

Kentucky FACE Program Annual Report 2009



KENTUCKY INJURY PREVENTION AND RESEARCH CENTER

The Kentucky Fatality Assessment and Control Evaluation (KY FACE) Program is an occupational fatality surveillance project of the Kentucky Injury Prevention and Research Center (KIPRC)*. The goal of KY FACE is to prevent fatal work injuries by studying the worker, the work environment, the energy exchange resulting in fatal injury, and the role of management, engineering, and behavioral changes in controlling the interaction of these factors. KY FACE investigators evaluate information from multiple sources including 1) interviews of employers, coworkers, witnesses and other investigators; 2) examination of the work site and equipment; 3) review of Occupational Safety and Health Administration (OSHA) reports, police reports, and medical examiner reports; and 4) employer safety procedures. The FACE program does not seek to determine fault or place blame on companies or individual workers. Findings are summarized in narrative reports that include recommendations for preventing similar events in the future.

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*Organizationally, KIPRC is located in the University of Kentucky College of Public Health and is a bona fide agent of the Kentucky Department for Public Health (KDPH). Funding for the KY FACE Program is provided by the National Institute for Occupational Safety and Health (NIOSH) Cooperative Agreement Number 5U60OH008483-06.

Table of Contents

EXECUTIVE SUMMARY	4
INVESTIGATION PROGRAM	5
QUANTITATIVE ANALYSIS	7
Kentucky Occupational Fatalities by Month of Death – 2009	7
Occupational Fatality Incidents by Day of Week – 2009	7
Fatal Occupational Incidents by Time of Day – 2009	7
Occupational Fatality Incidents per Area Development District (ADD) – 2009	8
Fatality Rates for the Top 5 Counties	8
Demographic Characteristics of Fatally Injured Workers – 2009	9
Occupational Fatalities by NIOSH Sector (NAICS code) – 2009	10
Occupational Fatality Rates by NIOSH Sector (NAICS code) – 2009	10
Occupation Fatalities by External Cause of Death – 2009	11
Work-Related Fatalities by Occupation (SOC) – 2009	11
Work-Related Fatalities by Major Occupational Classifications – 2009	12
SPECIAL TOPICS	13
Fatal Construction Injuries	13
Case Narratives – 2009	13
Construction Fatalities by Incident Type – 2009	14
Construction Fatalities by Occupation – 2009	14
Transportation and Warehousing	15
Case Narratives – 2009	15
Transportation and Warehousing Fatalities by Incident Type – 2009	16
Transportation and Warehousing Fatalities by Occupation – 2009	17
Transportation and Warehousing MVC Fatalities by Roadway Type – 2009	17
Transportation and Warehousing MVC Fatalities by Vehicle Type – 2009	17
Occupational Homicide	18
Case Narratives – 2009	18
Occupational Homicides by Mode of Death – 2009	19
Occupational Homicides by Age – 2009	19
Occupational Homicides by Major Industry – 2009	19
Occupational Homicides by Occupation (SOC) – 2009	20
Occupational Homicides by Day of Injury – 2009	20
Agricultural Industry Occupational Fatalities	21
Case Narratives – 2009	21
Agricultural Industry Worker Fatalities by Age – 2009	22
Agricultural Industry Worker Deaths by Incident Type – 2009	22
CONCLUSION	23

EXECUTIVE SUMMARY

1. The KY FACE Program identified 93 fatal occupational injuries that occurred during 2009, compared to 105 recorded in 2008.
2. The mean age of the fatally injured worker was 46.7 years of age; 87 were male and 6 were female. Sixty percent were married; 74% graduated high school or beyond. The majority of those fatally injured at work were born in the United States and 82% were Kentucky residents. Nearly all of the decedents spoke English as their primary language.
3. Kentucky's occupational fatality rate is 59% above the national rate (5.4 Kentucky worker deaths/100,000 workers compared to 3.4 US worker deaths/100,000 workers).
4. The Transportation, Warehousing & Utilities sector recorded the most work-related deaths in Kentucky in 2009 (n = 21, 22% of total fatalities). Sixteen of the decedents were in motor vehicle crashes and twelve of the deceased workers were driving semi trucks. Two of the decedents were hauling coal when the fatal incident occurred
5. Twenty-nine (31%) work-related deaths were due to motor vehicle collisions. Ten occupational drivers (48%) out of the 21 occupational drivers were NOT wearing their seat belts when the fatal injury occurred.
6. The highest number of occupational injuries occurred in Jefferson County in both 2008 and 2009. In 2009 there were 11 total fatalities (17%). This compares to 18 (17%) in 2008.
7. Occupational fatality rates were highest in the agriculture, forestry, and fishing industry (112.5 worker deaths/ 100,000 full-time employees), the mining industry (33.5/100,000), the transportation industry (23.7/100,000), and the construction industry (16.4/100,000) in 2009.
8. The Construction Industry accounted for 12 (13%) of the 93 total fatalities in 2009. This is down from 15 total fatalities in 2008.
9. There were nine occupational homicides in 2009.

INVESTIGATION PROGRAM

The KY FACE Program completed five on-site investigations of selected occupational fatalities in 2009. The fatality report narratives follow:



Case 06KY100: In the fall of 2006, a twenty-three year old male tractor-trailer driver who was hauling coal, died when a rear outer tire on the trailer failed. After the tire failed, the trailer slipped off the right side of the road, overturned, and went over an embankment. The trailer remained attached to the tractor as both went over the embankment, flipping the entire unit upside down. A witness called emergency medical services who arrived and called the county coroner. The coroner arrived and declared the driver dead at the scene. It was determined by Kentucky State Police that the driver was not wearing a seat belt at the time of the incident. Speed at the time of the crash was not listed in the investigation report. Toxicology tests detected tramadol, oxycodone, and hydrocodone in the driver's system at the time of the crash.



Case 08KY025: A semi-tractor driver was driving in the right hand northbound lane on a four-lane interstate when he came upon a crash scene. A southbound mini-van had come to rest across the right hand northbound lane. To avoid striking the mini-van, the semi truck driver moved over to the left lane. After passing a mini-van, the semi struck a slowing pick-up truck which caused the semi-tractor trailer to jack knife and roll over. The driver remained in the day cab and the driver trainee was ejected from the semi onto the embankment by the bridge. The driver trainee was found by a witness who called emergency services to the scene, was transported to the nearest hospital, and was later released. The semi driver was declared dead at the scene.



Case 08KY029: In the spring of 2008, a 40-year-old tractor-trailer driver died after his vehicle left the interstate highway, crashed, and was engulfed in flames. The tractor drifted over the fog line and rumble strip onto the right shoulder, began to skid and left the highway. The tractor slid through the grass beside the roadway, struck a concrete culvert, sideswiped a small tree and then hit a large tree head-on. The tractor and trailers then skidded back down the embankment toward the highway where the entire unit came to rest. The tractor and lead trailer overturned onto the driver's side. The second (rear) trailer uncoupled from the first trailer but remained upright and attached by safety chains. The driver was declared dead at the scene.



