Chapter 7

Safety
CHAPTER 7

SAFETY

One of the main goals of this Plan is to improve travel safety by reducing the risk of crashes that cause death or injuries and provide for the security of transportation users. Traffic crashes are a serious problem across the nation and in our region. The United States Department of Transportation (USDOT) indicates that nationally:

- Traffic deaths rose from 42,196 in 2001 to 42,815 in 2002. This is the highest number of motor vehicle fatalities in over a decade.
- Deaths of young drivers (ages 16-20) increased by more than 5% in 2002 compared to 2001 – a total of 3,723 deaths.
- Motor vehicle crashes remain the leading cause of death and disability for Americans between the ages of two and 33.
- Alcohol-related fatalities increased to a total of 17,419 deaths in 2002, up from 2001.
- For the fifth consecutive year, motorcycle deaths climbed, totaling 3,244 in 2002 – a 50% increase since 1997.
- More than 50% of those people killed in motor vehicle crashes in 2002 were not protected by a seat belt.

The National Highway Traffic Safety Administration (NHTSA) estimates that crashes in the nation:

- Cost each American an average of $820 annually
- Drain a total of $81 billion annually in lost productivity
- Create approximately $32.6 billion in medical expenses
- Result in $52 billion in property damage
- Incur on average approximately $1.1 million in crash-related costs for a critically injured survivor over his or her lifetime

In the OKI region, between 2000 and 2002, there were 210 fatal crashes on state and federal routes in Ohio and Kentucky. Every person in the OKI region is impacted by the cost of traffic crashes. These costs are felt by an incremental loss in productivity due to non-recurring congestion, actual property damage costs and monetary costs associated with medical expenses, increased insurance premiums and legal fees. Improving travel safety will have positive impacts for every person in our region.
CRASH TRENDS
The first step in improving travel safety is determining where most crashes occur so that safety improvements for those areas can be explored. Since the last publication of this Plan, OKI has been able to acquire crash data from the Ohio Department of Transportation (ODOT) and the Kentucky Transportation Cabinet (KYTC) for state and federal highways in the region. This data spans the three-year period between 2000 and 2002.

Crash trends are first revealed in Figure 7-1 for Ohio and Figure 7-2 for Kentucky. Those areas in darkest red have the highest concentrations of crashes. Most of these high crash concentrations occur at the busiest intersections in the region.

Examining crash rates by roadway segment further reveals crash trends in our region as shown in Figure 7-3 for Ohio and Figure 7-4 for Kentucky. In most cases, the use of crash rates (expressed as the number of crashes per million vehicle miles) is a better measure of the safety condition of the roadway because it takes into account traffic volume. As shown in Figures 7-3 and 7-4, segments in more pronounced darker red have higher crash rates while those in yellow have lower crash rates.

CRASH REDUCTION
OKI, in cooperation with its member agencies, plays a key role in reducing the number and severity of crashes. While implementing agencies (state and local governments) are responsible for determining engineering improvements to the highway system, OKI assists in identifying high-risk locations. OKI has long included crash data as part of the Plan and Transportation Improvement Program (TIP) prioritization process, but was limited to the use of statewide rates for various facility types. Now, because of the route specific crash data availability, OKI has incorporated this route-specific data into its long-range transportation planning project prioritization process. OKI is also now prepared to respond to the increased emphasis on safety anticipated in upcoming federal transportation planning guidelines.

As a starting point, OKI has identified the 10 highest crash rate locations expressed in Million Vehicle Miles (MVM) along state and federal routes in Kentucky and Ohio as listed in Table 7.1 on the following page. These locations are candidates for safety improvements so that the safety goals of this Plan can be realized.

Integration of crash data and congestion management tools allow identification of likely causes for crashes in certain locations. It is apparent that solving some congestion problems will lead to the reduction of crashes. Other high crash locations in non-congested areas indicate highway design problems, operational
Figure 7-1
Crash Concentrations
Ohio, 2000-2002

Legend
- Low
- Medium
- High

Data Source: Ohio Department of Transportation
Figure 7-2
Crash Concentrations
Kentucky, 2000-2002

Legend
- Low
- Medium
- High

Data Source: Kentucky Transportation Cabinet
Figure 7-3
Crash Rates by Roadway Segments Ohio

Legend
- Less Than 1 Accident per MVM*
- More Than 1 Accident per MVM*
- More Than 3 Accidents per MVM*
- More Than 5 Accidents per MVM*
- More Than 7 Accidents per MVM*
- No Data

* Million Vehicle Miles
Data Source: Ohio Department of Transportation
Figure 7-4
Crash Rates by Roadway Segments
Kentucky

Legend
- Less Than 1 Accident per MVM*
- More Than 1 Accident per MVM*
- More Than 3 Accidents per MVM*
- More Than 5 Accidents per MVM*
- More Than 7 Accidents per MVM*
- NO DATA

* Million Vehicle Miles
Data Source: Kentucky Transportation Cabinet
issues or driver error. **Bold** entries in Table 7-1 indicate high crash locations where congestion does not appear to be the primary contributor to crashes and which require further engineering study.

