

Work-Related Motor Vehicle Accident Fatalities in Louisiana, 2009-2018

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Data Considerations

Disclaimer

The datasets presented are intended to answer some basic questions, but should ultimately lead to further inquiry and more detailed study. Data limitations should be noted if conducting exploratory ecological studies with these datasets. Limitations may include data gaps, reporting discrepancies, and insufficient data on all potentially confounding factors. Responsible use of this data requires exercising caution when drawing conclusions based solely on views of the limited available data. Any perceived relationship, trend, or pattern apparent in the data should not be interpreted to imply causation; may in fact be unrelated; and should be regarded as preliminary, and potentially erroneous, until more in-depth study can be applied. The Occupational Health and Injury Surveillance Program cannot guarantee the completeness of the information contained in these datasets and expressly disclaim liability for errors and omissions in their content.

Executive Summary

Motor vehicle accidents are the leading cause of work-related deaths in the United States annually. Work-related motor vehicle accident (MVA) fatalities in Louisiana from 2009 to 2018 were reviewed using the Louisiana Department of Health's Bureau of Vital Records and Statistics' mortality files. There were 341 work-related MVA fatalities in Louisiana from 2009 to 2018. During this time there was a moderate downward trend in the number of work-related MVA fatalities in the state that was statistically significant. Key highlights regarding the time and place of these fatalities are:

- The highest percentage of fatalities occurred on Wednesday (19%).
- 57% of work-related MVA fatalities occurred between 6:00 am and 5:59 pm. Only 25% took place from 6:00 pm-5:59 am.
- The highest percentage of accidents occurred on a street or highway (58%).
- There were no major differences between seasons, but spring was slightly higher than other seasons at 27%.

Key demographic information is as follows:

- The industry with the highest rate of incidents was Transportation & Utilities (112.44 per 100,000 workers).

- The occupation group with the highest rate of incidents was Farming, Fishing, & Forestry (124.71 per 100,000 workers).
- The highest percentage of fatalities occurred in the 25-44 year-old age group (37%).
- The highest percentage of fatalities occurred in males (93%).
- The highest percentage of fatalities occurred in whites (69%).

Background: Work and Fatal Motor Vehicle Accidents

Millions of workers drive or ride in a vehicle as part of their job, which puts them at risk for a motor vehicle crash. Motor vehicle accidents (MVA) are the leading cause of work-related fatalities annually in the United States (U.S.).¹ About 40% of all work-related deaths in the U.S. are transportation incidents.¹ Between 2003 and 2017, there were 27,000 work-related MVA fatalities in the U.S.¹ Motor vehicle crashes are not just an issue for workers in the transportation industry. Workers are at risk of being involved in a crash regardless of the type of vehicle involved; whether they are a driver, passenger, or pedestrian; or whether driving is a main or occasional job duty. In 2017, 55% of workers who died in motor vehicle crashes were not employed in motor vehicle operator jobs.² Motor vehicle crashes are the first or second leading cause of work-related death each year for every major industry group¹; however, the risk-level for work-related MVA fatalities may vary according to industry and occupation. Individual risk factors, such as long hours of work, fatigue, stress, time pressures, distracted driving, non-use of safety belts, and use of prescription and nonprescription medications, may also contribute to fatalities.^{3,4} This report analyzes available data on work-related MVA fatalities in the state of Louisiana and explores how that information can be used to reduce their overall incidence as much as possible given that occupational injuries, illness, and deaths are largely preventable.

Methods/Data Sources

Cases of work-related MVA fatalities were selected from the Occupational Health and Injury Surveillance Program's work-related mortality database. The database was created from death certificate data obtained from the Louisiana Department of Health's (LDH) Bureau of Vital Records and Statistics. A death certificate is determined to be work-related and included in the database if the 'Injury at Work?' field on the death certificate is marked 'Y' (Yes) and the decedent was 16-years or older at the time of death. Motor vehicle accident fatality cases were selected from the work-related mortality database if an International Classification of Diseases, 10th Revision (ICD-10) code corresponding with 'Transport Accidents' (V01-V99) was listed as a primary or secondary cause of death.