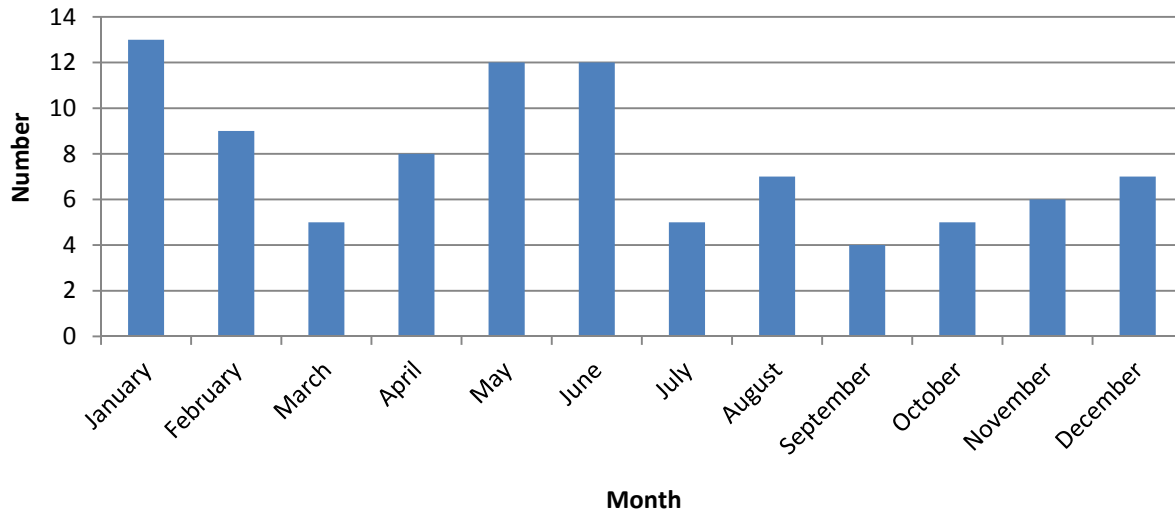
Case 09KY074: On the morning of a fall day in 2008, a solid waste worker entered a right-hand curve on the highway. While on the curve, the driver crossed the center line and drove into the southbound lane, then crossed the northbound lane and off the right side of the highway. The driver hit a culvert, rolled the vehicle, and the driver was ejected out the driver's door. The truck came to rest on its right side in the front yard of a private residence. Emergency services arrived, transported Driver 1 via ambulance and helicopter to the nearest Level 1 trauma hospital and the driver died en route.



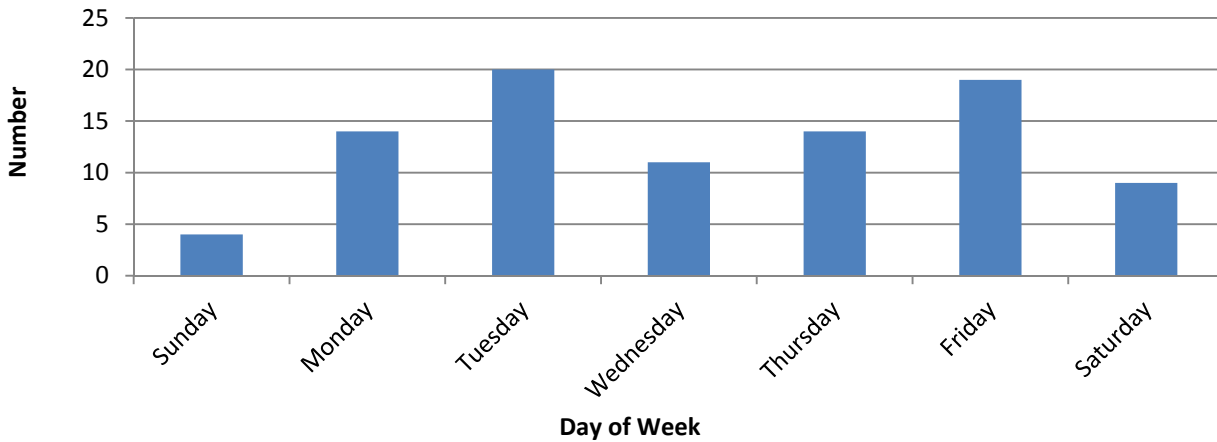
Case 09KY34: On a summer day in 2009, a granite installer and his two sons were working alone at a construction site when the granite installer fell out of a second story window and was killed. The three granite installers worked for a subcontractor hired to install granite vanity tops and sinks in a newly constructed hotel. They were installing vanities that were loaded onto a homemade three-sided construction box and lifted via a forklift to a second story window. The loaded construction box was not secured to the forklift. During the unloading of the granite pieces from the construction box into the second story room, the granite installer climbed out the window and onto the construction box which then fell off the forklift onto the ground. Emergency medical services transported the father to the hospital where he was declared dead.

Quantitative Analysis

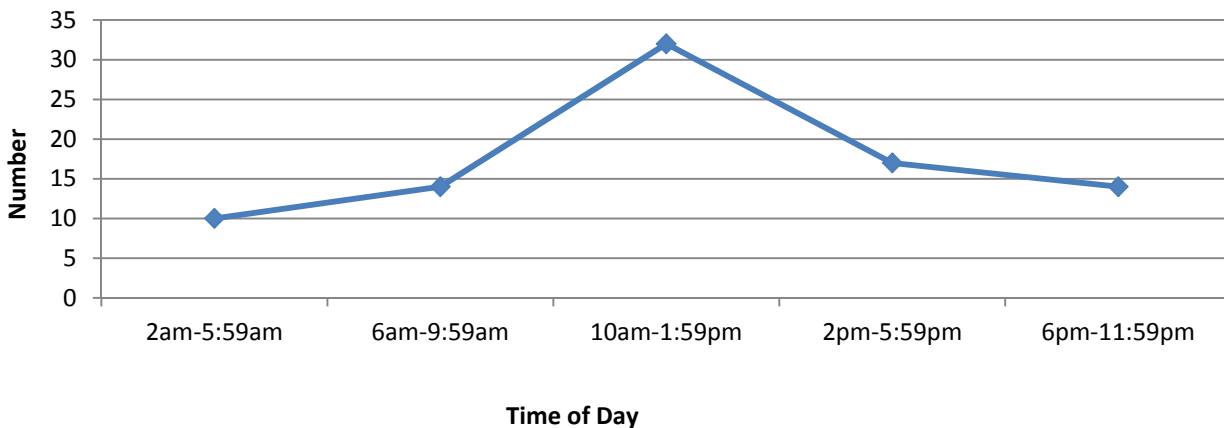
Kentucky Occupational Fatalities by Month of Death – 2009.



