2009
Phoenix Traffic Collision Summary
Street Transportation Department
Traffic Services Division
Traffic Safety

200 W. Washington St., 6th Floor
Phoenix, Arizona 85003
# 2009 Phoenix Traffic Collision Summary

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2009 Phoenix Traffic Collision Summary

Introduction

This Traffic Collision Summary provides valuable information that is used to reduce the number and severity of traffic collisions throughout the city. Collision information is compiled and used to implement ongoing safety measures that will further reduce the number of preventable collisions in the future. Some of these measures include helping drivers, pedestrians and bicyclists become more aware of their own contributions to public safety. This summary is also a valuable tool for the city to develop engineering solutions such as signs, signals, crosswalks and other proven remedies.

2009 had record low number of vehicle, pedestrian and bicycle crashes. This downward trend began in 2007 and has been very encouraging. METRO light rail completed its first full year of operations in 2009 with passenger loads greatly exceeding projections. Although this downward trend in collisions can be partially attributable to the U.S. economic recession, the value of crash analysis using these statistics along with proven corrective safety measures cannot be underestimated.

This report contains an analysis of traffic crash statistics on Phoenix streets during 2009. Citywide traffic collisions declined by 13% from 2008 levels and the crash rate per 1000 residents declined from 17 crashes per 1000 residents in 2008 to 14 in 2009. There were 22,713 reported traffic crashes in 2009, a 13.4% decrease from 2008 levels and the lowest total number of crashes annually in the last 20 years of record keeping. The per capita crash rate, a key indicator of traffic safety, decreased to 14.3 in 2009. This is also the lowest on record. The number of injuries suffered in collisions during 2009 declined 8.9% to 12,318 from 13,528 recorded in 2008. In 2009, there were 123 fatal collisions resulting in 136 fatalities, a decrease from the 135 fatal collisions that resulted in 143 fatalities in 2008. Pedestrians can be vulnerable when they walk on sidewalks and in streets. Vehicular collisions with pedestrians decreased to 525 in 2009 from 589 in 2008. Pedestrians accounted for 26.3% of all traffic fatalities in 2009 as 36 people were struck and killed by vehicles. This is a decrease from 41 pedestrians killed in 2008. Bicyclists are allowed by law to use the full travel lane when conditions warrant, even if a bicycle lane is present on the road. Additionally, many vehicle drivers are not aware of A.R.S 28-735, the State law that requires motorists pass bicyclists with at least three feet of clearance. Vehicle collisions with bicyclists have decreased to 467 in 2009 from 478 in 2008.
2009 Phoenix Traffic Collision Facts-at-a-Glance

Overall
- Approximately 34 people were injured every day in 2009 as a result of a traffic crash.
- Fewer than 2/3 of all collisions resulted in property damage only.
- More than 22 percent of all collisions occurred between the hours of 12 pm to 3 pm but only 12.5 percent of the traffic fatalities occurred during those times.
- About 48 percent of fatal crashes occurred during night or twilight hours.

Drivers
- In 4,227 crashes, or 18% of all crashes, the primary vehicle driver at fault was between 14 to 21 years of age. These crashes include 16 fatal and 144 serious injury crashes.
- From the above crashes, 5 fatal and 12 serious injury collisions were caused by young drivers under the influence of alcohol.
- In 1,556 crashes, or 6.8% of all crashes, the primary vehicle driver at fault was 65 years of age or older.
- Drivers in this age group; 65 and older, were primarily responsible for causing 14 fatal collisions and 64 serious injury collisions in 2009.

Light Rail
- In 2009 there were 35 collisions involving a light rail vehicle. More than 85% of these collisions involved vehicles turning in violation of a red arrow. 48% of the collisions were right turns and 37% were left turns. None of the 35 LRT collisions were the fault of the LRT operator.
- 21 of the 35 collisions with a LRT vehicle occurred in downtown Phoenix area which is bounded by Van Buren St. to the North and 7th St. to the East along the LRT route.

Pedestrians
- 36 pedestrians died and 482 were injured in collisions with motor vehicles, which is five less fatalities and 63 less injuries than in 2008.
- 41% of the collisions involved the pedestrian not using the crosswalk.

Bicyclists
- Nine bicyclists were killed and 423 were injured in collisions between bicycles and motor vehicles, which is three more fatalities and 9 less injuries than in 2008.

