CDC Workplace Safety and Health

Truck Transportation
(NAICS 484)

Number, Rate, and Costs of Occupational Fatal Injuries in the U.S. Truck Transportation Industry by Selected Characteristics, 2003-2006.

Characteristic	Number of fatalities	Fatality rate (per 100,000 workers)	Costs (2006 Dollars) Mean (thousands)	Median (thousands)	Total (millions)
All U.S. Industries	22,197	3.9	$960	$944	$21,316
All Transportation, Warehousing, and Utilities	3,704	12.9	944	974	3,496
All Truck Transportation	2,167	27.8	902	1,000	1,954
Year					
2003	514	28.4	864	959	444
2004	517	27.0	919	1,018	475
2005	586	28.8	904	1,013	530
2006	550	27.0	919	1,015	505
Sex					
Male	2,088	30.6	895	997	1,869
Female	79	8.2	1,078	1,129	85
Age Group					
16-19	7	7.9	853	909	6
20-24	59	15.1	1,083	1,088	64
25-34	324	19.9	1,206	1,216	391
35-44	531	23.7	1,203	1,196	639
45-54	634	31.1	945	949	599
55-64	450	39.3	532	541	239
65+	162	62.1	98	71	16
Race					
White	1,801	27.5	894	992	1,610
Black	268	26.7	911	1,005	244
Other[1]	98	41.0	1,019	1,123	100
Ethnicity[2]					
Not Hispanic	1,924	28.8	887	983	1,707
Hispanic	232	20.8	1,031	1,123	239
Selected SOC Occupation Group					
Construction and Extraction	5	32.4	977	1,016	5
Installation, Maintenance, and Repair	17	6.1	923	1,028	16
Management Occupations	5	1.4	1,718	1,570	9

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NIOSH

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Office and Administrative Support	6	0.8	1,019	1,095	6
Production	5	9.1	926	1,069	5
Transportation and Material Moving	2,120	35.0	899	998	1,906
Selected Event or Exposure					
02 Struck by object	132	1.7	841	898	111
03 Caught in or compressed by equipment or objects	48	0.6	902	1,047	43
11 Fall to lower level	58	0.7	528	466	31
13 Fall on same level	11	0.1	756	714	8
31 Contact with electric current	10	0.1	894	1,001	9
32 Contact with temperature extremes	9	0.1	983	970	9
34 Exposure to caustic, noxious, or allergenic substances	36	0.5	1,025	1,108	37
38 Oxygen deficiency, n.e.c.	6	0.1	1,122	1,192	7
41 Highway accident	1,544	19.8	920	1,019	1,420
42 Nonhighway accident, except rail, air, water	17	0.2	813	841	14
43 Pedestrian, nonpassenger struck by vehicle, mobile equipment	162	2.1	874	931	142
44 Railway accident	44	0.6	868	975	38
51 Fire--unintended or uncontrolled	7	0.1	1,036	1,028	7
52 Explosion	10	0.1	946	970	9
61 Assaults and violent acts by person(s)	24	0.3	988	1,075	24
62 Self-inflicted injury	32	0.4	1,031	1,131	33
Selected Source of Injury					
07 Chemical products--general	32	0.4	1,081	1,115	35
11 Containers--nonpressurized	12	0.2	903	979	11
13 Containers--variable restraint	14	0.2	792	820	11
16 Skids, pallets	5	0.1	683	726	3
32 Construction, logging, and mining machinery	9	0.1	944	1,046	8
34 Material handling machinery	5	0.1	291	118	1
41 Building materials--solid elements	37	0.5	901	1,049	33
42 Fasteners, connectors, ropes, ties	10	0.1	912	1,073	9

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44 Machine, tool, and electric parts	7	0.1	981	1,012	7
48 Vehicle and mobile equipment parts	9	0.1	864	951	8
5* Persons, plants, animals, and minerals	13	0.2	643	739	8
62 Floors, walkways, ground surfaces	74	0.9	632	644	47
82 Highway vehicle, motorized	1,836	23.6	913	1,015	1,675
85 Plant and industrial powered vehicles, tractors	20	0.3	962	969	19
91 Ammunition	31	0.4	1,007	1,084	31
93 Atmospheric and environmental conditions	12	0.2	890	926	11

NOTE: Asterisks denote a summary level code not assigned to individual cases.
[1]This category includes all other races, such as American Indian and Asian, as well as unknown or missing races.
[2]Numbers are not reported for "unknown", "not classified" or "not reported" categories.

