



U.S. Department
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National Highway
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Administration



Research Note

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Fatalities Associated With Carbon Monoxide Poisoning From Motor Vehicles in 1993

NHTSA's National Center for Statistics and Analysis (NCSA) recently completed a study of data from the National Center for Health Statistics (NCHS) to obtain an estimate of the number of persons killed as a result of carbon monoxide (CO) poisoning by exhaust gases of motor vehicles. This study focuses on the extent to which moving, as opposed to stationary, motor vehicles are involved in CO poisoning deaths. In addition, the study examined the proportion of accidental, i.e., unintentional CO deaths; the vehicle location for accidental CO fatalities involving stationary vehicles, and the season of the year in which the greatest proportion of accidental CO deaths occur.

Data for calendar year 1993, the most recent year of data available from NCHS, were used in this study. NCHS obtains information on the cause(s) of death, as recorded on death certificates, from each of the fifty states, the District of Columbia, and the five boroughs of New York City.

A total of 2,086 fatalities occurred in 1993 as a result of CO poisoning. The majority of these fatalities, 95%, involved stationary motor vehicles. Almost 84% or 1,671 of the CO fatalities involving stationary motor vehicles were classified as intentional, or suicide. For moving motor vehicles, this pattern was reversed, i.e., all 108 of the CO fatalities involving moving motor vehicles were recorded as unintentional or accidental. Table 1 presents total CO fatalities in 1993,

by stationary vs. moving motor vehicles.

Table 1
Fatalities Associated with
CO Poisoning in 1993

Total				2,086
Stationary Vehicles			1,978	95%
	Suicide	1,671	84%	
	Accidental	245	12%	
	Unknown	62	3%	
Moving Vehicles			108	5%
	Suicide	0		
	Accidental	108	100%	

The NCHS data indicated that 245 CO fatalities involving stationary motor vehicles were considered to be accidental. A CO fatality involving a stationary vehicle was one in which the death occurred either within or outside of the vehicle in an enclosed area. The majority of the 245 fatalities occurred with vehicles located at home, as opposed to on a public roadway or in other locations. Table 2 presents the distribution of accidental CO fatalities involving stationary vehicles by location.

Table 2

**Accidental CO Fatalities with Stationary Vehicles
by Vehicle Location - 1993**

Vehicle Location	Number of Fatalities	% of Total
At Home	142	58%
On Public Roadway	9	4%
Other Locations	94	38%
Total	245	100%

For stationary and moving motor vehicles combined, a total of 353 accidental CO fatalities occurred in 1993. Of these 353 fatalities, the largest proportion, 35%, occurred during the winter months of December, January, and February. Table 3 presents the distribution of accidental CO fatalities in 1993 by season of occurrence.

**Table 3
All Accidental CO Fatalities in 1993
by Season of Occurrence**

Season	Number of Fatalities	% of Total
Fall	95	27%
Winter	123	35%
Spring	88	25%
Summer	47	13%
Total	353	100%

For additional copies of this research note, please call (202) 366-4198 or fax your request to (202) 366-7078. For questions, please contact Delmas Johnson of the National Center of Statistics and Analysis, at (202) 366-5382. This research note and other general information on highway traffic safety may be accessed by Internet users at <http://www.nhtsa.dot.gov/people/nca>.