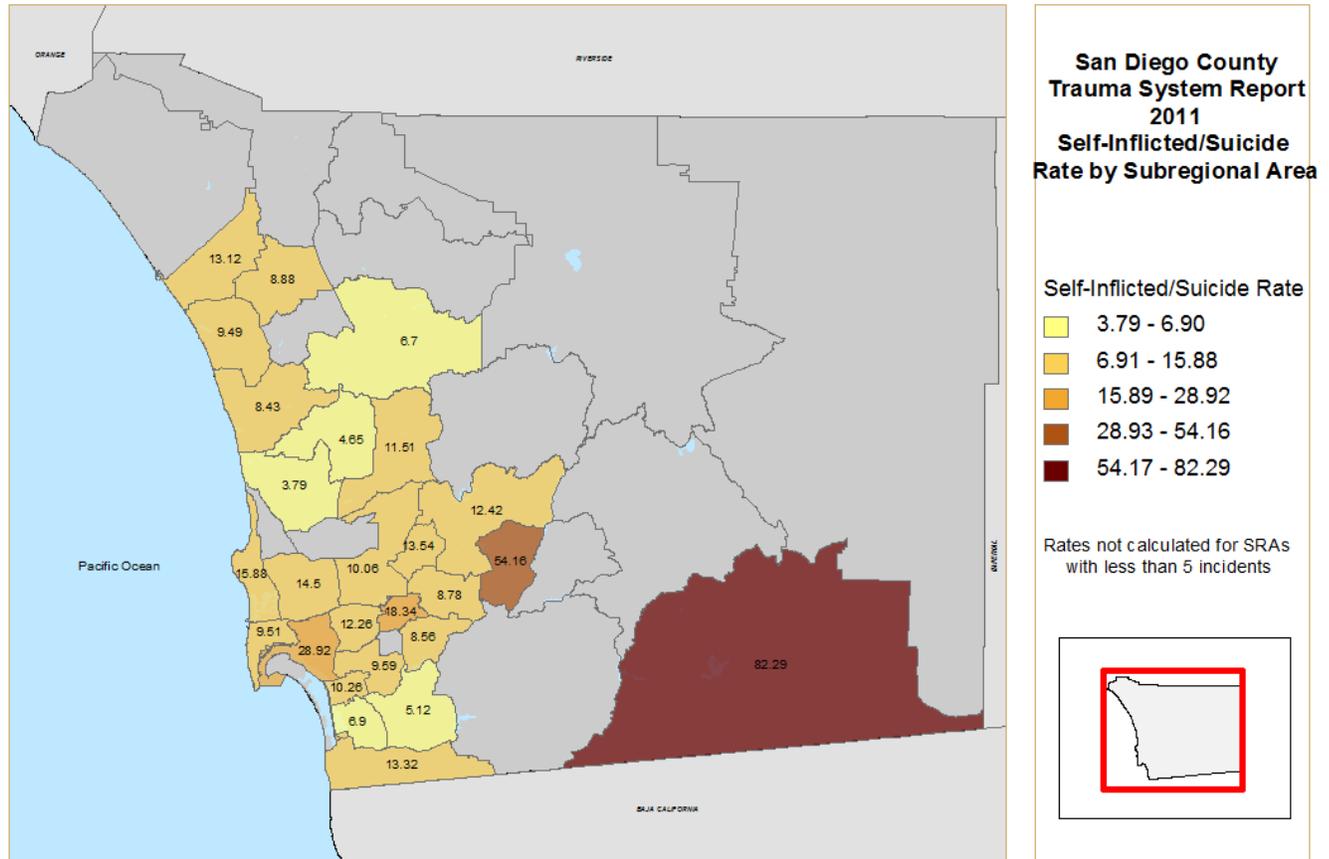


Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

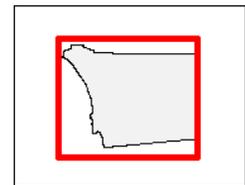
Note: excludes opiates and benzodiazepines that were documented as clinician administered.

Rates of injury by subregional areas (SRAs) and Health and Human Services Agency (HHSA) region were calculated from the zip code where the incident took place. The subregional areas with the highest self-inflicted/suicide rates were Mountain Empire (82 per 100,000), Harbison Crest (54), Central (29), and La Mesa (18). The Central (17) and East (15) HHSA Regions had the highest rates in the County.

Figure 2.24: Self-Inflicted/Suicide Rates per 100,000 by Subregional Area: 2011



Map Date: 03/14
 Contact: Joshua Smith or Leslie Ray,
 County of San Diego Emergency Medical Services
 619.285.6429



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data; 2011

Table 2.7: Self-Inflicted Injuries and Suicides by Incident HHSA Region: 2011

HHSA Region	Self-Inflicted Injuries		Suicides		Total	
	Number	Rate	Number	Rate	Number	Rate
North Coastal	18	3.53	31	6.08	49	9.61
North Central	24	3.94	34	5.58	58	9.51
Central	45	9.27	38	7.83	83	17.09
South	21	4.47	21	4.47	42	8.95
East	20	4.29	48	10.29	68	14.57
North Inland	10	1.74	27	4.70	37	6.44
Unknown	29		6		35	
Total	167	5.36	205	6.58	372	11.94

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data; 2011

Transportation Related Injuries

Transportation related crashes are those that occur to motor vehicle occupants, motorcyclists, pedalcyclists, pedestrians struck by motor vehicles, and other vehicle occupants. There were 228 lives lost in transportation related crashes during 2011. For every patient who died as a result of a transportation related crash, 18 others were injured in such a crash.

Injuries and deaths from motor vehicle crashes have experienced a significant downward trend over the past nine years. From 2003 to 2011, the death rate fell by 39%.



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2003 - 2011

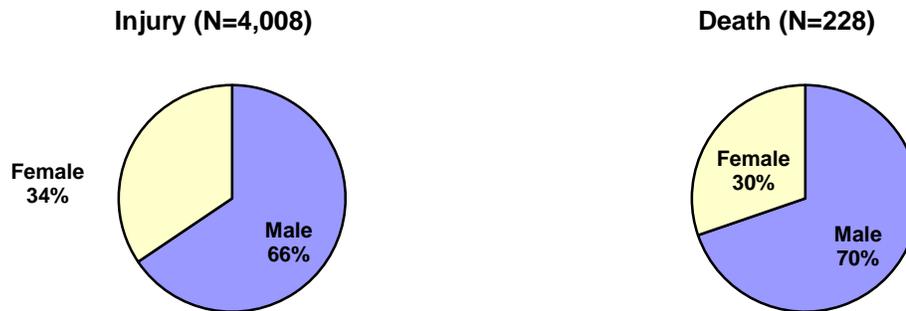
Table 3.1: Number and Rate (per 100,000) of Transportation Related Injuries and Deaths by Year: 2003 - 2011

Year	Injury		Death		Total	
	Incidence	Rate	Incidence	Rate	Incidence	Rate
2003	5127	175.15	354	12.09	5,481	187.24
2004	5224	176.86	364	12.32	5,588	189.19
2005	4702	158.49	375	12.64	5,077	171.13
2006	4629	155.52	364	12.23	4,993	167.75
2007	4920	164.08	365	12.17	5,285	176.26
2008	4559	150.33	319	10.52	4,878	160.85
2009	4020	131.18	284	9.27	4,304	140.45
2010	3821	123.44	239	7.72	4,060	131.17
2011	4008	128.63	228	7.32	4,236	135.95

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2003 - 2011

Males made up 66% of injuries and 70% of deaths related to transportation. Rates of both injury and death were substantially higher in males throughout the age spectrum.

Figure 3.2: Transportation Related Injuries and Deaths by Gender: 2011



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data; 2011.
 Note: Gender not documented on five injuries

Table 3.2: Number and Rate (per 100,000)* of Transportation Related Injuries and Deaths by Age Group and Gender: 2011

Age Group	Injury						Death						Overall Total	
	Male		Female		Total		Male		Female		Total		Number	Rate
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate		
0-4	46	45.58	34	35.12	80	40.46	0*		0*		0*		80	40.46
5-9	86	86.28	40	42.25	126	64.83	0*		1*		1*		127	65.35
10-14	118	113.47	46	47.22	164	81.43	0*		0*		0*		164	81.43
15-19	215	174.75	143	128.92	358	153.02	6	4.88	2*		8	3.42	366	156.44
20-24	420	291.07	185	153.79	606	229.04	21	14.55	15	12.47	36	13.61	642	242.64
25-34	515	210.22	268	117.14	783	165.27	34	13.88	9	3.93	43	9.08	826	174.35
35-44	327	156.04	134	64.55	462	110.75	16	7.64	4*		20	4.79	482	115.54
45-54	390	182.82	212	98.63	603	140.80	35	16.41	8	3.72	43	10.04	646	150.84
55-64	298	180.18	142	80.08	441	128.68	20	12.09	12	6.77	32	9.34	473	138.02
65-74	127	147.67	81	80.85	209	112.25	11	12.79	9	8.98	20	10.74	229	122.99
75-84	56	110.69	67	99.69	123	104.41	8	15.81	5	7.44	13	11.04	136	115.45
85+	26	123.62	27	73.20	53	91.51	8	38.04	4*		12	20.72	65	112.23
Total	2624	167.90	1379	88.79	4008	128.63	159	10.17	69	4.44	228	7.32	4236	135.95

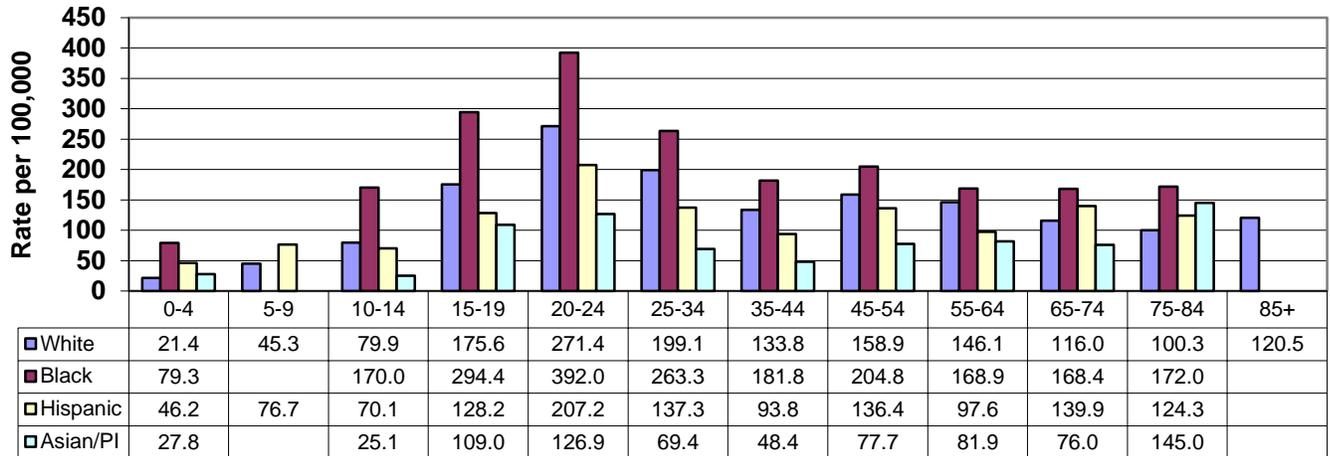
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data 2011; Population estimates, SANDAG

*Rates not calculated on fewer than five incidents

Note: total includes 2 cases with undocumented gender.

The highest overall rates of transportation related trauma cases (injuries and deaths combined) were in the 20 to 24 year age groups. Black 20 to 24 year olds had the highest transportation related trauma rate, at 392 per 100,000.

Figure 3.3: Transportation Related Trauma Rates by Age and Race/Ethnicity: 2011



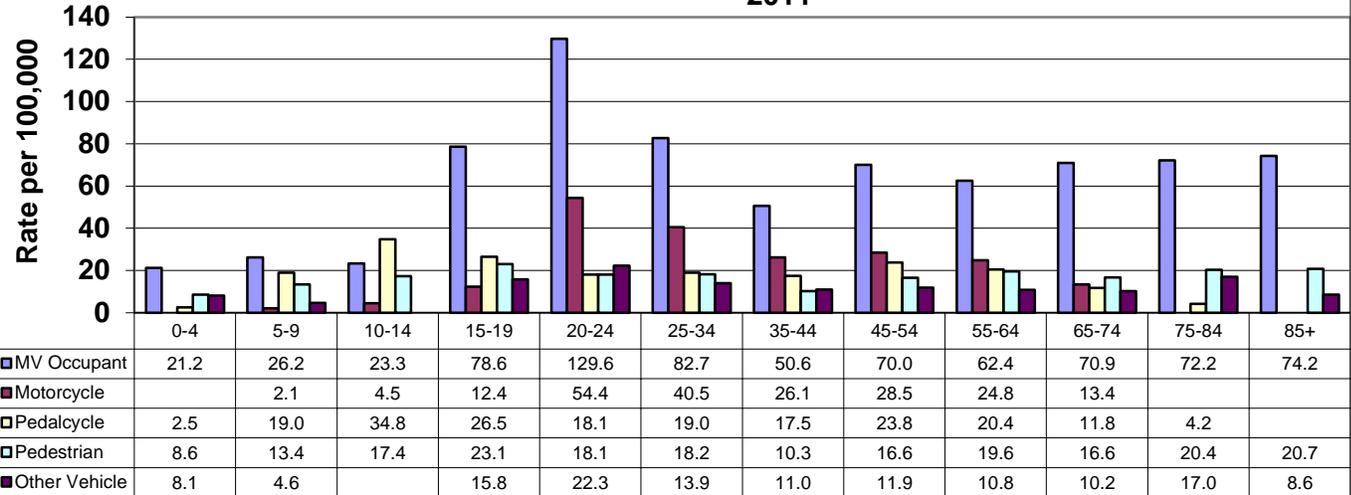
Note: Rates not calculated on fewer than five incidents

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

Population estimates, SANDAG

Motor vehicle occupant crashes accounted for a significantly higher trauma rate than other transportation related mechanisms of injury for most age groups. The highest rate of transportation related trauma was found in motor vehicle occupants aged 20-24 (130 injuries per 100,000 population).

Figure 3.4: Transportation Related Trauma Rates by Age and Mechanism: 2011

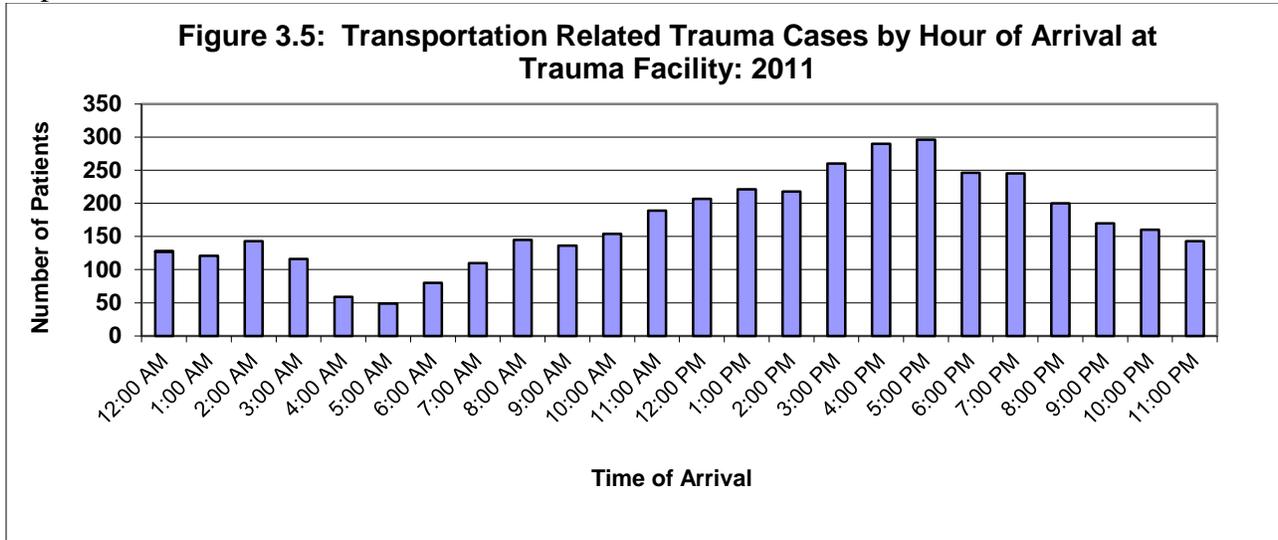


*Rates not calculated on fewer than five incidents

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

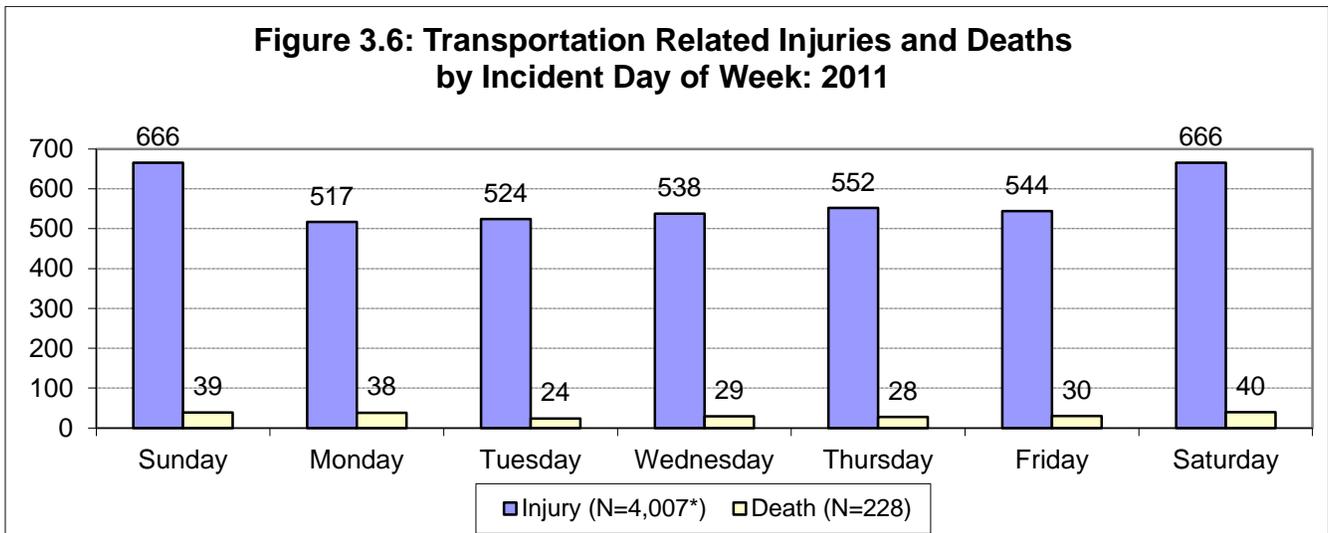
Population estimates, SANDAG

The frequency of transportation-related trauma patient arrivals increased steadily through the day from the 5:00 am hour (49 total patients for the year), to 5:00 pm (296 patients), and declined steadily after 6:00 pm.



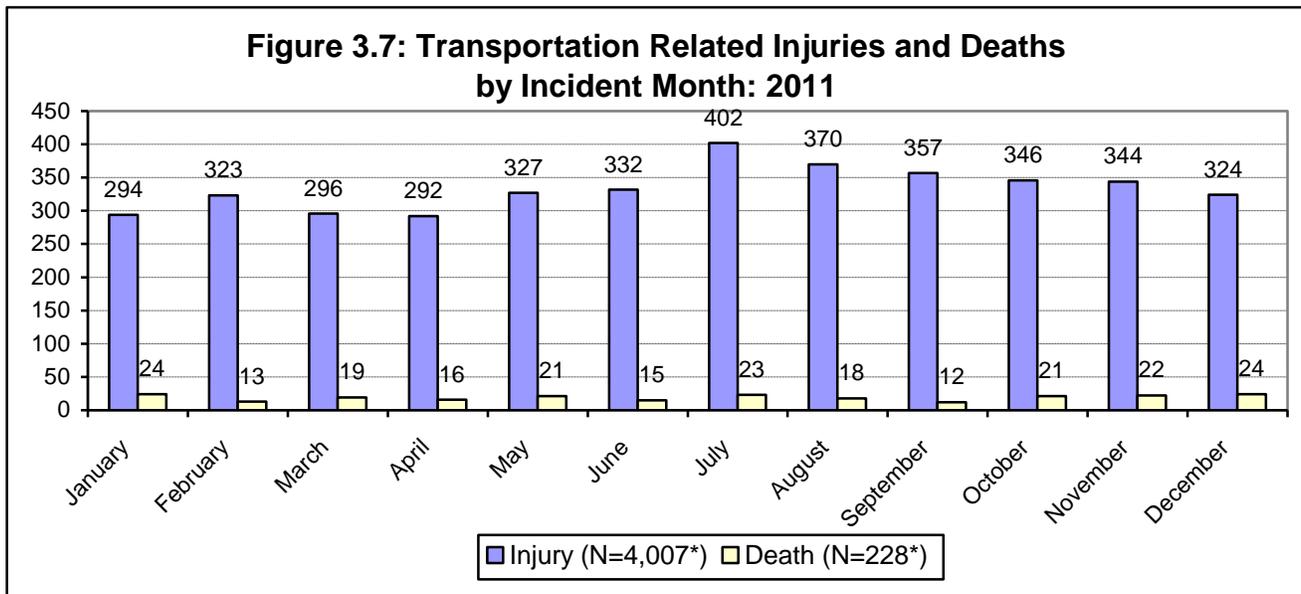
*Limited to patients arriving at trauma facilities (deaths on scene not applicable).
 All times are in one hour increments, for example, 6:00 - 6:59 = 6:00
 Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

Saturdays and Sundays experienced the greatest numbers of injuries (33% of injuries) and deaths (35%).



*One injury had an unspecified incident date
 Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

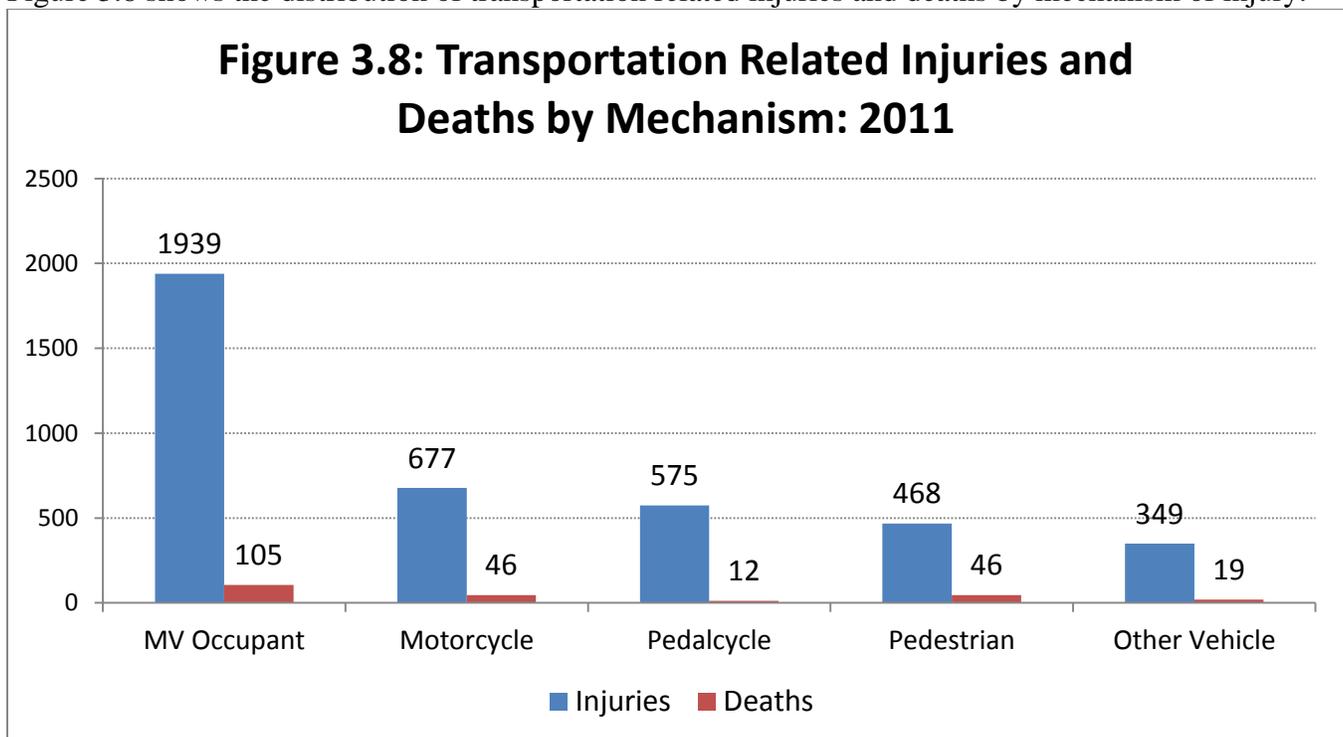
The number of injuries and deaths did not fluctuate greatly over the course of the year, although injuries were highest in July (402) and lowest in April (292). The highest number of deaths was in January and December (24 each) and the lowest in September (12).



*One injury had unspecified incident date.

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

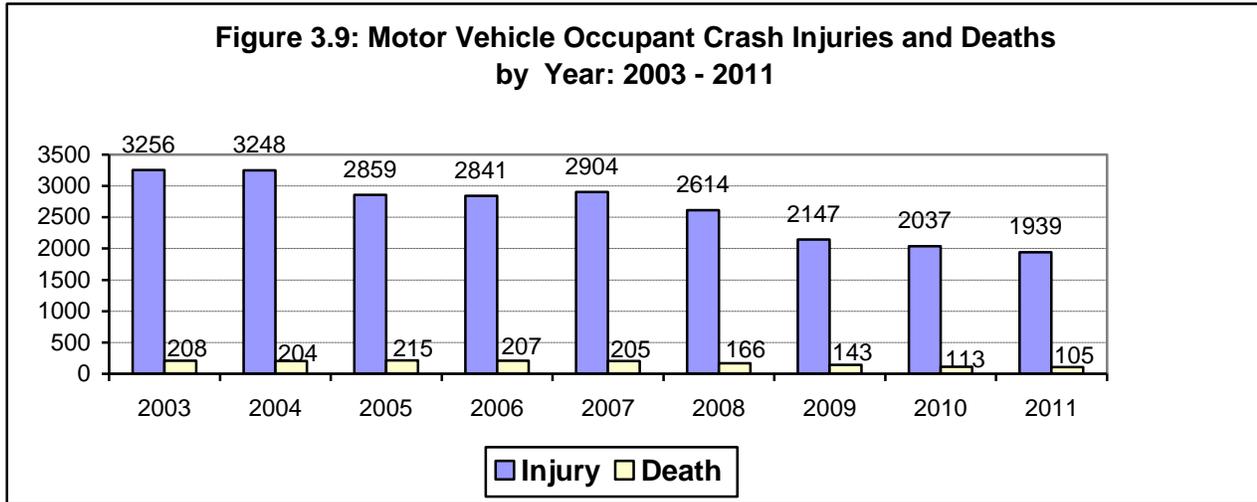
Almost half of transportation related injuries (48%) and deaths (46%) were in motor vehicle occupants. Figure 3.8 shows the distribution of transportation related injuries and deaths by mechanism of injury.



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

Motor Vehicle Occupant Crash Injuries

Motor vehicle occupants are drivers or passengers of enclosed vehicles, such as cars, trucks, and vans. From 2003 to 2011, the number injuries and deaths to motor vehicle occupants dropped by 40% and 50%, respectively. The injury and death rates, accounting for the size of the population during this time, declined by 44% and 53%.



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data, 2003 - 2011

Table 3.3: Number and Rate (per 100,000) of Motor Vehicle Occupant Injuries and Deaths by Year: 2003 - 2011

Year	Injury		Death		Total	
	Incidence	Rate	Incidence	Rate	Incidence	Rate
2003	3,256	111.23	208	7.11	3,464	118.34
2004	3,248	109.96	204	6.91	3,452	116.87
2005	2,859	96.37	215	7.25	3,074	103.61
2006	2,841	95.45	207	6.95	3,048	102.40
2007	2,904	96.85	205	6.84	3,109	103.69
2008	2,614	86.19	166	5.47	2,780	91.67
2009	2,147	70.06	143	4.67	2,290	74.73
2010	2,037	65.81	113	3.65	2,150	69.46
2011	1,939	62.23	105	3.37	2,044	65.60

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data, 2003 - 2011

In 2011, Non-fatal MVO men accounted for 52% of injuries and 57% of deaths.

Figure 3.10: Motor Vehicle Occupant Crash Injuries and Deaths by Gender: 2011



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

Injury rates were highest in the 20 to 24 year age group for both males (131 per 100,000) and females (113 per 100,000), and death rates were highest among those 85 years of age and older (12 per 100,000).

Table 3.4: Number and Rate* (per 100,000) of Motor Vehicle Occupant Crash Injuries and Deaths by Age Group and Gender: 2011

	Injury						Death						Overall Total	
	Male		Female		Total		Male		Female		Total			
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
0-4	23	22.79	19	19.63	42	21.24	0		0		0		42	21.24
5-9	28	28.09	23	24.30	51	26.24	0		0		0		51	26.24
10-14	19	18.27	28	28.74	47	23.34	0		0		0		47	23.34
15-19	84	68.28	94	84.74	178	76.08	5	4.06	1		6	2.56	184	78.65
20-24	189	130.98	136	113.06	325	122.83	5	3.47	13	10.81	18	6.80	343	129.64
25-34	184	75.11	188	82.17	372	78.52	16	6.53	4		20	4.22	392	82.74
35-44	115	54.88	87	41.91	202	48.42	6	2.86	3		9	2.16	211	50.58
45-54	146	68.44	135	62.81	282	65.85	12	5.63	6	2.79	18	4.20	300	70.05
55-64	111	67.12	93	52.45	204	59.53	4		6	3.38	10	2.92	214	62.45
65-74	65	75.58	57	56.89	123	66.06	5	5.81	4		9	4.83	132	70.89
75-84	32	63.25	45	66.95	77	65.37	3		5	7.44	8	6.79	85	72.16
85+	14	66.56	22	59.65	36	62.16	4		3		7	12.09	43	74.24
Total	1010	64.63	927	59.69	1939	62.23	60	3.84	45	2.90	105	3.37	2044	65.60

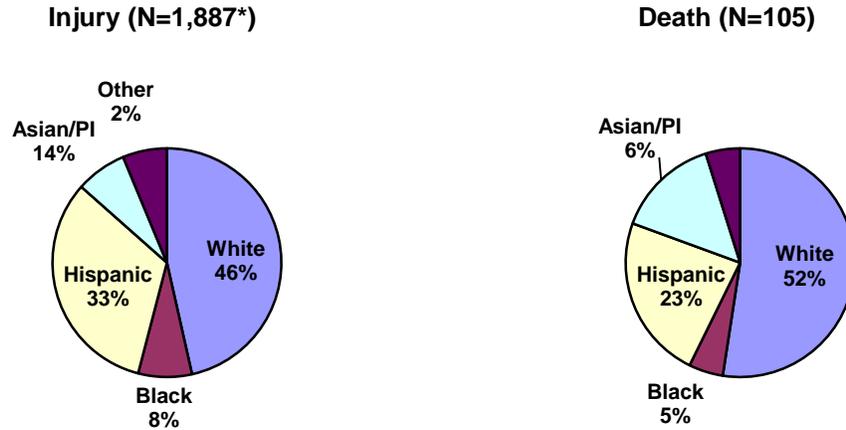
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data; 2011; Population estimates, SANDAG

*Rates not calculated on fewer than five incidents

Note: total includes one death with unspecified age.