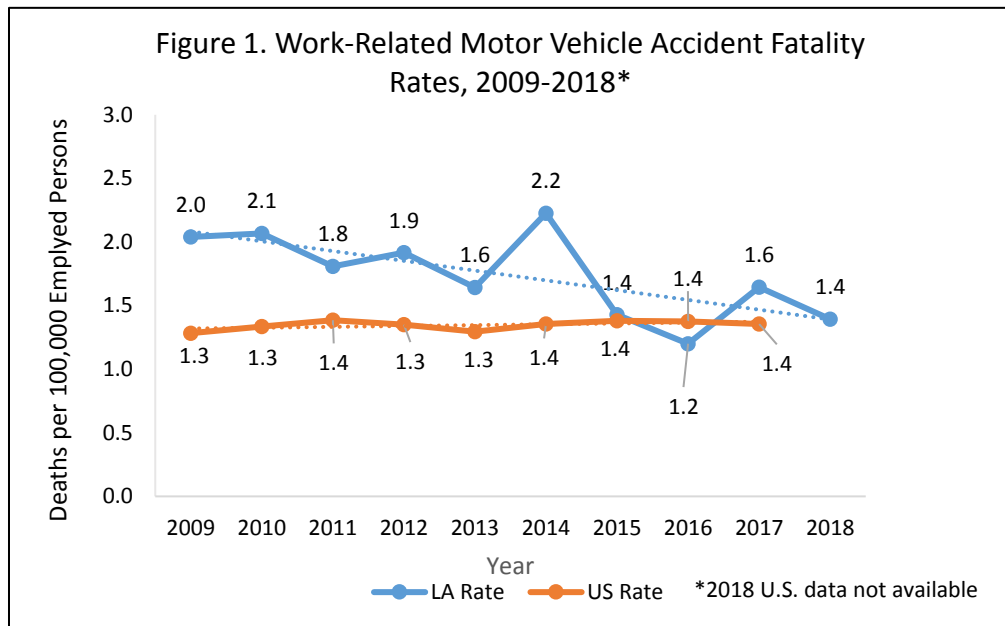
The following variables were obtained or derived from the death certificate: age, sex, race, ethnicity, injury time of day, injury day of week, injury season of the year, place of injury, vehicle type, industry, and occupation. Work-related MVA fatality data for the U.S. came from the Bureau of Labor Statistics' (BLS) Census of Fatal Occupational Injuries (CFOI). The CFOI is federal-state cooperative program that produces comprehensive, accurate, and timely counts of fatal work injuries for the U.S. and the states.⁵ The CFOI uses multiple sources, including death certificates, to identify, verify, and profile fatal worker injuries. Death certificate data was used for Louisiana instead of CFOI data because the level of detail required for this analysis at the state level is not publicly available in CFOI data.

Demographic information about Louisiana's workforce was obtained from the BLS's Geographic Profiles of Employment and Unemployment.⁶ The profiles contain information on the employed and unemployed by select demographic and economic characteristics based on Current Population Survey (CPS) data. The CPS is a monthly survey of about 60,000 U.S. households conducted by the U.S. Census Bureau for the BLS that is used as a representative sample of the general public.⁷ For rate calculations, employed worker population estimates were obtained using the National Institute for Occupational Safety and Health's (NIOSH) Employed Labor Force (ELF) query system. ELF system estimates are based on a subset of the BLS's CPS public access data files maintained by NIOSH.⁸ Some rates were compared using rate ratios. A rate ratio greater than 1.0 indicates that the work-related MVA fatality rate for the group of interest was higher than the work-related MVA fatality rate for the comparison group. Conversely, a rate ratio less than 1.0 indicates that the work-related MVA fatality rate for the group of interest was lower than the work-related MVA fatality rate for the comparison group. To determine statistical significance, 95% confidence intervals (CI) were calculated for each rate ratio. If the 95% CI contains 1.0, the rate ratio is not considered statistically significant. All analyses were performed using SAS Enterprise Guide 7.1 and Winpepi 11.65.

Results

Work-Related Motor Vehicle Accident Fatalities over Time

There were 341 work-related MVA fatalities in Louisiana from 2009 to 2018. Figure 1 shows the trend of work-related MVA fatalities rates from 2009-2018 in Louisiana and the U.S. (2018 CFOI data was not available for the U.S. at the time of analysis). Analysis of the data with the non-parametric Mann-Kendall



test, used to examine trends over time, revealed a moderate downward trend in Louisiana that is statistically significant (Kendall's tau = -0.52, p = 0.04). There was no

change in the work-related MVA fatality rate for the U.S. from 2009-2017. An analysis of the 9-year aggregate work-related MVA fatality rates from 2009 to 2017 for the U.S. and the 10-year aggregate work-related MVA fatality rates from 2009-2018 for Louisiana was conducted. Louisiana had an annual average rate of 1.74 deaths per 100,000 workers while the U.S. had an annual average rate of 1.35 deaths per 100,000 workers. Compared to workers in the entire U.S., workers in Louisiana have 1.28 times the rate of work-related MVA fatalities (95% CI = 1.16-1.43).

Demographic Characterization

From 2009 to 2018, Louisiana's annual workforce included, on average, about 2,004,682 individuals aged 16 and older. More than half of the workforce was male. Sixty nine percent (69%) of the workforce was white, 28% was black, and about 5% was of Hispanic ethnicity. Table 1 gives a demographic breakdown of the work-related MVA fatalities with rates. Most of those involved in a work-related MVA fatality were white (69%) and male (93%); however, most of the Louisiana workforce is white (69%) or male (53%). The male rate of work-related MVA fatality was significantly higher than

the female rate (rate ratio = 11.65; 95% CI = 7.89 – 18.09). Workers of other race had a higher rate of MVA fatalities than did white workers, but the rates were not significantly different (rate ratio = 1.52; 95% CI = 0.95, 2.42). The age range that had the most work-related MVA fatalities was the 25-44 year-old age group (n=37). Between 2009 and 2018, this age group on average made up around 44% of the work force, which is a potential explanation for its large amount of work-related MVA fatalities. While the 25-44 year-old age group accounted for the highest percentage of work-related MVA fatalities, the 65+ year-old group had the highest rate by a large margin. Those in the 65+ year-old age group had 1.74 (95% CI = 1.22-2.53) times the work-related MVA fatality rate of those in the 25-44 year-old age group.