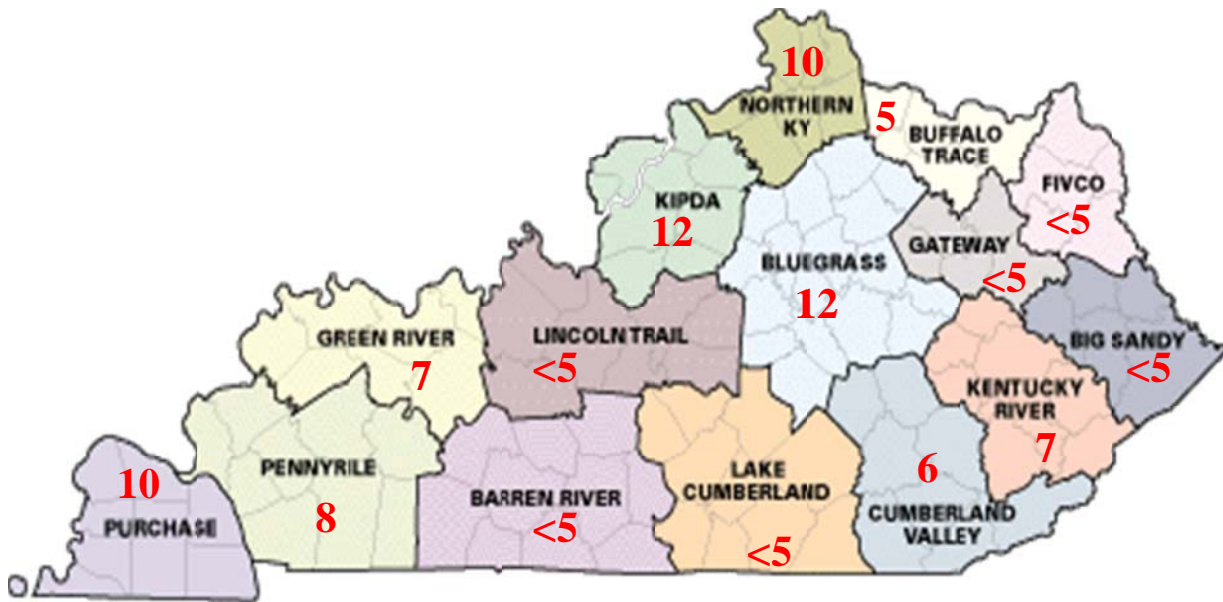
Occupational Fatality Incidents by Day of Week – 2009.



Fatal Occupational Incidents by Time of Day – 2009.



Occupational Fatality Incidents per Area Development District (ADD) – 2009.



Fatality Rates for the Top 5 Counties with the Highest Number of Fatal Occupational Incidents – 2009.

County	Fatalities	Fatality Rate per 100,000 Workers
Jefferson	11	3.3
Fayette	5	3.5
Kenton	4	5.0
Perry	4	38.5
Total KY	93	5.4

^aState and county employment estimates are from the 2009 Kentucky Deskbook of Economic Statistics. Kentucky Cabinet for Economic Development, Division of Research; Frankfort, KY.

Table 2. Demographic Characteristics of Fatally Injured Workers – 2009.

Characteristics	Number	Percent
<u>Total Fatalities</u>	93	100
<u>Sex</u>		
Male	87	94
Female	6	6
<u>Race</u>		
White	82	88
Other	7	8
<u>Age</u>		
<20	<5	
20-29	7	8
30-39	20	22
40-49	22	24
50-59	30	32
60-69	8	9
70-79	<5	
<u>Marital Status</u>		
Married	56	60
Never Married	16	17
Widowed	<5	
Divorced	16	17
<u>Education</u>		
Less than High School	5	5
Some High School	12	13
Finished High School	51	55
Some College	8	9
College Graduate	9	10
<u>Country of Origin</u>		
United States	86	93
Mexico	<5	
Other	5	5
<u>Primary Language</u>		
English	85	91
Spanish	<5	
Unknown	<5	
<u>State of Residence</u>		
Kentucky	76	82
Other	17	18

Occupational Fatalities by NIOSH Sector (NAICS code) – 2009.



Occupational Fatalities by NIOSH Sector (NAICS code) – 2009.

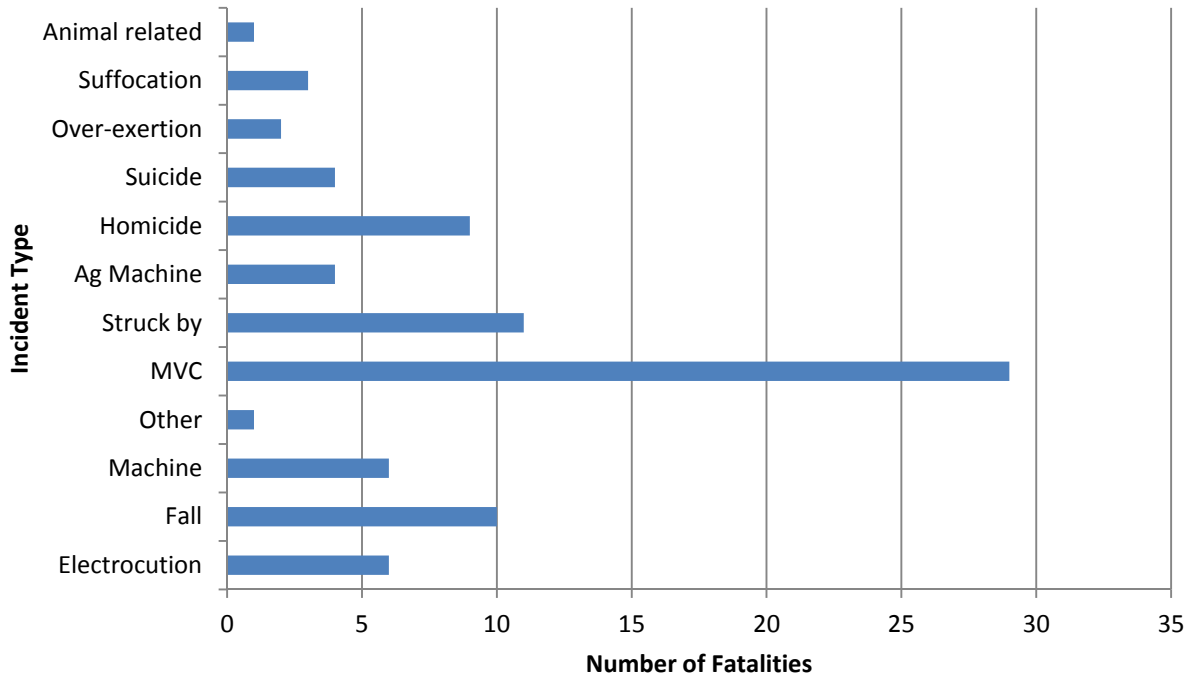
(Rates calculated per 100,000 workers).

Industry	# of KY Deaths In 2009	2009 KY Fatality Rate ^a	2009 US Fatality Rate ^b
Transportation, Warehousing & Utilities	21	23.7	12.5
Wholesale/Retail Trade	11	4.0	2.4
Healthcare and Social Assistance	3	1.4	0.7
Services	20	2.4	2.0
Agriculture, Forestry, Fishing, and Hunting	9	112.5	230
Construction	12	16.4	13.7
Manufacturing	8	3.8	2.6
Mining	8	33.5	15.8
Total	92	5.4	3.4