The distribution of MVO injuries and deaths by race/ethnicity was actually quite similar to the distribution of these groups within the overall population. Whites made up a slightly higher proportion of deaths than the population (52% vs. 48%), but a smaller percentage of injuries (46% vs. 48%). Hispanics were very to the population with respect to injuries (33% vs. 32%) but were much lower than the population with respect to deaths (23% vs. 32%).

Figure 3.11: Motor Vehicle Occupant Crash Injuries and Deaths by Race/Ethnicity: 2011

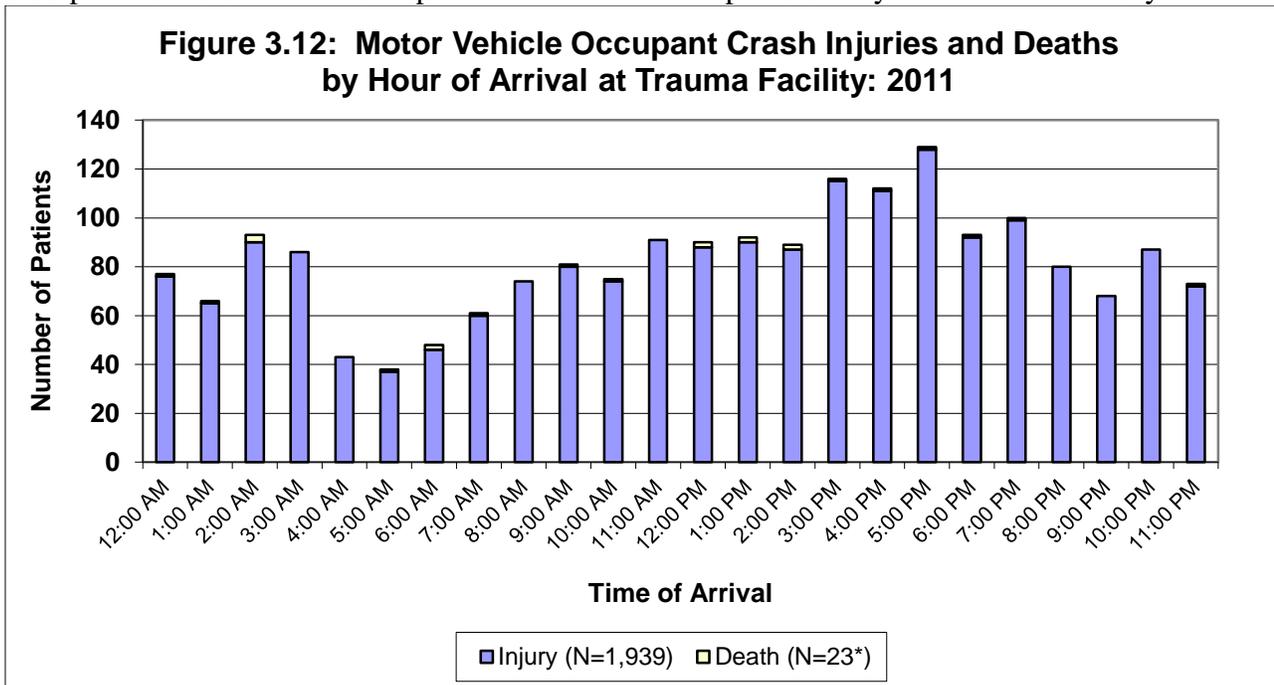


*Totals include 52 injuries with unspecified race/ethnicity.

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

The majority of motor vehicle occupant crash injuries (62%) occurred between the hours of 8:00 am and 8:00 pm and motor vehicle occupant crash deaths were spread evenly over the 24 hour day.

Figure 3.12: Motor Vehicle Occupant Crash Injuries and Deaths by Hour of Arrival at Trauma Facility: 2011

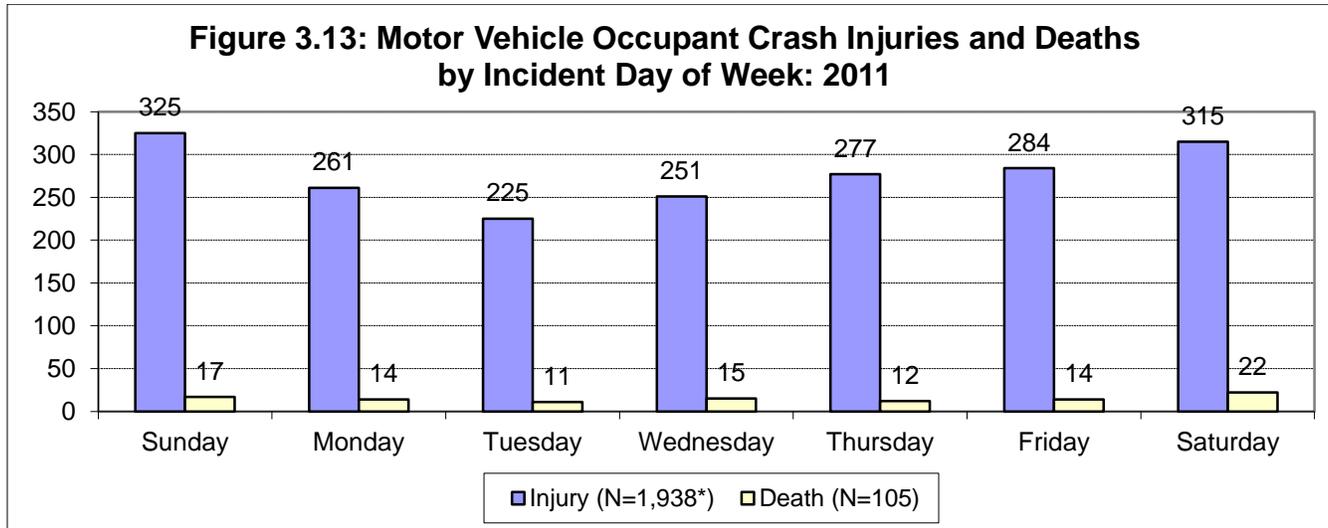


All times are in one hour increments, for example, 6:00 - 6:59 = 6:00

*Note: limited to patients arriving at trauma facilities (deaths on scene or at non-trauma facilities not applicable)

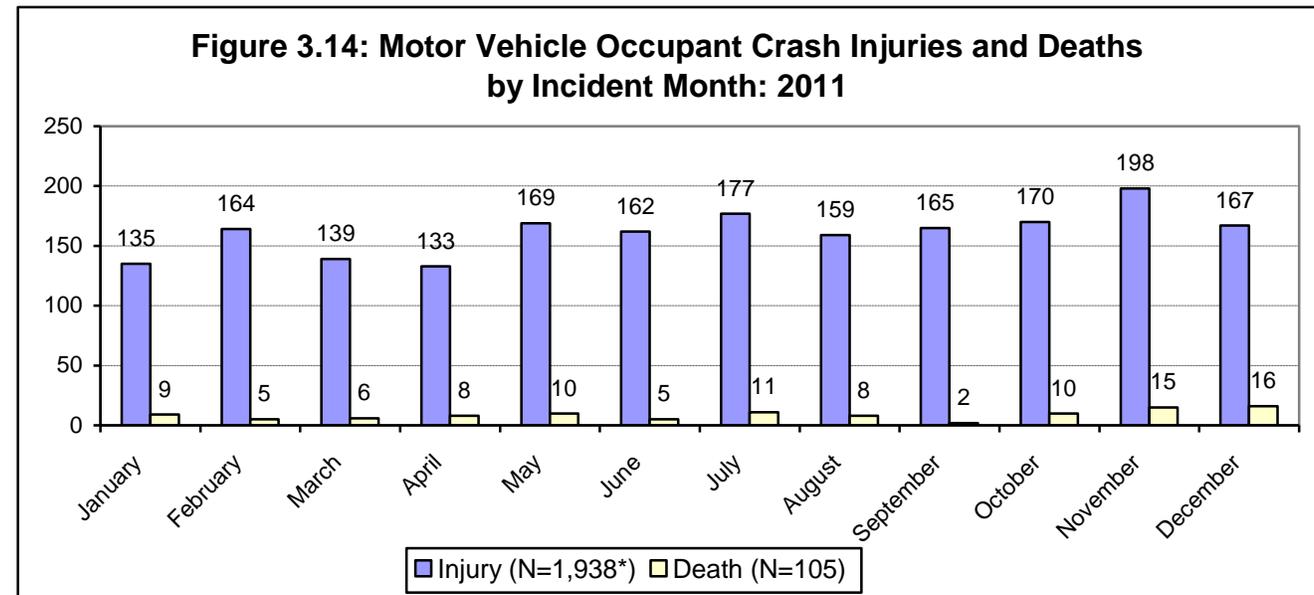
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

In 2011, motor vehicle occupant crashes were highest on weekends, with Saturday and Sunday making up 33% of injuries and 37% of deaths. The month with the highest number of MVO injuries was November, while December had the highest number of deaths.



*Totals include one injury with unspecified incident date.

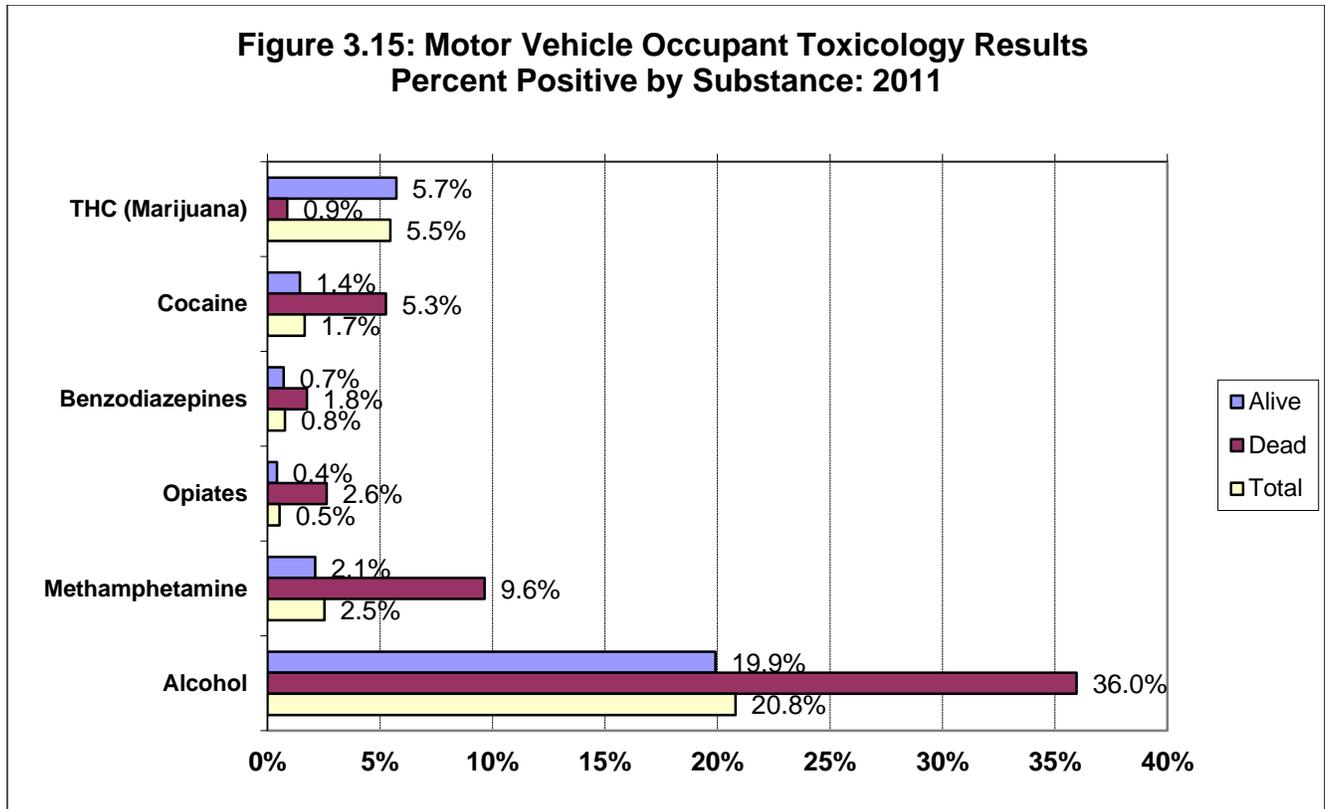
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011



*Totals include one injury with unspecified incident date.

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

More than one third of MVO deaths, and 21% of injuries and deaths combined had positive toxicologies for alcohol. Positive tests for methamphetamine and opiates were also higher in individuals who died than in survivors. The medical examiner’s laboratory does not quantify cannabinoid levels, which may explain the lack of positive THC findings.

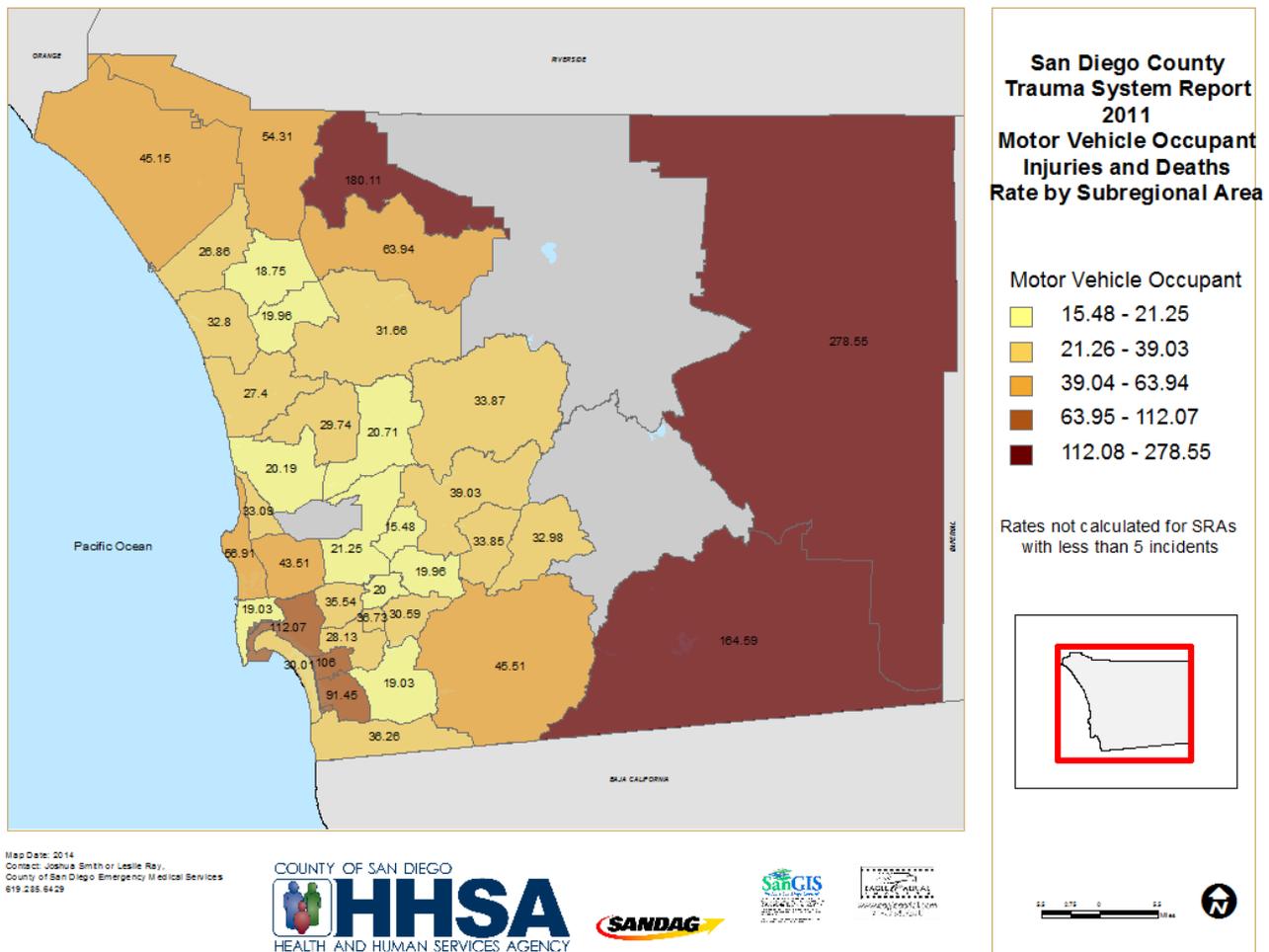


Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner’s Data, 2011

Note: excludes opiates and benzodiazepines that were documented as clinician administered.

Incidence and rates of injury by subregional areas (SRA) and HHS region were calculated from the zip code where the incident took place. The highest rate of MVO injuries and deaths were in the SRAs of Anza-Borrego Springs (279 per 100,000), Pauma (180), Mountain Empire (165), Central San Diego (112), and National City (106). It is noteworthy that the top three SRAs are all rural and/or mountainous in terrain with small winding roads. At the HHS Region level, the highest combined rate was in the Central HHS region (59 per 100,000).

Figure 3.16: Motor Vehicle Occupant Crash Injury and Death Rates per 100,000 by Subregional Area, 2011



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data: 2011; Population estimates, SANDAG.

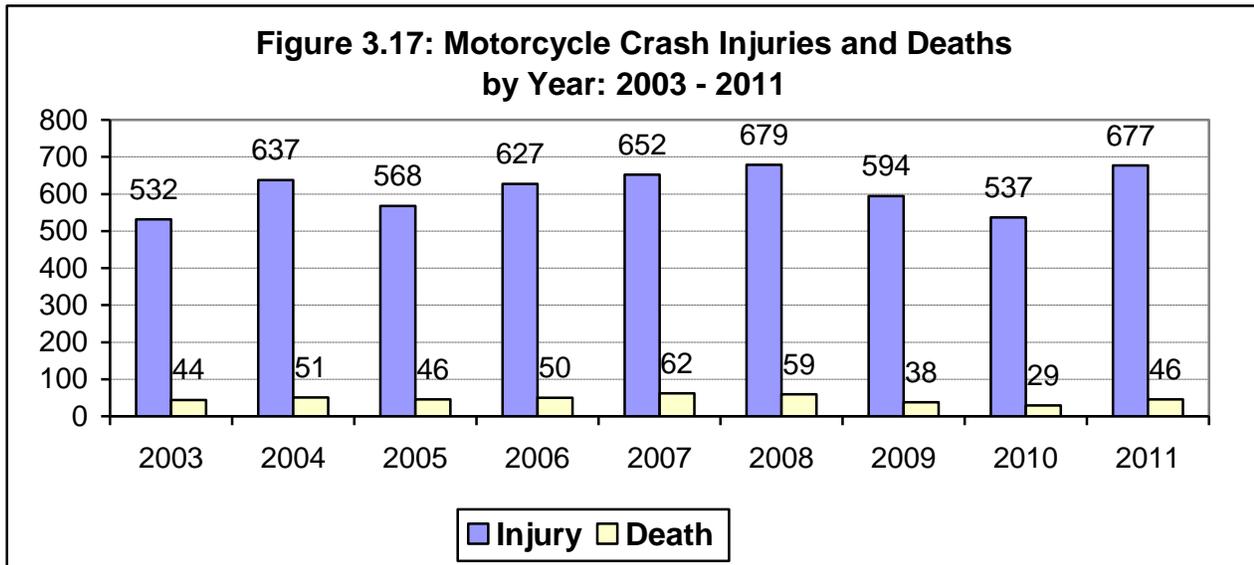
Table 3.5: Motor Vehicle Occupant Injuries and Deaths by Incident HHS Region: 2011

HHS Region	Survived		Expired		Total	
	Number	Rate	Number	Rate	Number	Rate
North Coastal	129	25.30	9	1.77	138	27.07
North Central	186	30.50	16	2.62	202	33.13
Central	277	57.05	11	2.27	288	59.31
South	240	51.12	13	2.77	253	53.89
East	120	25.72	26	5.57	146	31.29
North Inland	162	28.20	22	3.83	184	32.02
Unknown	825		8		833	
Total	1939	62.23	105	3.37	2044	65.60

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data; 2011

Motorcycle Crash Injuries

The number of motorcyclists injured and killed was fairly stable from 2004 through 2008. From 2008 to 2010, though, the number of injuries fell by 21% and the number of deaths dropped to half of the 2008 level. However, motorcycle injuries and deaths increased in 2011 by 26% and 59% respectively. Controlling for population increases, the 2011 motorcycle injury rate was the highest in at least the last 9 years.



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data, 2003 - 2011

Table 3.6: Number and Rate (per 100,000) of Motorcycle Crash Injuries and Deaths by Year: 2003 - 2011

Year	Injury		Death		Total	
	Incidence	Rate	Incidence	Rate	Incidence	Rate
2003	532	17.96	44	1.49	576	19.45
2004	637	21.11	51	1.69	688	22.80
2005	568	18.62	46	1.51	614	20.12
2006	627	20.44	50	1.63	677	22.07
2007	652	21.04	62	2.00	714	23.05
2008	679	21.58	59	1.88	738	23.46
2009	594	18.72	38	1.20	632	19.92
2010	537	16.70	29	0.90	566	17.60
2011	677	21.73	46	1.48	723	23.20

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data, 2003 - 2011

The majority of people who were injured or killed in motorcycle crashes were male (87% of injuries and 96% of deaths). However, the percent of motorcycle injuries and deaths among females rose in 2011 from 2010. The highest rate of injury (78 per 100,000) and death (9 per 100,000) was in males 20-24 years of age.

Figure 3.18: Motorcycle Crash Injuries and Deaths by Gender: 2011



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data, 2011

Table 3.7: Number and Rate* (per 100,000) of Motorcycle Crash Injuries and Deaths by Age Group and Gender: 2011

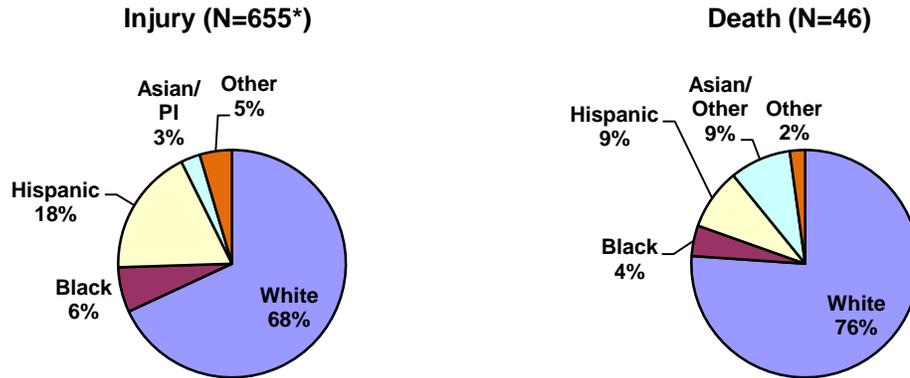
	Injury						Death						Total	
	Male		Female		Total		Male		Female		Total		Overall Total	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
0-4	0		0		0		0		0		0		0	
5-9	3		1		4		0		0		0		4	
10-14	6	5.77	3		9	4.47	0		0		0		9	4.47
15-19	21	17.07	8	7.21	29	12.40	0		0		0		29	12.40
20-24	113	78.31	18	14.96	131	49.51	13	9.01	0		13	4.91	144	54.42
25-34	163	66.54	20	8.74	183	38.63	8	3.27	1		9	1.90	192	40.53
35-44	92	43.90	11	5.30	104	24.93	5	2.39	0		5	1.20	109	26.13
45-54	97	45.47	16	7.44	113	26.39	9	4.22	0		9	2.10	122	28.49
55-64	68	41.12	9	5.08	78	22.76	6	3.63	1		7	2.04	85	24.80
65-74	19	22.09	3		22	11.82	3		0		3		25	13.43
75-84	2		0		2		0		0		0		2	
85+	2		0		2		0		0		0		2	
Total	586	37.50	89	5.73	677	21.73	44	2.82	2		46	1.48	723	23.20

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data, 2011; Population estimates, SANDAG.

*Rates not calculated on fewer than five incidents

Whites were substantially over-represented among injuries and deaths from motorcycle crashes, with 68% of injuries and 76% of deaths, despite comprising only 48% of the population overall.

Figure 3.19: Motorcycle Crash Injuries and Deaths by Race/Ethnicity: 2011

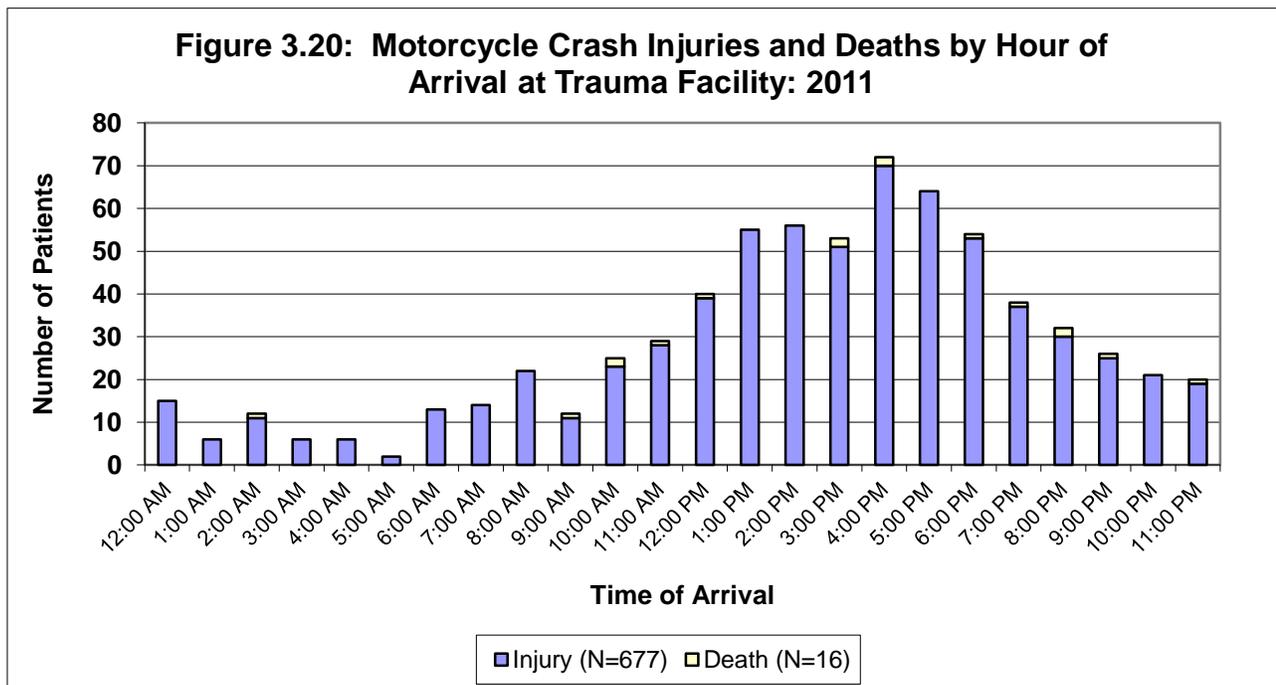


*Totals include 22 injuries of unspecified race/ethnicity.

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data, 2011

Injured motorcyclists were most likely to arrive at trauma centers in the afternoon and early evening hours; 62% arrived between noon and 7 pm.

Figure 3.20: Motorcycle Crash Injuries and Deaths by Hour of Arrival at Trauma Facility: 2011

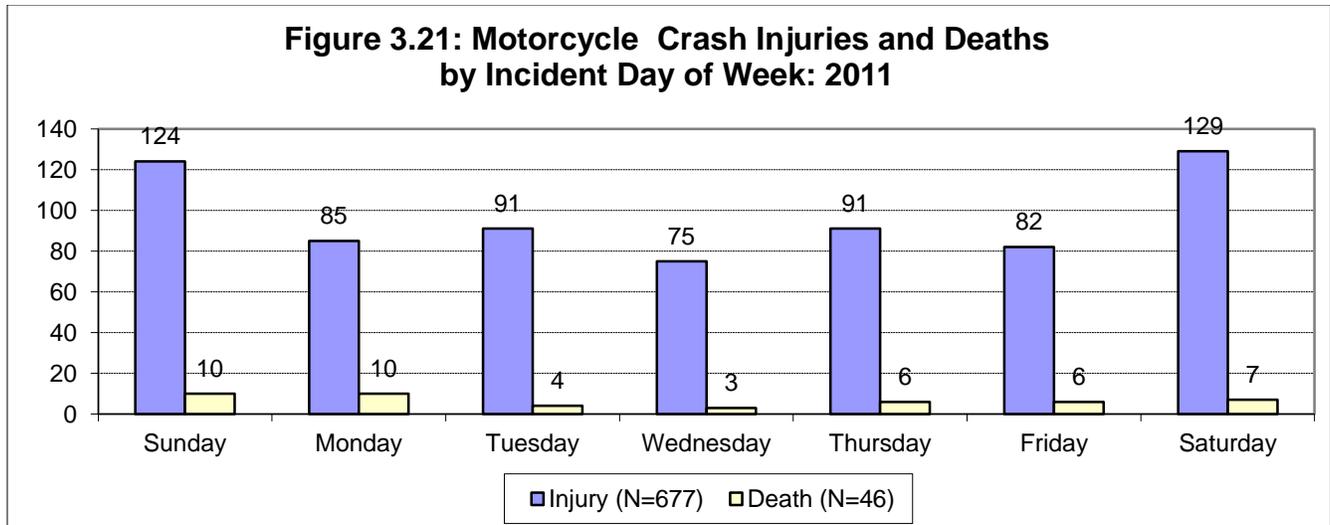


All times are in one hour increments, for example, 6:00 - 6:59 = 6:00

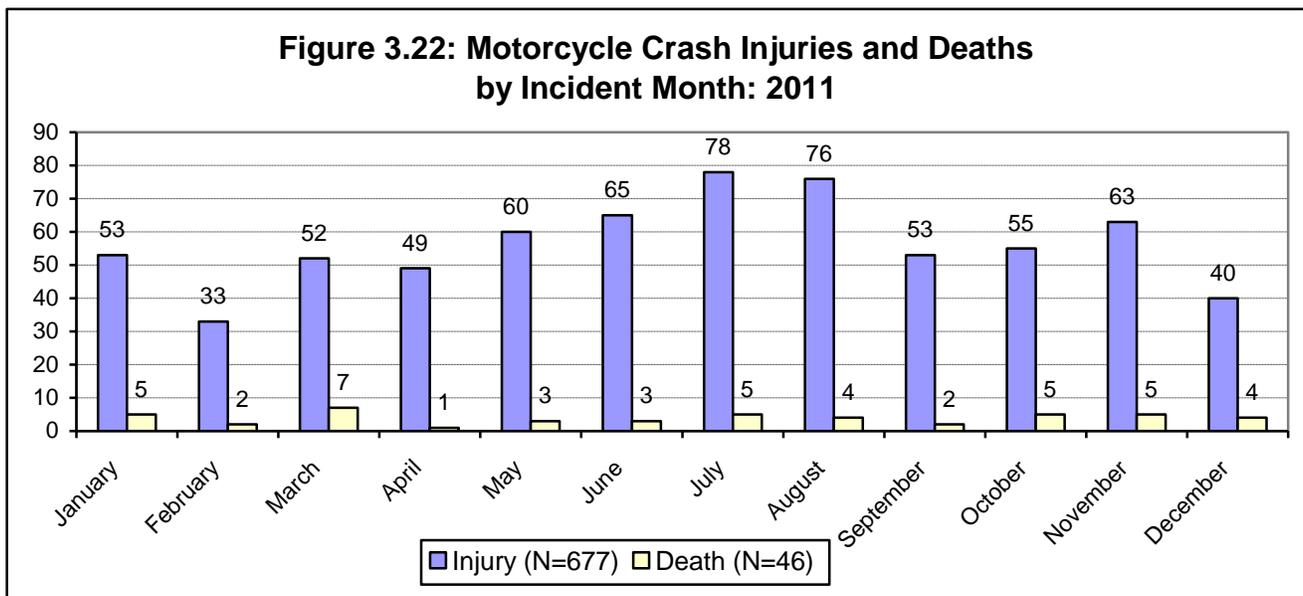
*Note: limited to patients arriving at trauma facilities (deaths on scene or at non-trauma facilities not applicable)

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

Thirty seven percent of injuries and 37% of motorcyclist deaths occurred on Saturdays and Sundays. This is a decrease in the percent of weekend injuries and deaths from 2010, possibly indicating more people are choosing motorcycles as their mode of transportation for work. The summer months of June through August had the highest number of injuries (32% of total).