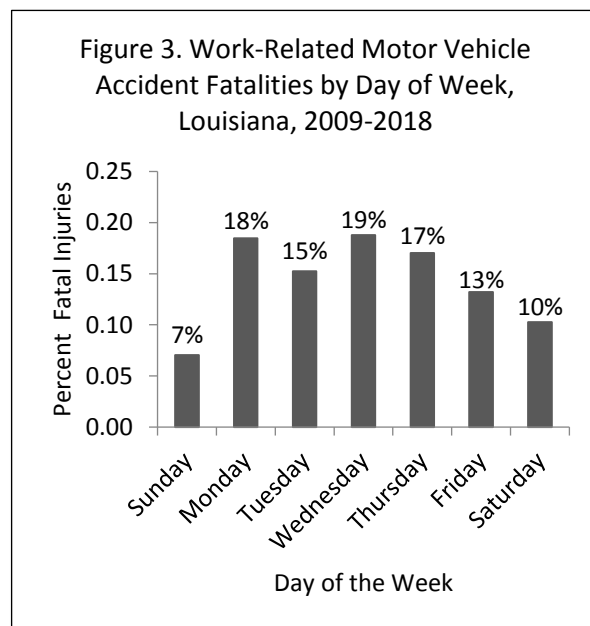
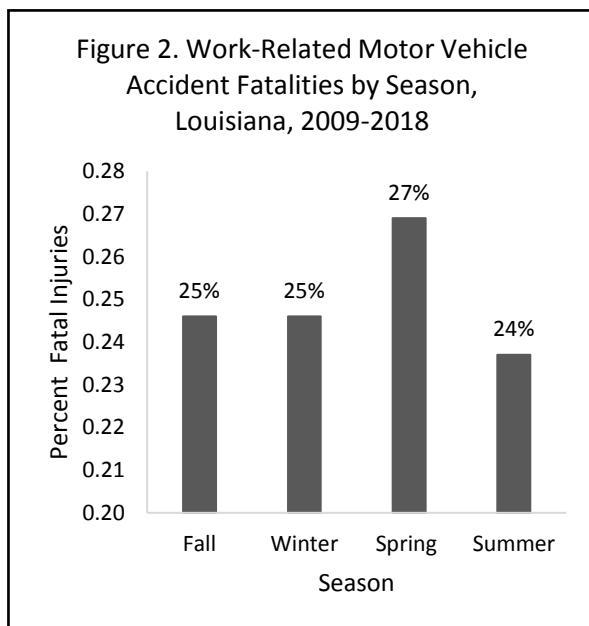
Table 1. Demographic Distribution and Rates of Work-Related Motor Vehicle Accident Fatalities, Louisiana, 2009-2018 (N = 341)

Demographic	n	%	Rate/100,000 workers
AGE			
16-24	30	9	1.18
25-44	126	37	1.95
45-54	85	25	0.79
55-64	65	19	0.47
65+	35	10	3.39
RACE			
White	235	69	1.74
Black	87	26	1.59
Other	19	6	2.64
ETHNICITY			
Hispanic	18	5	1.86
Non-Hispanic	323	95	1.72
SEX			
Male	317	93	3.07
Female	24	7	0.26

Characterization by Time, Place, and Vehicle Type

Time

In terms of time of year, the percentage of work-related MVA fatalities was nearly the same throughout the year, with slightly more fatalities occurring in the spring (27% vs 24-25%) (Figure 2). An even distribution of incidents by month is evident given the uniform distribution by season; therefore, a month-to-month breakdown is unnecessary. Figure 3 shows the breakdown of work-related MVA fatalities by weekday. The percentage of work-related MVA fatalities were higher early- to mid-week than they were Friday-Sunday.



Time was examined in six-hour intervals, midnight-5:59 am, 6:00 am-noon, noon-5:59 pm, and

6:00 pm-11:59 pm.