Fatal Occupational Injury Cost Model

Theoretical Basis of Cost Estimation

The cost to society of a workplace fatality was estimated using the cost-of-illness approach, which combines direct and indirect costs to yield an overall cost of an occupational fatal injury. For these calculations, only medical expenses were used to estimate the direct cost associated with the fatality. The indirect cost was derived by calculating the present value of future earnings summed from the year of death until the decedent would have reached age 67, accounting for the probability of survival were it not for the premature death. (For more information, see Biddle, E [2004]. Economic Cost of Fatal Occupational Injuries in the United States, 1980–1997. Contemporary Economic Policy 22(3):370–381 or Biddle, E [2009]. The Cost of Fatal Injuries to Civilian Workers in the US, 1992-2001 and Biddle E and Keane P [2011]. The Economic Burden of Occupational Injuries to Civilian Workers in the United States, 1992-2002. Cincinnati, OH: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS.)

Mathematical Representation of Indirect Costs

$$PVF = \sum_{n=y}^{67} P_{y,q,s}(n)\,[Y_{s,j}(n) + Y_s^h(n)] * (1+g)^{n-y} / (1+r)^{n-y}$$ ***where:***

PVF	= present discounted value of loss per person due to an individual occupational fatal injury
$P_{y,q,s}(n)$	= probability that a person of age y, race q, and sex s will survive to age n
q	= race of the individual
s	= sex of the individual
n	= age if the individual had survived
$Y_{s,j}(n)$	= median annual compensation of an employed person of sex s, specific occupation j, and age n (includes median annual earnings, benefits, and wage growth adjustments)
j	= specific occupation of individual at death
$Y_s^h(n)$	= mean annual imputed value of household production (h) of a person of sex s and age n
g	= earnings growth rate attributable to overall productivity
y	= age of the individual at death
r	= real discount rate (3%)

Data Sources

Fatality data: Bureau of Labor Statistics (BLS) Census of Fatal Occupational Injuries (CFOI). This research was conducted with restricted access to Bureau of Labor Statistics (BLS) data. These data exclude military personnel, decedents with unknown age or sex, and fatalities occurring in New York City. The views expressed here do not necessarily reflect the views of the BLS.
Probability of survival: National Center for Health Statistics, Division of Vital Statistics.
Median annual earnings: BLS Occupational Employment Statistics Survey. Wage data are based on the occupation of the decedent and the year and State of death adjusted by the Gross Domestic Product (GDP) Deflator to the base year of dollar. The wage growth adjustment, which is the rate of change in wages between age groups, was calculated by NIOSH using BLS Current Population Survey data.
Benefits: BLS Employer Cost for Employee Benefits. Benefits data are based on the year of death adjusted by the GDP Deflator.
Mean annual home production: Expectancy Data. Data are derived through a time diary study sponsored by the U.S. Environmental Protection Agency and conducted by the University of Maryland.
Earnings growth rate: BLS Employment Compensation Index (ECI).
Medical costs: National Council on Compensation Insurance. This is a single 4-year average medical cost.
Employment estimates for rate calculations: BLS Current Population Survey.

Fatality Rate Calculations

Fatality rates were calculated by NIOSH and may differ from previously published BLS CFOI rates. Fatality rates were calculated as deaths per 100,000 workers. Fatality rates for sex, race, age group, and occupation were calculated using employment estimates by the individual characteristic within the specific industry. Employment estimates for the specific industry were used to generate rates for event and source.

Classification Systems

Industry: 2002 National Industry Classification System (NAICS)
Occupation: 2000 Standard Occupational Classification System (SOC)
Event and Source: 1992 BLS Occupational Injury and Illness Classification System (OIICS)