

**INTERSECTIONS**

<b>Title</b> Accident Analysis of Older Drivers at Intersections (FHWA-RD-94-021)		<b>Funding Agency and Contact Address</b>  Federal Highway Administration 6300 Georgetown Pike McLean, VA 22101-2296	
<b>Authors</b> Anonymous		<b>COTR:</b>  Not Specified	
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<b>Source Type</b> Crash/Demographics Statistical Analysis			
<b>Driving Conditions</b> Normal		<b>Vehicle Platforms</b> Not Specified	
<b>Objective</b> To examine the specific nature of intersection-related crashes involving elderly drivers through a detailed analysis of crash data from the Highway Safety Information System (HSIS).			
<b>General Approach</b> The analyses were conducted as part of the FHWA research study, "Traffic Operations Control for Older Drivers." The authors used HSIS data from 1985 to 1987 in Minnesota and Illinois for this research.			
<b>Methods</b> <ul style="list-style-type: none"> <li>• For all of the analyses, comparisons were made among three age groups: (1) "young elderly" (ages 65 to 74), (2) "old elderly" (age 75 and older), and (3) a middle-aged comparison group (ages 30 to 50).</li> <li>• The crash types at both urban and rural signalized and stop-controlled intersections were examined separately, as well as the type of vehicle maneuver prior to the crash and the investigating officer's judgment regarding "causal" factors.</li> </ul>			
<b>Key Terms</b> Aged Drivers, Intersections, Traffic Accidents, Accident Data, Elderly Drivers, Older Drivers			

**Key Results**

- The general analyses of crash type in both States indicated that at both urban and rural signalized intersections, elderly drivers were less likely than their middle-aged counterparts to be involved in rear-end collisions, but more likely to be involved in left-turn and angle collisions.
- In both States, right-angle collisions presented a particular problem for elderly drivers at both urban and rural stop-controlled intersections.
- For turning collisions at urban and rural signalized intersections, middle-aged drivers tended to have been going straight, while older drivers were more likely to have been turning left, and were slightly more likely to be turning right and turning right on red (see table below).
- In right-angle collisions at both urban and rural stop-controlled intersections, elderly drivers were more likely than middle-aged drivers to have been starting from a stop.
- In turning collisions, they were more likely to be turning left or right across traffic.
- The examination of the “contributing factors” cited by the officer showed that the middle-aged driver was consistently more likely to have been cited as having exhibited “no improper driving,” while the elderly drivers were more likely to have been cited for “failure to yield.”

**Table A. Percentage of involvement for selected precrash maneuvers for turning collisions at signalized intersections (Illinois data).**

	Driver Age in Years		
	30-50	65-74	75+
<b>Urban Signalized Intersections</b>	<b>(1,921)</b>	<b>(1,246)</b>	<b>(655)</b>
Going straight	62.1	26.9	18.6
Turning left	25.4	56.5	66.9
Turning right	7.4	12.4	10.7
Slowing/stopping	2.7	1.8	1.2
Right turn on red	0.3	1.4	1.8
<b>Rural Signalized Intersections</b>	<b>(39)</b>	<b>(22)</b>	<b>(17)</b>
Going straight	51.3	31.8	17.7
Turning left	35.9	45.5	52.9
Turning right	7.7	18.2	17.7

**Conclusions, Recommendations, Best Practices, Design Implications, or Design Guidelines**

- The crash analyses indicated that both the “young elderly” (ages 65 to 74) and the “old elderly” (age 75 and older) appear to have problems at intersections.
- These problems often involve left-turning maneuvers (at signalized intersections) and turning or “entering” maneuvers at stop-controlled intersections.
- It appears that the problems experienced by elderly drivers involved in crashes either relate to the difficulties in distinguishing target vehicles from surrounding clutter, judging the closing speeds of target vehicles, and/or an inability to use the acceleration capabilities of the cars they are driving.

**General Comments**

None