Figure 4. Work-Related Motor Vehicle Accident Fatalities By Time of Day, Louisiana, 2009-2018

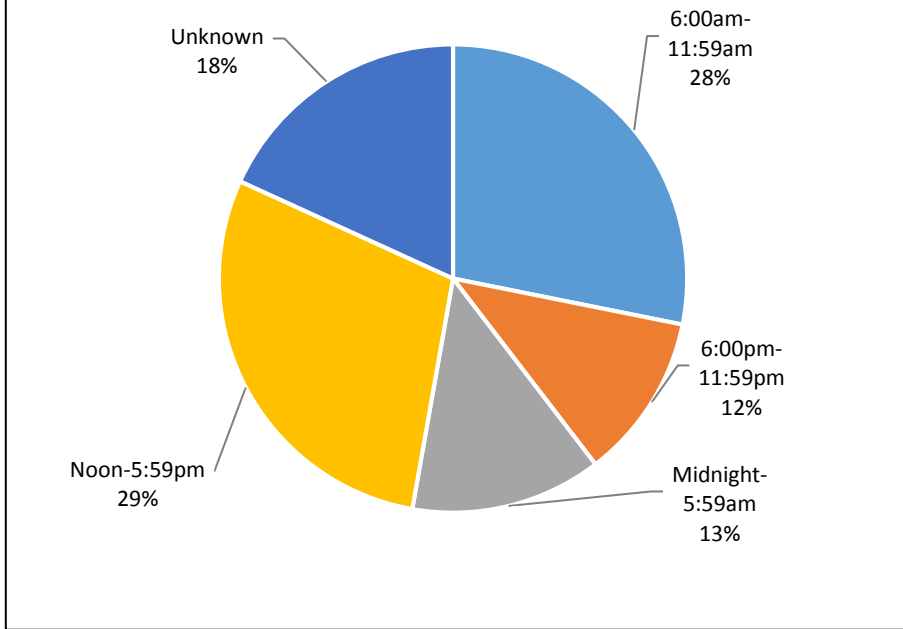
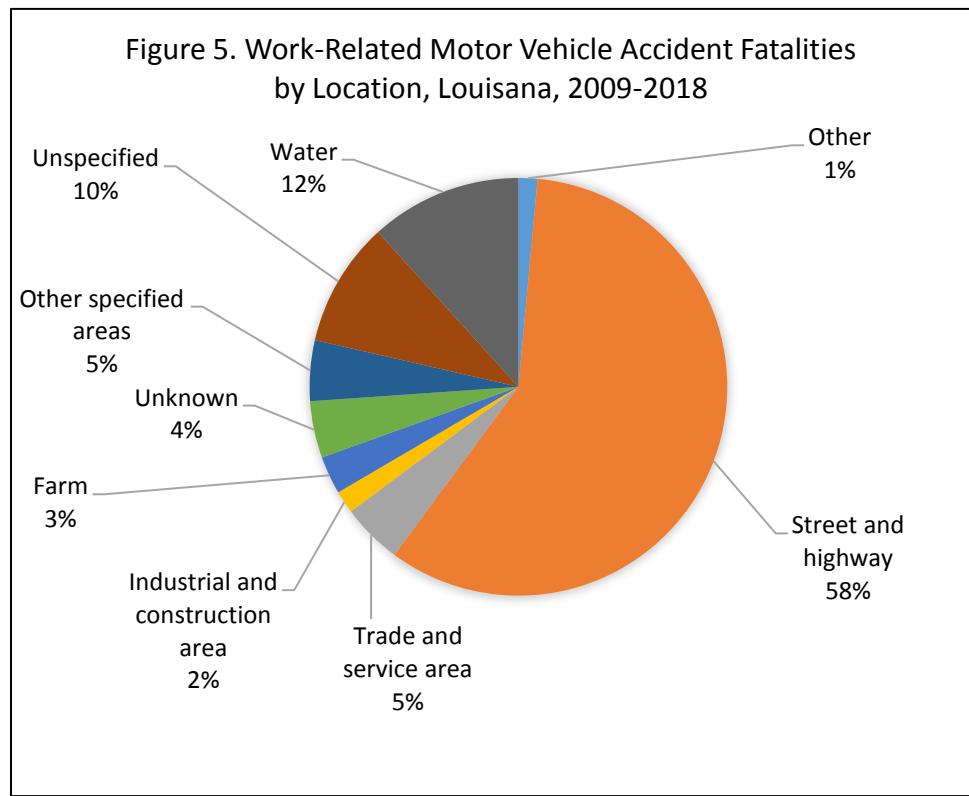


Figure 4 shows the breakdown of incidents by time of day. The majority of work-related MVA fatalities happened during the day with 57% occurring between 6:00 am and 5:59 pm, and only 25% taking place during the evening and nighttime hours (6:00

pm-5:59 am). This makes sense given that most people's working hours are during that the daytime hours, and this is when there is generally more traffic on roadways. Eighteen percent of work-related MVA fatalities could not be classified by time of injury.