Alcohol/Drug-Related
- 54 people were killed in alcohol-related collisions in 2009 which is 9 less than in 2008.
- 44 percent of the fatal crashes involved one or more drivers, pedestrians or bicyclists who had been drinking prior to the crash.
- 14 of the 18 fatal alcohol or drug-related pedestrian collisions involved a pedestrian being under the influence of drugs or alcohol.

Red Light Running and Other Failure-to-Yield
- 17 people were killed, and 1,638 were injured in collisions where a vehicle run-red violation was reported during 2009, which is three more fatalities and 38 more injuries than in 2008.
- 304 crashes resulted from vehicles running STOP signs, resulting in the death of two people and injuring 228 others.
Annual Collisions 2000 – 2009

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Injury Collisions 2000 – 2009

Fatal Collisions 2000 – 2009
2009 Phoenix Traffic Collision Summary

Phoenix vs. Arizona Total Collisions

- Year: 2005 - 2009
- Collisions (x1000):
  - Phoenix: 140.4, 142.7, 140.4, 119.6, 106.7
  - Arizona: 119.6, 119.6, 119.6, 119.6, 106.7
- Decline: 11%

Phoenix vs. Arizona Total Injury Collisions

- Year: 2005 - 2009
- Collisions (x1000):
  - Phoenix: 33.7, 35.2, 32.8, 26.2, 22.7
  - Arizona: 45.1, 45.1, 43.3, 37.2, 33.4
- Decline: 10%

Phoenix vs. Arizona Total Fatal Collisions

- Year: 2005 - 2009
- Collisions:
  - Phoenix: 166, 181, 153, 135, 123
  - Arizona: 1045, 1124, 952, 842, 709
- Decline: 16%, 9%
Total Collisions, Injuries, and Fatalities by Month

Collisions

Injuries

Fatalities

Blue Column: Highest Month in 2009
Collisions by Day of Week

Collisions by Time of Day
Collision Severity by Light Conditions

- Non-Injury Crashes
- Injury Crashes
- Fatal Crashes

Day:
- 11,015 Collisions
- 5,781 Collisions
- 3,717 Collisions
- 2,077 Collisions
- 59 Collisions

Night:
- 74.8% 26.4%
- 73.6% 73.6%
- 52.0%
- 48.0%

*Crashes at dawn or dusk have been combined into night crashes.
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Collision Type – All Collisions

- Rear End: 32%
- Single Vehicle: 13%
- Angle: 22%
- Sideswipe: 14%
- Other: 3%
- Left Turn: 12%
- Pedestrian: 2%
- Bike: 2%

Collision Type by Severity

Injury Collisions

- Rear End: 31%
- Single Vehicle: 9%
- Angle: 25%
- Pedestrian: 6%
- Sideswipe: 6%
- Other: 3%
- Left Turn: 15%
- Bike: 5%

Fatal Collisions

- Pedestrian: 29%
- Angle: 21%
- Rear End: 7%
- Other: 2%
- Sideswipe: 7%
- Left Turn: 7%
- Single Vehicle: 20%
- Bike: 7%
Fatal Collisions by Mode of Transportation

- Vehicle - Bicycle (9 crashes) 7%
- Single Motorcycle (10 crashes) 8%
- Single Vehicle (14 crashes) 11%
- Vehicle - Motorcycle (22 crashes) 18%
- Vehicle - Vehicle (32 crashes) 26%
- Vehicle - Pedestrian (36 crashes) 30%

Collision Type by Driver Age Group

Young Drivers (25 and Younger)
- Rear End 34.0%
- Angle 24.4%
- Single Vehicle 13.8%
- Left Turn 13.6%
- Sideswipe 11.5%
- Other 2.7%

Older Drivers (Age 56 - Up)
- Rear End 25.1%
- Angle 29.0%
- Single Vehicle 7.7%
- Left Turn 14.5%
- Sideswipe 19.8%
- Other 3.9%

Only the drivers of Unit 1 vehicle vs. vehicle collisions were used for these charts.
Collisions by Primary Violation

- Inattention: 13%
- Disregarded Traffic Signal: 8%
- Failed to Yield: 25%
- Unsafe Lane Change: 5%
- Improper Turn: 4%
- Followed Too Close: 3%
- Drove Opposing Traffic: 1%
- Ran STOP Sign: 1%
- Speed Too Fast: 23%
- Unknown: 7%
- Other: 7%
- Disregarded Traffic Signal: 8%
- Inattention: 13%

Unit 1 usually reported to be mainly at fault. Only the first violation for unit 1 was used in this chart.