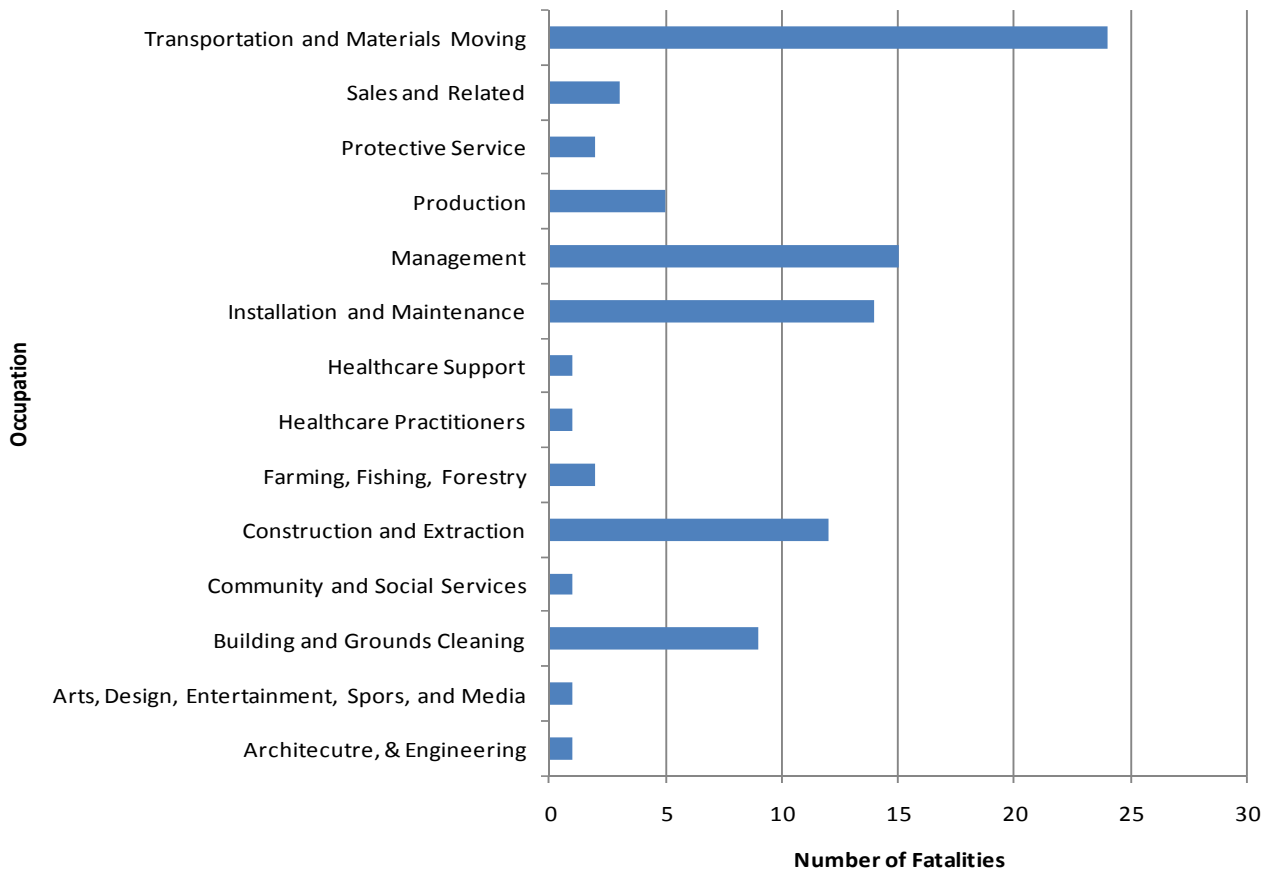
^aKentucky Cabinet for Workforce Development

^bNumber of employed persons obtained from the Bureau of Labor Statistics

Occupational Fatalities by External Cause of Death– 2009.



Work-Related Fatalities by Occupation (SOC) – 2009.



Work-Related Fatalities by Major Occupational Classification – 2009.

Occupational Classification	Number of Fatalities	2009 KY Rate	2009 US Rate ^a
Architecture and Engineering Occupations	1	*	1.7
Arts, Design, Entertainment, Sports, and Media	1	*	2.3
Building, Grounds Cleaning	9	17.2	5.8
Community and Social Services	1	*	1.5
Construction, Extraction	12	13.9	14.2
Farming, Fishing, Forestry	2	*	54.6
Healthcare Practitioner	1	*	0.7
Healthcare Support	1	*	0.6
Installation, Maintenance	14	16.7	6.2
Management	15	18.5	8.4
Production	5	2.5	2.1
Protective Service	2	*	7.7
Sales and Related	3	*	2.0
Transportation, Material Moving	24	15.5	11.1

^aKentucky employment figures obtained from *Kentucky Cabinet for Workforce Development*

^bUS occupational fatality numbers obtained from the Bureau of Labor Statistics

*fatality rates were not calculated due to small numbers of fatalities

SPECIAL TOPICS

Fatal Construction Injuries



The Construction industry accounted for 12 (13%) of the 93 total work-related fatalities in 2009. All of the victims were male. Four were married, four were divorced, three were never married, and one status is unknown. One of the victims was self-employed at the time of death. Five of the 12 had less than a high school education and six had a high school education; nine spoke English as their primary language and two spoke Spanish. Of the 12 total construction fatalities, four were roofers in residential/commercial construction and three were electricians. Following are the fatality narratives for the cases.

09KY006: The victim fell through the roof twenty-five feet seven inches to the floor and died eleven hours later.

09KY011: The victim was working on an electrical pole attempting to restore power following an ice storm. The pole snapped in half, causing the victim to fall. The victim was then crushed by the transformer.

09KY018: The victim was an employee of a cable company. The victim got out of the truck, which slipped out of gear and ran over the victim.

09KY020: The victim was on a ladder clearing limbs off a roof. A limb struck the victim, knocking the victim off the ladder.

09KY024: The victim was working inside a boiler at an energy plant. The victim was dismantling scaffolding and fell through.

09KY034: The victim was working for a granite company on a hotel construction project. The victim fell out of a second story window.

09KY050: The victim was performing a repair on a convection oven at a restaurant. He was found unresponsive on the floor by a restaurant employee. The victim was taken to a hospital and died. The victim was employed by another company, not the restaurant.

09KY058: The victim was observed hanging in the harness from a crane that was being repaired. The coroner reported the cause of death was electrocution.

09KY061: The victim was installing a rolling steel overhead door on a building at a coal mine. The door began closing and hit the ladder the victim was standing on, causing the victim to fall onto the

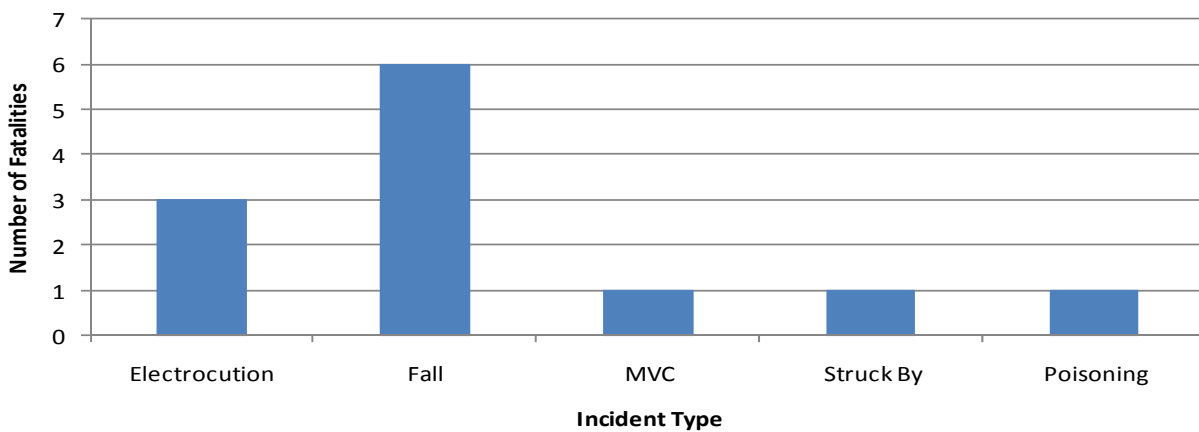
concrete pad. The victim's head struck the floor.

09KY069: Preparing to work on the roof of a house, the victim was stung by three bees and went into anaphylactic reaction.