Place

Figure 5 shows the breakdown of work-related MVA fatalities by location of incident. The

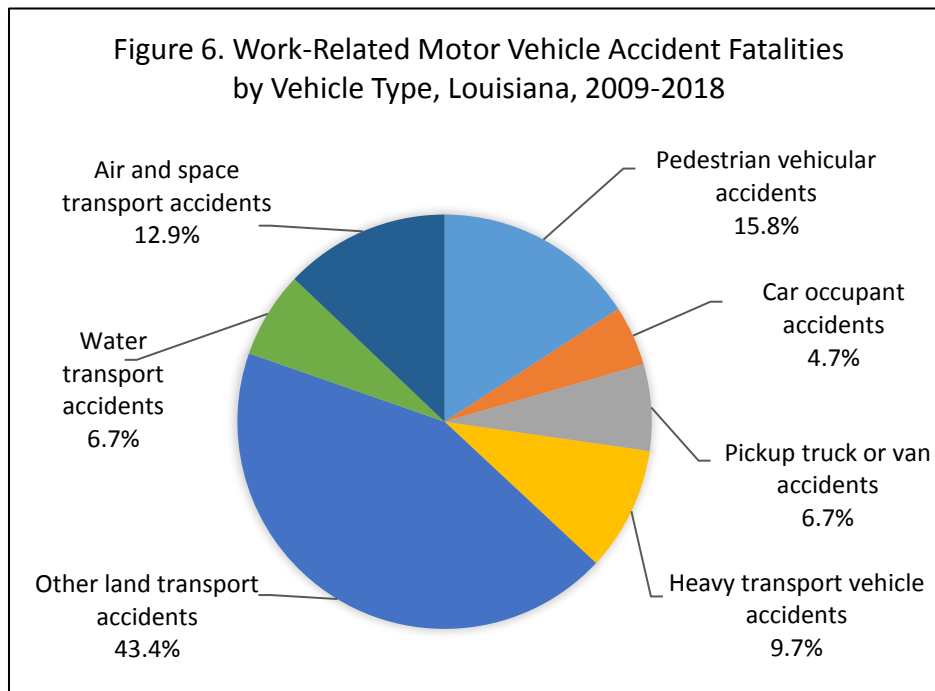


highest percentage of accidents occurred on streets and highways (58%). Most locations where work-related MVA fatalities occurred are straightforward to categorize, for instance if a traffic accident occurred on I-10, Highway 90, or Tchoupitoulas St., it would fall under 'street and

highway'; however, transportation incidents also occur in other places, including construction sites, farms, and bodies of water. Of the 341 work-related MVA fatalities that occurred from 2009-2018, 40 (11.7%) involved water. On the death certificates, these incidents were categorized as occurring in either 'Other specified areas' or in 'Unspecified areas'. Because it represented the second highest place of injury for work-related MVA fatalities in Louisiana, a 'Water' category was created. The 'Other' category contains places of injury that represented one percent or less of work-related MVA fatalities in Louisiana. These include 'Sports and athletic areas' and 'School or other public administrative areas'.

Vehicle Type

The various types of vehicles involved in work-related MVA fatalities were also examined. We tend to think of motor vehicles as cars, trucks, and buses, but there are many other types of motorized vehicles that may be involved in a transportation incident. Traditional transportation vehicles like cars and trucks are examined, but boat and airplane crashes are also included in the data. Figure 6 shows the distribution of deaths by vehicle type. The 'Other land transport accidents' category was the largest



percentage (43.4%). Examples of vehicles included in the 'Other land transport accidents' category include trains, buses, agricultural vehicles, and construction vehicles, and other unspecified vehicles. The next highest category was 'Pedestrian vehicular accidents' (15.8%),

where a pedestrian was hit by a motor vehicle.

Characterization by Industry and Occupation

Industry

Workplaces are classified by the BLS into industries based on their principal product or activity. Industry data describe the kind of business conducted by a person's employing organization. Industry groupings allow various occupations that have similar products or activities to be examined together to see if any trends among them emerge. Before examining the distribution of work-related MVA fatalities among workers based on their industry, Louisiana civilian workers, aged 16 years and older, were categorized by industry using Census Industry Codes found in BLS' CPS, and retrieved using NIOSH's ELF. (8) Table 2 shows the breakdown of Louisiana's workforce by industry. Education and Health Services was the

largest industry sector (23.7%), this includes professions such as teachers, nurses, physicians, nursing home employees, social workers, ambulatory workers, and other similar occupations. The next highest percentage was Wholesale and Retail Trade (14.4%), followed by Leisure & Hospitality (9.8%); this includes occupations such as art, entertainment, recreation, accommodation, and food services. Not all industries have the same risk of having a work-related MVA fatality occur to their workers. Table 2 also shows the breakdown, by percentage, of the work-related MVA fatalities in Louisiana from 2009-2018 by industry as defined by the BLS industry category system. Transportation and Utilities workers make up 39.6% of the MVA fatalities from 2009-2018 even though they only make up about 5.5% of the overall workforce. While the Education and Health Services industry has the highest number of workers in the state (23.7%), these workers only make up about 3.5% of the MVA fatalities. The industries with the highest work-related MVA fatality rate amongst all Louisiana workers were Transportation and Utilities (6.73 per 100,000 workers), followed by Public Administration (2.19 per 100,000 workers) and Construction (1.90 per 100,000 workers). The rate for these industries was higher than Louisiana's rate (1.74 per 100,000 workers) for 2009-2018. Work-related MVA fatality rates were also calculated for each industry to give a sense of what industries are impacted the most proportionally by work-related MVA fatalities. Transportation & Utilities had the highest rate of 122.44 work-related MVA fatalities per 100,000 workers in that industry. Agriculture was the next highest group with a rate of 115.12 per 100,000 agriculture workers. This is in line with national trends across the U.S. in regards to industries with the highest rates of work-related MVA fatalities.⁹ The third highest rate was Public Administration at 43.04 per 100,000 public administration workers. The drastic difference between the second highest rate of 115.12 and the third highest rate of 43.04 helps illustrate that some industries have a much higher chance of having a work-related MVA fatality occur during the course of normal operations than others.