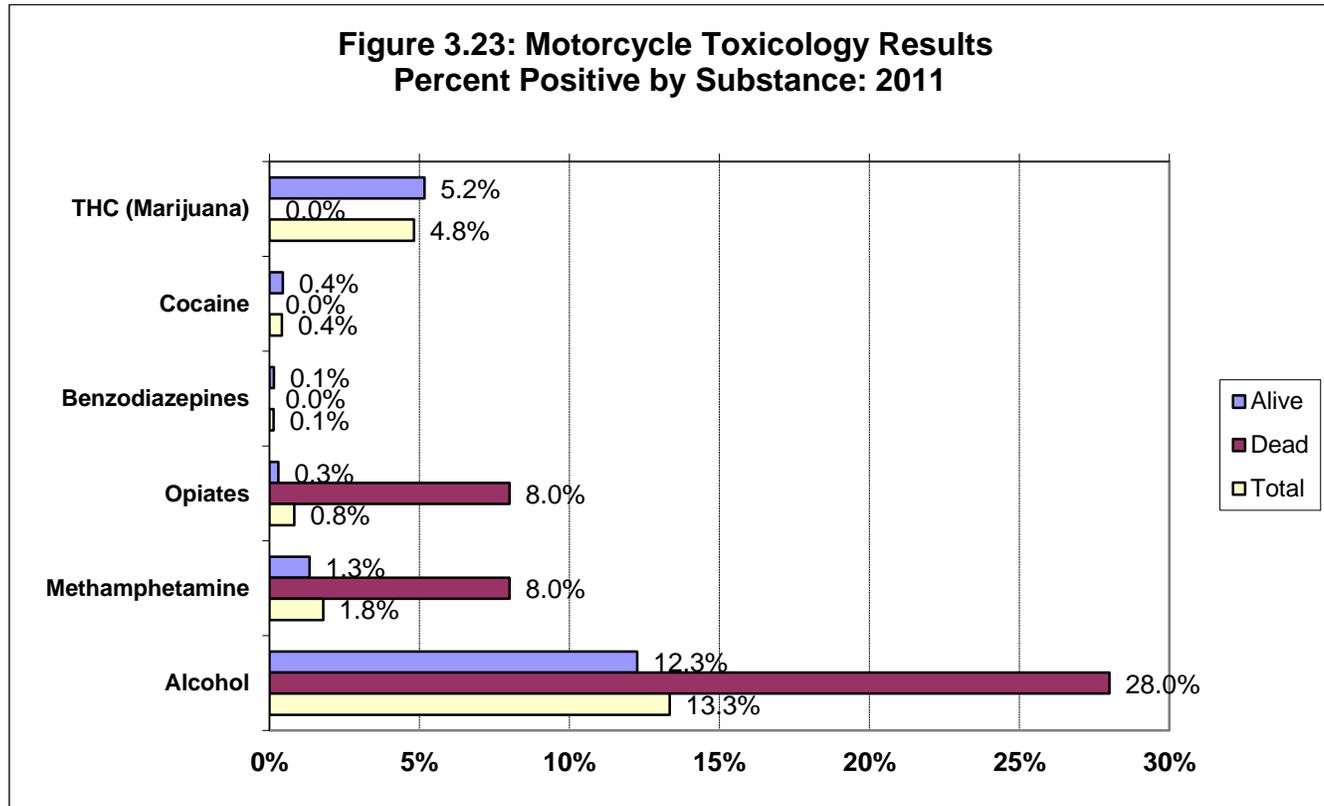


Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

Overall, 13.3% of motorcycle crash victims tested positive for alcohol, followed by 4.8% positive for marijuana. Other substances were positive in less than five percent of motorcyclists.

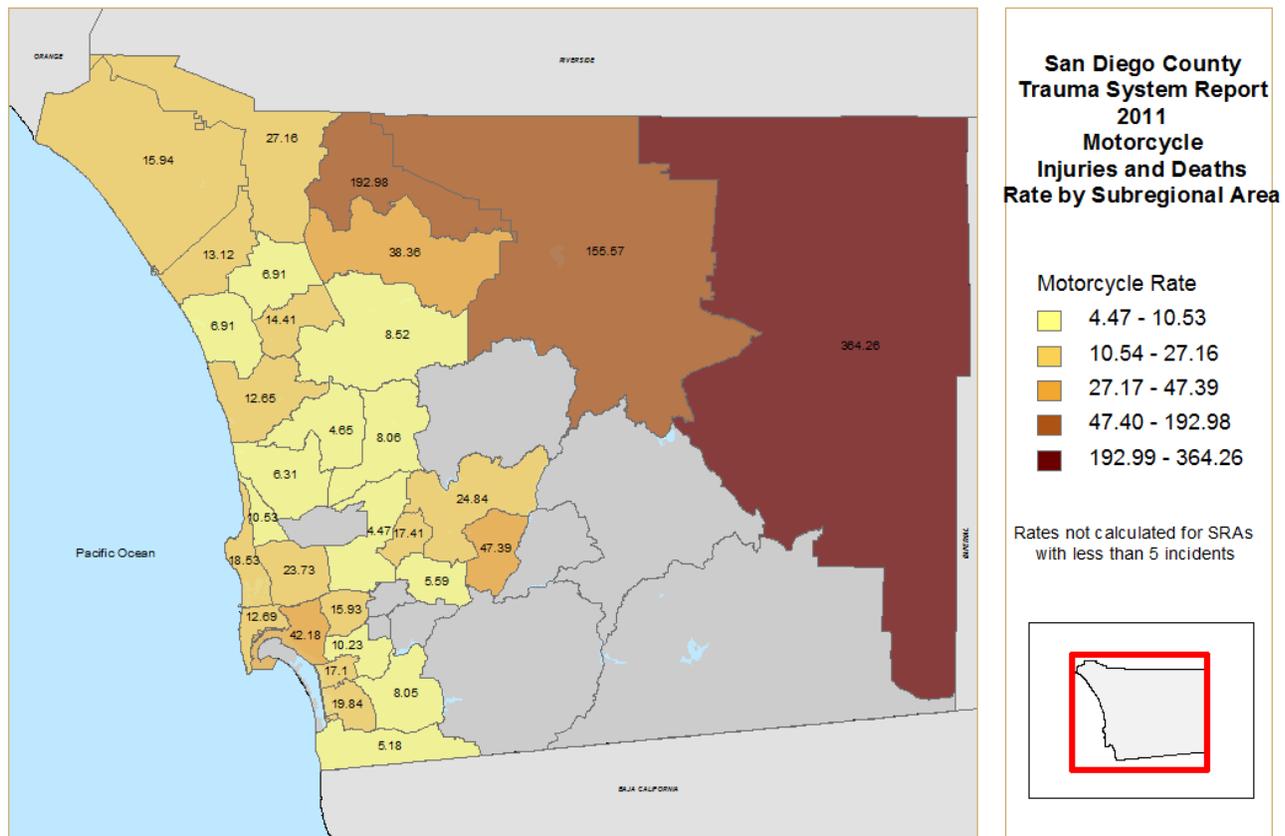


Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

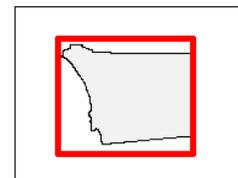
Note: excludes opiates and benzodiazepines that were documented as clinician administered.

Incidence and rates of injury by subregional areas (SRA) and HHSA region were calculated from the zip code where the incident took place. Anza-Borrego Springs (364 per 100,000), Pauma (193), and Palomar-Julian (156) had the highest rates of injuries to motorcyclists. Similar to motor vehicle occupant trends, motorcycle injuries and deaths occurred at higher rates in locations with winding mountainous roads. At the HHSA Region level, the highest combined rate was in the Central HHSA region (23 per 100,000).

Figure 3.24: Motorcycle Crash Injury and Death Rates per 100,000 by Subregional Area: 2011



Map Date: 2014
Contact: Joshua Smith or Leslie Ray
County of San Diego Emergency Medical Services
619.286.6429



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data, 2011. Population estimates, SANDAG.

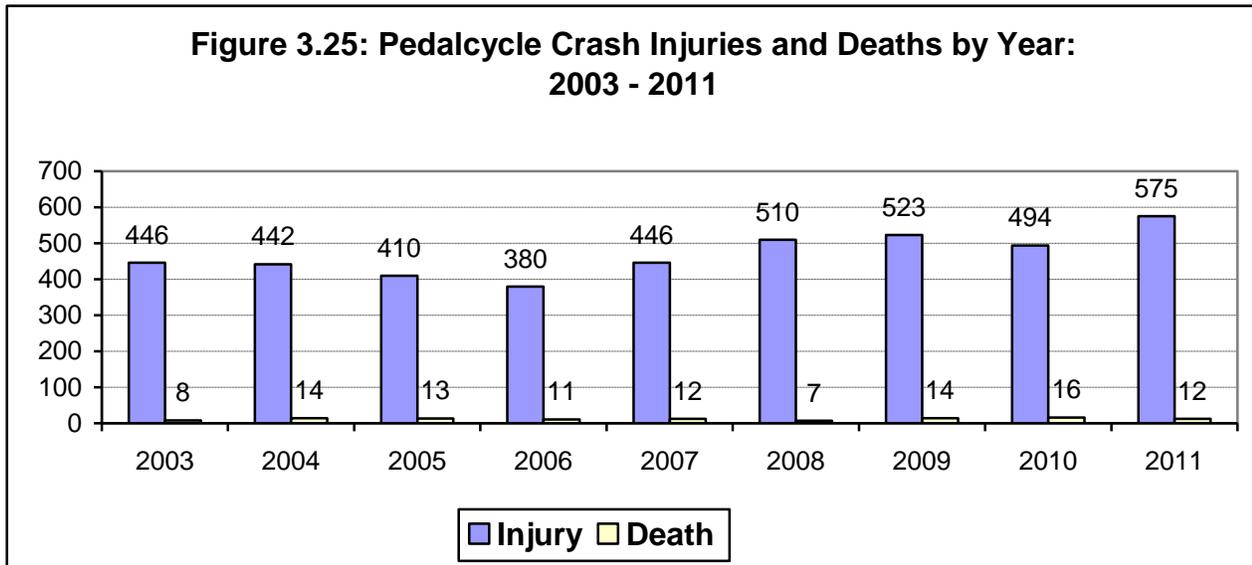
Table 3.8: Motorcycle Crash Injuries and Deaths by Incident HHS Region, 2011

HHS Region	Survived		Expired		Total	
	Number	Rate	Number	Rate	Number	Rate
North Coastal	47	9.22	6	1.18	53	10.40
North Central	79	12.96	2		81	13.28
Central	110	22.65	2		112	23.07
South	46	9.80	8	1.70	54	11.50
East	49	10.50	12	2.57	61	13.07
North Inland	90	15.66	9	1.57	99	17.23
Unknown	256		7		263	
Total	677	21.73	46	1.48	723	23.20

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data; 2011

Pedalcycle Crash Injuries

The ratio of deaths to non-fatal pedalcycle injuries was much lower than for other causes of injury. Compared to the ratio for all causes of injury, in which there was 17.6 nonfatal trauma victims for every death, the ratio for pedalcyclists during 2011 was 48 nonfatal injuries per death. The population controlled rate of non-fatal pedalcycle injuries has increased by 49% from 2006 to 2011.



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data, 2003 - 2011

Table 3.9: Number and Rate (per 100,000) of Pedalcycle Crash Injuries and Deaths by Year: 2003 - 2011

Year	Injury		Death		Total	
	Incidence	Rate	Incidence	Rate	Incidence	Rate
2003	446	15.06	8	0.27	454	15.33
2004	442	14.65	14	0.46	456	15.11
2005	410	13.44	13	0.43	423	13.86
2006	380	12.39	11	0.36	391	12.75
2007	446	14.40	12	0.39	458	14.78
2008	510	16.21	7	0.22	517	16.43
2009	523	16.48	14	0.44	537	16.92
2010	494	15.36	16	0.50	510	15.86
2011	575	18.45	12	0.39	587	18.84

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data, 2003 - 2011

Injuries and deaths related to pedalcycle crashes were much more likely to happen to males than females. The highest age and sex-specific injury rate was in 10 to 14 year old boys (47.7 per 100,000).

Figure 3.26: Pedalcycle Crash Injuries and Deaths by Gender: 2011



*Gender not recorded for one injury.

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

Table 3.10: Number and Rate* (per 100,000) of Pedalcycle Crash Injuries by Age Group and Gender: 2011

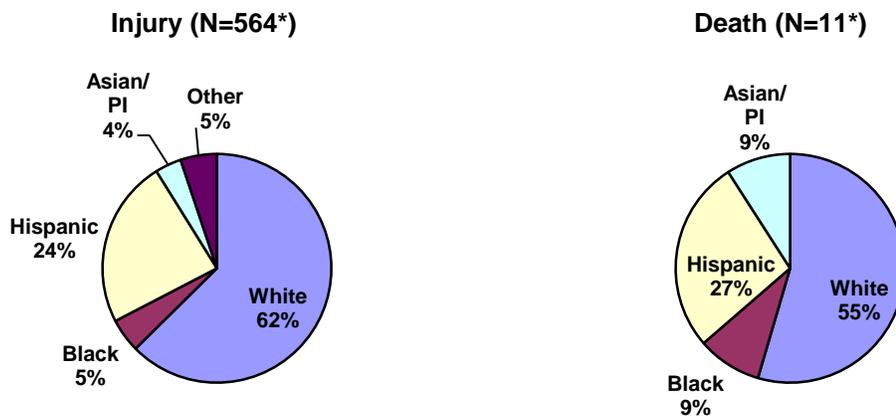
Age Group	Male		Female		Total	
	Number	Rate	Number	Rate	Number	Rate
0-4	3		2		5	2.53
5-9	32	32.10	4		36	18.52
10-14	62	59.62	8	8.21	70	34.76
15-19	52	42.27	10	9.02	62	26.50
20-24	41	28.41	6	4.99	48	18.14
25-34	75	30.61	15	6.56	90	19.00
35-44	62	29.59	9	4.34	71	17.02
45-54	77	36.10	21	9.77	98	22.88
55-64	56	33.86	11	6.20	67	19.55
65-74	20	23.26	1		21	11.28
75-85	3		1		4	
85+	3		0		3	
Total	486	31.10	88	5.67	575	18.45

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data, 2011; Population estimates, SANDAG

*Rates not calculated on fewer than five incidents

Similar to motorcycle injuries and deaths, whites are over represented in pedalcycle injuries (62%) and deaths (55%) compared to the percentage in the general population (48%).

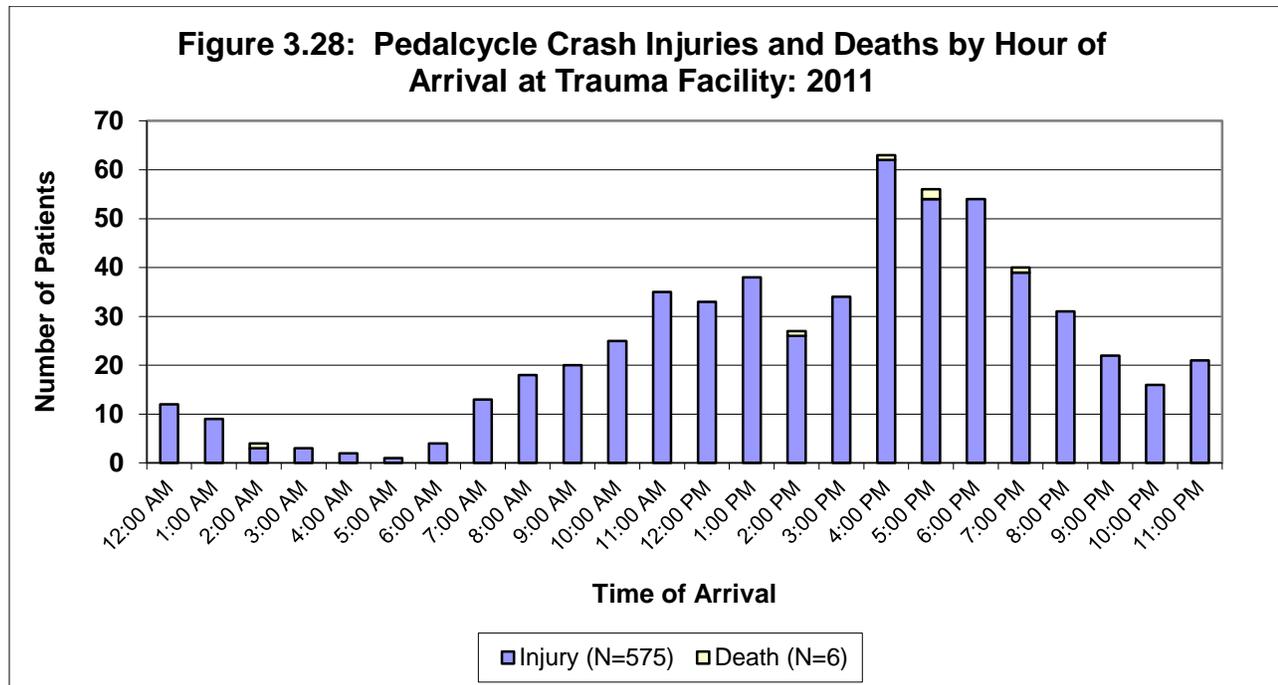
Figure 3.27: Pedalcycle Crash Injuries and Deaths by Race/Ethnicity: 2011



*Eleven injuries and one death with unspecified race/ethnicity

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

Similar to motorcyclist injuries, pedalcyclists arrived at trauma centers with greatest frequency during the afternoon and early evening hours, peaking between 4 and 6 pm.

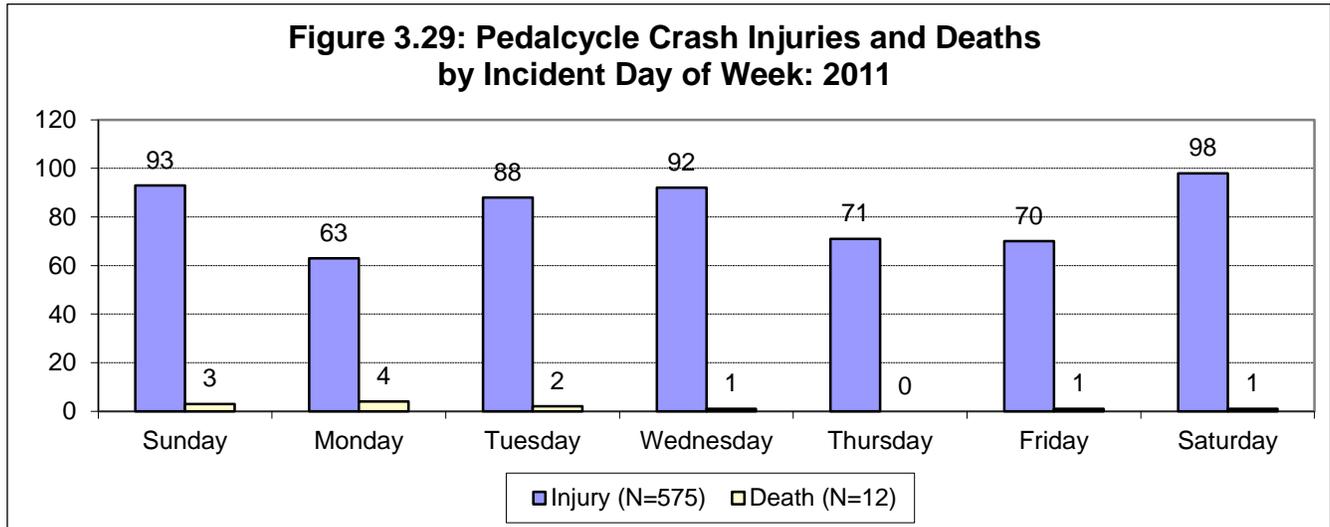


All times are in one hour increments, for example, 6:00 - 6:59 = 6:00

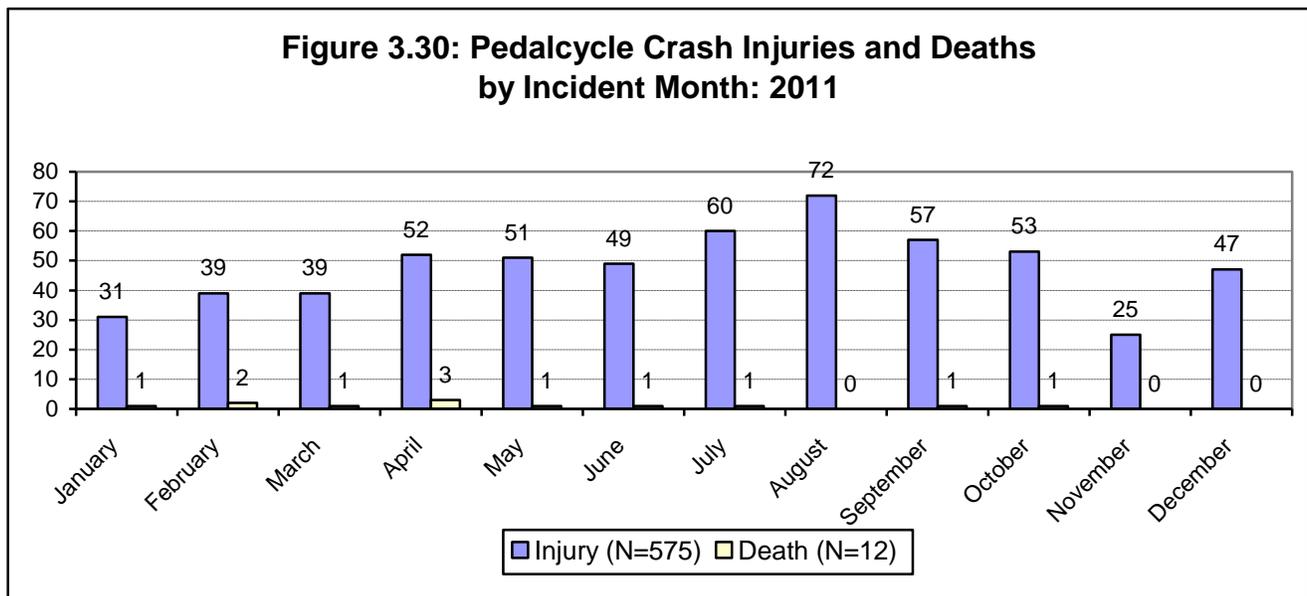
*Note: limited to patients arriving at trauma facilities (deaths on scene or at non-trauma facilities not applicable)

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

Pedalcyclists were most likely to be injured on the weekend (33% of total) and in the month August.



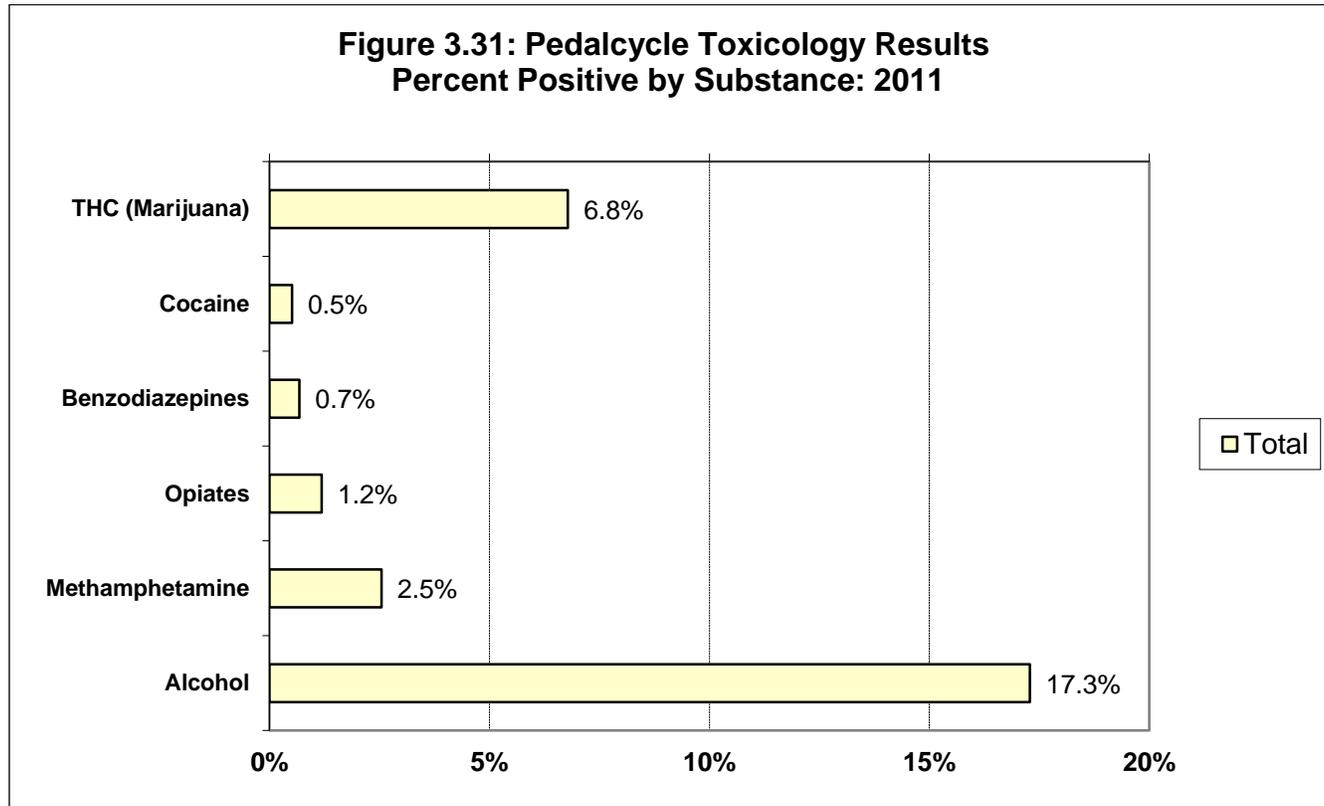
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011



*Totals include one death with unspecified date of injury.

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

Almost one-fifth of injured pedalcyclists had positive alcohol toxicology results, and 6.8% tested positive for marijuana.

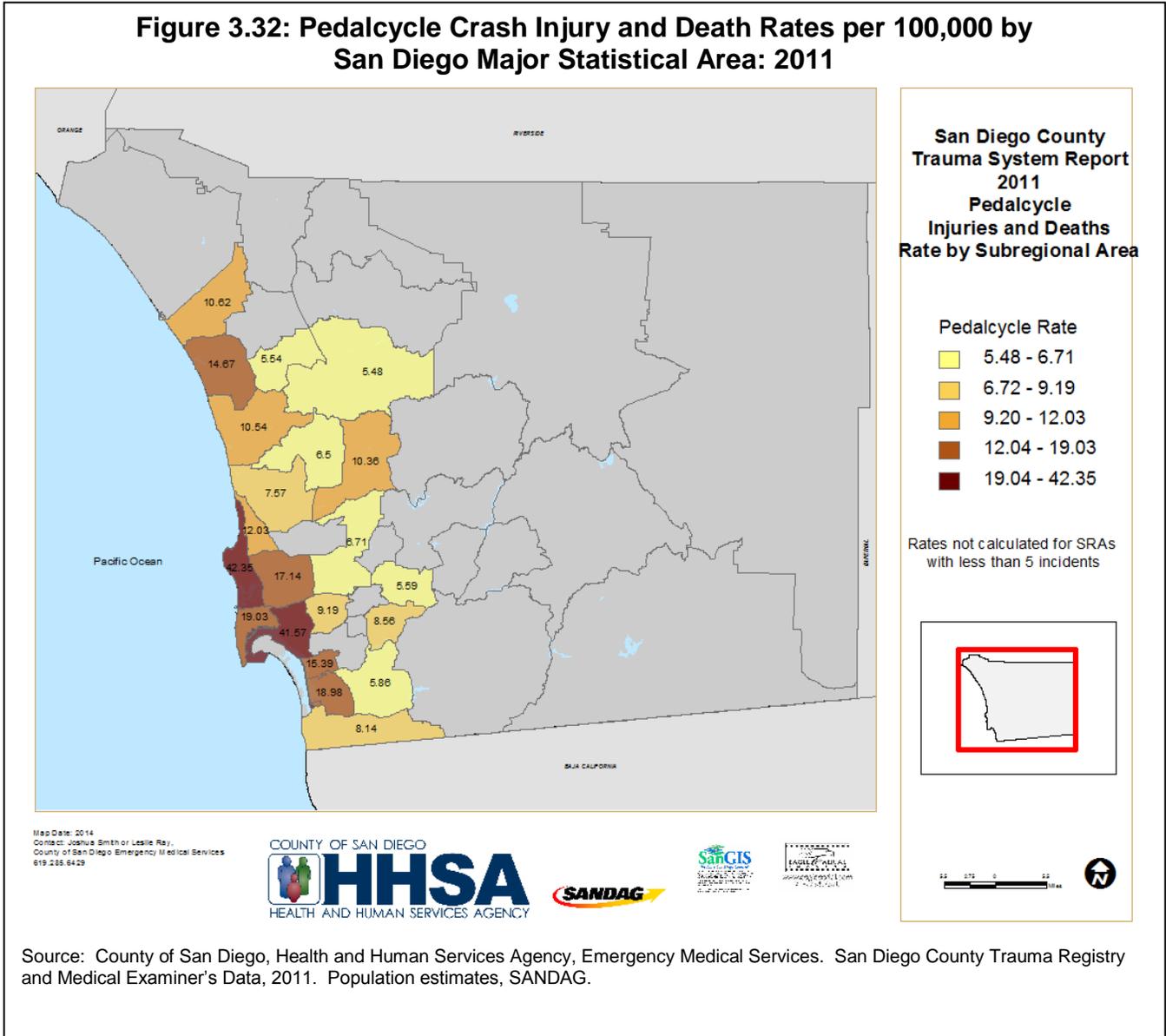


Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

Note: excludes opiates and benzodiazepines that were documented as clinician administered.