1 – “Speed Too Fast” does not necessarily mean the person was exceeding the speed limit but rather the person was traveling too fast for the conditions at the time.

2 – “Other” includes less common violation such as Unsafe Passing and Operating with Faulty Equipment.

3 – “None” refers to drivers involved in a crash without committing a violation. These instances are usually the result of uncontrollable forces such as falling debris or animals in the roadway.

Fatal Collisions by Mode 2005 – 2009*

- Vehicle – Pedestrian
- Vehicle – Bicycle
- Vehicle – Motorcycle
- Vehicle - Vehicle

*The graph does not include single-vehicle fatal collisions.
Motorcycle Collisions, Injuries, and Fatalities 2005 - 2009

Motorcyclist Injury Severity and Helmet Usage
- Helmet
- No Helmet
- Not Reported

Motorcyclist Injury Severity

Note: Totals include drivers and passengers
Light Rail Transit Related Collisions 2009

<table>
<thead>
<tr>
<th>Vehicle Movement</th>
<th>No Injury</th>
<th>Injury</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right Turn</td>
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<tr>
<td>Left Turn</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Thru</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

35* Total LRT Crashes in 2009
These graphs represent the percentage of alcohol-related crashes, injuries and fatalities in relation to the total number of crashes, injuries and fatalities. “Alcohol-Related” may not mean that the operator was legally drunk.

Year | Collisions | Injuries | Fatalities
--- | --- | --- | ---
05 | 576 | 264 | 0
06 | 1311 | 640 | 3
07 | 1409 | 578 | 1
08 | 836 | 309 | 1
09 | 305 | 132 | 0
Run-Red Collisions, Injuries, and Fatalities 2005 – 2009*

* Only collisions in which a motorist committed the violation are included.
Run STOP Sign Collisions, Injuries, and Fatalities 2005 – 2009*

* Only collisions in which a motorist committed the violation are included. These graphs represent the percentage of “Run STOP Sign” crashes in relation to the total number of crashes.
Pedestrian Collisions, Injuries, and Fatalities 2005 - 2009

- **Collisions**
  - 2005: 612
  - 2006: 580
  - 2007: 624
  - 2008: 589
  - 2009: 525

- **Injuries**
  - 2005: 572
  - 2006: 540
  - 2007: 569
  - 2008: 555
  - 2009: 482

- **Fatalities**
  - 2005: 49
  - 2006: 51
  - 2007: 42
  - 2008: 41
  - 2009: 36
Factors in Pedestrian Collisions: Pedestrian Behavior

Violation by Pedestrian

- None: 28%
- Didn't use Crosswalk: 30%
- Failed to Yield: 6%
- Disregarded Signal: 6%
- Inattention: 6%
- Other: 16%

Action of Pedestrian

- Crossing Road: 60.8%
- Walking Against Traffic: 6.1%
- Standing: 4.6%
- Walking With Traffic: 14.7%
- Other: 10.1%

Physical Condition of Pedestrian

- No Impairment: 69.9%
- Had been drinking: 16.9%
- Other: 10.3%
- Unknown: 3.8%

*The “Other” option is reported on a collision report form when none of the options accurately describe the attributes of the collision.*
Factors in Pedestrian Collisions: Motorist Behavior

Violation by Motorist

- None: 45.3%
- Failed to yield: 24.2%
- Failure to yield: 24.2%
- Speed Too Fast: 4.2%
- Other: 5.0%
- Inattention: 9.1%
- Unknown: 10.5%

Action of Motorist

- Going Straight: 62.5%
- Turning Left: 12.6%
- Turning Right: 15.4%
- Other: 6.8%
- Unknown: 2.7%

Physical Condition of Motorist

- No Impairment: 75.8%
- Had Been Drinking: 2.5%
- Other: 1.3%
- Unknown: 20.4%
Age and Gender of Pedestrians in Collisions

Children below 18 years of age account for 26% of all pedestrian crash victims
Bicycle Collisions, Injuries, and Fatalities 2005 - 2009

- **Collisions**
  - 2005: 480
  - 2006: 463
  - 2007: 440
  - 2008: 478
  - 2009: 467

- **Injuries**
  - 2005: 11
  - 2006: 6
  - 2007: 6
  - 2008: 9
  - 2009: 3

- **Fatalities**
  - 2005: 11
  - 2006: 6
  - 2007: 6
  - 2008: 6
  - 2009: 9
### Bicycle Collisions by Hour and Month