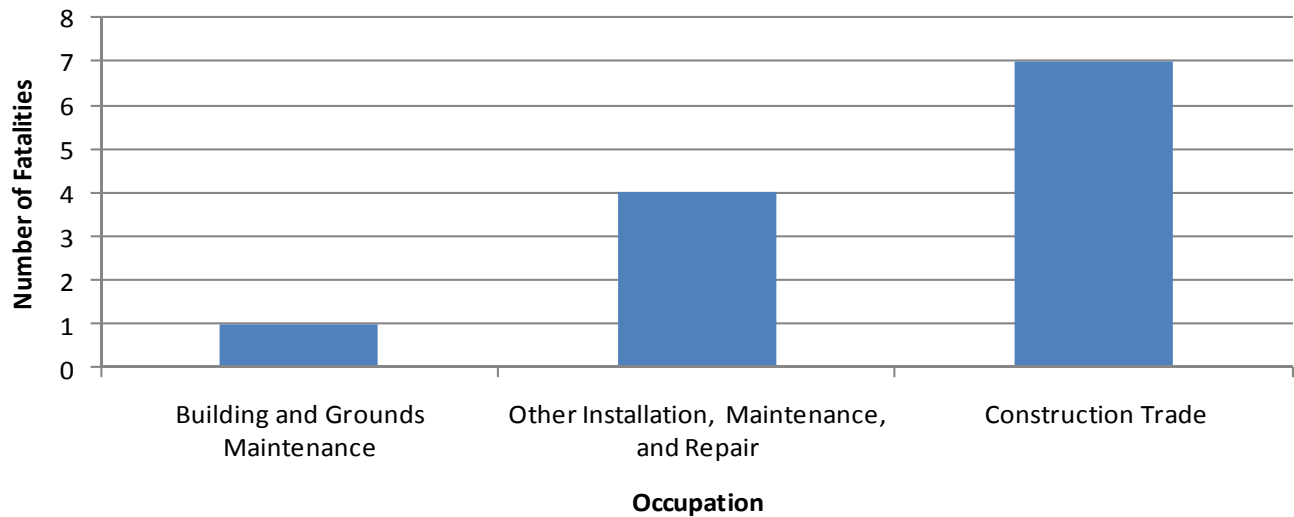
09KY073: The victim was raising a ten foot piece of guttering into place on a house. The guttering made contact with a 19,900 volt power line located four feet above the roof peak. The victim fell from the scaffold approximately 20ft after being electrocuted.

09KY094: The victim fell from a roof.

Construction Fatalities by Incident Type– 2009.



Construction Fatalities by Occupation– 2009.



Fatal Transportation and Warehousing Injuries



The Transportation and Warehousing industry accounted for 21 (22%) of the 93 total work-related fatalities in 2009. Nineteen of the 21 victims were male. Fourteen were married; 16 were white and, 20 were not of Hispanic origin. At least 18 had a high school education or beyond and 19 spoke English as their primary language. Of the 21 total fatalities, 16 were MVC related and 12 of those involved semi tractor trailers. Following are the fatality narratives for the cases:

09KY002: The victim was hooking up a trailer to own semi tractor when struck by another truck at a distribution center

09KY013: The victim fell from the top of a hopper car.

09KY028: The victim was delivering a load of baked goods when the victim missed a curve and struck a telephone pole.

09KY03101: The victim died due to an ammonia leak at a cold storage facility.

09KY03102: The victim was found dead after an ammonia leak at a cold storage facility.

09KY032: The victim died as the result of a head-on motor vehicle collision involving two tractor-trailers

09KY036: The victim died in a semi truck rollover.

09KY038: The victim was a delivery driver for UPS and was in a one-vehicle MVC.

09KY044: The victim was waiting in the parking lot of a warehousing facility when struck by lightning.

09KY045: The victim was driving a tanker truck that was struck by a pickup.

09KY046: The victim was driving a small delivery van and was struck by a passenger car.

09KY049: The victim was driving a tanker truck which struck a barrier, flipped, landed on road below and exploded.

09KY051: The victim was driving a semi truck. Another semi truck was slowing down because of a construction zone. The victim's semi truck did not slow down and rear-ended the other semi truck.

09KY064: The semi truck the victim was driving left the roadway on the right side and hit a tree, overturning, and entrapping the victim.

09KY066: The semi truck overturned.

09KY068: The driver of a semi truck overturned. The truck skidded approximately 76 feet and struck another vehicle in motion.

09KY071: the semi truck left the right side of the highway, traveled through the guard rail and over an embankment after leaving the road. The semi truck then overturned and came to a rest in a lower drainage ditch. Both the truck and trailer caught fire.

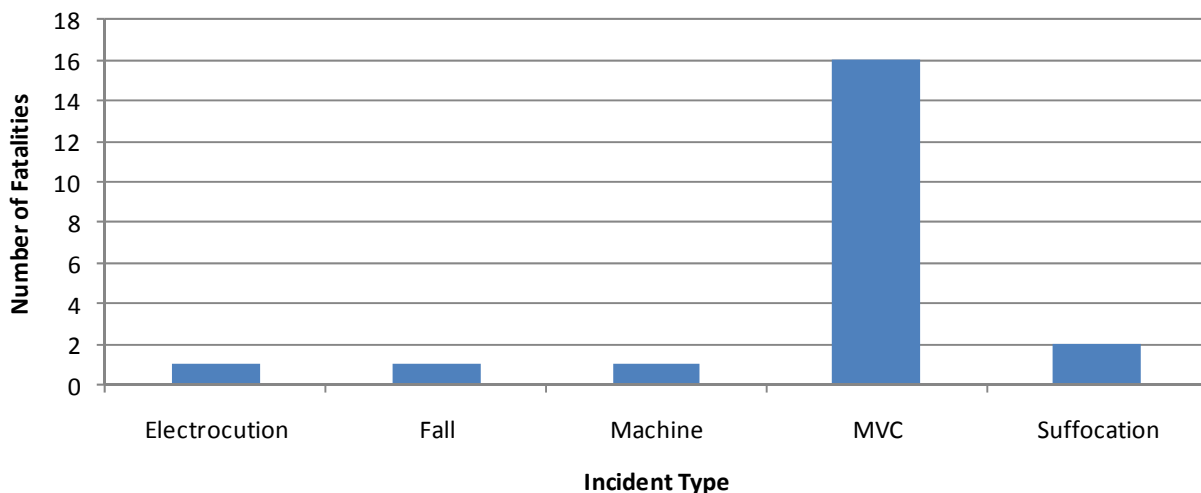
09KY081: The semi truck was traveling southbound on I-71, in the slow lane when it struck an abandoned vehicle parked in the emergency lane. The semi truck traveled past the car and off the west side of the highway, through the guardrail and over an embankment, and came to rest in a ravine. The victim was in the sleeper berth, and was ejected and pronounced dead at the scene.

09KY086: The victim was caught between two fork lifts with a resultant crush injury of the leg.