Incidence and rates of injury by subregional areas (SRA) and HHS region were calculated from the zip code where the incident took place. The Coastal (42 per 100,000) and Central (42) SRAs had the highest rates of pedalcyclist injury. At the HHS Region level, the Central and North Central regions had the highest rates of pedalcycle injuries (18 and 17 per 100,000 respectively).

Figure 3.32: Pedalcycle Crash Injury and Death Rates per 100,000 by San Diego Major Statistical Area: 2011



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data, 2011. Population estimates, SANDAG.

Table 3.11: Pedalcycle Injuries and Deaths by Incident HHS Region: 2011

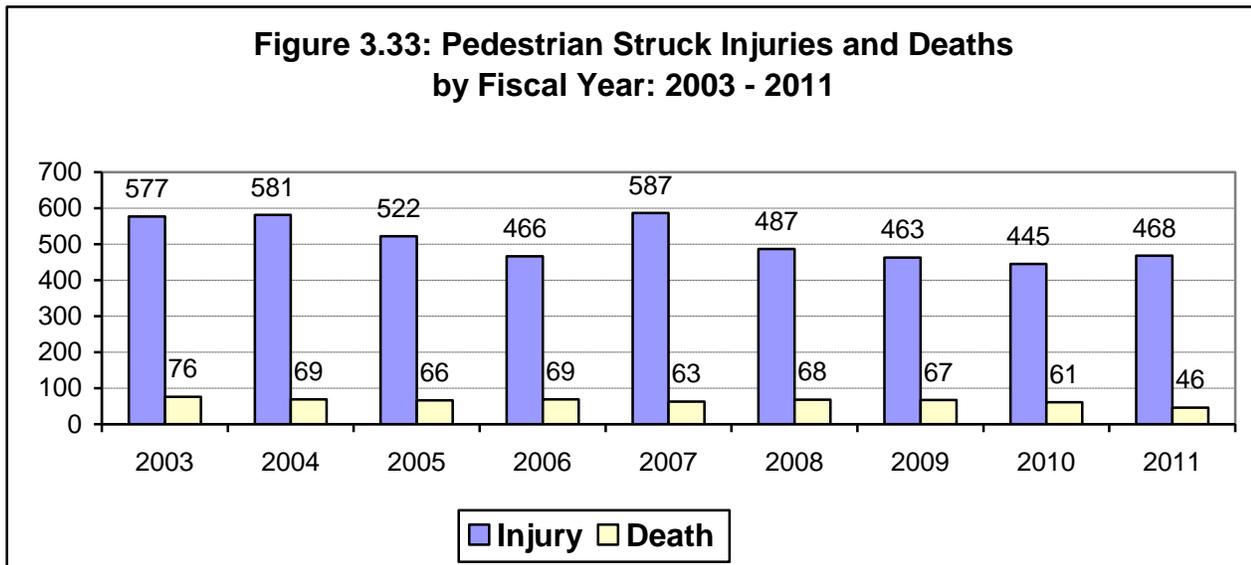
HHS Region	Survived		Expired		Total	
	Number	Rate	Number	Rate	Number	Rate
North Coastal	44	8.63	3		47	9.22
North Central	99	16.24	2		101	16.56
Central	86	17.71	2		88	18.12
South	54	11.50	2		56	11.93
East	33	7.07	1		34	7.29
North Inland	29	5.05	2		31	5.40
Unknown	230		0		230	
Total	575	18.45	12	0.39	587	18.84

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data; 2011

*Rates not calculated on fewer than five incidents

Pedestrian Injuries

While pedestrian injuries have remained relatively stable over the last several years, 2011 marked an extremely low total for pedestrian deaths, which have decreased by almost 40% since 2003. The population controlled pedestrian injury rate has decreased by 42% during the same time frame.



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data, 2003 - 2011

Table 3.12: Number and Rate (per 100,000) of Pedestrian Struck Injuries and Deaths by Year: 2003 - 2011

Year	Injury		Death		Total	
	Incidence	Rate	Incidence	Rate	Incidence	Rate
2003	577	19.48	76	2.57	653	22.05
2004	581	19.26	69	2.29	650	21.54
2005	522	17.11	66	2.16	588	19.27
2006	466	15.19	69	2.25	535	17.44
2007	587	18.95	63	2.03	650	20.98
2008	487	15.48	68	2.16	555	17.64
2009	463	14.59	67	2.11	530	16.70
2010	445	13.84	61	1.90	506	15.73
2011	468	15.02	46	1.48	514	16.50

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data, 2003 - 2011

As with other transportation related injuries, males had a higher rate of death and severe injury as pedestrians compared to females for nearly all age groups. Males accounted for about two thirds of pedestrian related injuries and deaths. The highest pedestrian injury rates were in young men between 10 and 24 years of age.

Figure 3.34: Pedestrian Struck Injuries and Deaths by Gender: 2011



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data, 2011

Table 3.13: Number and Rate* (per 100,000) of Pedestrian Struck Injuries and Deaths by Age Group and Gender: 2011

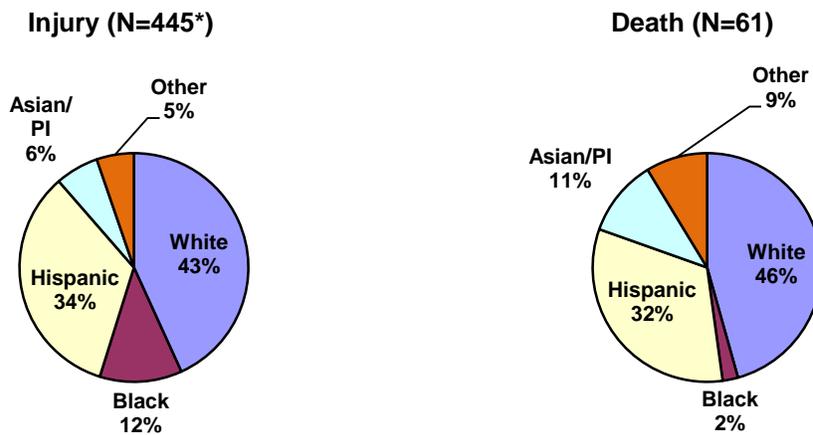
Age Group	Injury						Death						Overall Total	
	Male		Female		Total		Male		Female		Total			
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
0-4	10	9.91	7	7.23	17	8.60	0		0		0		17	8.60
5-9	16	16.05	10	10.56	26	13.38	0		0		0		26	13.38
10-14	28	26.92	7	7.19	35	17.38	0		0		0		35	17.38
15-19	30	24.38	22	19.83	52	22.23	1		1		2		54	23.08
20-24	35	24.26	11	9.14	46	17.39	2		0		2		48	18.14
25-34	54	22.04	20	8.74	74	15.62	8	3.27	4		12	2.53	86	18.15
35-44	31	14.79	10	4.82	41	9.83	1		1		2		43	10.31
45-54	39	18.28	23	10.70	62	14.48	8	3.75	1		9	2.10	71	16.58
55-64	37	22.37	22	12.41	59	17.22	4		4		8	2.33	67	19.55
65-74	12	13.95	14	13.97	26	13.96	2		3		5	2.69	31	16.65
75-84	11	21.74	10	14.88	21	17.83	3		0		3		24	20.37
85+	5	23.77	4		9	15.54	2		1		3		12	20.72
Total	308	19.71	160	10.30	468	15.02	31	1.98	15		46	1.48	514	16.50

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data, 2011; Population estimates, SANDAG

*Rates not calculated on fewer than five incidents

Pedestrian injuries were generally comparable to the overall population distribution of race/ethnicity. Blacks were somewhat over-represented among injuries, with 5% of the population but 12% of pedestrian injuries.

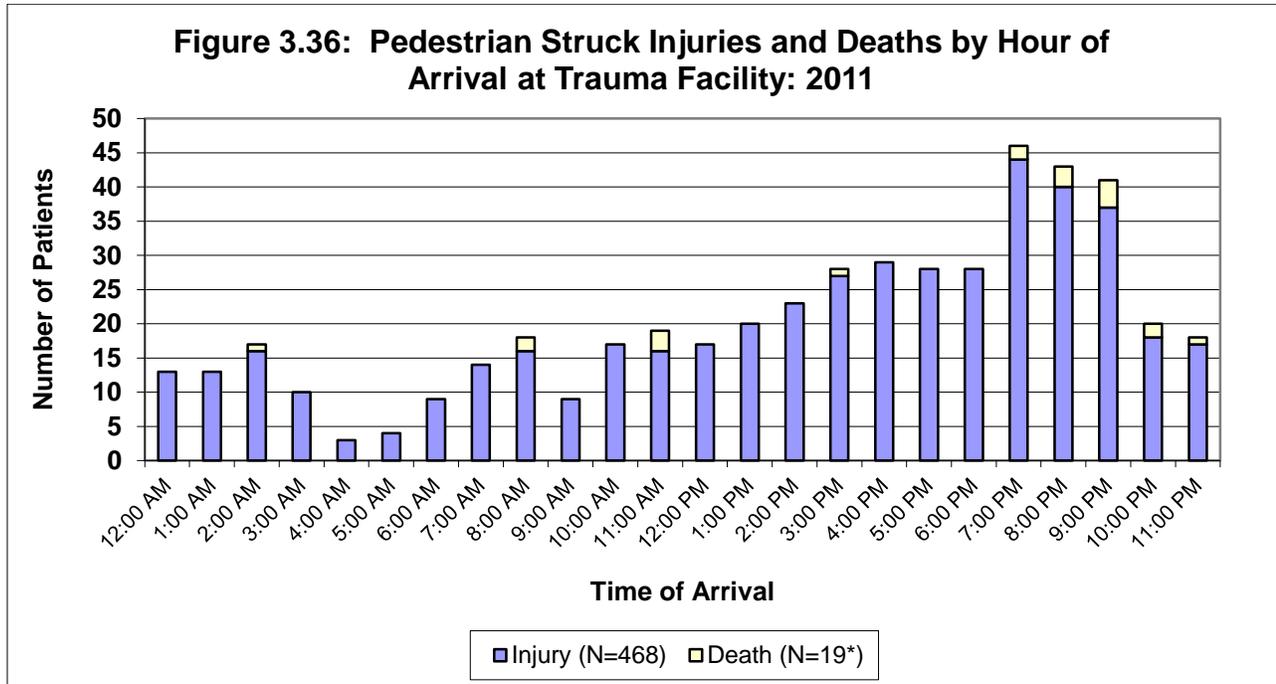
Figure 3.35: Pedestrian Struck Injuries and Deaths by Race/Ethnicity: 2011



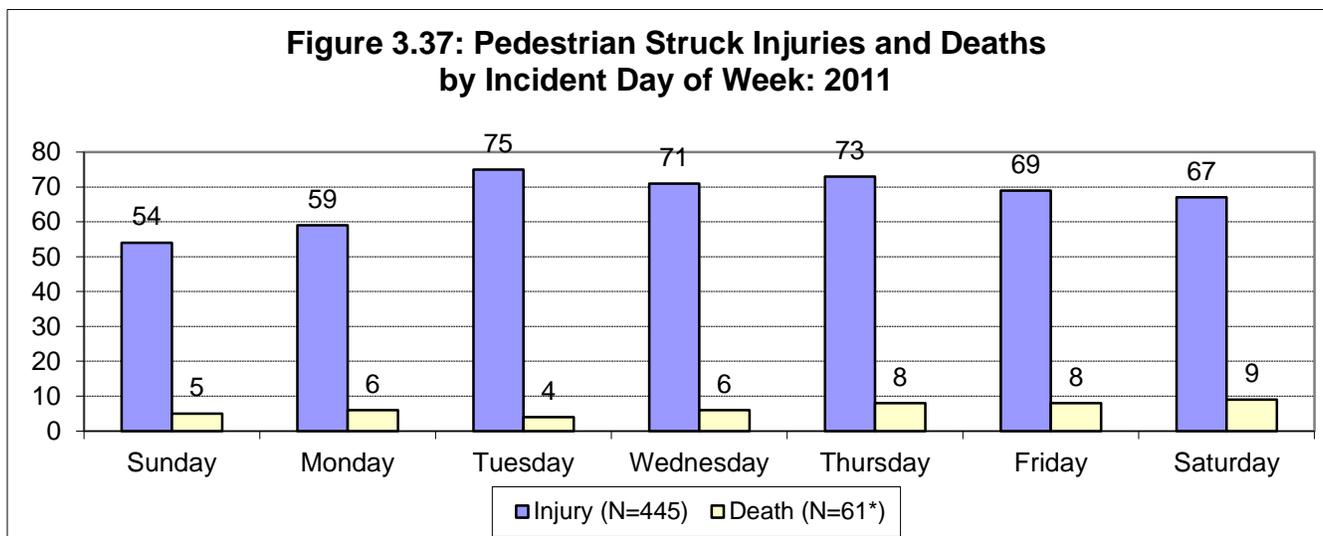
*Totals include 12 injuries with unspecified race/ethnicity.

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

Pedestrian arrivals to trauma centers tend to occur later than motorcycle or pedalcycle injuries. With 26% of injuries and 47% of deaths arriving between the hours of 7:00 pm and 9:00 pm visibility most assuredly plays a role in pedestrian trauma cases. Pedestrian injuries and deaths occurred similarly across the days of the week.

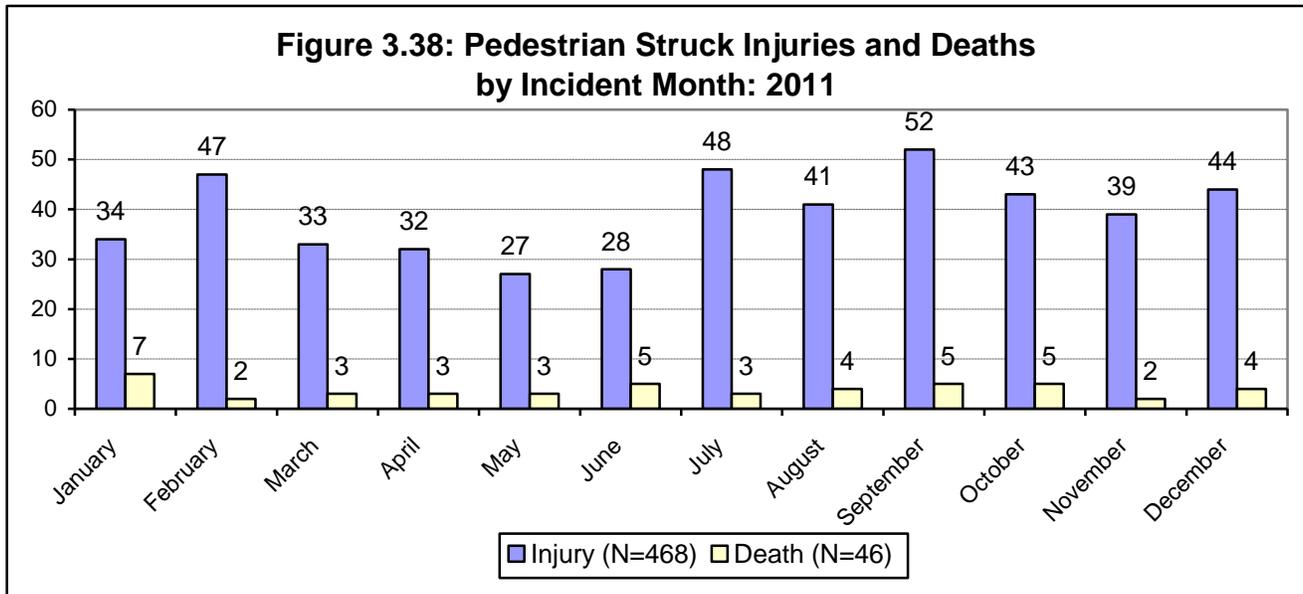


All times are in one hour increments, for example, 6:00 - 6:59 = 6:00
 *Note: limited to patients arriving at trauma facilities (deaths on scene or at non-trauma facilities not applicable)
 Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011



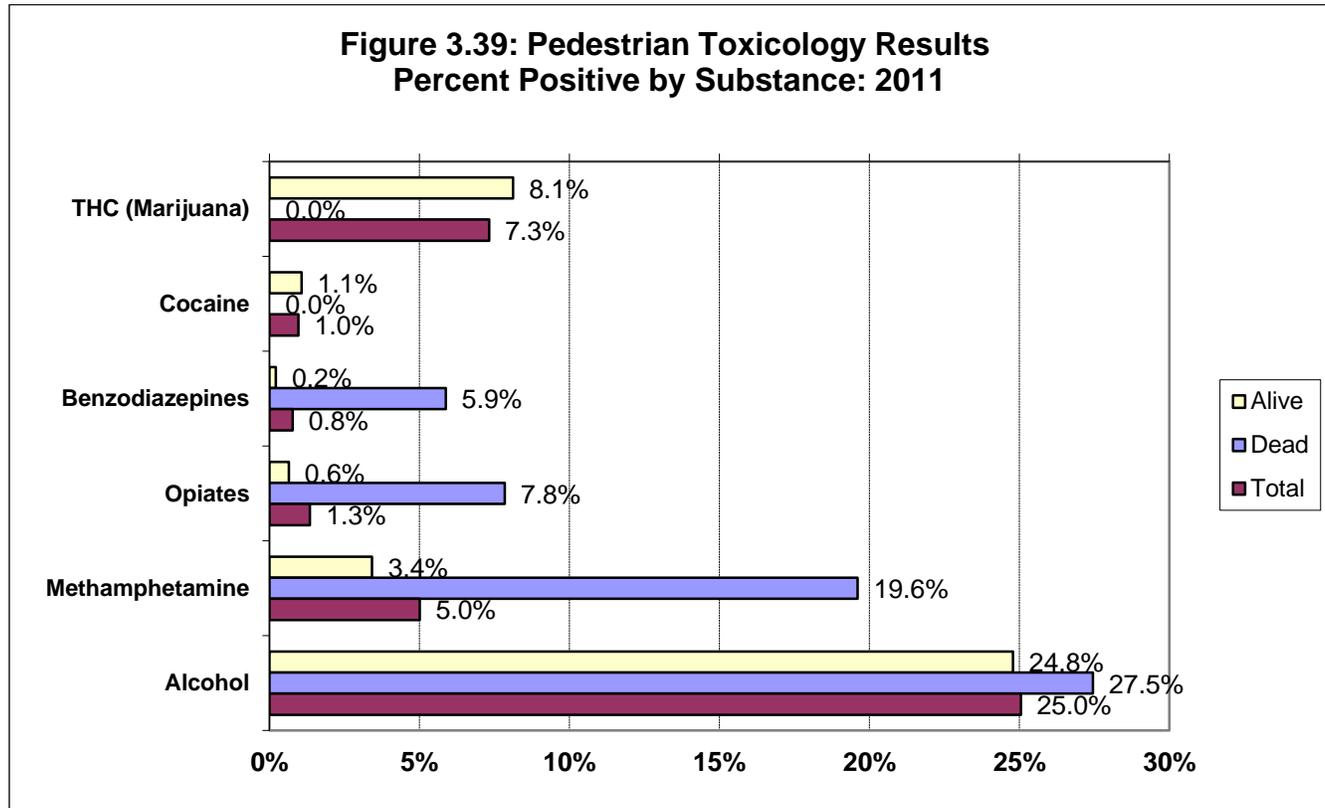
*Totals include one death with unknown date of injury
 Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

Pedestrian injuries and deaths occurred with highest frequency during the fall and winter months, which again points to the role of visibility in pedestrian trauma cases.



*Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

One fourth of injured pedestrians had positive alcohol toxicology results, and 7.3% tested positive for marijuana.

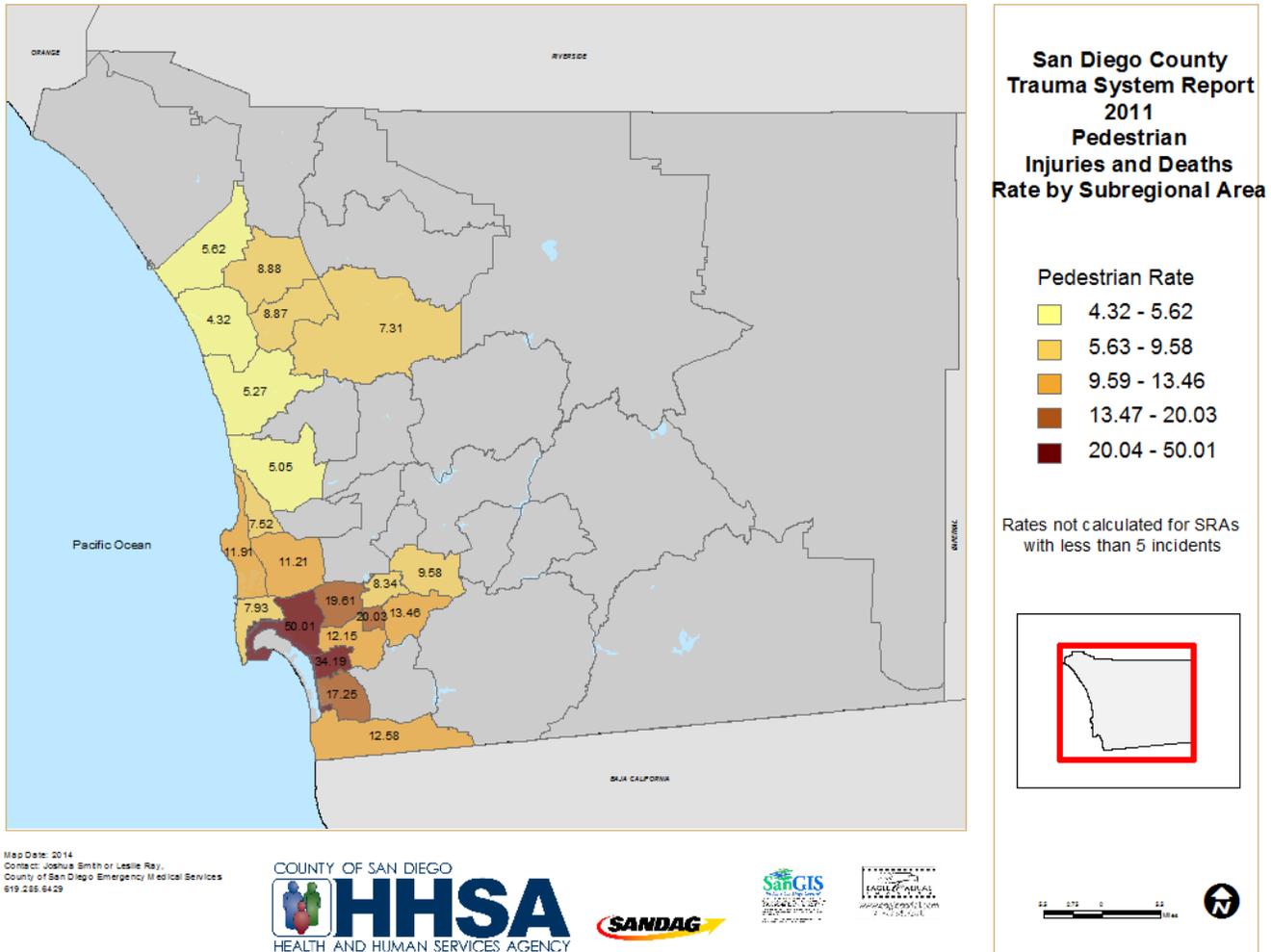


Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

Note: excludes opiates and benzodiazepines that were documented as clinician administered.

Incidence and rates of injury by subregional areas (SRA) and HHS region were calculated from the zip code where the incident took place. The Central (50 per 100,000), National City (34), and Lemon Grove (20) SRAs had the highest rates of pedestrian injury. At the HHS Region level, the Central region had the highest rate of pedestrian injury (28 per 100,000).

Figure 3.40: Pedestrian Struck Injury and Death Rates per 100,000 by Subregional Area: 2011



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data, 2011; Population estimates, SANDAG.

Table 3.14: Pedestrian Struck Injuries and Deaths by Incident HHSA Region: 2011

HHSA Region	Survived		Expired		Total	
	Number	Rate	Number	Rate	Number	Rate
North Coastal	19	3.73	6	1.18	25	4.90
North Central	37	6.07	10	1.64	47	7.71
Central	126	25.95	8	1.65	134	27.60
South	54	11.50	6	1.28	60	12.78
East	40	8.57	8	1.71	48	10.29
North Inland	26	4.53	6	1.04	32	5.57
Unknown	166		2		168	
Total	468	15.02	46	1.48	514	16.50

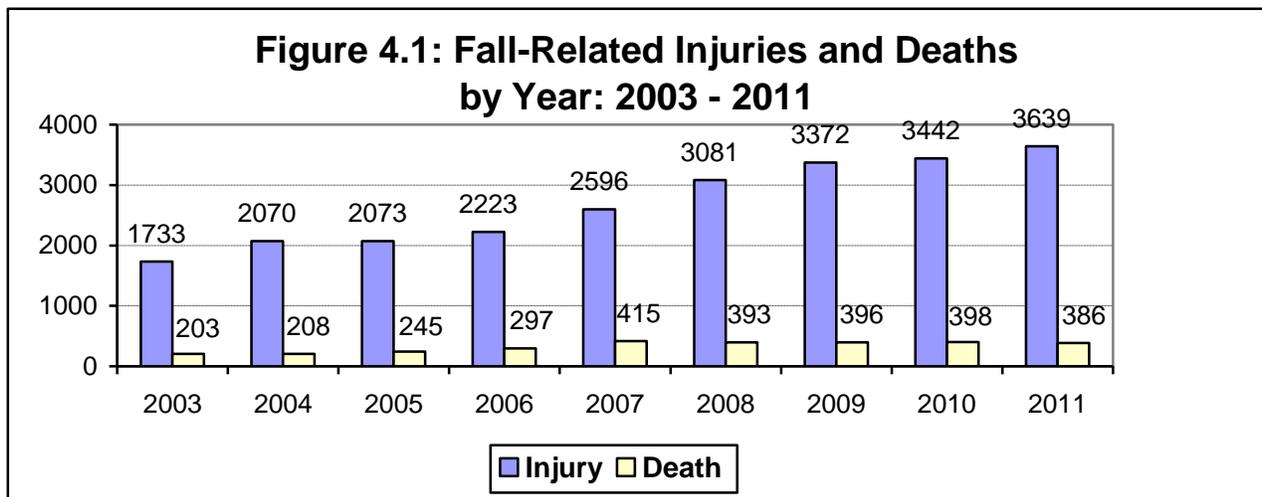
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data; 2011

Other Unintentional Injuries and Deaths

During 2011, 4,825 people were injured or killed in San Diego County following a fall or during a sports/recreation activity. Another 653 were unintentionally injured or killed due to a variety of mechanisms that can best be classified as “other.” These include being struck by machinery/object, struck by falling object, and other unspecified accidents.

Fall Injuries

There were 3,639 injuries and 386 deaths resulting from falls in 2011. Fall-related injuries have increased by 110% since 2003, continuing the upward trend in 2011. Fall-related deaths, however, decreased in 2011, potentially marking an improvement in trauma care for fall victims. About 130 out of every 100,000 residents of San Diego County suffered a fall-related injury or death in 2011.



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner’s Data, 2003 - 2011

Table 4.1: Number and Rate (per 100,000) of Fall-Related Injuries and Deaths by Year: 2003 - 2011

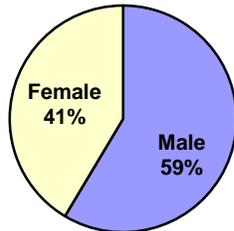
Year	Injury		Death		Total	
	Incidence	Rate	Incidence	Rate	Incidence	Rate
2003	1,733	58.52	203	6.85	1,936	65.37
2004	2,070	68.61	208	6.89	2,278	75.50
2005	2,073	67.94	245	8.03	2,318	75.97
2006	2,223	72.49	297	9.68	2,520	82.17
2007	2,596	83.79	415	13.39	3,011	97.18
2008	3,081	97.93	393	12.49	3,474	110.42
2009	3,372	106.26	396	12.48	3,768	118.74
2010	3,442	107.02	398	12.37	3,840	119.39
2011	3,639	116.79	386	12.39	4,025	129.18

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner’s Data, 2003 - 2011

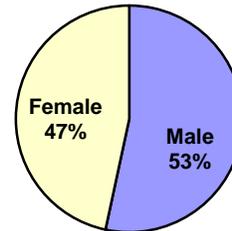
Males accounted for 59% of injuries and 53% of deaths due to falls.

Figure 4.2: Fall-Related Injuries and Deaths by Gender: 2011

Injury (N=3,635*)



Death (N=386)



*Total includes four injuries with unspecified gender.

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data; 2011

The risk of injury and death from falls increased steadily with age in adults, with the combined rate of fall-related injury and death surpassing one percent (1,360 per 100,000) in adults 85 and older.