Table 7-1  
Ten Highest Crash Rate Locations in OKI Region (By State)

<table>
<thead>
<tr>
<th>County</th>
<th>Route</th>
<th>From</th>
<th>To</th>
<th>Crash Rate (MVM)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kentucky</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Campbell</td>
<td>US 27</td>
<td>E. 5th St.</td>
<td>19th St.</td>
<td>28.61</td>
</tr>
<tr>
<td>Kenton</td>
<td>KY 17</td>
<td>Ohio River</td>
<td>Pleasant St.</td>
<td>27.60</td>
</tr>
<tr>
<td>Kenton</td>
<td>KY 17</td>
<td>Byrd St.</td>
<td>E 24th St.</td>
<td>17.72</td>
</tr>
<tr>
<td>Campbell</td>
<td>US 27</td>
<td>Ohio River</td>
<td>5th St.</td>
<td>15.71</td>
</tr>
<tr>
<td>Campbell</td>
<td>KY 8</td>
<td>Licking River</td>
<td>I-471</td>
<td>14.02</td>
</tr>
<tr>
<td>Kenton</td>
<td>KY 8</td>
<td>Parkway Ave.</td>
<td>Russell St.</td>
<td>13.20</td>
</tr>
<tr>
<td>Kenton</td>
<td>KY 8</td>
<td>Russell St.</td>
<td>Licking River</td>
<td>12.69</td>
</tr>
<tr>
<td>Campbell</td>
<td>KY 1120</td>
<td>Licking River</td>
<td>Washington Ave.</td>
<td>12.68</td>
</tr>
<tr>
<td>Boone</td>
<td>KY 18</td>
<td>SR 842</td>
<td>I-75</td>
<td>11.55</td>
</tr>
<tr>
<td>Boone</td>
<td>US 25</td>
<td>SR 1017</td>
<td>US 42</td>
<td>11.39</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>County</th>
<th>Route</th>
<th>From</th>
<th>To</th>
<th>Crash Rate (MVM)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ohio</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hamilton</td>
<td>SR 264</td>
<td>South Rd.</td>
<td>Race Rd.</td>
<td>7.97</td>
</tr>
<tr>
<td>Clermont</td>
<td>SR 125</td>
<td>Hopper Hill</td>
<td>Glen Este-Withamsville</td>
<td>6.43</td>
</tr>
<tr>
<td>Hamilton</td>
<td>US 22</td>
<td>US 52</td>
<td>Eggleston</td>
<td>5.70</td>
</tr>
<tr>
<td>Hamilton</td>
<td>US 27</td>
<td>I-74</td>
<td>Western Hills Viaduct</td>
<td>5.59</td>
</tr>
<tr>
<td>Hamilton</td>
<td>US 127</td>
<td>Western Hills Viaduct</td>
<td>9th St.</td>
<td>5.46</td>
</tr>
<tr>
<td>Hamilton</td>
<td>SR 747</td>
<td>Sharon Rd.</td>
<td>SR 4</td>
<td>5.38</td>
</tr>
<tr>
<td>Clermont</td>
<td>SR 131</td>
<td>Wolfpen Pleasant Hill</td>
<td>Buckwheat</td>
<td>4.85</td>
</tr>
<tr>
<td>Clermont</td>
<td>SR 32</td>
<td>I-275</td>
<td>Old SR 74</td>
<td>4.84</td>
</tr>
<tr>
<td>Hamilton</td>
<td>US 22</td>
<td>E. Court St.</td>
<td>Martin Luther King</td>
<td>4.79</td>
</tr>
<tr>
<td>Clermont</td>
<td>SR 28</td>
<td>SR 28 Bypass</td>
<td>Woodville Pike</td>
<td>4.72</td>
</tr>
</tbody>
</table>

It is recommended that further engineering studies be conducted on crash locations where congestion does not appear to be the primary contributor.