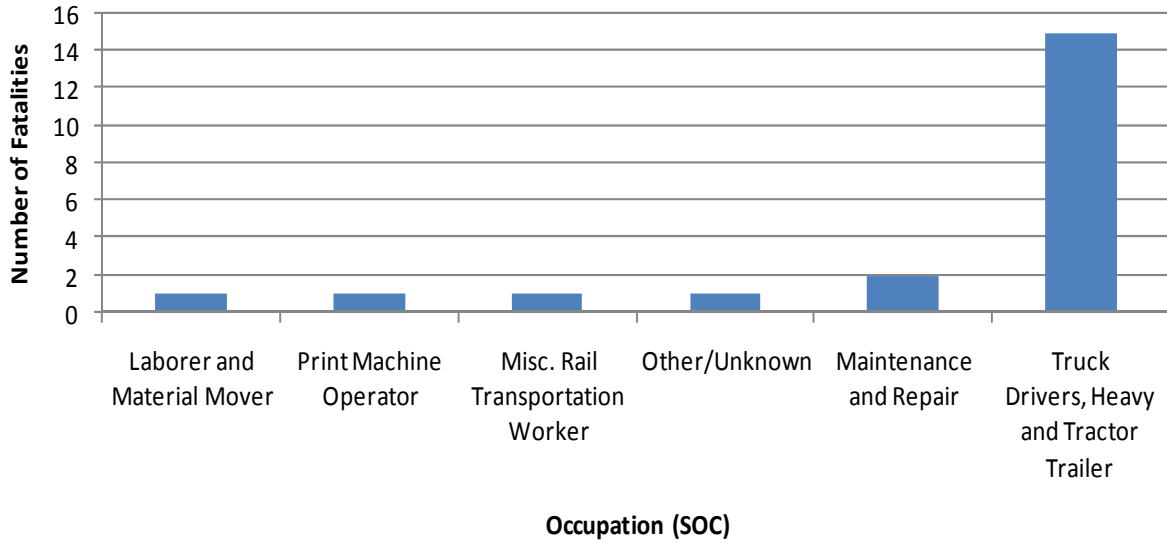
09KY087: The victim was involved in a single commercial vehicle incident. The vehicle overturned in the median area of an interstate and the victim was pronounced dead at the scene.

09KY093: The victim died after being ejected from a semi truck that was involved in an MVC with two other semi trucks.

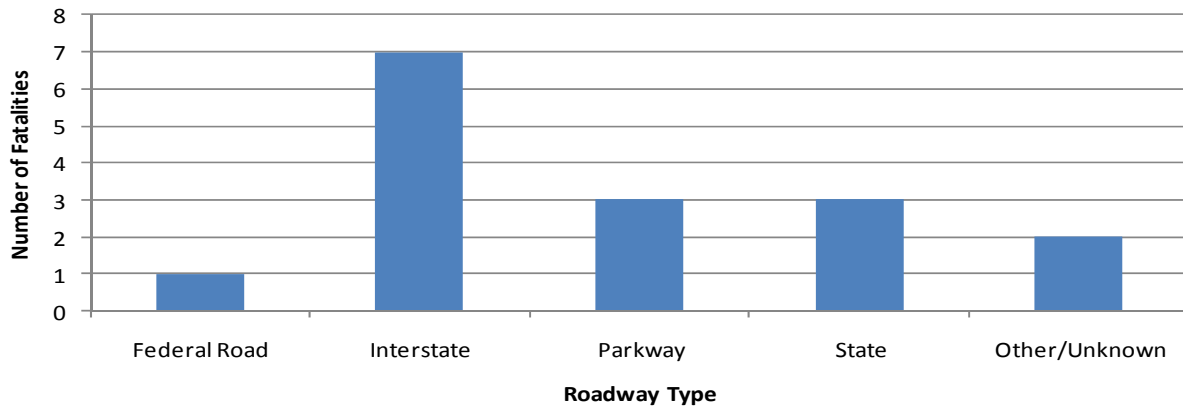
Transportation and Warehousing Industry Fatalities by Incident Type (SOC)–2009.



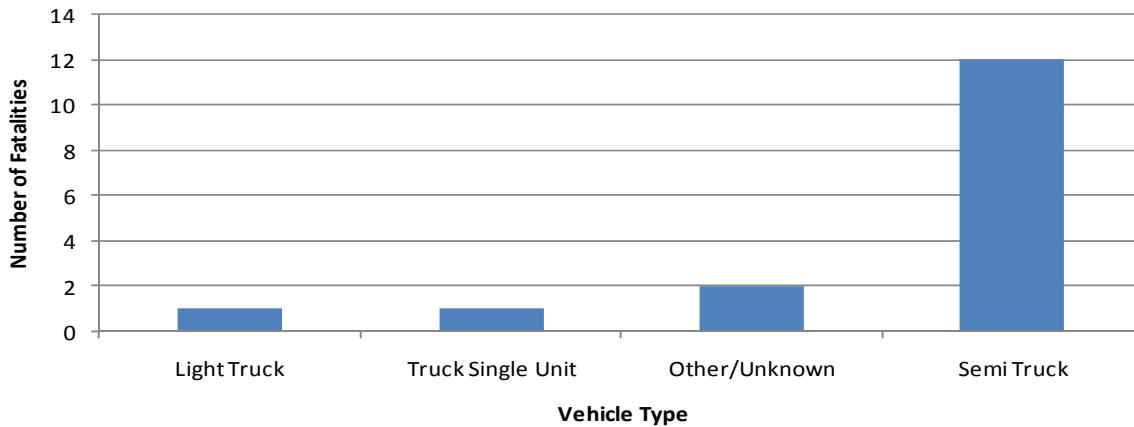
Transportation and Warehousing Industry Fatalities by Occupation (SOC)–2009.



Transportation and Warehousing MVC Fatalities by Roadway Type– 2009.



Transportation and Warehousing Industry MVC Fatalities by Vehicle Type– 2009.



Occupational Homicide



During 2009, 9 (10%) of the 93 occupational fatalities were homicides. All of the decedents were men, eight were white, and one was of Hispanic origin. Four of the nine were married and all graduated high school. Six of the homicides involved the use of firearms. Following are the fatality narratives for the cases:

09KY001: The victim was selling newspapers on the street corner when shot. Victim was a part-time subcontracted newspaper salesman on Sundays.

09KY008: A veterans' home caregiver was stabbed after an argument over cigarettes.

09KY017: A maintenance supervisor at an apartment complex where was shot.

09KY022: A clothing store owner was shot after a robbery.

09KY041: A school custodian was shot and killed by a coworker.

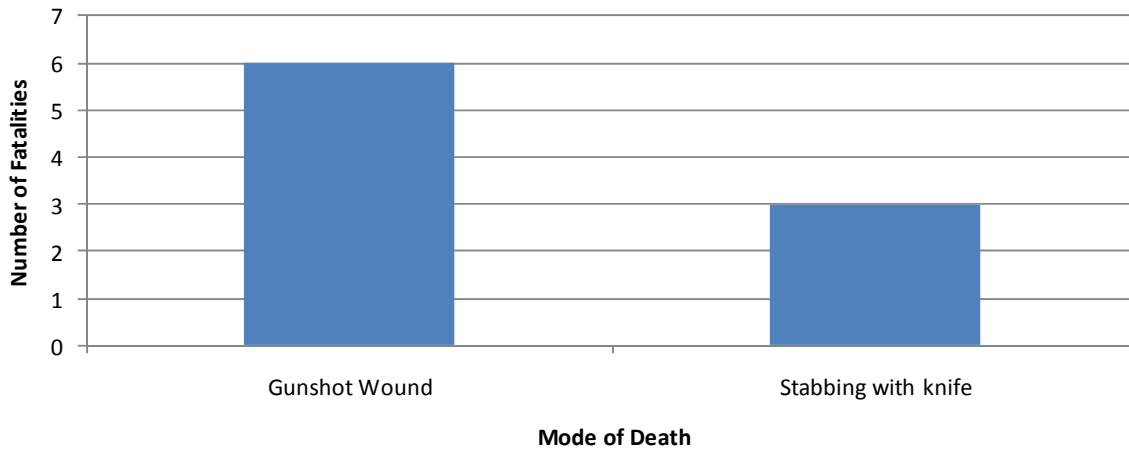
09KY52: A retail sales clerk was stabbed while working

09KY72: A store clerk was fatally shot during a robbery.