Table 4.2: Number and Rate (per 100,000) of Fall-Related Injuries and Deaths by Age Group and Gender: 2011

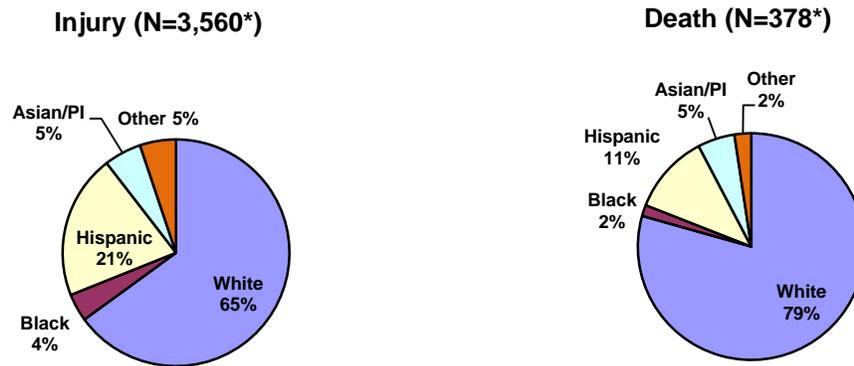
Age Group	Injury						Death						Overall Total	
	Male		Female		Total		Male		Female		Total			
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
0-4	139	137.74	76	78.51	215	108.74	0		0		0		215	108.74
5-9	38	38.12	27	28.52	65	33.45	1		0		1		66	33.96
10-14	42	40.39	21	21.56	63	31.28	0		0		0		63	31.28
15-19	61	49.58	43	38.77	104	44.45	2		0		2		106	45.31
20-24	107	74.15	35	29.10	142	53.67	0		0		0		142	53.67
25-34	158	64.49	61	26.66	219	46.23	1		0		1		220	46.44
35-44	182	86.85	67	32.27	249	59.69	5	2.39	4		9	2.16	258	61.85
45-54	305	142.98	114	53.04	419	97.84	13	6.09	4		17	3.97	436	101.80
55-64	300	181.39	152	85.72	452	131.89	21	12.70	7	3.95	28	8.17	480	140.06
65-74	231	268.60	201	200.62	435	233.63	26	30.23	15	14.97	41	22.02	476	255.65
75-84	335	662.19	338	502.90	674	572.16	51	100.81	50	74.39	101	85.74	775	657.89
85+	231	1098.3	371	1005.86	602	1039.4	86	408.88	100	271.12	186	321.15	788	1360.57
Total	2129	136.23	1506	96.97	3639	116.79	206	13.18	180	11.59	386	12.39	4025	129.18

*Rates not calculated on fewer than five incidents.

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data; 2011; Population Estimates, SANDAG

During 2011, the white population had the highest incidence of injuries and deaths resulting from a fall. While only representing 48% of the population, 65% of injuries and 82% of deaths were white. Conversely, Hispanics, while representing 32% of the population only made up 21% of Fall-Related injuries and 11% of Fall-Related deaths.

Figure 4.3: Fall-Related Injuries and Deaths by Race/Ethnicity: 2011

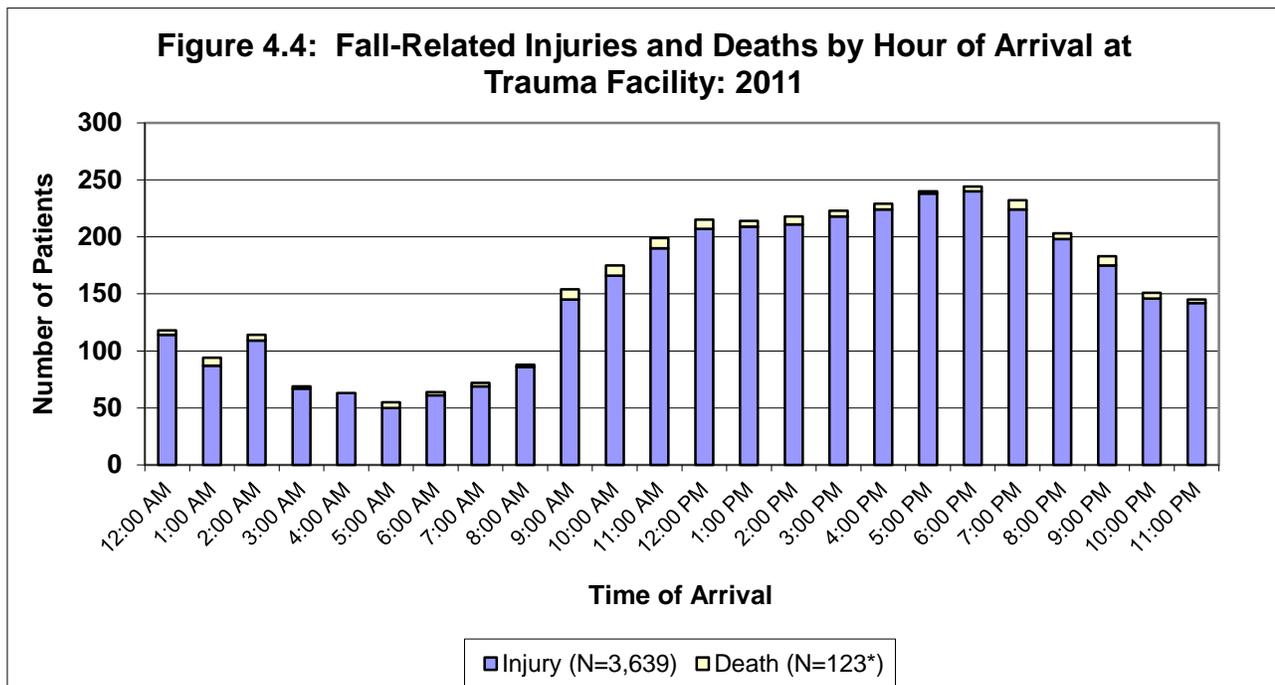


*Totals include 79 injuries and 8 deaths of unspecified race/ethnicity.

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data; 2011

Fall-related trauma admissions occurred at a sustained high level between 9:00 in the morning and 9:00 at night.

Figure 4.4: Fall-Related Injuries and Deaths by Hour of Arrival at Trauma Facility: 2011

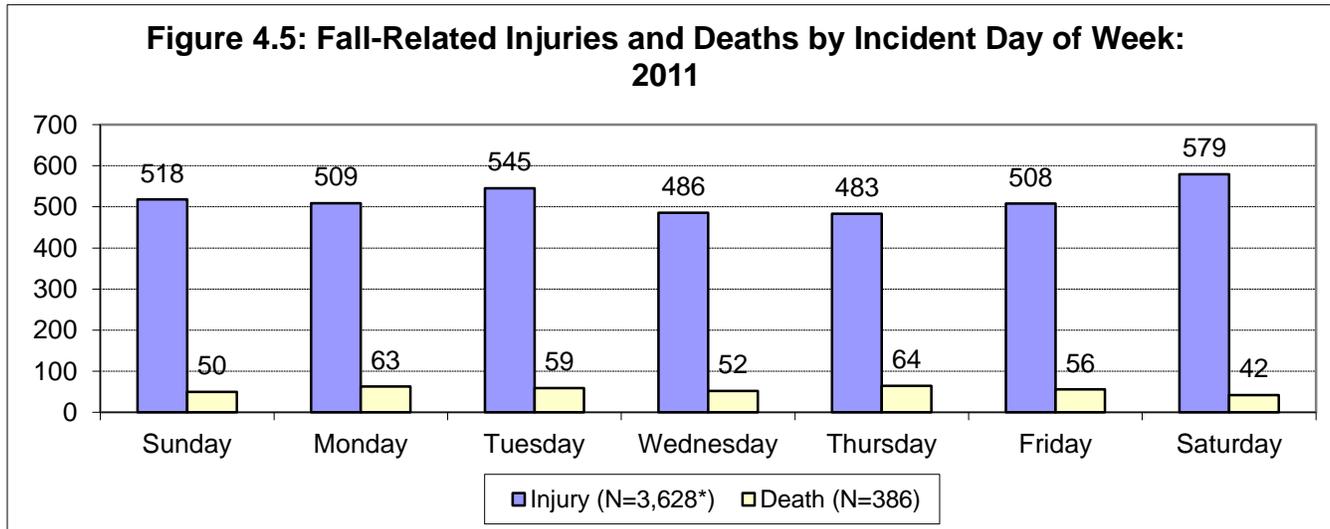


All times are in one hour increments, for example, 6:00 - 6:59 = 6:00

*Note: limited to patients arriving at trauma facilities (deaths on scene or at non-trauma facilities not applicable)

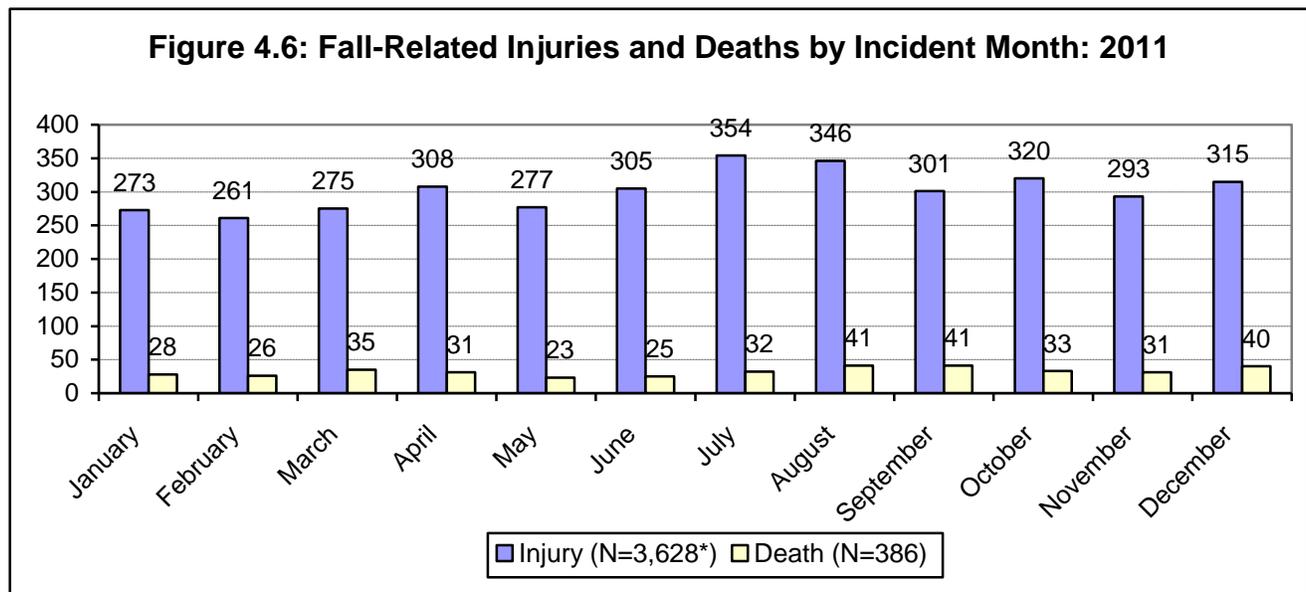
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

There was not a distinct pattern to fall-related injuries by day of week. The summer months of July and August has the highest number of fall-related injuries.



*Totals include 11 injuries with unspecified incident dates.

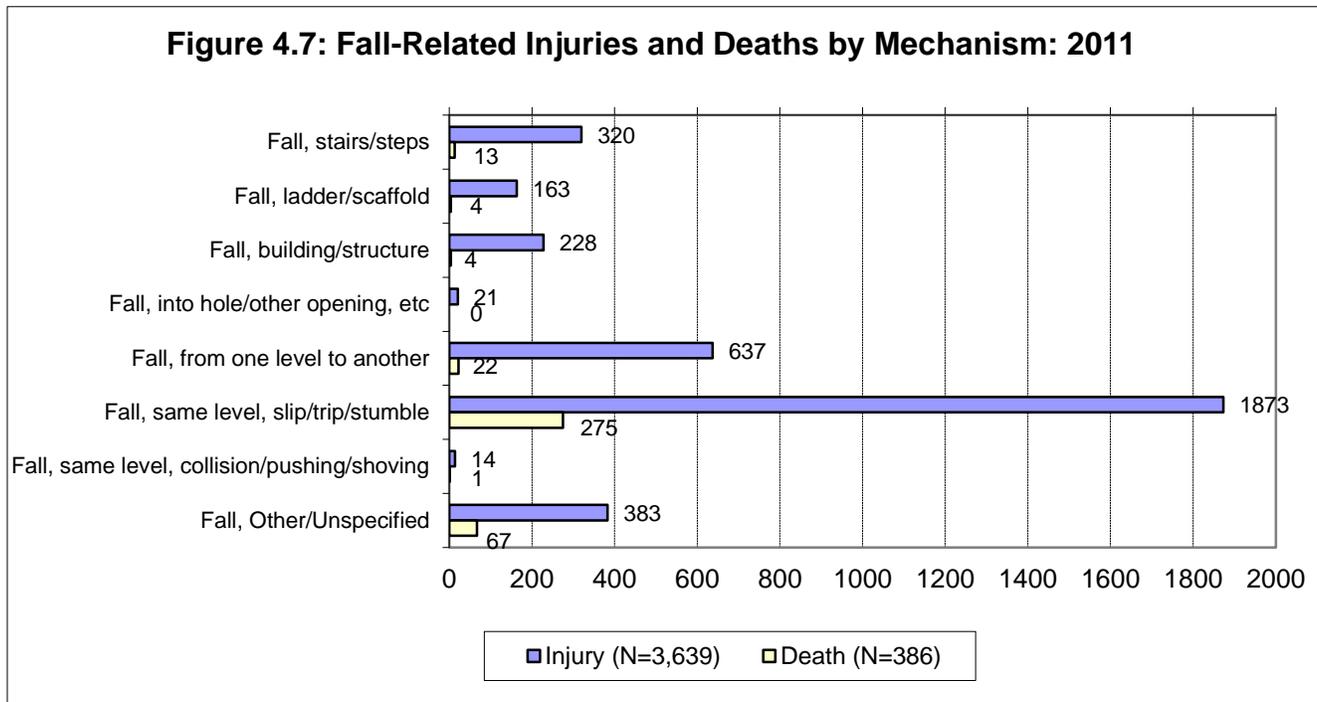
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011



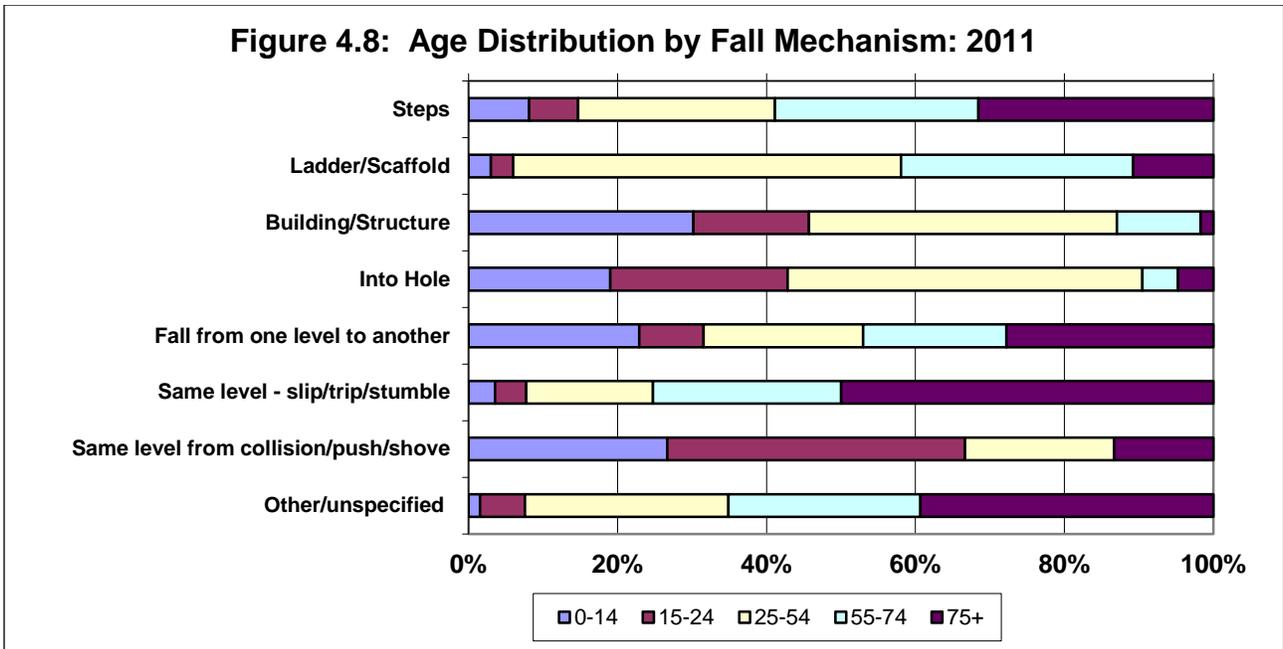
*Totals include 11 injuries with unspecified incident dates.

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

The ratio of deaths to severe injuries was much higher for falls on the same level (1 death per 6.8 injuries) than for falls from one level to another (1 death per 29 injuries). While seemingly illogical, those who are injured from same-level falls are generally far older and frailer than those who fell from a greater height. As figure 4.8 shows, more than half of the individuals who experienced a fall on the same level from slip/trip/stumble were 75 years or older, compared to only 1.7% of those who fell from buildings or other structures. Thus, falls from the same level have a higher mortality rate as older adults do not respond as well to traumatic injury as younger adults.

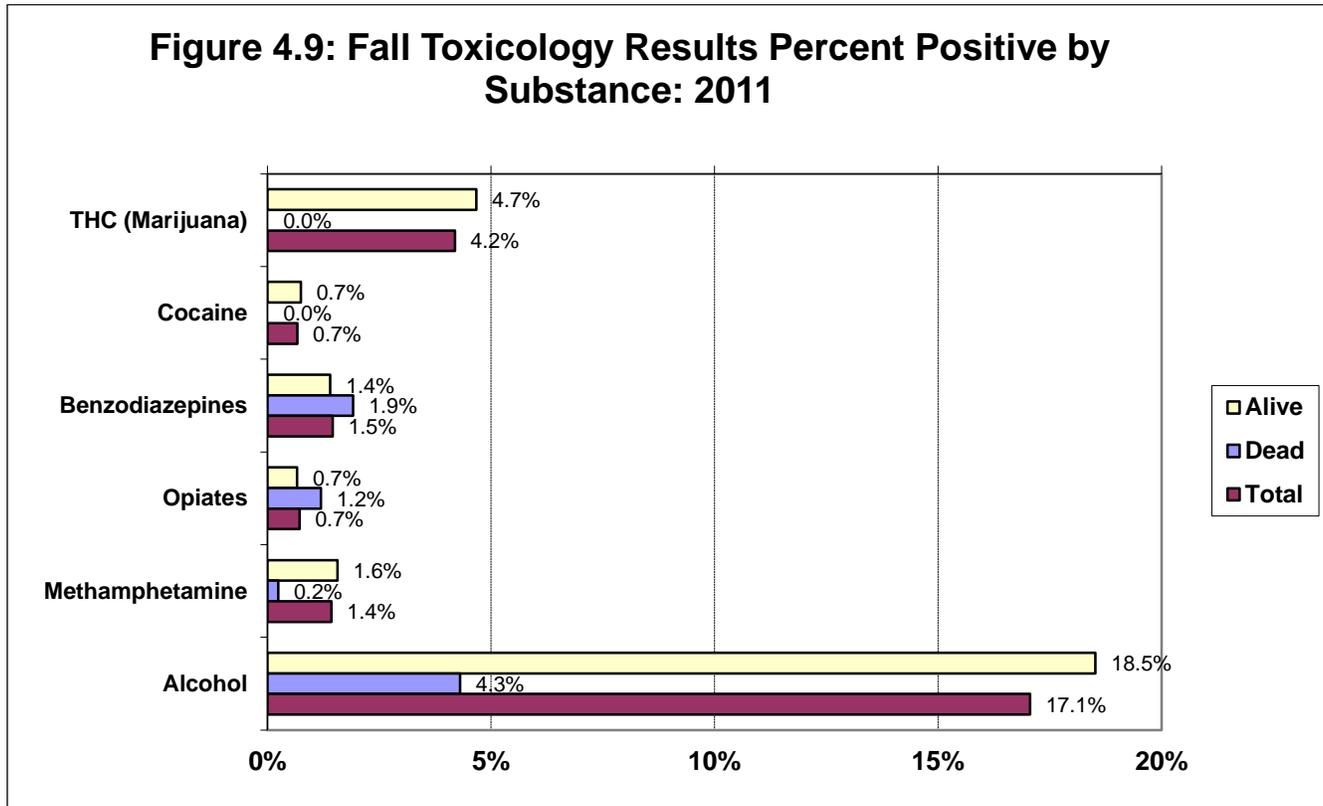


Source: County of San Diego Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data, 2011



Source: County of San Diego Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data, 2011

Alcohol was a significant factor in fall injuries, with 17% testing positive. No other substance exceeded five percent positive.

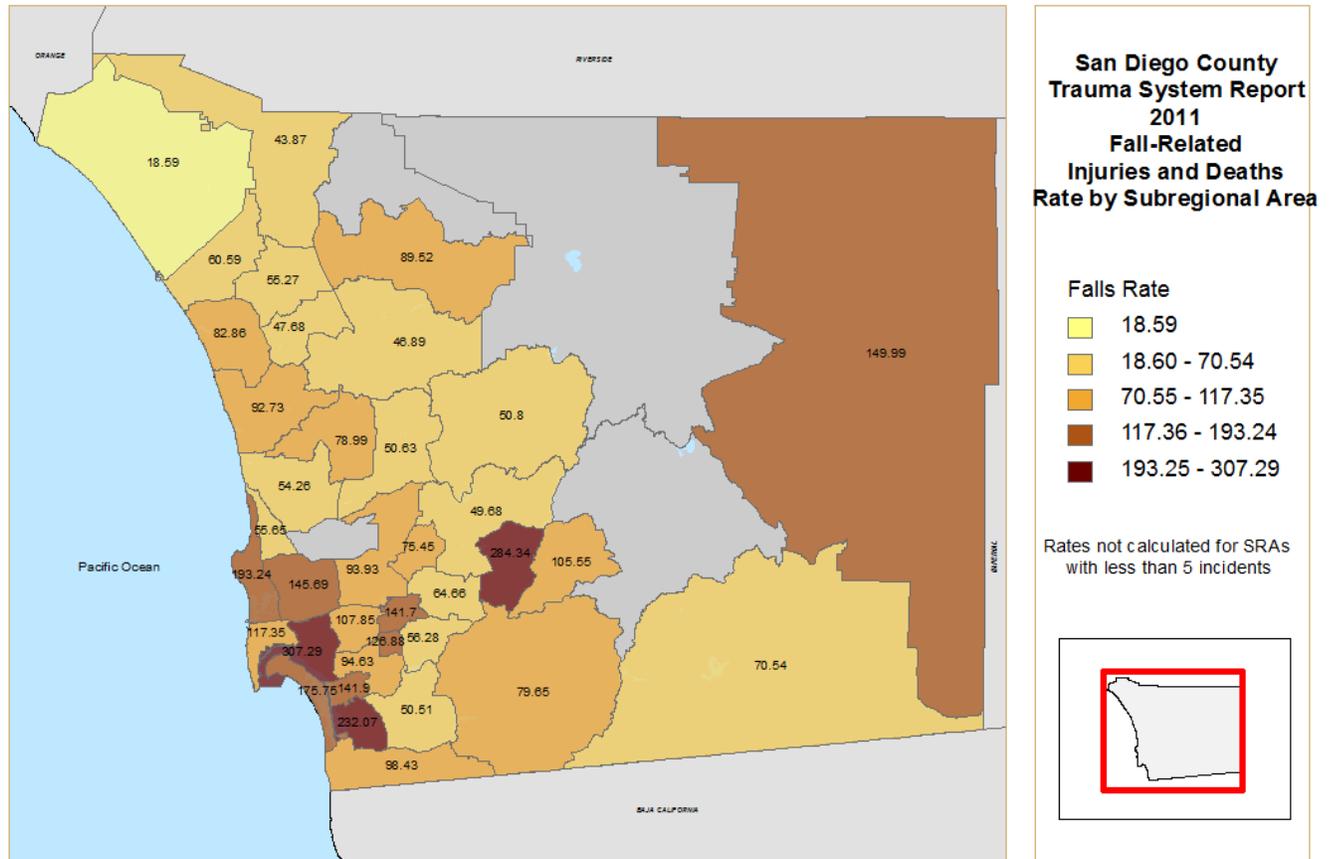


Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

Note: excludes opiates and benzodiazepines that were documented as clinician administered.

Incidence and rates of injury by subregional areas (SRA) and HHSA region were calculated from the zip code where the incident took place. Central San Diego (307 per 100,000), Harbison Crest (284), and Chula Vista (232) had the highest rates of fall-related injury. At the HHSA Region level, the highest injury rate was in the Central HHSA region (162 per 100,000), while the East region had the highest rate of death from falls (16 per 100,000).

Figure 4.10: Fall-Related Injury and Death Rates per 100,000 by San Diego Subregional Area, 2011



Map Date: 2014
Contact: Joshua Smith or Leslie Ray,
County of San Diego Emergency Medical Services
619.235.6429



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data: 2011; Population estimates, SANDAG

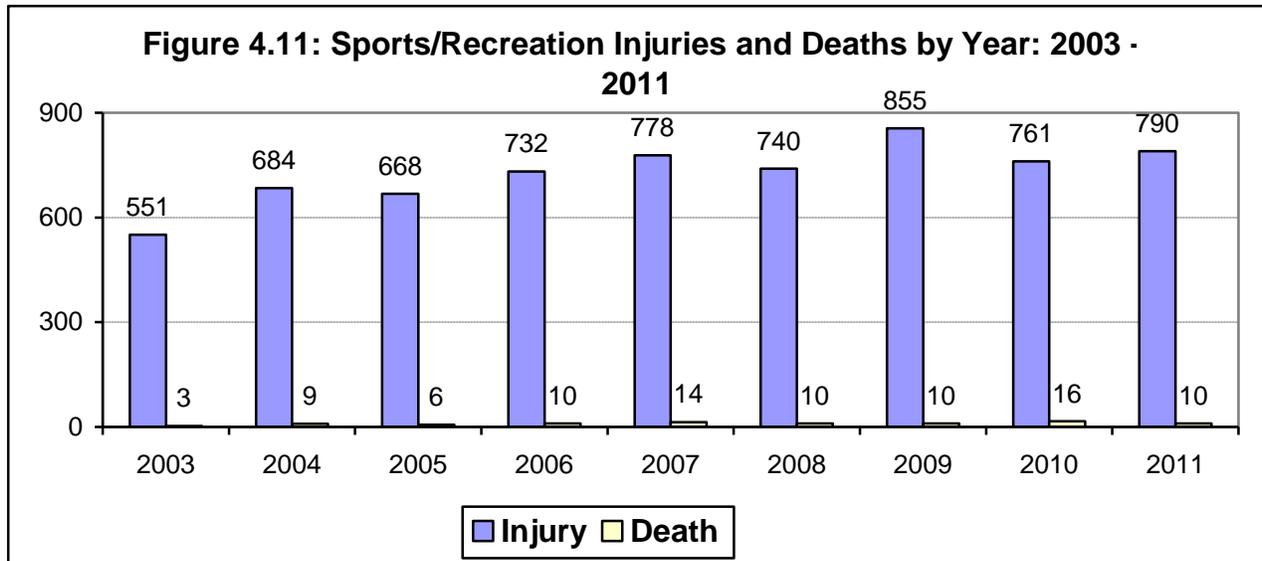
Table 4.3: Fall-Related Injuries and Deaths by Incident HSA Region: 2011

HSA Region	Survived		Expired		Total	
	Number	Rate	Number	Rate	Number	Rate
North Coastal	265	51.98	57	11.18	322	63.16
North Central	595	97.58	61	10.00	656	107.59
Central	788	162.28	46	9.47	834	171.76
South	558	118.86	59	12.57	617	131.43
East	345	73.93	73	15.64	418	89.57
North Inland	232	40.38	50	8.70	282	49.08
Unknown	856		40		896	
Total	3639	116.79	386	12.39	4025	129.18

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data; 2011

Sports and Recreation Injuries

Sports and recreation injuries include: skates, roller blades, skiing, sleds, off road vehicles, riding animals, water sports, fall from playground equipment or injuries sustained while participating in sports (hit, kicked, struck). Sports and recreation did not account for a large number of injury deaths or years of potential life lost (see figure 1.2). Between 2003 and 2011, there was one death to every 75 severe injuries due to sports/recreation activity. The population controlled rate of these traumatic injuries and deaths has remained fairly stable over the last decade.



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data, 2003 - 2011

Table 4.4: Number and Rate (per 100,000) of Sports/Recreation Injuries and Deaths by Year, 2003 - 2011

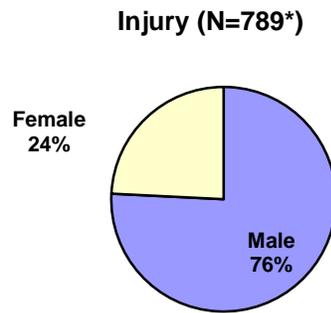
Year	Injury		Death		Total	
	Incidence	Rate	Incidence	Rate*	Incidence	Rate
2003	551	18.60	3		554	18.71
2004	684	22.67	9	0.30	693	22.97
2005	668	21.89	6	0.20	674	22.09
2006	732	23.87	10	0.33	742	24.19
2007	778	25.11	14	0.45	792	25.56
2008	740	23.52	10	0.32	750	23.84
2009	855	26.94	10	0.32	865	27.26
2010	761	23.66	16	0.50	777	24.16
2011	790	25.35	10	0.32	800	25.68

*Rates not calculated on less than five incidents

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services. San Diego County Trauma Registry and Medical Examiner's Data, 2003 - 2011

Seventy six percent of injuries due to sports and recreation activity were to males. All of the deaths due to these injuries were male. Victims were also relatively young, with 59% of injuries occurring in people less than 25 years of age. Males aged 10 to 14 years had the highest rate of severe injury due to sports/recreation activity (113 per 100,000).

Figure 4.12: Sports/Recreation Injuries by Gender: 2011



Due to low numbers deaths were not included.

*Gender was not recorded for one injury.

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data; 2011

Table 4.5: Number and Rate* (per 100,000) of Sports/Recreation Trauma Cases (Injuries and Deaths Combined) by Age Group and Gender: 2011

Age Group	Injury and Deaths Combined					
	Male		Female		Total	
	Number	Rate	Number	Rate	Number	Rate
0-4	12	11.89	4		16	8.09
5-9	29	29.09	15	15.85	44	22.64
10-14	118	113.47	36	36.96	155	76.96
15-19	126	102.41	40	36.06	166	70.95
20-24	78	54.06	11	9.14	89	33.64
25-34	92	37.55	20	8.74	112	23.64
35-44	56	26.72	15	7.23	71	17.02
45-54	53	24.85	28	13.03	81	18.91
55-64	29	17.53	15	8.46	44	12.84
65-74	10	11.63	5	4.99	15	8.06
75-84	3		0		3	
85+	2		2		4	
Total	608	38.90	191	12.30	800	25.68

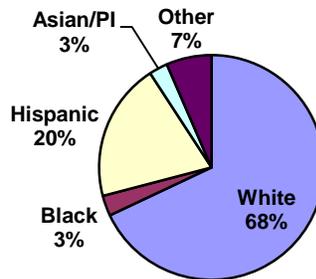
*Rates not calculated on fewer than five incidents.

