Understanding Pedestrian Collisions

Partnering Conference
September 10, 2013
Pedestrian Safety Focus
States and Cities

⚠️ Pedestrian Focus Cities:
  • > 20 average annual pedestrian fatalities (the annual national average number of pedestrian fatalities is 20); or
  • Pedestrian fatality rate > 2.33 per 100,000 (the average national rate of pedestrian fatalities is 2.33 per 100,000 population).

⚠️ States with a focus city were automatically identified as focus states.
Louisville Metro Traffic Fatalities

![Chart showing traffic fatalities from 2006 to 2010. The chart compares pedestrian (Ped) and all fatalities (All). The numbers are as follows:

- 2006: 79 Ped, 79 All
- 2007: 79 Ped, 23 All
- 2008: 72 Ped, 52 All
- 2009: 18 Ped, 18 All
- 2010: 73 Ped, 73 All](chart.png)
When Are Crashes Occurring By Year

- 2006: 371 crashes
- 2007: 406 crashes
- 2008: 425 crashes
- 2009: 391 crashes
- 2010: 429 crashes
When Are Crashes Occurring By Month

<table>
<thead>
<tr>
<th>Month</th>
<th>Crashes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td>158</td>
</tr>
<tr>
<td>Feb</td>
<td>149</td>
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<tr>
<td>Mar</td>
<td>152</td>
</tr>
<tr>
<td>Apr</td>
<td>173</td>
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<tr>
<td>May</td>
<td>188</td>
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<tr>
<td>Jun</td>
<td>148</td>
</tr>
<tr>
<td>Jul</td>
<td>139</td>
</tr>
<tr>
<td>Aug</td>
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<td>Sep</td>
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<td>Oct</td>
<td>201</td>
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<td>Nov</td>
<td>191</td>
</tr>
<tr>
<td>Dec</td>
<td>178</td>
</tr>
</tbody>
</table>
When Are Crashes Occurring By Day of the Week

<table>
<thead>
<tr>
<th>Day of the Week</th>
<th>Crashes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon</td>
<td>272</td>
</tr>
<tr>
<td>Tue</td>
<td>261</td>
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<tr>
<td>Wed</td>
<td>323</td>
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<td>Thu</td>
<td>330</td>
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<tr>
<td>Fri</td>
<td>358</td>
</tr>
<tr>
<td>Sat</td>
<td>266</td>
</tr>
<tr>
<td>Sun</td>
<td>212</td>
</tr>
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</table>
When Are Crashes Occurring By Time of Day

<table>
<thead>
<tr>
<th>Time</th>
<th>Crashes</th>
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<tbody>
<tr>
<td>12-3am</td>
<td>100</td>
</tr>
<tr>
<td>3-6am</td>
<td>77</td>
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<tr>
<td>6-9am</td>
<td>245</td>
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<tr>
<td>9am-12pm</td>
<td>213</td>
</tr>
<tr>
<td>12-3pm</td>
<td>337</td>
</tr>
<tr>
<td>3-6pm</td>
<td>428</td>
</tr>
<tr>
<td>6-9pm</td>
<td>369</td>
</tr>
<tr>
<td>9pm-12am</td>
<td>245</td>
</tr>
</tbody>
</table>
Environmental Conditions
Road Condition

<table>
<thead>
<tr>
<th>Condition</th>
<th>Crashes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry</td>
<td>82.1%</td>
</tr>
<tr>
<td>Wet</td>
<td>16.3%</td>
</tr>
</tbody>
</table>
Environmental Conditions
Light Condition

The light condition for crashes was generally favorable. Crashes occurred during:

• Daylight; 59.9%
• Dark-lighted roadway; 22.8%
• Dusk and dawn; 7.3%
Pedestrian Age

Crashes

- 0-5: 4.5%
- 6-10: 5.0%
- 11-15: 9.3%
- 16-20: 12.2%
- 21-25: 9.1%
- 26-30: 8.3%
- 31-40: 12.4%
- 41-50: 15.6%
- 51-64: 16.1%
- 65+: 7.4%
Pedestrian Factor

The top pedestrian factors for all crashes were:

- Darting into road; 18.0%
- Walking in roadway; 17.0%
- Crossing with signal; 13.2%
- Not at intersection; 12.2%
- In crosswalk; 12.0%
The top motorist factors for all crashes were:

- Inattention; 22.1%
- Failed to Yield Right of Way; 8.8%
- Alcohol involvement; 2.1%
- Distraction; 1.9%
- Disregard traffic control; 1.8%
Driver Pre-Crash Maneuvers
At Intersections

The top motorist pre-crash maneuvers were:

- Going straight ahead; 39.3%
- Making left turn; 32.5%
- Making right turn; 13.5%
- Starting in traffic; 2.5%
Injury Severity

Crashes

- Possible: 37.1%
- Evident: 31.7%
- Disabling: 16.2%
- None: 10.2%
- Killed: 4.1%
- Unknown: 0.7%
Fatalities By Year

- 2006: 20
- 2007: 13
- 2008: 23
- 2009: 8
- 2010: 18
Kentucky & Jefferson County Traffic Fatalities

Kentucky & Jefferson County Fatality Numbers 2000-2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Kentucky Traffic Fatalities</th>
<th>Jefferson County Traffic County Fatalities</th>
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<tbody>
<tr>
<td>2000</td>
<td>823</td>
<td>98</td>
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<tr>
<td>2001</td>
<td>843</td>
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<td>2002</td>
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<td>2003</td>
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<td>2005</td>
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<td>2006</td>
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<td>2007</td>
<td>864</td>
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<td>2008</td>
<td>826</td>
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<tr>
<td>2009</td>
<td>791</td>
<td>57</td>
</tr>
<tr>
<td>2010</td>
<td>770</td>
<td>75</td>
</tr>
</tbody>
</table>
Overall Traffic Crashes

- Traffic fatalities in 2009: 57
  Safest year on record in Louisville since 1993
- Traffic fatalities in 2005: 102
  Highest since 1994
- Louisville’s 2010 traffic fatality rate is higher than 9 of 10 cities of similar size in 2010.
- 40% of arterial roadway fatalities occurred when vehicles were speeding.
- 64% of fatalities occurred on roads with 35 mph limits.
- Traffic crashes cost Louisville’s economy $462.6 million annually.
Jefferson County Traffic Fatalities 1995-2010

- Annual Traffic Fatalities
- Annual Pedestrian Fatalities
- Poly. (Annual Traffic Fatalities)
- Poly. (Annual Pedestrian Fatalities)
Collisions Involving Pedestrians

- Over the past five years Louisville recorded an average of 16 pedestrian fatalities a year.
- Between January 1, 2006 and December 31, 2010, the Kentucky State Police database reports 2,018 crashes involving pedestrians.
- 40% of pedestrian crashes and 75% of pedestrian fatalities took place outside of daylight conditions.
- Serious pedestrian crashes involving unsafe speeds are twice as deadly as other such crashes.
Pedestrian Fatalities by Posted Speed Limit

Percentage of Pedestrian Fatalities by Posted Speed Limit

- 25 mph
- 35 mph
- 45 mph
- 55 mph
- 65 mph
Pedestrian Chance of Death by Speed of Motor Vehicle

A pedestrian's chance of death if hit by a motor vehicle traveling at different speeds

- 20 mph: Low chance of death
- 30 mph: Moderate chance of death
- 40 mph: High chance of death

Killing Speed and Saving Lives, UK Dept. of Transportation
Health Cost of Crashes

Following are the top five leading causes of death per 100,000 population of youth ages 5 to 25 years of age in Jefferson County for 2009:

- Unintentional injuries 53.2
- Assault (Homicide) 25.8
- Motor vehicle crash 21.2
- Suicide 14.6
- Cancer 7.7
Health Cost of Crashes

- Unintentional injuries were the leading cause of death in 2009 of children nationwide and in Metro Louisville.
- Though traffic deaths among the young are a small portion of the total, these crashes are a leading cause of death among people ages 5 to 24.
- Only unintentional injuries and homicide kill more people in this age group in Louisville Metro.

Girl Struck, Killed By Car In Louisville
Economic Cost of Crashes

➢ The United States Department of Transportation (USDOT) estimates the national impact of crashes at $230.6 billion, representing 2.3% of GDP in 2003.

➢ Motor vehicle crashes cost Kentucky $3.1 billion per year, $771 for each resident, in medical costs, lost productivity, travel delays, workplace costs, insurance costs and legal costs.

➢ Annual cost of all traffic crashes in Louisville Metro are estimated at $460 million dollars annually.
Equity

- Seniors comprise 12% of the population whereas they make up over 17% of all traffic fatalities while 25-34 year olds make up 14% of the population, but 18% of the total traffic fatalities.
Moreover, national studies have shown that populations with low socioeconomic status (lowest income level, low educational attainment, blue-collar occupation) and unemployed status are at a higher risk for traffic fatalities.

During 2009 in Louisville men died in crashes at more than twice the rate of women.
Street safety (and perceived safety) is a major quality of life concern, especially for families with children. Guaranteeing street safety, like reducing crime, is a key factor in attracting and retaining a middle class population.

Unsurprisingly, traffic calming improvements that reduce speed and volume have been strongly linked to increased home values, a key factor in family location decisions.