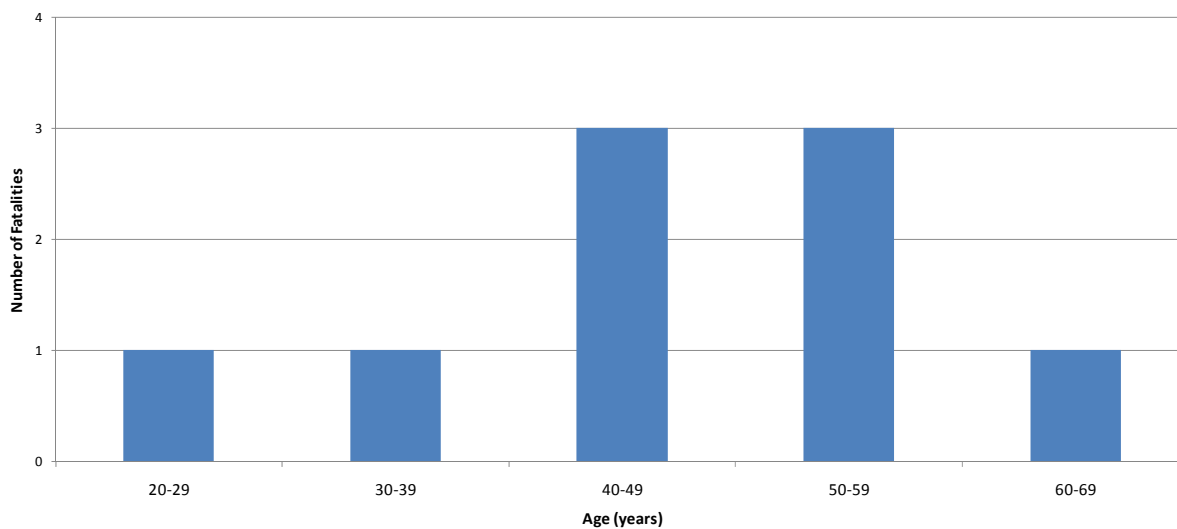
09KY77: A medical doctor was shot and killed by a patient. The patient was refused pain medication earlier in the day and he became angry and combative. The patient returned and shot the doctor.

09KY78: A novelty/gaming store employee was stabbed. Police received a call around 10:00pm from the employee and later found him dead.

Occupational Homicides by Mode of Death – 2009.



Occupational Homicides by Age, 2009.



Occupational Homicides by Major Industry, 2009.

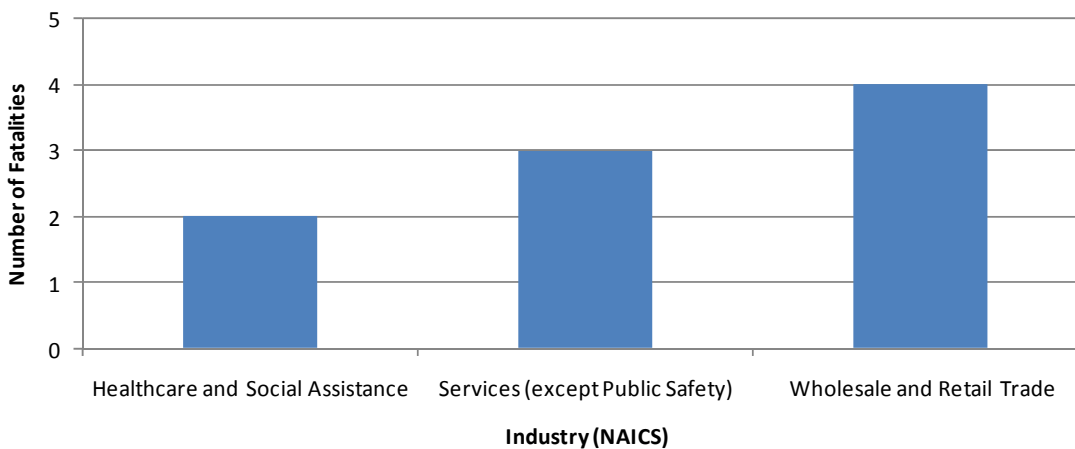


Figure 19. Occupational Homicides by Occupation (SOC) – 2009.

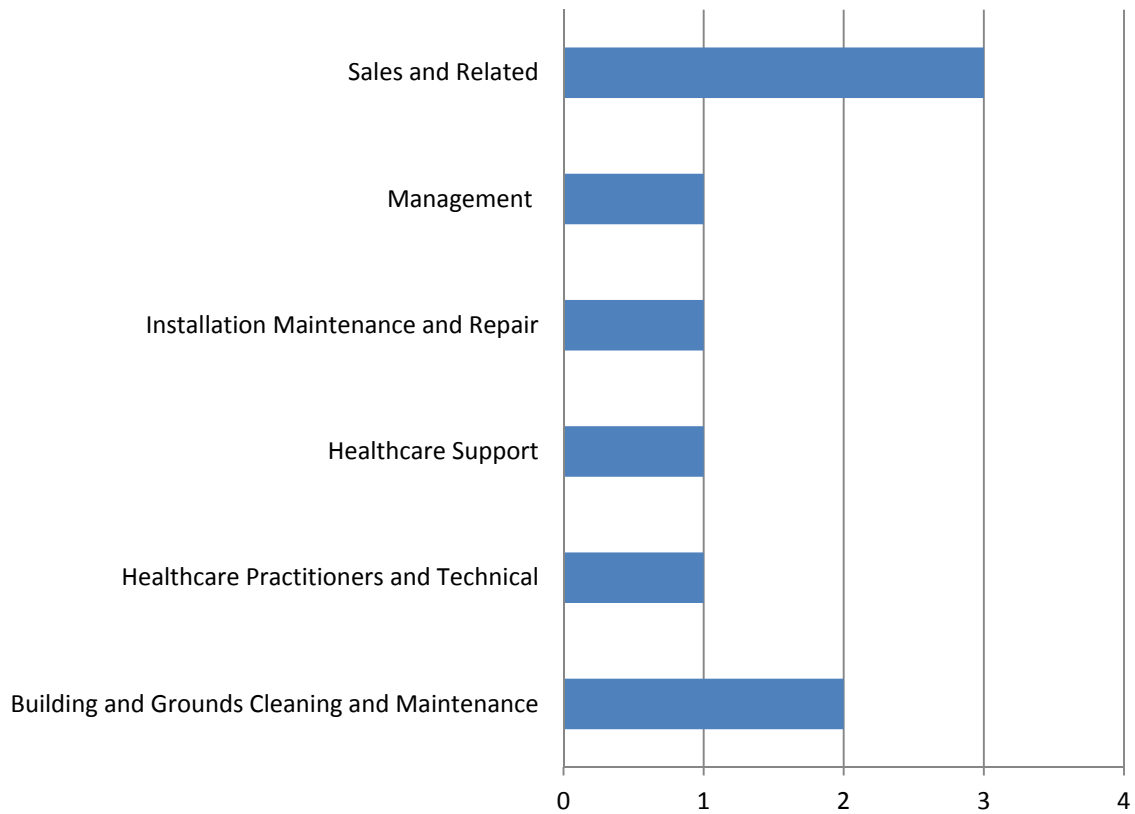
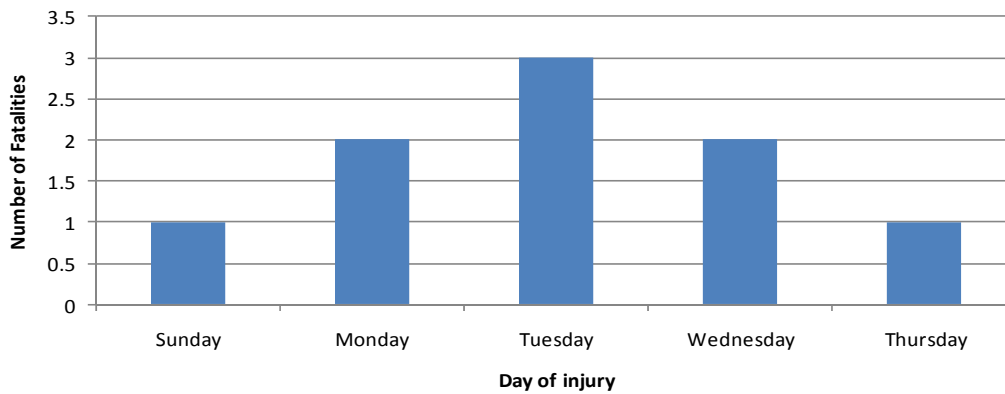