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data; 2011; Population Estimates, SANDAG

Whites sustained a higher proportion of sports/rec injuries than represented in the population (68% vs. 48%) while Hispanics had a lower percent of these injuries than represented in the population (20% vs. 32%).

Figure 4.13: Sports/Recreation Trauma Cases (Injuries and Deaths Combined) by Race/Ethnicity: 2011

Injury (N=784*)

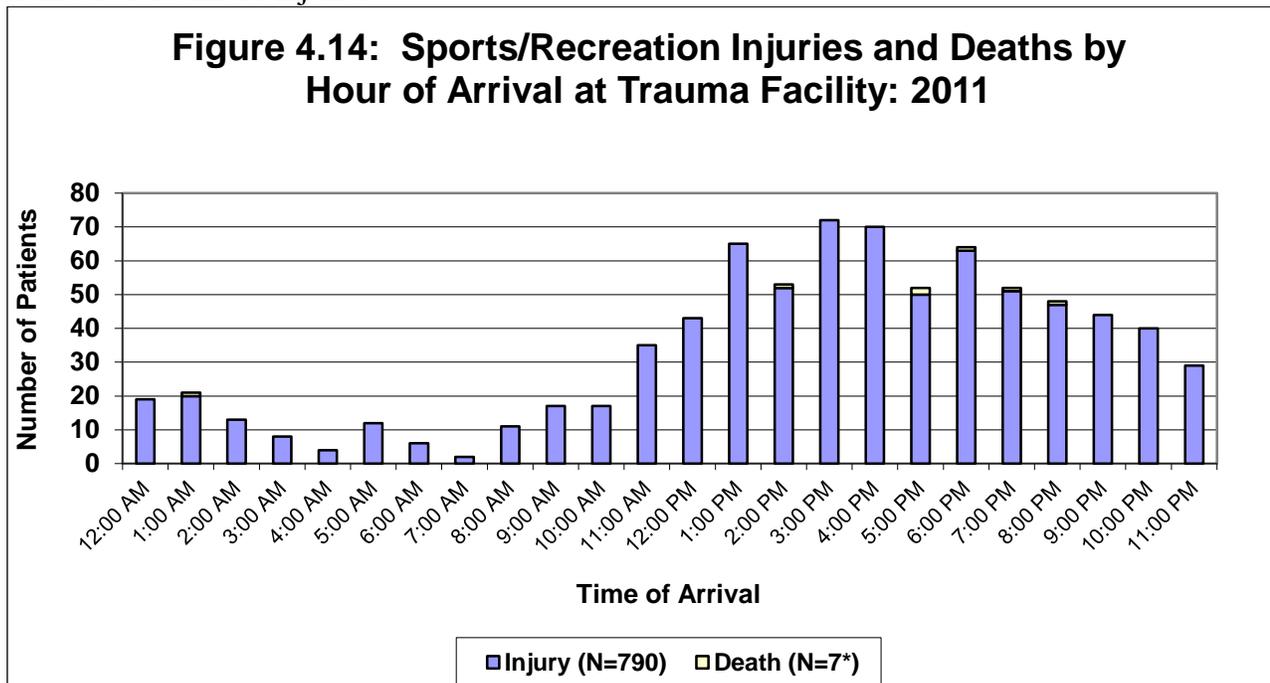


*Total includes 16 injuries/deaths with unspecified race/ethnicity.

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data; 2011

Trauma center admissions for sports and recreation-related injuries were the highest in the afternoon and early evening hours. Not surprisingly, weekends (48% on Saturdays and Sundays) had the highest number of these injuries. The fall months of September and October had the highest number of injuries. These months coincide with both football and soccer seasons, the two sports that cause the highest number of traumatic injuries.

Figure 4.14: Sports/Recreation Injuries and Deaths by Hour of Arrival at Trauma Facility: 2011

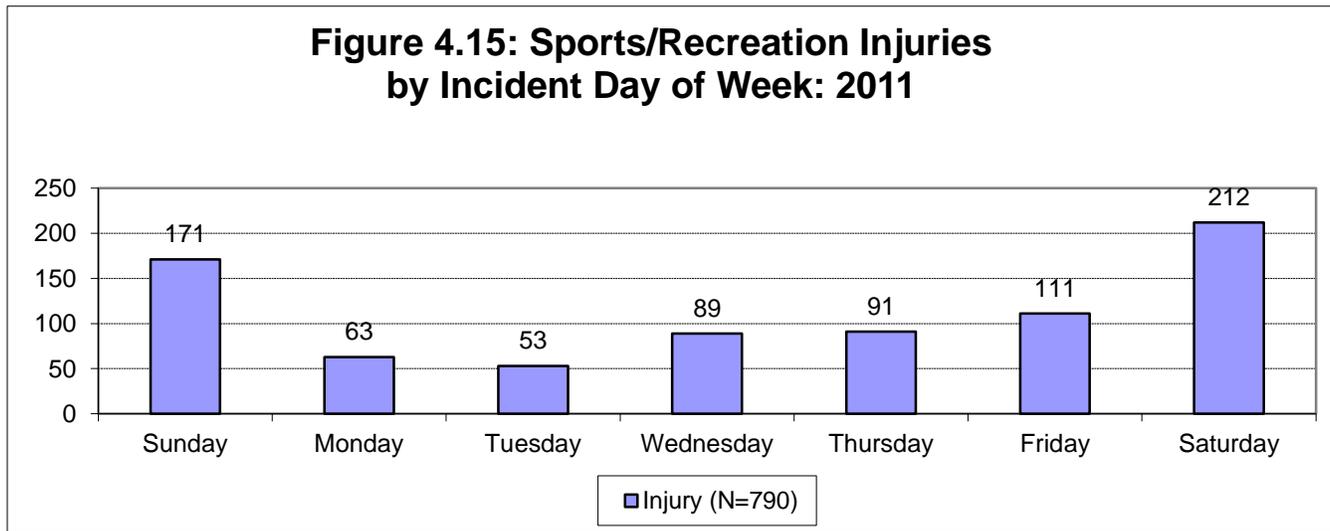


All times are in one hour increments, for example, 6:00 - 6:59 = 6:00

*Note: limited to patients arriving at trauma facilities (deaths on scene or at non-trauma facilities not applicable)

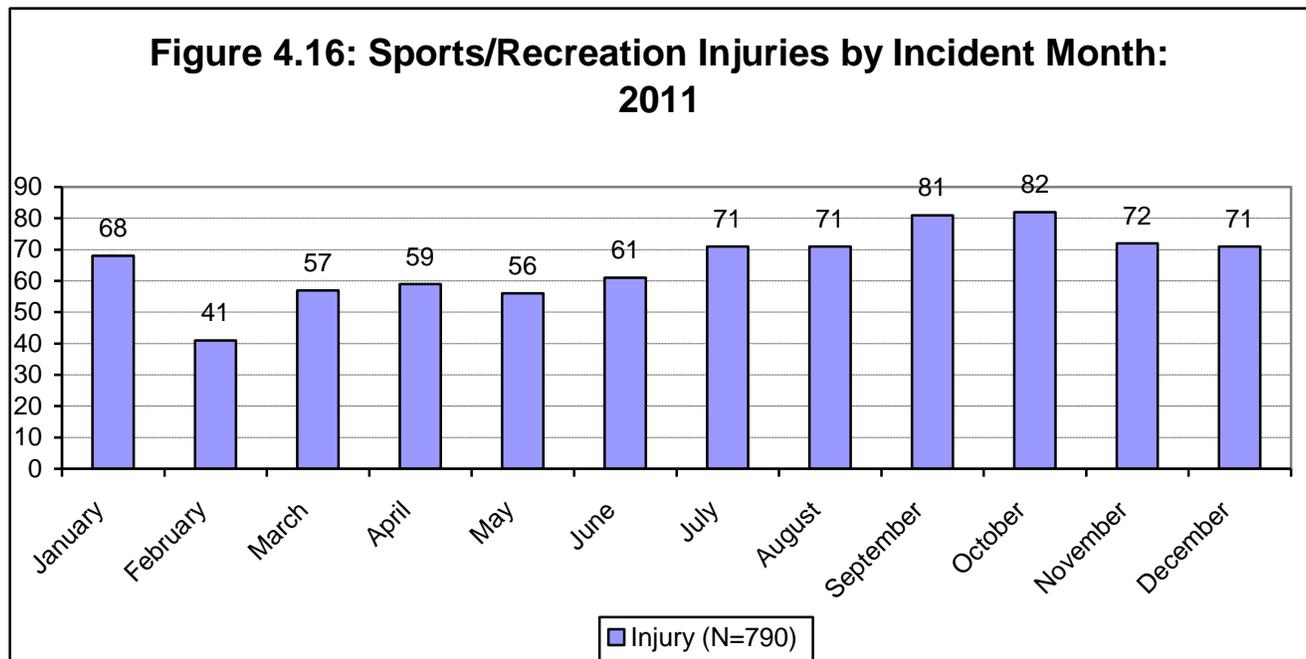
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

Figure 4.15: Sports/Recreation Injuries by Incident Day of Week: 2011



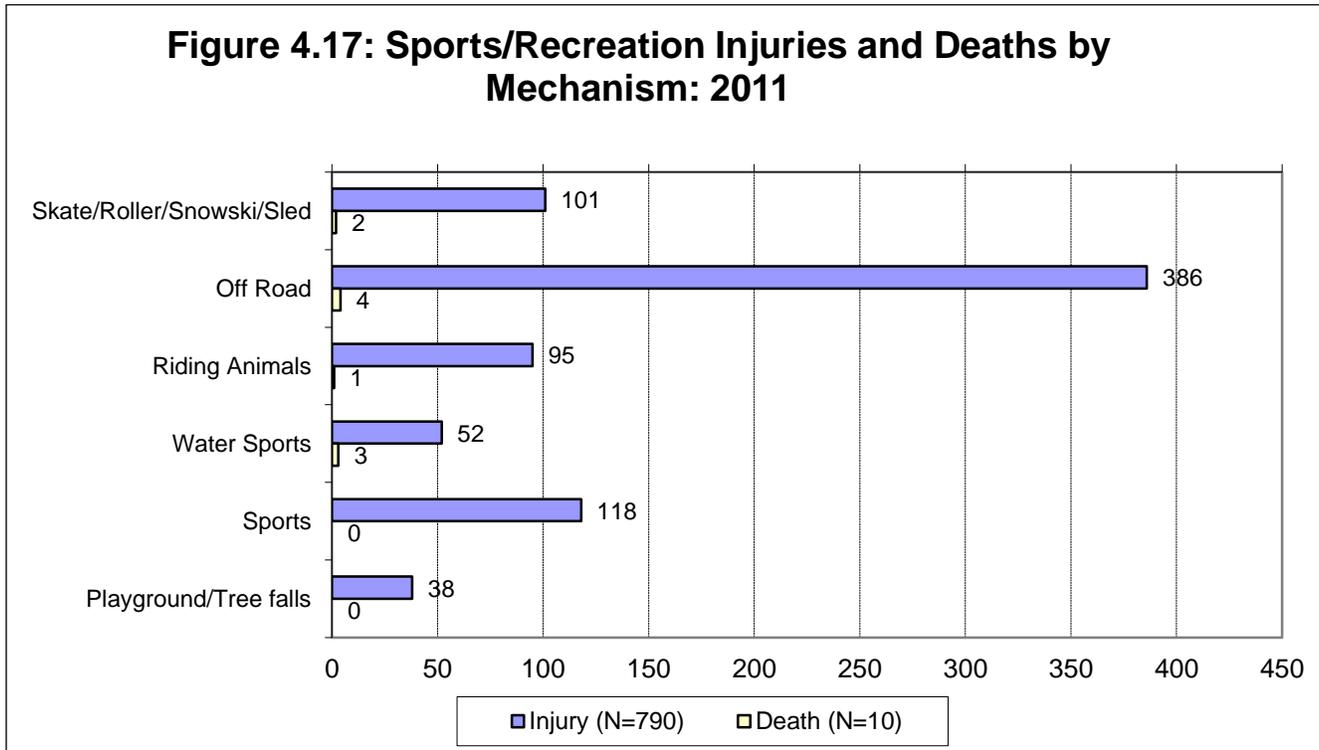
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

Figure 4.16: Sports/Recreation Injuries by Incident Month: 2011



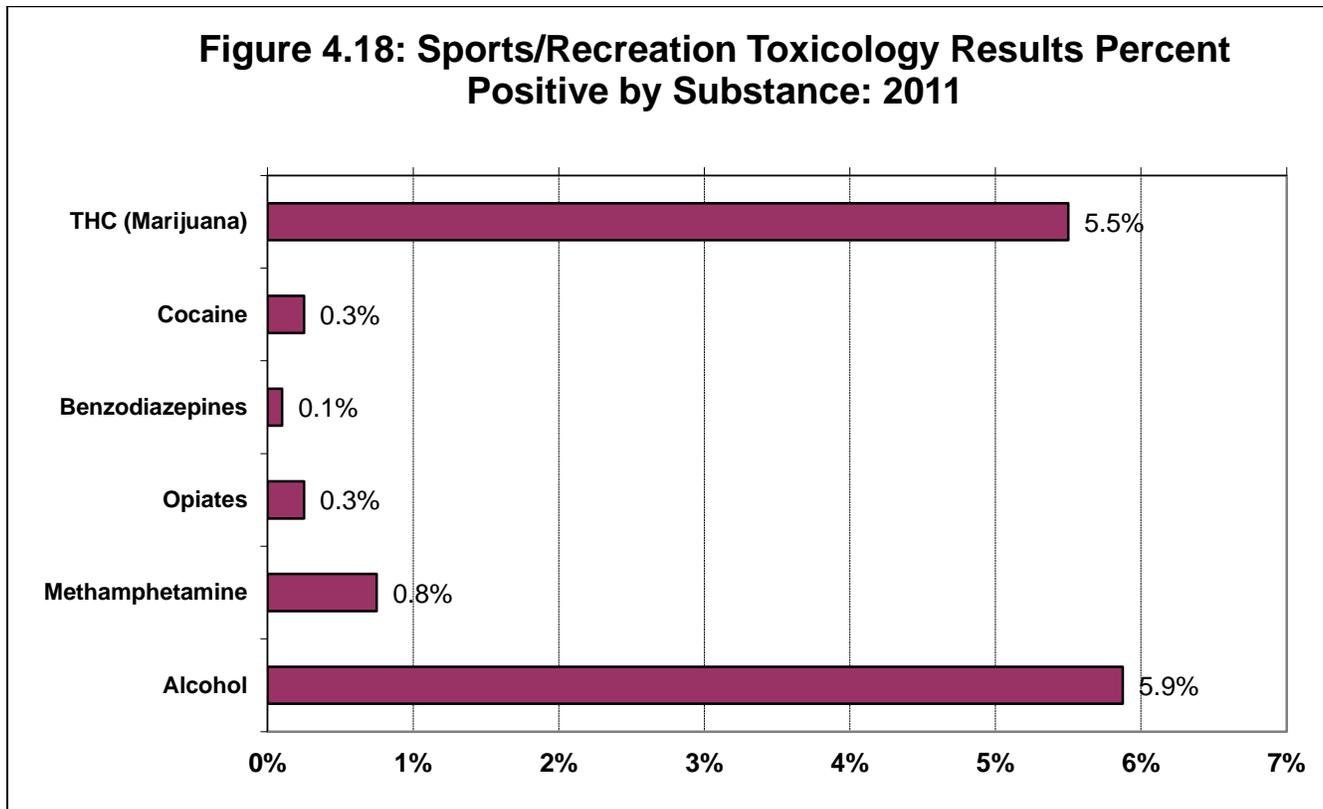
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

Off road vehicle crashes accounted for nearly half of sports/recreation related injuries and deaths, and were followed by sports, skating/sledding, and riding animals.



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011

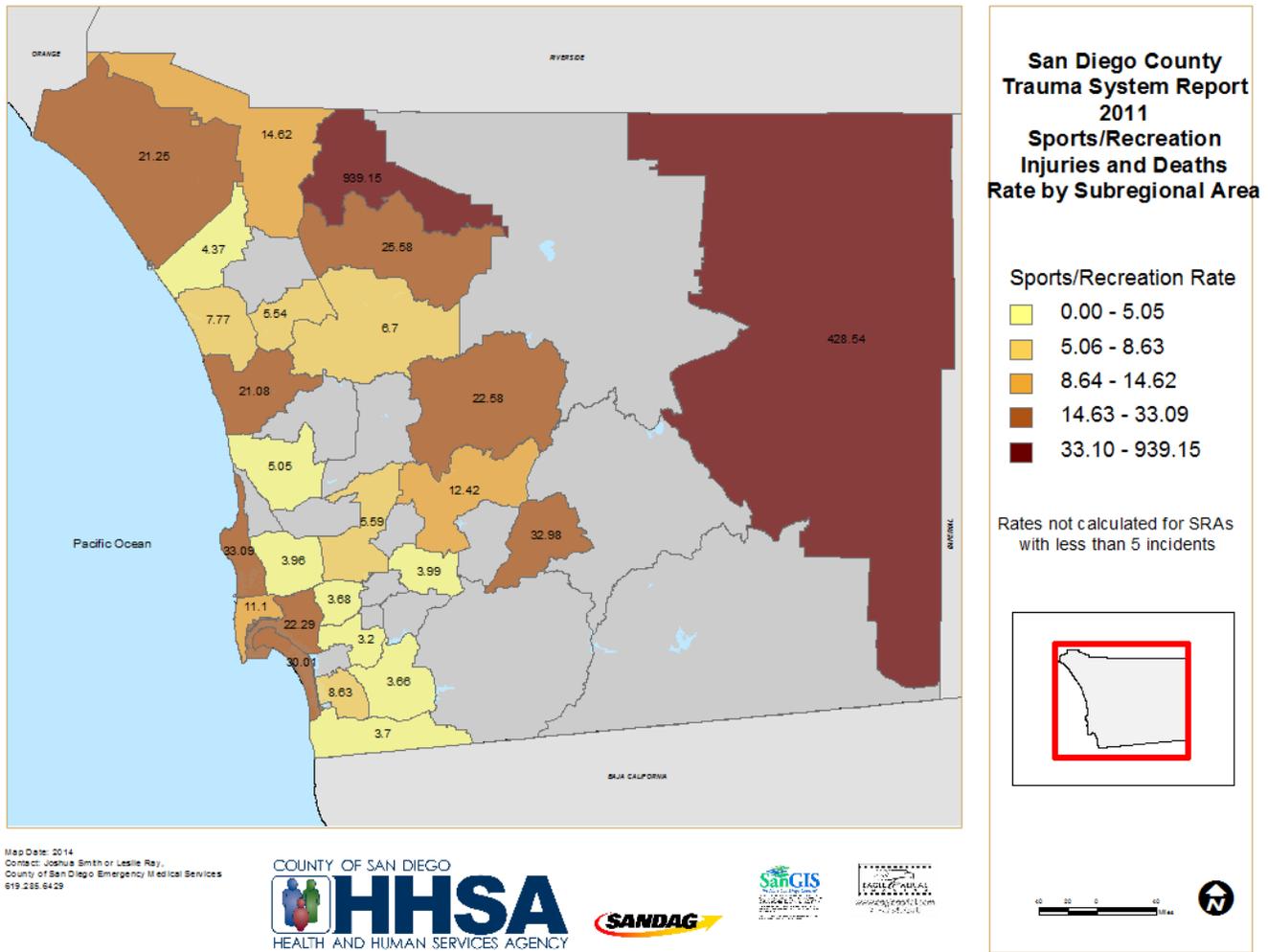
Toxicology findings in general were much lower in patients who had suffered sports and recreation related injuries, compared with other mechanisms. Alcohol was the most common, with 5.9%, followed by marijuana at 5.5%.



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, 2011
Note: excludes opiates and benzodiazepines that were documented as clinician administered.

Incidence and rates of injury by subregional areas (SRA) and HHS region were calculated from the zip code where the incident took place. The highest rates were in the SRAs of Pauma (939 per 100,000) and Anza-Borrego Springs (429). The sports/recreation injuries in these areas were primarily from off-road vehicle crashes. At the HHS Region level, the highest injury rate was in the North Inland HHS region (23 per 100,000).

Figure 4.19: Sports/Recreation Injury and Death Rates per 100,000 by Subregional Area: 2011



Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data: 2011; Population estimates, SANDAG

Table 4.6: Sports/Recreation Injuries by Incident HHSA Region: 2011

HHSA Region	Survived	
	Number	Rate
North Coastal	45	8.83
North Central	53	8.69
Central	44	9.06
South	29	6.18
East	34	7.29
North Inland	133	23.15
Unknown	452	
Total	790	25.35

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data; 2011

Who is at Greatest Risk of Trauma Injury and Death? (Rates = Number per 100,000 Population)

Note: Trauma death totals were too low to show separately for detailed tables. Detailed tables are for injuries and deaths combined.

Assault/Homicide Trauma Cases

- The highest rate of assault/homicide for each race/ethnicity was in males aged 20 to 24 years.
- This age group also had the highest rates among women for each race/ethnicity, except for black women, whose highest rate was among those aged 25 to 34 years.
- Black males (239 per 100,000) and black females (36 per 100,000) had assault/homicide rates more than double that of any other race/ethnicity and triple the rate for all males (75 per 100,000) and all females (12 per 100,000).

Self-Inflicted Injuries/Suicide Trauma Cases

- The rate of self-inflicted trauma and suicide was more than four times higher in males (19 per 100,000) than females (4 per 100,000).
- Among males, the highest rates were observed in blacks aged 35 to 44 (72 per 100,000) and whites aged 75 to 84 (50 per 100,000).
- Among females, the highest rates were in whites aged 65 to 74 (11 per 100,000) and 20 to 24 (10 per 100,000).
- Among all males and females, whites had the highest self-inflicted/suicide rates (30 per 100,000 and 6 per 100,000, respectively).

Motor Vehicle Occupant Trauma Cases

- The rate of motor vehicle occupant trauma was similar among males (67 per 100,000) and females (61 per 100,000).
- Among males, the highest rates were in those aged 20 to 24 (133 per 100,000) and within this age group, blacks had the highest rates (243 per 100,000).
- Among females, the highest rates were also in those aged 20 to 24 (121 per 100,000) with blacks again having the highest race-specific rate (248 per 100,000).
- Among all males and females, blacks had the highest rates of motor vehicle occupant trauma (103 per 100,000 and 104 per 100,000, respectively).

Motorcycle Trauma Cases

- The rate of motorcycle trauma was almost seven times higher among males (39 per 100,000) than among females (6 per 100,000).
- Among males, those aged 20 to 24 had the highest rates (83 per 100,000) with whites having the highest race-specific rate among that age group (120 per 100,000).

- Among females, those aged 20 to 24 also had the highest rates (15 per 100,000) with whites again having the highest race-specific rate within that age group (25 per 100,000).
- Among all males, whites (53 per 100,000) and blacks (52 per 100,000) had similar motorcycle trauma rates. Among all females, whites had the highest rate (10 per 100,000).

Pedalcycle Trauma Cases

- The rate of pedalcycle trauma was more than five times higher in males (31 per 100,000) than in females (6 per 100,000).
- Among males, the highest rates were in those aged 10 to 14 (58 per 100,000) with blacks having an extremely high race-specific rate (183 per 100,000) within that age group.
- Among females, the highest rates were among those aged 45 to 54 (10 per 100,000) with those aged 15 to 19 (9 per 100,000) and 10 to 14 (8 per 100,000) just slightly lower.
- Among all males and females, whites had the highest race-specific pedalcycle trauma rates (40 per 100,000 and 8 per 100,000, respectively).

Pedestrian Trauma Cases

- The rate of pedestrian trauma was about double among males (21 per 100,000) compared to females (11 per 100,000).
- Among males, those aged 85 and older had the highest rate (33 per 100,000). However, there were only 7 total cases in this age group. The next highest rates among males were in those aged 10 to 14 (26 per 100,000), 20 to 24 (26 per 100,000), 25 to 34 (25 per 100,000), and 15 to 19 (24 per 100,000). In general, blacks had the highest rates in those age groups.
- Among females, those aged 15 to 19 had the highest rate (21 per 100,000) with Hispanics having the highest rate in that age group (27 per 100,000).
- Among all males and females, blacks had the highest rate of pedestrian trauma (50 per 100,000 and 24 per 100,000, respectively).

Fall-Related Trauma Cases

- The rate of fall-related trauma was a little higher in males (146 per 100,000) than females (107 per 100,000).
- Among males, those aged 85 and older had the highest rate (1,469 per 100,000). About 1.5% of males in San Diego County over the age of 85 had a fall that resulted in major trauma or death. In that age group, whites had the highest rate (1,519 per 100,000).
- Among females, those aged 85 and older also had the highest rate (1,263 per 100,000 or 1.3%). Asian/Pacific Islanders had the highest rate among females within that age group (1,350 per 100,000) with whites (1,318 per 100,000) very close.
- Among all males and females, whites had the highest rates of fall-related trauma (192 per 100,000 and 157 per 100,000, respectively).

Sports and Recreation Trauma Cases

- Males had a sports/recreation trauma rate (38 per 100,000) more than three times higher than the female rate (12 per 100,000).
- Among males, those aged 10 to 14 had the highest rate (113 per 100,000) with whites having the highest rate within that age group (158 per 100,000).
- Among females, those aged 10 to 14 (36 per 100,000) and 15 to 19 (35 per 100,000) had the highest rates with whites having the highest race-specific rate in each age group.
- Among all males and females, whites had the highest rates of sports/recreation trauma (52 per 100,000 and 18 per 100,000, respectively).

Table 5.1: Assaults and Homicides (Injuries and Deaths Combined) by Age Group, Race/Ethnicity and Gender: 2011

Age	Race/Eth	Male			Female			Total		
		Population	Count	Rate	Population	Count	Rate	Population	Count	Rate
0-4	White	33766	5	14.81	31723	2		65489	7	10.69
	Black	4503	1		4323	0		8826	1	
	Hispanic	46238	10	21.63	44692	7	15.66	90930	17	18.70
	Asian/PI	9145	0		8831	2		17976	2	
	Other	7261	3		7230	1		14491	4	
	Subtotal	100913	19	18.83	96799	12	12.40	197712	31	15.68
5-9	White	33018	0		30962	0		63980	0	
	Black	4392	0		4167	0		8559	0	
	Hispanic	45988	1		43939	3		89927	4	
	Asian/PI	9365	0		9108	0		18473	0	
	Other	6918	0		6490	0		13408	0	
	Subtotal	99681	1		94666	3		194347	4	
10-14	White	35995	4		32811	0		68806	4	
	Black	4906	2		4504	0		9410	2	
	Hispanic	46701	3		44643	2		91344	5	5.47
	Asian/PI	10354	0		9591	0		19945	0	
	Other	6039	2		5862	0		11901	2	
	Subtotal	103995	11	10.58	97411	2		201406	13	6.45
15-19	White	45865	37	80.67	39562	3		85427	40	46.82
	Black	6468	21	324.68	5419	2		11887	23	193.49
	Hispanic	52185	85	162.88	48443	10	20.64	100628	95	94.41
	Asian/PI	12212	6	49.13	11642	0		23854	6	25.15
	Other	6301	7	111.09	5858	1		12159	8	65.79
	Subtotal	123031	156	126.80	110924	16	14.42	233955	172	73.52
20-24	White	64762	77	118.90	48712	17	34.90	113474	94	82.84
	Black	8235	34	412.87	6051	5	82.63	14286	39	272.99
	Hispanic	49723	97	195.08	45353	11	24.25	95076	108	113.59
	Asian/PI	15446	7	45.32	14492	0		29938	7	23.38
	Other	6130	12	195.76	5683	5	87.98	11813	17	143.91
	Subtotal	144296	227	157.32	120291	38	31.59	264587	265	100.16
25-34	White	112880	105	93.02	99051	13	13.12	211931	118	55.68
	Black	13139	53	403.38	10029	9	89.74	23168	62	267.61
	Hispanic	81813	138	168.68	80619	10	12.40	162432	148	91.12
	Asian/PI	27872	10	35.88	29731	2		57603	12	20.83
	Other	9279	22	237.09	9351	4		18630	26	139.56
	Subtotal	244983	328	133.89	228781	38	16.61	473764	366	77.25
35-44	White	97645	86	88.07	87718	8	9.12	185363	94	50.71
	Black	11151	36	322.84	8656	2		19807	38	191.85
	Hispanic	69277	67	96.71	74609	9	12.06	143886	76	52.82
	Asian/PI	25326	1		30431	2		55757	3	
	Other	6160	12	194.81	6188	2		12348	14	113.38
	Subtotal	209559	202	96.39	207602	23	11.08	417161	225	53.94
45-54	White	120066	62	51.64	113370	21	18.52	233436	83	35.56
	Black	11581	22	189.97	9903	5	50.49	21484	27	125.67
	Hispanic	54355	34	62.55	59322	3		113677	37	32.55
	Asian/PI	22016	0		26888	2		48904	2	
	Other	5302	7	132.03	5467	3		10769	10	92.86
	Subtotal	213320	125	58.60	214950	34	15.82	428270	159	37.13
55-64	White	107994	49	45.37	109007	9	8.26	217001	58	26.73
	Black	7283	11	151.04	6930	1		14213	12	84.43
	Hispanic	30091	11	36.56	35458	2		65549	13	19.83
	Asian/PI	16686	1		22405	2		39091	3	
	Other	3333	4		3513	0		6846	4	
	Subtotal	165387	76	45.95	177313	14	7.90	342700	90	26.26

Age	Race/Eth	Male			Female			Total		
		Population	Count	Rate	Population	Count	Rate	Population	Count	Rate
65-74	White	59111	7	11.84	64177	4		123288	11	8.92
	Black	3072	3		3462	0		6534	3	
	Hispanic	13430	1		18728	0		32158	1	
	Asian/PI	8865	0		12175	1		21040	1	
	Other	1524	1		1647	1		3171	2	
	Subtotal		86002	12	13.95	100189	6	5.99	186191	18
75-84	White	36335	5	13.76	45408	1		81743	6	7.34
	Black	1485	0		2004	0		3489	0	
	Hispanic	7345	1		11156	0		18501	1	
	Asian/PI	4687	0		7726	0		12413	0	
	Other	738	0		916	0		1654	0	
	Subtotal		50590	6	11.86	67210	1		117800	7
85+	White	16588	0		29056	0		45644	0	
	Black	445	0		797	0		1242	0	
	Hispanic	2399	3		4277	1		6676	4	
	Asian/PI	1360	0		2370	0		3730	0	
	Other	241	0		384	0		625	0	
	Subtotal		21033	3		36884	1		57917	4
Total	White	764025	437	57.20	731557	78	10.66	1495582	515	34.43
	Black	76660	183	238.72	66245	24	36.23	142905	207	144.85
	Hispanic	499545	451	90.28	511239	58	11.34	1010784	509	50.36
	Asian/PI	163334	25	15.31	185390	11	5.93	348724	36	10.32
	Other	59226	70	118.19	58589	17	29.02	117815	87	73.84
	Total		1562790	1166	74.61	1553020	188	12.11	3115810	1354

