2013 Census of Fatal Occupational Injuries
Fatal Work Injury Rates
Michigan

	2013 Overall rate	Industry[1]												
		Agriculture, forestry, fishing and hunting	Mining, quarrying, and oil and gas extraction	Construction	Manufacturing	Wholesale and retail trade	Transpor-tation and utilities	Information	Financial activities	Professional and business services	Educational and health services	Leisure and hospitality	Other services, except public administration	Public administration
Fatality rate[2]	**3.3**	**26.7**	**-**	**10.1**	**1.2**	**1.8**	**14.5**	**-**	**3.2**	**3.0**	**1.0**	**2.8**	**-**	**4.6**

[1] Industry data are based on the North American Industry Classification System, 2007.

[2] Workers under the age of 16 years, volunteer workers, and members of the resident military are not included in rate calculations to maintain consistency with the CPS employment. The ownership category government is not presented separately and may be included in any industry category. In 2007, the Census of Fatal Occupational Injuries (CFOI) adopted hours-based state fatal injury rates. Employment-based rates were used previously. Because of substantial differences between rates calculated using the two methods, hours-based state fatal injury rates should not be compared to the employment-based rates from previous years.

Note: Dashes indicate that a fatality rate was not calculated because the data did not meet publication criteria or there were no data reported.

Source: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with state and federal agencies, Census of Fatal Occupational Injuries, 2015.

Fatal injury rate computation

Fatal injury rates depict the risk of incurring a fatal occupational injury and can be used to compare risk among worker groups with varying employment levels. Since employment data are not collected by CFOI, fatal injury rates are calculated using Current Population Survey (CPS) data. The rate represents the number of fatal occupational injuries per 100,000 full-time equivalent workers and was calculated as:

(N/EH) x 200,000,000 where

N = number of fatal work injuries

EH = total hours worked by all employees during the calendar year

200,000,000 = base for 100,000 equivalent full-time workers (working 40 hours per week, 50 weeks per year)

State rates by industry were imputed by using national-level "average hours" and "at work" information from CPS to calculate the average annual number of hours for each employee, since these data are not available at the state level. The imputation to calculate EH (total hours worked by all employees during the calendar year) for the state was calculated as:

$EH_S = HW_N \times E_S$ where

E_S = State employment

HW_N = average annual number of hours for each employee at the national level

Fatal injury rate limitations

State industry rates are not directly comparable to national industry rates. Because state rates include government workers in their respective industry sector and are not broken out separately, both the numerator and denominator include a different group of workers than that of the national rates. State industry rates are not comparable to other states because of the large differences in the industry composition of employment by state.

There are several **limitations** of using CPS data in CFOI rate calculations.

-State of residence versus state of incident: The CPS counts workers by their state of residence, whereas the CFOI counts workers by state of incident.

-Primary job versus job at the time of incident: The CPS annual average employment data used in the rate calculations count workers according to their primary job, whereas CFOI uses the job held when fatally injured.

-Employment sampling errors: The CPS data uses a sample of households, therefore the CPS estimates, and the fatal injury rates based on them, have sampling errors.

For more information on how state rates are calculated and employment data limitations please see Chapter 9 of the BLS Handbook of Methods: http://www.bls.gov/opub/hom/pdf/homch9.pdf.