Figure 30. Occupational Homicides by Day of Injury, 2009.



Agricultural Industry Occupational Fatalities



During 2009, 9 (10%) of the 93 occupational fatalities occurred within the Agriculture, Forestry, Fishing, and Hunting industry. All of the decedents were men, eight were white, and eight were married. Six of the nine decedents had finished high school or beyond. Three of the nine incidents were tractor related. Following are the fatality narratives for the cases:

09KY019: The victim was a blacksmith who suffered a heart attack while shoeing a horse.

09KY026: The farmer died after burning brush in a field.

09KY027: A horse farmer died after being kicked in the head by a horse.

09KY030: A logger was struck in the head by a falling tree branch

09KY035: The farmer was found underneath an overturned tractor. The farmer had been using a tractor with a rotary mower to cut a field.

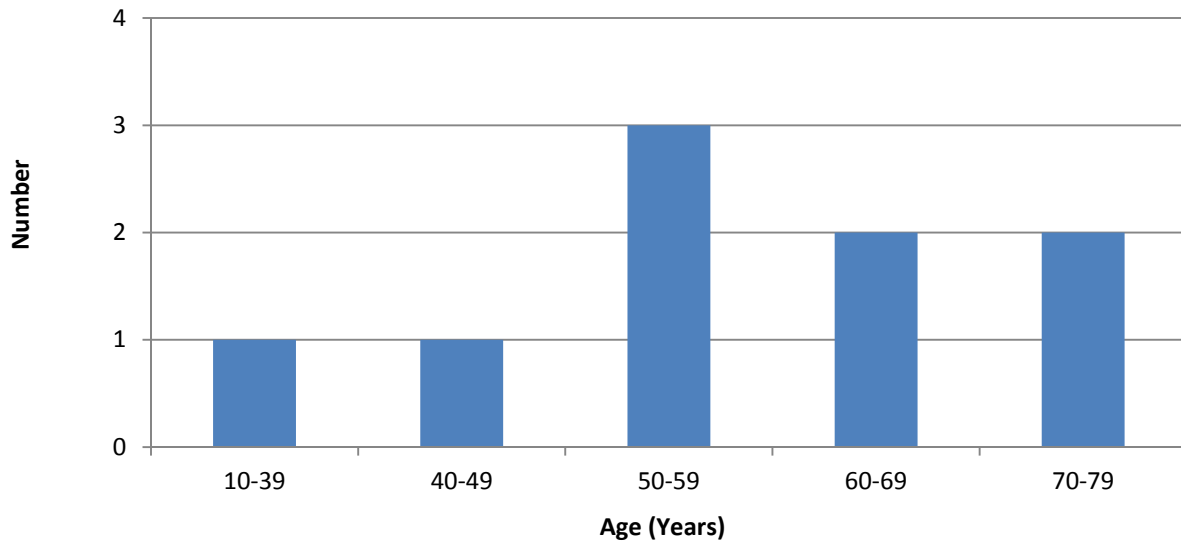
09KY040: The farmer was attempting to unclog a hay baler when its gate closed, crushing and suffocating the victim.

09KY063: A bush hog fell off its jack support onto the farmer.

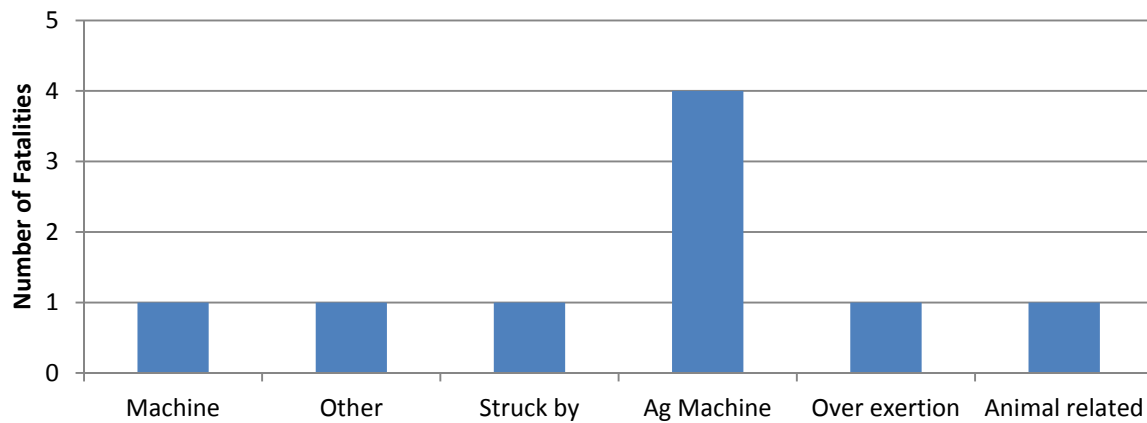
09KY065: The farmer was bush hogging and had a front end loader attached to the tractor. The tractor went up a slight incline and the loader hit and caught a small tree. The tree caused the tractor to raise up onto its rear tires and overturn. The driver was thrown off the tractor, landed facedown and was crushed by the tractor's left tire.

09KY070: The logger was operating a log skidder which tipped over and pinned the victim.

Agricultural Industry Worker Fatalities by Age – 2009.



Agricultural Industry Worker Deaths by Incident Type – 2009.



CONCLUSIONS

The transportation industry continues to account for the highest fatal injury numbers in Kentucky and is almost double the fatality rate for the US. Focused fatality investigation efforts will continue in the transportation industry this coming year. Construction industry injury numbers and rates are also elevated compared to the US, and will continue to be investigated. Administrative, engineering, and behavioral controls will be developed and recommended to reduce the burden of occupational injuries in Kentucky.