Note: Rates not calculated for less than five incidents

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego Trauma Registry and Medical Examiner's Data, 2011; Population Estimates, SANDAG

Table 5.2: Self-Inflicted Trauma Injuries and Suicides (Injuries and Deaths Combined) by Age Group, Race/Ethnicity and Gender: 2011

Age	Race/Eth	Male			Female			Total		
		Population	Count	Rate	Population	Count	Rate	Population	Count	Rate
0-4	White	33766	0		31723	0		65489	0	
	Black	4503	0		4323	0		8826	0	
	Hispanic	46238	0		44692	0		90930	0	
	Asian/PI	9145	0		8831	0		17976	0	
	Other	7261	0		7230	0		14491	0	
	Subtotal	100913	0		96799	0		197712	0	
5-9	White	33018	0		30962	0		63980	0	
	Black	4392	0		4167	0		8559	0	
	Hispanic	45988	0		43939	0		89927	0	
	Asian/PI	9365	0		9108	0		18473	0	
	Other	6918	0		6490	0		13408	0	
	Subtotal	99681	0		94666	0		194347	0	
10-14	White	35995	0		32811	0		68806	0	
	Black	4906	0		4504	0		9410	0	
	Hispanic	46701	1		44643	0		91344	1	
	Asian/PI	10354	0		9591	0		19945	0	
	Other	6039	0		5862	0		11901	0	
	Subtotal	103995	1		97411	0		201406	1	
15-19	White	45865	16	34.88	39562	2		85427	18	21.07
	Black	6468	0		5419	1		11887	1	
	Hispanic	52185	2		48443	1		100628	3	
	Asian/PI	12212	0		11642	0		23854	0	
	Other	6301	0		5858	1		12159	1	
	Subtotal	123031	18	14.63	110924	5	4.51	233955	23	9.83
20-24	White	64762	16	24.71	48712	5	10.26	113474	21	18.51
	Black	8235	2		6051	0		14286	2	
	Hispanic	49723	6	12.07	45353	2		95076	8	8.41
	Asian/PI	15446	1		14492	0		29938	1	
	Other	6130	1		5683	1		11813	2	
	Subtotal	144296	26	18.02	120291	8	6.65	264587	34	12.85
25-34	White	112880	38	33.66	99051	3		211931	41	19.35
	Black	13139	1		10029	1		23168	2	
	Hispanic	81813	11	13.45	80619	1		162432	12	7.39
	Asian/PI	27872	0		29731	0		57603	0	
	Other	9279	4		9351	2		18630	6	32.21
	Subtotal	244983	54	22.04	228781	7	3.06	473764	61	12.88
35-44	White	97645	32	32.77	87718	8	9.12	185363	40	21.58
	Black	11151	8	71.74	8656	0		19807	8	40.39
	Hispanic	69277	10	14.43	74609	1		143886	11	7.64
	Asian/PI	25326	1		30431	2		55757	3	
	Other	6160	3		6188	1		12348	4	
	Subtotal	209559	54	25.77	207602	12	5.78	417161	66	15.82
45-54	White	120066	48	39.98	113370	9	7.94	233436	57	24.42
	Black	11581	3		9903	1		21484	4	
	Hispanic	54355	9	16.56	59322	0		113677	9	7.92
	Asian/PI	22016	3		26888	0		48904	3	
	Other	5302	1		5467	0		10769	1	
	Subtotal	213320	64	30.00	214950	10	4.65	428270	74	17.28
55-64	White	107994	32	29.63	109007	7	6.42	217001	39	17.97
	Black	7283	0		6930	0		14213	0	
	Hispanic	30091	4		35458	2		65549	6	9.15
	Asian/PI	16686	1		22405	2		39091	3	
	Other	3333	0		3513	1		6846	1	
	Subtotal	165387	37	22.37	177313	12	6.77	342700	49	14.30

Age	Race/Eth	Male			Female			Total		
		Population	Count	Rate	Population	Count	Rate	Population	Count	Rate
65-74	White	59111	20	33.83	64177	7	10.91	123288	27	21.90
	Black	3072	0		3462	0		6534	0	
	Hispanic	13430	2		18728	0		32158	2	
	Asian/PI	8865	0		12175	0		21040	0	
	Other	1524	0		1647	0		3171	0	
	Subtotal		86002	22	25.58	100189	7	6.99	186191	29
75-84	White	36335	18	49.54	45408	1		81743	19	23.24
	Black	1485	0		2004	0		3489	0	
	Hispanic	7345	1		11156	0		18501	1	
	Asian/PI	4687	0		7726	0		12413	0	
	Other	738	0		916	0		1654	0	
	Subtotal		50590	19	37.56	67210	1		117800	20
85+	White	16588	6	36.17	29056	3		45644	9	19.72
	Black	445	0		797	0		1242	0	
	Hispanic	2399	0		4277	0		6676	0	
	Asian/PI	1360	0		2370	0		3730	0	
	Other	241	0		384	0		625	0	
	Subtotal		21033	6	28.53	36884	3		57917	9
Total	White	764025	226	29.58	731557	45	6.15	1495582	271	18.12
	Black	76660	14	18.26	66245	3		142905	17	11.90
	Hispanic	499545	46	9.21	511239	7	1.37	1010784	53	5.24
	Asian/PI	163334	6	3.67	185390	4		348724	10	2.87
	Other	59226	9	15.20	58589	6	10.24	117815	15	12.73
	Total		1562790	301	19.26	1553020	65	4.19	3115810	366

Note: Rates not calculated for less than five incidents

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego Trauma Registry and Medical Examiner's Data, 2011; Population Estimates, SANDAG

Table 5.3: Motor Vehicle Occupant Trauma Cases (Injuries and Deaths Combined) by Age Group, Race/Ethnicity and Gender: 2011

Age	Race/Eth	Male			Female			Total		
		Population	Count	Rate	Population	Count	Rate	Population	Count	Rate
0-4	White	33766	3		31723	4		65489	7	10.69
	Black	4503	3		4323	1		8826	4	
	Hispanic	46238	11	23.79	44692	11	24.61	90930	22	24.19
	Asian/PI	9145	2		8831	1		17976	3	
	Other	7261	3		7230	2		14491	5	34.50
	Subtotal	100913	22	21.80	96799	19	19.63	197712	41	20.74
5-9	White	33018	11	33.32	30962	3		63980	14	21.88
	Black	4392	0		4167	0		8559	0	
	Hispanic	45988	10	21.74	43939	13	29.59	89927	23	25.58
	Asian/PI	9365	2		9108	1		18473	3	
	Other	6918	4		6490	6	92.45	13408	10	74.58
	Subtotal	99681	27	27.09	94666	23	24.30	194347	50	25.73
10-14	White	35995	4		32811	8	24.38	68806	12	17.44
	Black	4906	0		4504	2		9410	2	
	Hispanic	46701	11	23.55	44643	13	29.12	91344	24	26.27
	Asian/PI	10354	0		9591	0		19945	0	
	Other	6039	3		5862	5	85.30	11901	8	67.22
	Subtotal	103995	18	17.31	97411	28	28.74	201406	46	22.84
15-19	White	45865	33	71.95	39562	40	101.11	85427	73	85.45
	Black	6468	10	154.61	5419	10	184.54	11887	20	168.25
	Hispanic	52185	34	65.15	48443	26	53.67	100628	60	59.63
	Asian/PI	12212	7	57.32	11642	9	77.31	23854	16	67.07
	Other	6301	4		5858	4		12159	8	65.79
	Subtotal	123031	88	71.53	110924	89	80.24	233955	177	75.66
20-24	White	64762	75	115.81	48712	60	123.17	113474	135	118.97
	Black	8235	20	242.87	6051	15	247.89	14286	35	245.00
	Hispanic	49723	77	154.86	45353	53	116.86	95076	130	136.73
	Asian/PI	15446	9	58.27	14492	13	89.70	29938	22	73.49
	Other	6130	11	179.45	5683	5	87.98	11813	16	135.44
	Subtotal	144296	192	133.06	120291	146	121.37	264587	338	127.75
25-34	White	112880	81	71.76	99051	83	83.80	211931	164	77.38
	Black	13139	17	129.39	10029	12	119.65	23168	29	125.17
	Hispanic	81813	65	79.45	80619	57	70.70	162432	122	75.11
	Asian/PI	27872	14	50.23	29731	14	47.09	57603	28	48.61
	Other	9279	11	118.55	9351	16	171.10	18630	27	144.93
	Subtotal	244983	188	76.74	228781	182	79.55	473764	370	78.10
35-44	White	97645	57	58.37	87718	36	41.04	185363	93	50.17
	Black	11151	9	80.71	8656	5	57.76	19807	14	70.68
	Hispanic	69277	43	62.07	74609	33	44.23	143886	76	52.82
	Asian/PI	25326	5	19.74	30431	7	23.00	55757	12	21.52
	Other	6160	5	81.17	6188	6	96.96	12348	11	89.08
	Subtotal	209559	119	56.79	207602	87	41.91	417161	206	49.38
45-54	White	120066	87	72.46	113370	61	53.81	233436	149	63.83
	Black	11581	10	86.35	9903	12	121.18	21484	22	102.40
	Hispanic	54355	43	79.11	59322	49	82.60	113677	92	80.93
	Asian/PI	22016	9	40.88	26888	12	44.63	48904	21	42.94
	Other	5302	7	132.03	5467	5	91.46	10769	12	111.43
	Subtotal	213320	156	73.13	214950	139	64.67	428270	296	69.12
55-64	White	107994	60	55.56	109007	57	52.29	217001	117	53.92
	Black	7283	3		6930	7	101.01	14213	10	70.36
	Hispanic	30091	27	89.73	35458	16	45.12	65549	43	65.60
	Asian/PI	16686	12	71.92	22405	12	53.56	39091	24	61.40
	Other	3333	10	300.03	3513	4		6846	14	204.50
	Subtotal	165387	112	67.72	177313	96	54.14	342700	208	60.69

Age	Race/Eth	Male			Female			Total		
		Population	Count	Rate	Population	Count	Rate	Population	Count	Rate
65-74	White	59111	40	67.67	64177	32	49.86	123288	72	58.40
	Black	3072	2		3462	3		6534	5	76.52
	Hispanic	13430	17	126.58	18728	15	80.09	32158	33	102.62
	Asian/PI	8865	5	56.40	12175	6	49.28	21040	11	52.28
	Other	1524	5	328.08	1647	5	303.58	3171	10	315.36
	Subtotal	86002	69	80.23	100189	61	60.88	186191	131	70.36
75-84	White	36335	18	49.54	45408	38	83.69	81743	56	68.51
	Black	1485	4		2004	1		3489	5	143.31
	Hispanic	7345	4		11156	7	62.75	18501	11	59.46
	Asian/PI	4687	7	149.35	7726	4		12413	11	88.62
	Other	738	1		916	0		1654	1	
	Subtotal	50590	34	67.21	67210	50	74.39	117800	84	71.31
85+	White	16588	15	90.43	29056	24	82.60	45644	39	85.44
	Black	445	1		797	1		1242	2	
	Hispanic	2399	1		4277	0		6676	1	
	Asian/PI	1360	0		2370	0		3730	0	
	Other	241	1		384	0		625	1	
	Subtotal	21033	18	85.58	36884	25	67.78	57917	43	74.24
Total	White	764025	484	63.35	731557	446	60.97	1495582	931	62.25
	Black	76660	79	103.05	66245	69	104.16	142905	148	103.57
	Hispanic	499545	343	68.66	511239	293	57.31	1010784	637	63.02
	Asian/PI	163334	72	44.08	185390	79	42.61	348724	151	43.30
	Other	59226	65	109.75	58589	58	98.99	117815	123	104.40
	Total	1562790	1043	66.74	1553020	945	60.85	3115810	1990	63.87

Note: Rates not calculated for less than five incidents

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego Trauma Registry and Medical Examiner's Data, 2011; Population Estimates, SANDAG

Table 5.4: Motorcycle Trauma Cases (Injuries and Deaths Combined) by Age Group, Race/Ethnicity and Gender: 2011

Age	Race/Eth	Male			Female			Total		
		Population	Count	Rate	Population	Count	Rate	Population	Count	Rate
0-4	White	33766	0		31723	0		65489	0	
	Black	4503	0		4323	0		8826	0	
	Hispanic	46238	0		44692	0		90930	0	
	Asian/PI	9145	0		8831	0		17976	0	
	Other	7261	0		7230	0		14491	0	
	Subtotal	100913	0		96799	0		197712	0	
5-9	White	33018	0		30962	0		63980	0	
	Black	4392	0		4167	0		8559	0	
	Hispanic	45988	2		43939	1		89927	3	
	Asian/PI	9365	0		9108	0		18473	0	
	Other	6918	1		6490	0		13408	1	
	Subtotal	99681	3		94666	1		194347	4	
10-14	White	35995	3		32811	2		68806	5	7.27
	Black	4906	0		4504	1		9410	1	
	Hispanic	46701	3		44643	0		91344	3	
	Asian/PI	10354	0		9591	0		19945	0	
	Other	6039	0		5862	0		11901	0	
	Subtotal	103995	6	5.77	97411	3		201406	9	4.47
15-19	White	45865	18	39.25	39562	6	15.17	85427	24	28.09
	Black	6468	0		5419	0		11887	0	
	Hispanic	52185	0		48443	2		100628	2	
	Asian/PI	12212	0		11642	0		23854	0	
	Other	6301	2		5858	0		12159	2	
	Subtotal	123031	20	16.26	110924	8	7.21	233955	28	11.97
20-24	White	64762	78	120.44	48712	12	24.63	113474	90	79.31
	Black	8235	9	109.29	6051	2		14286	11	77.00
	Hispanic	49723	25	50.28	45353	2		95076	27	28.40
	Asian/PI	15446	6	38.85	14492	2		29938	8	26.72
	Other	6130	2		5683	0		11813	2	
	Subtotal	144296	120	83.16	120291	18	14.96	264587	138	52.16
25-34	White	112880	105	93.02	99051	16	16.15	211931	121	57.09
	Black	13139	14	106.55	10029	0		23168	14	60.43
	Hispanic	81813	35	42.78	80619	2		162432	37	22.78
	Asian/PI	27872	2		29731	2		57603	4	
	Other	9279	8	86.22	9351	0		18630	8	42.94
	Subtotal	244983	164	66.94	228781	20	8.74	473764	184	38.84
35-44	White	97645	49	50.18	87718	8	9.12	185363	57	30.75
	Black	11151	7	62.77	8656	1		19807	8	40.39
	Hispanic	69277	28	40.42	74609	2		143886	30	20.85
	Asian/PI	25326	5	19.74	30431	0		55757	6	10.76
	Other	6160	7	113.64	6188	0		12348	7	56.69
	Subtotal	209559	96	45.81	207602	11	5.30	417161	108	25.89
45-54	White	120066	68	56.64	113370	15	13.23	233436	83	35.56
	Black	11581	8	69.08	9903	0		21484	8	37.24
	Hispanic	54355	17	31.28	59322	0		113677	17	14.95
	Asian/PI	22016	4		26888	0		48904	4	
	Other	5302	6	113.16	5467	0		10769	6	55.72
	Subtotal	213320	103	48.28	214950	15	6.98	428270	118	27.55
55-64	White	107994	62	57.41	109007	10	9.17	217001	73	33.64
	Black	7283	2		6930	0		14213	2	
	Hispanic	30091	4		35458	0		65549	4	
	Asian/PI	16686	0		22405	0		39091	0	
	Other	3333	5	150.02	3513	0		6846	5	73.04
	Subtotal	165387	73	44.14	177313	10	5.64	342700	84	24.51

Age	Race/Eth	Male			Female			Total		
		Population	Count	Rate	Population	Count	Rate	Population	Count	Rate
65-74	White	59111	22	37.22	64177	3		123288	25	20.28
	Black	3072	0		3462	0		6534	0	
	Hispanic	13430	0		18728	0		32158	0	
	Asian/PI	8865	0		12175	0		21040	0	
	Other	1524	0		1647	0		3171	0	
	Subtotal		86002	22	25.58	100189	3		186191	25
75-84	White	36335	1		45408	0		81743	1	
	Black	1485	0		2004	0		3489	0	
	Hispanic	7345	0		11156	0		18501	0	
	Asian/PI	4687	0		7726	0		12413	0	
	Other	738	0		916	0		1654	0	
	Subtotal		50590	1		67210	0		117800	1
85+	White	16588	2		29056	0		45644	2	
	Black	445	0		797	0		1242	0	
	Hispanic	2399	0		4277	0		6676	0	
	Asian/PI	1360	0		2370	0		3730	0	
	Other	241	0		384	0		625	0	
	Subtotal		21033	2		36884	0		57917	2
Total	White	764025	408	53.40	731557	72	9.84	1495582	481	32.16
	Black	76660	40	52.18	66245	4		142905	44	30.79
	Hispanic	499545	114	22.82	511239	9	1.76	1010784	123	12.17
	Asian/PI	163334	17	10.41	185390	4		348724	22	6.31
	Other	59226	31	52.34	58589	0		117815	31	26.31
	Total		1562790	610	39.03	1553020	89	5.73	3115810	701

Note: Rates not calculated for less than five incidents

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego Trauma Registry and Medical Examiner's Data, 2011; Population Estimates, SANDAG

Table 5.5: Pedalcycle Trauma Cases (Injuries and Deaths Combined) by Age Group, Race/Ethnicity and Gender: 2011

Age	Race/Eth	Male			Female			Total		
		Population	Count	Rate	Population	Count	Rate	Population	Count	Rate
0-4	White	33766	0		31723	0		65489	0	
	Black	4503	0		4323	0		8826	0	
	Hispanic	46238	0		44692	2		90930	2	
	Asian/PI	9145	0		8831	0		17976	0	
	Other	7261	3		7230	0		14491	3	
	Subtotal	100913	3		96799	2		197712	5	2.53
5-9	White	33018	8	24.23	30962	1		63980	9	14.07
	Black	4392	2		4167	0		8559	2	
	Hispanic	45988	17	36.97	43939	4		89927	21	23.35
	Asian/PI	9365	0		9108	0		18473	0	
	Other	6918	4		6490	0		13408	4	
	Subtotal	99681	31	31.10	94666	5	5.28	194347	36	18.52
10-14	White	35995	23	63.90	32811	4		68806	27	39.24
	Black	4906	9	183.45	4504	1		9410	10	106.27
	Hispanic	46701	19	40.68	44643	3		91344	22	24.08
	Asian/PI	10354	3		9591	0		19945	3	
	Other	6039	6	99.35	5862	0		11901	6	50.42
	Subtotal	103995	60	57.70	97411	8	8.21	201406	68	33.76
15-19	White	45865	22	47.97	39562	4		85427	26	30.44
	Black	6468	3		5419	0		11887	3	
	Hispanic	52185	21	40.24	48443	4		100628	25	24.84
	Asian/PI	12212	4		11642	2		23854	6	25.15
	Other	6301	0		5858	0		12159	0	
	Subtotal	123031	50	40.64	110924	10	9.02	233955	60	25.65
20-24	White	64762	24	37.06	48712	5	10.26	113474	29	25.56
	Black	8235	1		6051	0		14286	1	
	Hispanic	49723	11	22.12	45353	1		95076	12	12.62
	Asian/PI	15446	1		14492	0		29938	2	
	Other	6130	4		5683	0		11813	4	
	Subtotal	144296	41	28.41	120291	6	4.99	264587	48	18.14
25-34	White	112880	51	45.18	99051	11	11.11	211931	62	29.25
	Black	13139	1		10029	0		23168	1	
	Hispanic	81813	15	18.33	80619	3		162432	18	11.08
	Asian/PI	27872	1		29731	1		57603	2	
	Other	9279	6	64.66	9351	0		18630	6	32.21
	Subtotal	244983	74	30.21	228781	15	6.56	473764	89	18.79
35-44	White	97645	44	45.06	87718	6	6.84	185363	50	26.97
	Black	11151	1		8656	0		19807	1	
	Hispanic	69277	14	20.21	74609	1		143886	15	10.42
	Asian/PI	25326	3	11.85	30431	1		55757	4	
	Other	6160	2		6188	0		12348	2	
	Subtotal	209559	64	30.54	207602	8	3.85	417161	72	17.26
45-54	White	120066	56	46.64	113370	15	13.23	233436	71	30.42
	Black	11581	5	43.17	9903	0		21484	5	23.27
	Hispanic	54355	12	22.08	59322	3		113677	15	13.20
	Asian/PI	22016	3		26888	1		48904	4	
	Other	5302	1		5467	2		10769	3	
	Subtotal	213320	77	36.10	214950	21	9.77	428270	98	22.88
55-64	White	107994	52	48.15	109007	9	8.26	217001	61	28.11
	Black	7283	3		6930	1		14213	4	
	Hispanic	30091	2		35458	1		65549	3	
	Asian/PI	16686	0		22405	0		39091	0	
	Other	3333	1		3513	0		6846	1	
	Subtotal	165387	58	35.07	177313	11	6.20	342700	69	20.13

Age	Race/Eth	Male			Female			Total		
		Population	Count	Rate	Population	Count	Rate	Population	Count	Rate
65-74	White	59111	17	28.76	64177	0		123288	17	13.79
	Black	3072	0		3462	1		6534	1	
	Hispanic	13430	4		18728	0		32158	4	
	Asian/PI	8865	0		12175	0		21040	0	
	Other	1524	0		1647	0		3171	0	
	Subtotal		86002	21	24.42	100189	1		186191	22
75-84	White	36335	3		45408	1		81743	4	
	Black	1485	0		2004	0		3489	0	
	Hispanic	7345	0		11156	0		18501	0	
	Asian/PI	4687	1		7726	0		12413	1	
	Other	738	0		916	0		1654	0	
	Subtotal		50590	4		67210	1		117800	5
85+	White	16588	3		29056	0		45644	3	
	Black	445	0		797	0		1242	0	
	Hispanic	2399	0		4277	0		6676	0	
	Asian/PI	1360	0		2370	0		3730	0	
	Other	241	0		384	0		625	0	
	Subtotal		21033	3		36884	0		57917	3
Total	White	764025	303	39.66	731557	56	7.65	1495582	359	24.00
	Black	76660	25	32.61	66245	3		142905	28	19.59
	Hispanic	499545	115	23.02	511239	22	4.30	1010784	137	13.55
	Asian/PI	163334	16	9.80	185390	5	2.70	348724	22	6.31
	Other	59226	27	45.59	58589	2		117815	29	24.61
	Total		1562790	486	31.10	1553020	88	5.67	3115810	575

Note: Rates not calculated for less than five incidents

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego Trauma Registry and Medical Examiner's Data, 2011; Population Estimates, SANDAG

Table 5.6: Pedestrian Trauma Cases (Injuries and Deaths Combined) by Age Group, Race/Ethnicity and Gender: 2011

Age	Race/Eth	Male			Female			Total		
		Population	Count	Rate	Population	Count	Rate	Population	Count	Rate
0-4	White	33766	2		31723	1		65489	3	
	Black	4503	0		4323	3		8826	3	
	Hispanic	46238	7	15.14	44692	3		90930	10	11.00
	Asian/PI	9145	0		8831	0		17976	0	
	Other	7261	1		7230	0		14491	1	
	Subtotal	100913	10	9.91	96799	7	7.23	197712	17	8.60
5-9	White	33018	2		30962	0		63980	2	
	Black	4392	0		4167	1		8559	1	
	Hispanic	45988	11	23.92	43939	8	18.21	89927	19	21.13
	Asian/PI	9365	0		9108	0		18473	0	
	Other	6918	2		6490	1		13408	3	
	Subtotal	99681	15	15.05	94666	10	10.56	194347	25	12.86
10-14	White	35995	9	25.00	32811	2		68806	11	15.99
	Black	4906	1		4504	0		9410	1	
	Hispanic	46701	9	19.27	44643	5	11.20	91344	14	15.33
	Asian/PI	10354	2		9591	0		19945	2	
	Other	6039	6	99.35	5862	0		11901	6	
	Subtotal	103995	27	25.96	97411	7	7.19	201406	34	16.88
15-19	White	45865	7	15.26	39562	4		85427	11	12.88
	Black	6468	6	92.76	5419	2		11887	8	67.30
	Hispanic	52185	15	28.74	48443	13	26.84	100628	28	27.83
	Asian/PI	12212	1		11642	3		23854	4	
	Other	6301	1		5858	1		12159	2	
	Subtotal	123031	30	24.38	110924	23	20.73	233955	53	22.65
20-24	White	64762	16	24.71	48712	4		113474	20	17.63
	Black	8235	4		6051	1		14286	5	35.00
	Hispanic	49723	12	24.13	45353	3		95076	15	15.78
	Asian/PI	15446	1		14492	2		29938	3	
	Other	6130	4		5683	0		11813	4	
	Subtotal	144296	37	25.64	120291	10	8.31	264587	47	17.76
25-34	White	112880	30	26.58	99051	11	11.11	211931	41	19.35
	Black	13139	10	76.11	10029	3		23168	13	56.11
	Hispanic	81813	19	23.22	80619	8	9.92	162432	27	16.62
	Asian/PI	27872	1		29731	1		57603	2	
	Other	9279	2		9351	1		18630	3	
	Subtotal	244983	62	25.31	228781	24	10.49	473764	86	18.15
35-44	White	97645	16	16.39	87718	6	6.84	185363	22	11.87
	Black	11151	7	62.77	8656	1		19807	8	40.39
	Hispanic	69277	4		74609	2		143886	6	4.17
	Asian/PI	25326	2		30431	0		55757	2	
	Other	6160	2		6188	1		12348	3	
	Subtotal	209559	31	14.79	207602	10	4.82	417161	41	9.83
45-54	White	120066	23	19.16	113370	12	10.58	233436	35	14.99
	Black	11581	3		9903	2		21484	5	23.27
	Hispanic	54355	15	27.60	59322	8	13.49	113677	23	20.23
	Asian/PI	22016	5	22.71	26888	1		48904	6	12.27
	Other	5302	1		5467	0		10769	1	
	Subtotal	213320	47	22.03	214950	23	10.70	428270	70	16.34
55-64	White	107994	26	24.08	109007	13	11.93	217001	39	17.97
	Black	7283	6	82.38	6930	1		14213	7	49.25
	Hispanic	30091	7	23.26	35458	3		65549	10	15.26
	Asian/PI	16686	1		22405	6	26.78	39091	7	17.91
	Other	3333	0		3513	2		6846	2	
	Subtotal	165387	40	24.19	177313	25	14.10	342700	65	18.97

Age	Race/Eth	Male			Female			Total		
		Population	Count	Rate	Population	Count	Rate	Population	Count	Rate
65-74	White	59111	8	13.53	64177	9	14.02	123288	17	13.79
	Black	3072	1		3462	1		6534	2	
	Hispanic	13430	2		18728	3		32158	5	15.55
	Asian/PI	8865	1		12175	3		21040	4	
	Other	1524	0		1647	1		3171	1	
	Subtotal		86002	12	13.95	100189	17	16.97	186191	29
75-84	White	36335	6	16.51	45408	4		81743	10	12.23
	Black	1485	0		2004	0		3489	0	
	Hispanic	7345	5	68.07	11156	4		18501	9	48.65
	Asian/PI	4687	1		7726	1		12413	2	
	Other	738	1		916	1		1654	2	
	Subtotal		50590	13	25.70	67210	10	14.88	117800	23
85+	White	16588	3		29056	4		45644	7	15.34
	Black	445	0		797	1		1242	1	
	Hispanic	2399	3		4277	0		6676	3	
	Asian/PI	1360	1		2370	0		3730	1	
	Other	241	0		384	0		625	0	
	Subtotal		21033	7	33.28	36884	5	13.56	57917	12
Total	White	764025	148	19.37	731557	70	9.57	1495582	218	14.58
	Black	76660	38	49.57	66245	16	24.15	142905	54	37.79
	Hispanic	499545	109	21.82	511239	60	11.74	1010784	169	16.72
	Asian/PI	163334	16	9.80	185390	17	9.17	348724	33	9.46
	Other	59226	20	33.77	58589	8	13.65	117815	28	23.77
	Total		1562790	331	21.18	1553020	171	11.01	3115810	502

Note: Rates not calculated for less than five incidents

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego Trauma Registry and Medical Examiner's Data, 2011; Population Estimates, SANDAG

Table 5.7: Fall-Related Trauma Cases (Injuries and Deaths Combined) by Age Group, Race/Ethnicity and Gender: 2011