<table>
<thead>
<tr>
<th>Time</th>
<th>Collisions</th>
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<tbody>
<tr>
<td>12am - 3am</td>
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<td>3am - 6am</td>
<td>10</td>
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<td>6am - 9am</td>
<td>62</td>
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<td>9am - 12pm</td>
<td>78</td>
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<tr>
<td>12pm - 3pm</td>
<td>38</td>
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<tr>
<td>3pm - 6pm</td>
<td>89</td>
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<td>6pm - 9pm</td>
<td>122</td>
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<tr>
<td>9pm - 12am</td>
<td>78</td>
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</table>

Blue Column: Highest Month in 2009

### Month Collisions

<table>
<thead>
<tr>
<th>Month</th>
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<tr>
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<td>FEB</td>
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<td>MAR</td>
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<td>JUN</td>
<td>40</td>
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<td>NOV</td>
<td>49</td>
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<tr>
<td>DEC</td>
<td>36</td>
</tr>
</tbody>
</table>

Blue Column: Highest Month in 2009
Factors in Bicycle Collisions: Bicyclist Behavior

Violation by Bicyclist

- Disregarded Signal: 5.8%
- Unknown: 6.0%
- Inattention: 8.6%
- Drove in Opp. Lane: 10.7%
- Failed to Yield: 11.6%
- Other: 29.7%
- No Violation: 27.6%

Action of Bicyclist

- Going Straight: 69.8%
- Other: 13.1%
- Crossing Road: 12.8%
- Turning: 2.4%
- Unknown: 1.9%

Physical Condition of Bicyclist

- Not Impaired: 86.5%
- Had Been Drinking: 4.9%
- Other: 2.4%
- Unknown: 6.2%
Factors in Bicycle Collisions: Motorist Behavior

Violation by Motorist:
- None: 49.5%
- Failed to Yield: 22.5%
- Inattention: 10.9%
- Other: 4.3%
- Speed Too Fast: 2.8%
- Disregarded Signal: 1.3%
- Unknown: 8.8%

Action of Motorist:
- Turning Right: 40.3%
- Going Straight: 33.0%
- Turning Left: 13.5%
- Other: 11.1%
- Unknown: 2.1%

Physical Condition of Motorist:
- Not Impaired: 85.2%
- Had Been Drinking: 1.7%
- Other: 0.2%
- Unknown: 12.9%
- Not Impaired: 85.2%
- Had Been Drinking: 1.7%
- Unknown: 12.9%
- Other: 0.2%
Children below 18 years of age account for almost 22% of all bicycle crash victims.
Locations with the Highest Number of Collisions

Typically, intersections with the highest traffic volumes experience the most collisions. Since the listing does not account for severity, the diagram should not be interpreted to represent intersections of most concern from a safety standpoint.

Criteria used to select these locations include all collisions in 2009 that were reported as intersection related regardless of distance from the intersection.
Locations with the Highest Number of Run-Red Collisions

Typically, intersections with the highest traffic volumes experience the most collisions. Since the listing does not account for severity, the diagram should not be interpreted to represent intersections of most concern from a safety standpoint.

Criteria used to select these locations include all intersection-related crashes in 2009 occurring within 100 feet of the intersection that resulted from a “Disregarded Traffic Signal” violation by a motorist.
Typically, intersections with the highest traffic volumes experience the most collisions. Since the listing does not account for severity, the diagram should not be interpreted to represent intersections of most concern from a safety standpoint.

Criteria used to select these locations include all collisions in 2009 in which unit 1 was reported as incurring a violation of Ran STOP Sign.
Phoenix Traffic Clock

- One Fatal Collision Every 3 Days
- One Collision Every 23 Minutes
- One Bicyclist Hit Every 18.8 Hours
- One Traffic Injury Every 42.7 Minutes
- One Pedestrian Hit Every 16.7 Hours
- One DUI-Related Collision Every 6.5 Hours
Additional Information

The 2009 Phoenix Traffic Collision Summary is the annual report of traffic collision statistics from the City of Phoenix. Data used to produce this document were obtained from the Arizona Department of Transportation’s Accident Location Identification and Surveillance System (ALISS). ALISS includes all collisions investigated under Arizona Revised Statutes 28-667 involving motor vehicles on city streets that involve injuries, fatalities, damage to private property in excess of $1000, or issuance of a citation. Collisions that occur on the freeway system or private property are not included in this report. ALISS data may not match statistics reported by other sources.

For more information or to receive this document in an alternative format, please call the Street Transportation Department at 602-262-6284 or TTY 602-256-6284.