Table 2. Distribution and Frequency of Louisiana’s Workforce and Work-Related Motor Vehicle Accident Fatalities by Industry, 2009-2018 (N=341)

Industry	Workforce		Fatalities			
	Average % [^]	Count	Count	% Total Fatalities [^]	Work-Related Rate [§]	Industry Rate [§]
Education & Health Services	23.7	475,110	12	3.5	0.60	2.53
Wholesale & Retail Trade	14.4	288,674	*	---	---	---
Leisure & Hospitality	9.8	196,459	5	1.5	<i>0.25</i>	<i>2.55</i>
Professional & Business Services	9.2	184,431	8	2.4	<i>0.40</i>	<i>4.34</i>
Construction	8.1	162,379	38	11.1	1.90	23.40
Manufacturing	7.6	152,356	20	5.9	1.00	13.13
Financial Activity	5.4	108,253	0	0.0	---	---
Other Services	4.9	98,229	13	3.8	0.65	13.23
Transportation & Utilities	5.5	110,258	135	39.6	6.73	122.44
Public Administration	5.1	102,239	44	12.9	2.19	43.04
Mining	3.6	72,169	28	8.2	1.40	38.80
Agriculture	1.3	26,061	30	8.8	1.50	115.12
Information	1.6	32,075	*	---	---	---
Unknown	---	---	5	1.5	---	---

[^]Percentages may not add up to 100 due to rounding. MVA = Motor Vehicle Accident; [§]Work-Related Rate is per 100,000 workers, Industry Rate is per 100,000 workers in that industry; *Counts less than 5 are suppressed and rates are not calculated to protect privacy; Counts less than 12 produce rate estimates with a relative standard error greater than 30%. These rates may be unstable and are italicized.

Occupation

Occupation describes the kind of work a person does on the job. Table 3 shows the distribution of the civilian workforce in Louisiana by occupational groups, on average, between 2009 and 2018. Occupational groups were evaluated using Census Occupation Codes found in the BLS’ CPS, and retrieved using NIOSH’s ELF. (8) The largest occupational groups were Professional and Related

Occupations (20.8%) which includes jobs like legal services, engineer, scientific researcher, and consultation services. The next highest occupation is Service (18.5%), which includes jobs like catering, restaurant wait staff, and bartenders. Next is Management, Business and Financial (13.0%), which includes office staff, office managers, investment advisors, insurance sales, and real estate rental and leasing.

Certain occupations have a higher incidence of work-related MVA fatality than others due to the nature of the occupation. Table 3 shows a breakdown of work-related MVA fatality by occupational group in Louisiana. The occupational group with the greatest percentage of work-related MVA fatalities is the Transportation and Material Moving (45.8%), yet these occupations only make up around 6.5% of the overall Louisiana workforce. These occupations, as the name suggests, are intrinsically tied to vehicle use. Those in these occupations have more exposure to vehicles, thus increasing their chances of being involved in a work-related MVA fatality compared to other occupations. The second highest occupational group involved in work-related MVA fatalities was Construction and Extraction (12.6%). There are several reasons this group has a high percentage of work-related MVA fatalities. This group works around heavy machinery such as forklifts, dump trucks, and other large vehicles, which increases their chances of work-related MVA fatalities. This group also works along major roads and highways, exposing them as pedestrians to higher amounts of traffic than many other professions. The occupational group with next highest proportion of work-related MVA fatalities was Service (10.6%). The occupational groups with the highest work-related MVA fatality rate amongst all Louisiana workers were Transportation and Material Moving (7.78 per 100,000 workers) followed by Construction and Extraction (2.15 per 100,000 workers) and Service (1.80 per 100,000 workers). Work-related MVA fatality rates were also calculated for each occupational group. The occupation group with the highest rate of work-related MVA fatalities was Farming, Fishing, & Forestry at 124.71 per 100,000 workers in that occupation group. The next highest group was Transportation and Material Moving at 119.72 per 100,000 transportation and material moving workers. Like the industry groups above there is a precipitous drop from the top two highest rates and the third highest rate held by Construction and Extraction at 29.79 per 100,000 workers construction and extraction workers.