Age	Race/Eth	Male			Female			Total		
		Population	Count	Rate	Population	Count	Rate	Population	Count	Rate
0-4	White	33766	52	154.00	31723	25	78.81	65489	77	117.58
	Black	4503	7	155.45	4323	3		8826	10	113.30
	Hispanic	46238	50	108.14	44692	33	73.84	90930	83	91.28
	Asian/PI	9145	11	120.28	8831	6	67.94	17976	17	94.57
	Other	7261	19	261.67	7230	7	96.82	14491	26	179.42
	Subtotal	100913	139	137.74	96799	74	76.45	197712	213	107.73
5-9	White	33018	10	30.29	30962	16	51.68	63980	26	40.64
	Black	4392	0		4167	1		8559	1	
	Hispanic	45988	25	54.36	43939	7	15.93	89927	32	35.58
	Asian/PI	9365	2		9108	0		18473	2	
	Other	6918	1		6490	3		13408	4	
	Subtotal	99681	38	38.12	94666	27	28.52	194347	65	33.45
10-14	White	35995	14	38.89	32811	7	21.33	68806	21	30.52
	Black	4906	4		4504	2		9410	6	63.76
	Hispanic	46701	15	32.12	44643	8	17.92	91344	23	25.18
	Asian/PI	10354	4		9591	1		19945	5	25.07
	Other	6039	5		5862	3		11901	8	67.22
	Subtotal	103995	42	40.39	97411	21	21.56	201406	63	31.28
15-19	White	45865	32	69.77	39562	18	45.50	85427	50	58.53
	Black	6468	2		5419	1		11887	3	
	Hispanic	52185	26	49.82	48443	15	30.96	100628	41	40.74
	Asian/PI	12212	1		11642	3		23854	4	
	Other	6301	1		5858	6	102.42	12159	7	57.57
	Subtotal	123031	62	50.39	110924	43	38.77	233955	105	44.88
20-24	White	64762	55	84.93	48712	22	45.16	113474	77	67.86
	Black	8235	8	97.15	6051	3		14286	11	77.00
	Hispanic	49723	36	72.40	45353	5	11.02	95076	41	43.12
	Asian/PI	15446	3		14492	2		29938	5	16.70
	Other	6130	3		5683	1		11813	4	
	Subtotal	144296	105	72.77	120291	33	27.43	264587	138	52.16
25-34	White	112880	88	77.96	99051	32	32.31	211931	120	56.62
	Black	13139	10	76.11	10029	5	49.86	23168	15	64.74
	Hispanic	81813	47	57.45	80619	13	16.13	162432	60	36.94
	Asian/PI	27872	0		29731	3		57603	3	
	Other	9279	9	96.99	9351	4		18630	13	69.78
	Subtotal	244983	154	62.86	228781	57	24.91	473764	211	44.54
35-44	White	97645	96	98.32	87718	49	55.86	185363	145	78.22
	Black	11151	7	62.77	8656	2		19807	9	45.44
	Hispanic	69277	63	90.94	74609	10	13.40	143886	73	50.73
	Asian/PI	25326	6	23.69	30431	6	19.72	55757	12	21.52
	Other	6160	7	113.64	6188	0		12348	7	56.69
	Subtotal	209559	179	85.42	207602	67	32.27	417161	246	58.97
45-54	White	120066	183	152.42	113370	82	72.33	233436	265	113.52
	Black	11581	13	112.25	9903	9	90.88	21484	22	102.40
	Hispanic	54355	79	145.34	59322	16	26.97	113677	95	83.57
	Asian/PI	22016	12	54.51	26888	3		48904	15	30.67
	Other	5302	21	396.08	5467	6	109.75	10769	27	250.72
	Subtotal	213320	308	144.38	214950	116	53.97	428270	424	99.00
55-64	White	107994	222	205.57	109007	108	99.08	217001	330	152.07
	Black	7283	19	260.88	6930	10	144.30	14213	29	204.04
	Hispanic	30091	45	149.55	35458	23	64.87	65549	68	103.74
	Asian/PI	16686	17	101.88	22405	8	35.71	39091	25	63.95
	Other	3333	12	360.04	3513	6	170.79	6846	18	262.93
	Subtotal	165387	315	190.46	177313	155	87.42	342700	470	137.15

Age	Race/Eth	Male			Female			Total		
		Population	Count	Rate	Population	Count	Rate	Population	Count	Rate
65-74	White	59111	187	316.35	64177	137	213.47	123288	326	264.42
	Black	3072	7	227.86	3462	6	173.31	6534	13	198.96
	Hispanic	13430	37	275.50	18728	45	240.28	32158	82	254.99
	Asian/PI	8865	11	124.08	12175	19	156.06	21040	31	147.34
	Other	1524	11	721.78	1647	7	425.02	3171	18	567.64
	Subtotal	86002	253	294.18	100189	214	213.60	186191	470	252.43
75-84	White	36335	273	751.34	45408	267	588.00	81743	541	661.83
	Black	1485	11	740.74	2004	12	598.80	3489	23	659.21
	Hispanic	7345	45	612.66	11156	60	537.83	18501	105	567.54
	Asian/PI	4687	20	426.71	7726	28	362.41	12413	48	386.69
	Other	738	26	3523.04	916	15	1637.55	1654	41	2478.84
	Subtotal	50590	375	741.25	67210	382	568.37	117800	758	643.46
85+	White	16588	252	1519.17	29056	383	1318.14	45644	635	1391.20
	Black	445	1		797	4		1242	5	402.58
	Hispanic	2399	32	1333.89	4277	41	958.62	6676	73	1093.47
	Asian/PI	1360	11	808.82	2370	32	1350.21	3730	43	1152.82
	Other	241	13	5394.19	384	6	1562.50	625	19	3040.00
	Subtotal	21033	309	1469.12	36884	466	1263.42	57917	775	1338.12
Total	White	764025	1464	191.62	731557	1146	156.65	1495582	2613	174.71
	Black	76660	89	116.10	66245	58	87.55	142905	147	102.87
	Hispanic	499545	500	100.09	511239	276	53.99	1010784	776	76.77
	Asian/PI	163334	98	60.00	185390	111	59.87	348724	210	60.22
	Other	59226	128	216.12	58589	64	109.24	117815	192	162.97
	Total	1562790	2279	145.83	1553020	1655	106.57	3115810	3938	126.39

Note: Rates not calculated for less than five incidents

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego Trauma Registry and Medical Examiner's Data, 2011; Population Estimates, SANDAG

Table 5.8: Sports and Recreation Related Trauma Cases (Injuries and Deaths Combined) by Age Group, Race/Ethnicity and Gender: 2011

Age	Race/Eth	Male			Female			Total		
		Population	Count	Rate	Population	Count	Rate	Population	Count	Rate
0-4	White	33766	5	14.81	31723	1		65489	6	9.16
	Black	4503	0		4323	1		8826	1	
	Hispanic	46238	6	12.98	44692	1		90930	7	7.70
	Asian/PI	9145	0		8831	1		17976	1	
	Other	7261	1		7230	0		14491	1	
	Subtotal	100913	12	11.89	96799	4		197712	16	8.09
5-9	White	33018	13	39.37	30962	7	22.61	63980	20	31.26
	Black	4392	1		4167	0		8559	1	
	Hispanic	45988	12	26.09	43939	5	11.38	89927	17	18.90
	Asian/PI	9365	0		9108	0		18473	0	
	Other	6918	3		6490	3		13408	6	44.75
	Subtotal	99681	29	29.09	94666	15	15.85	194347	44	22.64
10-14	White	35995	57	158.36	32811	22	67.05	68806	80	116.27
	Black	4906	3		4504	3		9410	6	63.76
	Hispanic	46701	34	72.80	44643	6	13.44	91344	40	43.79
	Asian/PI	10354	5	48.29	9591	0		19945	5	25.07
	Other	6039	18	298.06	5862	4		11901	22	184.86
	Subtotal	103995	117	112.51	97411	35	35.93	201406	153	75.97
15-19	White	45865	81	176.61	39562	26	65.72	85427	107	125.25
	Black	6468	4		5419	1		11887	5	42.06
	Hispanic	52185	27	51.74	48443	10	20.64	100628	37	36.77
	Asian/PI	12212	4		11642	1		23854	5	20.96
	Other	6301	6	95.22	5858	1		12159	7	57.57
	Subtotal	123031	122	99.16	110924	39	35.16	233955	161	68.82
20-24	White	64762	55	84.93	48712	6	12.32	113474	61	53.76
	Black	8235	0		6051	0		14286	0	
	Hispanic	49723	11	22.12	45353	3		95076	14	14.73
	Asian/PI	15446	4		14492	1		29938	5	16.70
	Other	6130	5	81.57	5683	1		11813	6	50.79
	Subtotal	144296	75	51.98	120291	11	9.14	264587	86	32.50
25-34	White	112880	59	52.27	99051	13	13.12	211931	72	33.97
	Black	13139	5	38.05	10029	0		23168	5	21.58
	Hispanic	81813	19	23.22	80619	7	8.68	162432	26	16.01
	Asian/PI	27872	3		29731	0		57603	3	
	Other	9279	3		9351	0		18630	3	
	Subtotal	244983	89	36.33	228781	20	8.74	473764	109	23.01
35-44	White	97645	46	47.11	87718	13	14.82	185363	59	31.83
	Black	11151	2		8656	0		19807	2	
	Hispanic	69277	4		74609	1		143886	5	3.47
	Asian/PI	25326	1		30431	0		55757	1	
	Other	6160	2		6188	1		12348	3	
	Subtotal	209559	55	26.25	207602	15	7.23	417161	70	16.78
45-54	White	120066	45	37.48	113370	23	20.29	233436	68	29.13
	Black	11581	0		9903	1		21484	1	
	Hispanic	54355	6	11.04	59322	2		113677	8	7.04
	Asian/PI	22016	0		26888	0		48904	0	
	Other	5302	1		5467	1		10769	2	
	Subtotal	213320	52	24.38	214950	27	12.56	428270	79	18.45
55-64	White	107994	26	24.08	109007	15	13.76	217001	41	18.89
	Black	7283	1		6930	0		14213	1	
	Hispanic	30091	1		35458	0		65549	1	
	Asian/PI	16686	0		22405	0		39091	0	
	Other	3333	1		3513	0		6846	1	
	Subtotal	165387	29	17.53	177313	15	8.46	342700	44	12.84

Age	Race/Eth	Male			Female			Total		
		Population	Count	Rate	Population	Count	Rate	Population	Count	Rate
65-74	White	59111	8	13.53	64177	5	7.79	123288	13	10.54
	Black	3072	1		3462	0		6534	1	
	Hispanic	13430	0		18728	0		32158	0	
	Asian/PI	8865	1		12175	0		21040	1	
	Other	1524	0		1647	0		3171	0	
	Subtotal		86002	10	11.63	100189	5	4.99	186191	15
75-84	White	36335	3		45408	0		81743	3	
	Black	1485	0		2004	0		3489	0	
	Hispanic	7345	0		11156	0		18501	0	
	Asian/PI	4687	0		7726	0		12413	0	
	Other	738	0		916	0		1654	0	
	Subtotal		50590	3		67210	0		117800	3
85+	White	16588	1		29056	2		45644	3	
	Black	445	0		797	0		1242	0	
	Hispanic	2399	1		4277	0		6676	1	
	Asian/PI	1360	0		2370	0		3730	0	
	Other	241	0		384	0		625	0	
	Subtotal		21033	2		36884	2		57917	4
Total	White	764025	399	52.22	731557	133	18.18	1495582	533	35.64
	Black	76660	17	22.18	66245	6	9.06	142905	23	16.09
	Hispanic	499545	121	24.22	511239	35	6.85	1010784	156	15.43
	Asian/PI	163334	18	11.02	185390	3		348724	21	6.02
	Other	59226	40	67.54	58589	11	18.77	117815	51	43.29
	Total		1562790	595	38.07	1553020	188	12.11	3115810	784

Note: Rates not calculated for less than five incidents

Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego Trauma Registry and Medical Examiner's Data, 2011; Population Estimates, SANDAG

Technical Notes

Abbreviated Injury Scale (AIS): A scale created to describe individual traumatic injuries. AIS scores obtain a value from each of 6 body areas: 1) head or neck; 2) face; 3) chest; 4) abdomen/pelvic contents; 5) extremities/pelvic girdle; and 6) external. For each body region a severity code is assigned which describes the injuries: 1) minor; 2) moderate; 3) serious; 4) severe; 5) critical; 6) maximum injury with little chance of survival, and 9) unknown.

Geographic Areas: The geographic areas used in the analysis of the data are the Health and Human Services Agency regions (HHS regions) and the subregional areas (SRA) of San Diego County as defined by the San Diego Association of Governments (SANDAG). See Appendix D.

Mechanism of Injury: This report is based on classifications of injury etiology as follows:

Motor Vehicle Occupant	driver or passenger, not motorcycle
Motorcycle	driver or passenger of motorcycle/moped
Pedalcycle	pedalcyclist, traffic or non-traffic
Pedestrian	person involved in a motor vehicle collision who was on foot, or in or operating a pedestrian conveyance, e.g., baby carriage, roller skates, wheelchair, scooter, skateboard.
Other vehicle	railway accident motor vehicle other or unknown other road vehicle Aircraft, other vehicle
Falls	fall, steps fall, ladder/scaffold fall, structure fall, into hole/swimming pool, etc. fall, cliff fall from standing (must be witnessed) other fall/unknown
Self Inflicted/Suicides	suicide attempt (hanging, suffocation) self inflicted firearms/ explosive self inflicted cutting/piercing self inflicted jump from high place self inflicted suicide attempt, other
Assaults/Homicides	fall, pushed from vehicle assault, unarmed fight, brawl, etc. rape assault by firearm/explosive

	assault by cutting/piercing child battering other assault/suspected non-accidental assault by multiple causes (firearms/stabbing/etc.)
Sports & Recreation Activities	scooter/skateboard/carriage/snow skier off road vehicle riding animals water sports sports (hit, kicked or struck) fall from tree/playground equipment
Other	dog bite injured by animal, not dog bite struck by falling object struck by machinery/object (caught, crushed, cut, etc.) cutting instruments (lawn mowers, power tools, appliances, knives, swords, saws, glass) explosion of pressure vessel BB/pellet gun (assault and accidental) bow/cross bow (assault and accidental) firearms (accident, not assault) explosive material (fireworks, gas, bomb, accident) hot substance, caustic, steam electric current cave in (dirt, structures) other unspecified accident legal intervention
Unknown	mechanism left blank or "unknown". undetermined intent of injury

Incidence: The number of occurrences for the specific injury type. Incidence should not be used to compare different racial/ethnic groups, age groups or geographic areas. For these comparisons, use rates which take into account differences in population sizes.

Injury: For the purposes of this report injury refers to unintentional or intentional damage to the body resulting from acute exposure to mechanical energy.

Injury Severity Score (ISS): A modification of the AIS, the ISS is an anatomic score developed to identify multiple traumatic injuries. The ISS is obtained by calculating the sum of the squared values of the highest AIS code in each of the three most severely injured regions of the body. AIS scores up to 5 are squared, so that the highest ISS attainable is 75. An AIS score of 6 in any body region is assigned as ISS of 75.

Technical Notes

Race/Ethnicity: Race/ethnicity is calculated for this report as Hispanic, non-Hispanic White, non-Hispanic Black, non-Hispanic Asian/Other based on SANDAG estimates of population for January 2001.

Rate: Calculated as incidence per 100,000 population. Rates were calculated using January 2001 population estimates provided by the San Diego Association of Governments (SANDAG). Rates were not calculated for categories with less than five occurrences, due to instability.

$$\text{Rate} = (\text{Incidence/Population}) \times 100,000$$

SANDAG: San Diego Association of Governments.

Source of Data: All incidence data is from the San Diego County Trauma Registry and the County of San Diego, Health and Human Services, Medical Examiner Database. These data include both deaths and severe traumatic injuries. To be included in the trauma registry a patient must suffer from a traumatic injury and: be evaluated by a trauma surgeon; be an interfacility transfer from or to an acute care facility; or die from the injury. A patient who dies of a traumatic injury on scene, at a non-trauma facility, or at a trauma center is included in the Medical Examiner's database.

Years Potential Life Lost (YPLL): YPLL calculates the years of life lost due to a death using the average life expectancy as an estimate for the total length of life. Life expectancy was derived from the Vital Statistics Life Tables (Centers for Disease Control and Prevention). For age groups, YPLL was calculated using the life expectancy for the median age for the group. $\text{YPLL} = (\text{Expected years of life} - \text{median age}) \times \text{Number of deaths}$

Table A.1: Leading Causes of Traumatic Injury by HHS Region: 2011

HHS Region	Rank of Cause of Injury				
	1	2	3	4	5
North Coastal	Falls 265	MV Occupant 129	Assaults 74	Motorcycle 47	Sport/Rec 45
North Central	Falls 595	MV Occupant 129	Pedalcycle 99	Assault 96	Motorcycle 79
Central	Falls 788	Assaults 450	MV Occupant 277	Pedestrian 126	Motorcycle 110
South	Falls 558	MV Occupant 240	Assaults 187	Pedestrian 54	Pedalcycle 54
East	Falls 345	MV Occupant 120	Assaults 82	Motorcycle 49	Pedestrian 40
North Inland	Falls 232	MV Occupant 162	Sport/Rec 133	Motorcycle 90	Assaults 43
Unknown	Falls 856	MV Occupant 825	Sport/Rec 452	Assaults 408	Motorcycle 256
Total	Falls 3639	MV Occupant 1939	Assaults 1340	Sport/Rec 790	Motorcycle 677

Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry, 2011

Table A.2: Leading Causes of Traumatic Death by HHS Region: 2011

HHS Region	Rank of Cause of Injury				
	1	2	3	4	5
North Coastal	Falls 57	Suicide 31	Homicide 10	MV Occupant 9	Motorcycle 6
North Central	Falls 61	Suicide 34	MV Occupant 16	Pedestrian 10	Homicide 5
Central	Falls 46	Suicide 38	Homicide 18	MV Occupant 11	Pedestrian 8
South	Falls 59	Suicide 21	MV Occupant 13	Motorcycle 8	Homicide 6
East	Falls 73	Suicide 48	MV Occupant 26	Motorcycle 12	Homicide 12
North Inland	Falls 50	Suicide 27	MV Occupant 22	Motorcycle 9	Homicide 7
Unknown	Falls 40	Homicide 12	MV Occupant 8	Motorcycle 7	Suicide 6
Total	Falls 386	Suicide 205	MV Occupant 105	Homicide 70	Motorcycle 46

Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry, 2011

Appendix A

Table A.3: Leading Causes of Traumatic Injury by Age Group of Victim: 2011

Age Group of Victim	Rank of Cause of Injury				
	1	2	3	4	5
0-4	Falls 215	MV Occupant 42	Assaults 29	Pedestrian 17	Sport/Rec 16
5-9	Falls 65	MV Occupant 51	Sport/Rec 44	Pedalcycle 36	Pedestrian 26
10-14	Sport/Rec 154	Pedalcycle 70	Falls 63	MV Occupant 47	Pedestrian 35
15-19	MV Occupant 178	Assaults 172	Sport/Rec 166	Falls 104	Pedalcycle 62
20-24	MV Occupant 325	Assaults 266	Falls 142	Motorcycle 131	Sport/Rec 88
25-34	MV Occupant 372	Assaults 370	Falls 219	Motorcycle 183	Sport/Rec 110
35-44	Falls 249	Assaults 226	MV Occupant 202	Motorcycle 104	Pedalcycle 71
45-54	Falls 419	MV Occupant 282	Assaults 155	Motorcycle 113	Pedalcycle 98
55-64	Falls 452	MV Occupant 204	Assaults 82	Motorcycle 78	Pedalcycle 67
65-74	Falls 435	MV Occupant 123	Pedestrian 26	Motorcycle 22	Pedalcycle 21
75-84	Falls 674	MV Occupant 77	Pedestrian 21	Assaults 7	Pedalcycle 4
85+	Falls 602	MV Occupant 36	Pedestrian 9	Assaults 4	Sport/Rec 4
Total	Falls 3639	MV Occupant 1939	Assaults 1340	Sport/Rec 790	Motorcycle 677

Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry, 2011

Table A.4: Leading Causes of Traumatic Death by Age Group of Victim: 2011

Age Group of Victim	Rank of Cause of Injury				
	1	2	3	4	5
0-4	Homicide <5	Other <5			
5-9	Homicide <5	Pedalcycle <5	Falls <5		
10-14	Homicide <5	Sport/Rec <5			
15-19	Homicide 7	MV Occupant 6	Suicide 6	Falls <5	Pedestrian <5
20-24	MV Occupant 18	Suicide 14	Homicide 13	Motorcycle 13	Pedestrian <5
25-34	Suicide 25	MV Occupant 20	Homicide 14	Pedestrian 12	Motorcycle 9
35-44	Suicide 30	MV Occupant 9	Falls 9	Homicide 6	Motorcycle 5
45-54	Suicide 45	MV Occupant 18	Falls 17	Homicide 12	Motorcycle 9
55-64	Suicide 34	Falls 28	MV Occupant 10	Homicide 10	Pedestrian 8
65-74	Falls 41	Suicide 25	MV Occupant 9	Pedestrian 5	Homicide <5
75-84	Falls 101	Suicide 18	MV Occupant 8	Other <5	Pedestrian <5
85+	Falls 186	Suicide 8	MV Occupant 7	Pedestrian <5	Other <5
Total	Falls 386	Suicide 205	MV Occupant 105	Homicide 70	Motorcycle 46

Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry, 2011
Cells with less than 5 cases not reported

Appendix B

Table B.1: Violent Trauma Cases (Injuries and Deaths Combined) by San Diego County Subregional Area, 2011

SRA	Population	Assault/Homicide		Self-Inflicted/Suicide	
		Number	Rate	Number	Rate
Central San Diego	165,966	305	183.77	48	28.92
Peninsula	63,060	15	23.79	6	9.51
Coronado	23,329	4		3	
National City	58,491	34	58.13	6	10.26
Southeast San Diego	156,406	80	51.15	15	9.59
Mid-City	163,196	83	50.86	20	12.26
Kearny Mesa	151,696	40	26.37	22	14.50
Coastal	75,555	30	39.71	12	15.88
University	66,482	4		4	
Del Mar-Mira Mesa	158,482	7	4.42	6	3.79
North San Diego	107,615	5	4.65	5	4.65
Poway	86,901	1		10	11.51
Miramar	5,045	1		0	
Elliott-Navajo	89,425	3		9	10.06
Sweetwater	136,596	8	5.86	7	5.12
Chula Vista	115,913	83	71.61	8	6.90
South Bay	135,126	63	46.62	18	13.32
Jamul	17,578	1		2	
Spring Valley	81,738	23	28.14	7	8.56
Lemon Grove	29,949	18	60.10	3	
La Mesa	59,986	2		11	18.34
El Cajon	125,263	14	11.18	11	8.78
Santee	51,693	4		7	13.54
Lakeside	56,364	16	28.39	7	12.42
Harbison Crest	14,771	10	67.70	8	54.16
Alpine	15,159	3		4	
Ramona	35,433	2		1	
San Dieguito	94,896	4		8	8.43
Carlsbad	115,856	24	20.72	11	9.49
Oceanside	160,095	38	23.74	21	13.12
Pendleton	37,651	2		1	
Escondido	164,229	15	9.13	11	6.70
San Marcos	90,188	11	12.20	4	
Vista	101,329	20	19.74	9	8.88
Valley Center	23,459	4		2	
Pauma	7,773	1		0	
Fallbrook	47,872	10	20.89	2	
Palomar-Julian	6,428	1		0	
Laguna-Pine Valley	5,643	0		1	
Mountain Empire	8,506	1		7	82.29
Anza-Borrego Springs	4667	3		3	
Unknown	.	417		32	
Total	3,115,810	1410	45.25	372	11.94

Source: County of San Diego. Health and Human Services, Division of Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data; 2011; Population Estimates, SANDAG

Table B.2: Motor Vehicle Occupant and Motorcycle Trauma Cases (Injuries and Deaths Combined) by San Diego County Subregional Area, 2011

SRA	Population	MV Occupant		Motorcycle	
		Number	Rate	Number	Rate
Central San Diego	165,966	186	112.07	70	42.18
Peninsula	63,060	12	19.03	8	12.69
Coronado	23,329	7	30.01	2	
National City	58,491	62	106.00	10	17.10
Southeast San Diego	156,406	44	28.13	16	10.23
Mid-City	163,196	58	35.54	26	15.93
Kearny Mesa	151,696	66	43.51	36	23.73
Coastal	75,555	43	56.91	14	18.53
University	66,482	22	33.09	7	10.53
Del Mar-Mira Mesa	158,482	32	20.19	10	6.31
North San Diego	107,615	32	29.74	5	4.65
Poway	86,901	18	20.71	7	8.06
Miramar	5,045	0		1	
Elliott-Navajo	89,425	19	21.25	4	4.47
Sweetwater	136,596	26	19.03	11	8.05
Chula Vista	115,913	106	91.45	23	19.84
South Bay	135,126	49	36.26	7	5.18
Jamul	17,578	8	45.51	4	
Spring Valley	81,738	25	30.59	4	
Lemon Grove	29,949	11	36.73	4	
La Mesa	59,986	12	20.00	1	
El Cajon	125,263	25	19.96	7	5.59
Santee	51,693	8	15.48	9	17.41
Lakeside	56,364	22	39.03	14	24.84
Harbison Crest	14,771	5	33.85	7	47.39
Alpine	15,159	5	32.98	2	
Ramona	35,433	12	33.87	4	
San Dieguito	94,896	26	27.40	12	12.65
Carlsbad	115,856	38	32.80	8	6.91
Oceanside	160,095	43	26.86	21	13.12
Pendleton	37,651	17	45.15	6	15.94
Escondido	164,229	52	31.66	14	8.52
San Marcos	90,188	18	19.96	13	14.41
Vista	101,329	19	18.75	7	6.91
Valley Center	23,459	15	63.94	9	38.36
Pauma	7,773	14	180.11	15	192.98
Fallbrook	47,872	26	54.31	13	27.16
Palomar-Julian	6,428	4		10	155.57
Laguna-Pine Valley	5,643	0		0	
Mountain Empire	8,506	14	164.59	3	
Anza-Borrego Springs	4667	13	278.55	17	364.26
Unknown	.	830		262	
Total	3,115,810	2044	65.60	723	23.20

Source: County of San Diego. Health and Human Services, Division of Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data; 2011; Population Estimates, SANDAG

Appendix B

Table B.3: Pedalcycle and Pedestrian Trauma Cases (Injuries and Deaths Combined) by San Diego County Subregional Area, 2011

SRA	Population	Pedalcycle		Pedestrian	
		Number	Rate	Number	Rate
Central San Diego	165,966	69	41.57	83	50.01
Peninsula	63,060	12	19.03	5	7.93
Coronado	23,329	4		1	
National City	58,491	9	15.39	20	34.19
Southeast San Diego	156,406	4		19	12.15
Mid-City	163,196	15	9.19	32	19.61
Kearny Mesa	151,696	26	17.14	17	11.21
Coastal	75,555	32	42.35	9	11.91
University	66,482	8	12.03	5	7.52
Del Mar-Mira Mesa	158,482	12	7.57	8	5.05
North San Diego	107,615	7	6.50	3	
Poway	86,901	9	10.36	2	
Miramar	5,045	0		1	
Elliott-Navajo	89,425	6	6.71	2	
Sweetwater	136,596	8	5.86	2	
Chula Vista	115,913	22	18.98	20	17.25
South Bay	135,126	11	8.14	17	12.58
Jamul	17,578	2		0	
Spring Valley	81,738	7	8.56	11	13.46
Lemon Grove	29,949	3		6	20.03
La Mesa	59,986	3		5	8.34
El Cajon	125,263	7	5.59	12	9.58
Santee	51,693	4		4	
Lakeside	56,364	1		2	
Harbison Crest	14,771	4		3	
Alpine	15,159	1		3	
Ramona	35,433	2		3	
San Dieguito	94,896	10	10.54	5	5.27
Carlsbad	115,856	17	14.67	5	4.32
Oceanside	160,095	17	10.62	9	5.62
Pendleton	37,651	1		2	
Escondido	164,229	9	5.48	12	7.31
San Marcos	90,188	5	5.54	8	8.87
Vista	101,329	2		9	8.88
Valley Center	23,459	0		2	
Pauma	7,773	0		2	
Fallbrook	47,872	4		1	
Palomar-Julian	6,428	2		0	
Laguna-Pine Valley	5,643	0		0	
Mountain Empire	8,506	2		1	
Anza-Borrego Springs	4667	0		0	
Unknown	.	230		163	
Total	3,115,810	587	18.84	514	16.50

Source: County of San Diego. Health and Human Services, Division of Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data; 2011; Population Estimates, SANDAG

Table B.4: Fall-Related and Sport/Recreation Trauma Cases (Injuries and Deaths Combined) by San Diego County Subregional Area, 2011

SRA	Population	Fall-Related		Sport/Rec	
		Number	Rate	Number	Rate
Central San Diego	165,966	510	307.29	37	22.29
Peninsula	63,060	74	117.35	7	11.10
Coronado	23,329	41	175.75	7	30.01
National City	58,491	83	141.90	1	
Southeast San Diego	156,406	148	94.63	5	3.20
Mid-City	163,196	176	107.85	6	3.68
Kearny Mesa	151,696	221	145.69	6	3.96
Coastal	75,555	146	193.24	25	33.09
University	66,482	37	55.65	3	
Del Mar-Mira Mesa	158,482	86	54.26	8	5.05
North San Diego	107,615	85	78.99	2	
Poway	86,901	44	50.63	2	
Miramar	5,045	2		0	
Elliott-Navajo	89,425	84	93.93	5	5.59
Sweetwater	136,596	69	50.51	5	3.66
Chula Vista	115,913	269	232.07	10	8.63
South Bay	135,126	133	98.43	5	3.70
Jamul	17,578	14	79.65	4	
Spring Valley	81,738	46	56.28	2	
Lemon Grove	29,949	38	126.88	2	
La Mesa	59,986	85	141.70	1	
El Cajon	125,263	81	64.66	5	3.99
Santee	51,693	39	75.45	1	
Lakeside	56,364	28	49.68	7	12.42
Harbison Crest	14,771	42	284.34	3	
Alpine	15,159	16	105.55	5	32.98
Ramona	35,433	18	50.80	8	22.58
San Dieguito	94,896	88	92.73	20	21.08
Carlsbad	115,856	96	82.86	9	7.77
Oceanside	160,095	97	60.59	7	4.37
Pendleton	37,651	7	18.59	8	21.25
Escondido	164,229	77	46.89	11	6.70
San Marcos	90,188	43	47.68	5	5.54
Vista	101,329	56	55.27	4	
Valley Center	23,459	21	89.52	6	25.58
Pauma	7,773	4		73	939.15
Fallbrook	47,872	21	43.87	7	14.62
Palomar-Julian	6,428	2		1	
Laguna-Pine Valley	5,643	2		1	
Mountain Empire	8,506	6	70.54	3	
Anza-Borrego Springs	4667	7	149.99	20	428.54
Unknown	.	883		453	
Total	3,115,810	4025	129.18	800	25.68

Source: County of San Diego. Health and Human Services, Division of Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data; 2011; Population Estimates, SANDAG

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QA Specialist – Trauma: Candy Schoenheit, RN, BSN, PHN, MICN

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Trauma Administrator: Nicholas Holmes, MD, MBA, SVP/COO

Trauma Medical Director: Mary Hilfiker, MD, PhD, MMM

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Trauma Medical Director: John Steele, MD

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Trauma Medical Director: Gary Schwendig, MD
Trauma Program Manager: Melanie Gawlik, RN, MSN
Base Hospital Medical Director: Chris Wiesner, MD
Base Hospital Nurse Coordinator: Chris Wells, RN

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7901 Frost Street, San Diego, CA 92123 - (858) 541-3400

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Trauma Administrator: Christopher Walker
Trauma Medical Director: Frank Kennedy, MD, FACS
Trauma Program Manager: Kathi Ayers, RN, MSN
Base Hospital Medical Director: Saul Levine, MD
Base Hospital Nurse Coordinator: Linda Rosenberg, RN

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200 West Arbor Drive, San Diego, CA 92103 - (619) 543-6222

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Trauma Administrator: Margarita Baggett
Trauma Medical Director: Raul Coimbra, MD, PhD, FACS
Trauma Program Manager (Interim): Patricia Stout, RN
Base Hospital Medical Director: Chris Kahn, MD
Base Hospital Nurse Coordinator: Melody Dotson, RN, MICN