Table 3. Distribution and Frequency of Louisiana’s Workforce and Work-Related Motor Vehicle Accident Fatalities by Occupational Group, 2009-2018 (N=341)

Occupation	Workforce		Fatalities			
	Average % [^]	Count	Count	% Total Fatalities [^]	Work-Related Rate [§]	Occupation Rate [§]
Professional & Related Occupations	20.8	416,974	24	7.0	1.20	5.76
Service	18.5	370,866	36	10.6	1.80	9.71
Office & Administrative Support	12.5	250,585	5	1.5	<i>0.25</i>	<i>2.00</i>
Management, Business & Financial	13.0	260,609	14	4.1	0.70	5.37
Sales & Related Occupations	11.2	224,524	9	2.6	<i>0.45</i>	<i>4.01</i>
Construction & Extraction	7.2	144,337	43	12.6	2.15	29.79
Production	5.7	114,267	11	3.2	<i>0.55</i>	<i>9.63</i>
Transportation and Material Moving	6.5	130,304	156	45.8	7.78	119.72
Installation, Maintenance, Repair	3.8	76,178	18	5.3	0.90	23.63
Farming, Fishing, Forestry	0.6	12,028	15	4.4	0.75	124.71
Other	---	---	*	---	---	---
Unknown	---	---	*	---	---	---

[^]Percentages may not add up to 100 due to rounding. MVA = Motor Vehicle Accident; [§]Work-Related Rate is per 100,000 workers, Occupation Rate is per 100,000 workers in that occupation; *Counts less than 5 are suppressed and rates are not calculated to protect privacy; Counts less than 12 produce rate estimates with a relative standard error greater than 30%. These rates may be unstable and are italicized.

Discussion/Conclusions

There was a significant decrease in the rate of work-related MVA fatalities in Louisiana from 2009 to 2018. In comparing aggregate rates for the state to those of the U.S., Louisiana had significantly

higher rates. For 2009-2014 Louisiana had much higher rates than the U.S. did; after 2014, the rates for the state and the U.S. are very similar to each other. Demographically speaking, work-related MVA fatality rates were highest in those who were males, other race, Hispanic, or 65+ years of age; however, only rate comparisons for age and sex were statistically significant. Streets and highways were the most common place of occurrence for work-related MVA fatalities; water was the second highest. The water category was created by the Occupational Health Program, because a large number of fatalities had the Place of Injury classified as 'Unspecified' or 'Other specified area' in the death certificate, so a closer inspection of this field as well as other descriptive information regarding the circumstances of the death available in the death record was warranted. This interesting finding may require further examination in the future.

Based on rates calculated by industry and occupational group, jobs in the Transportation, Agriculture, and Construction and Extraction (Mining) fields have the highest risk of work-related MVA fatality. The Public Administration industry also has a high within industry rate; Installation, Maintenance, and Repair occupations had a high within occupational group rate. These findings were similar to what is known for the U.S. as a whole, which is unsurprising as these are all fields heavily made up with occupations that inherently spend a substantial amount of time on the road or in a motor vehicle of some sort. MVAs are costly in terms of human life and economic resources. In 2015, the cost of MVAs to employers in the Agriculture, Construction, and Transportation industries was \$8,505,527,860 (in 2013 dollars).¹⁰ This represented nearly 40% of the total cost for MVAs (fatal and non-fatal) to all employers in all industries.¹⁰ Often, driver behavior is the cause of an MVA. The remainder of this report discusses some of the most common behaviors that place drivers at risk for a MVA, the economic impacts associated with those risk behaviors, and some strategies to prevent MVA fatalities.

[Risky Driving and Economic Impacts on Employers](#)

The economic costs of MVAs are substantial. Employers bear the cost for injuries that occur both on and off the job in the form of lost productivity as well as medical, workers' compensation, and liability costs. In 2013, U.S. employers spent \$47 billion on work-related and non-work-related MVA.¹⁰ In 2013, work-related MVAs alone cost U.S. employers \$25 billion - \$671,000 per death and \$65,000 per nonfatal injury.¹⁰ In Louisiana, employers spent approximately \$1.1 billion on MVAs, and had the second highest cost per employee for MVA injuries in the country for 2013 at \$560.¹⁰

There are several risky driving behaviors that workers may be susceptible to committing during their daily commutes or during work-related travels, including aggressive driving, distracted driving, drowsy driving, driving without a seat belt, and impaired driving. Among work-related MVAs, distracted driving-related crashes costs employers the most, while alcohol-involved crashes are the costliest non-work-related type of MVAs for employers (Table 4).¹⁰

Table 4. Employer Costs* for Motor-Vehicle Accidents by Risk Behavior, U.S., 2013 (in millions of 2013 dollars)

Risk Behavior	Work-Related	Non-Work-Related	All
No Seat Belt	\$915	\$4,011	\$4,926
Alcohol-Involved	\$1,041	\$4,969	\$6,010
Distracted Driving	\$4,362	\$3,851	\$8,213
Speeding	\$3,437	\$4,930	\$8,367

*Costs are for highway crashes and include health fringe benefit and non-fringe costs.

Data Source: Network of Employers for Traffic Safety. Cost of Motor Vehicle Crashes to Employers-2015. June 2016.

Prevention of Motor-Vehicle Accident Fatalities

MVAs are largely preventable. Because MVAs are so costly to employers, implementation of a company program aimed at driver/motor-vehicle safety can greatly reduce the risks faced by employees while also protecting the company's bottom line.⁴ Such programs work to save lives and reduce the risk of life-altering injuries within the company workforce, protect the company's human and financial resources, and guard against potential company and personal liabilities associated with crashes involving employees driving on company business.⁴ Some of the features of a Motor Vehicle Safety Program include implementation and enforcement of policies that require the use of safety belts, while also prohibiting unsafe behaviors such as impaired driving, drowsy driving, and distracted driving (e.g., the use of cellular phones and other electronic devices).¹¹ Strategies associated with fatigue management, route and trip planning to reduce stress and fatigue, and in-vehicle monitoring and feedback are all possible solutions to address some of these issues.¹¹ Pre-hire checks of employee driving records and the provision of driver training as soon as possible after hiring, with periodic refresher training, could help prevent accidents before they occur.¹¹ During employees' tenure at their job, there should be periodic after-hire on-the-road evaluations and review of motor vehicle records.¹¹

Using a selection of fleet vehicles with high levels of occupant protection and advanced safety features and collecting fleet safety performance indicators can also reduce the number of incidents.¹¹ There are resources available to employers who do not have Motor Vehicle Safety Programs in place, but wish to create one. NIOSH has developed a fact sheet called **Preventing work-related motor-vehicle crashes**, which can be found here: <https://www.cdc.gov/niosh/docs/2015-111/pdfs/2015-111.pdf>. The Occupational Safety and Health Administration (OSHA) in partnership with the Network of Employers for Traffic Safety (NETS) and the National Highway Traffic Safety Administration (NHTSA) has created a publication called **Guidelines for Employers to Reduce Motor Vehicle Crashes**, which can be found here: https://www.osha.gov/Publications/motor_vehicle_guide.pdf.

Data Limitations

Census of Fatal Occupational Injuries

- Although states use about two dozen independent data sources to identify and substantiate work-related fatalities, there are some fatal injuries at work that are missed by the CFOI. For example, some unidentified work-related fatal injuries undoubtedly occur on farms, at sea, and on highways. BLS and its participating state partners continue to seek new ways of verifying work-related fatal injuries to make CFOI counts as complete as possible. States have up to eight months to update their initial published counts with cases that were verified as work-related as preliminary data collection has ended for a given census.
- CFOI reports data on work-related fatalities by the state in which the fatal incident occurred, which is not necessarily the state where the decedent died or the state of residence.
- Users of CFOI data should exercise caution in making state-to-state comparisons because of differences in the industrial makeup of each state. For example, comparing rates for a state with a large agricultural economy to a state with a large manufacturing economy would be misleading because the agricultural industry has one of the highest fatality rates while manufacturing has one of the lowest.

Current Population Survey

- **Nonsampling error** is due to factors that are not related to sample selection. This type of error in surveys can be attributed to many sources including:
 - the inability to obtain information about all people in the sample
 - differences in the interpretation of questions

- the inability or unwillingness of respondents to provide correct information
 - the inability to recall information
 - errors made in collecting and processing the data
 - errors made in estimating values for missing data
 - the failure to represent all sample households or all people within sample households (under-coverage)
- When a sample, rather than an entire population, is surveyed, estimates differ from the true population values that they represent. The component of this difference that occurs because samples differ by chance is known as **sampling error**, and its variability is measured by the standard error of the estimate.

Additional limitations of using CPS data in CFOI rate calculations:

- State of residence versus state of incident: CPS counts workers by their state of residence, whereas CFOI counts workers by state of incident.
- Primary job versus job at time of incident: The CPS annual average employment data used in the rate calculations count workers according to their primary job, whereas CFOI used the job held when fatally injured, which may differ.
- Fatalities of workers younger than 16 years of age may be included in CFOI data, but are not included in CPS data, since employment statistics are only available for those 16 years of age and older.
- Deaths among military personnel and volunteers are included in CFOI data but not in CPS data.

Mortality Data

- LDH's Bureau of Vital Records and Statistics registers deaths that occur in Louisiana and receives records for resident deaths that occur in other states via interstate record exchange agreements; however, there may be instances where a resident dies in another state and the Bureau of Vital Records and Statistics does not receive the death record from state where the death occurred.
- Because of the injury-at-work field, death certificates are our best data source for capturing occupational fatalities; however, potential inaccuracies in death certificate data is always a concern. Work-relatedness may not be accurately captured on the death certificate, resulting in potential under- or over-reporting. There is also the potential for misclassification of the cause of death on the death certificate.

- Employment information supplied on the death certificate may not be sufficient for proper determination of decedent industry and occupation.
- There is the potential for misclassification of the decedent industry and occupation. The death certificate captures the decedent's usual industry and occupation, which may or may not be the industry and occupation the decedent was employed in at the time of death. The decedent may have been retired, unemployed, or working in a different industry or occupation than what is listed on their death certificate.

For More Information

For more information, visit the [Occupational Health and Injury Surveillance Program webpage](#), call 1-888-293-7020, or email oph.seetweb@la.gov.

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