

Kentucky Occupational Safety and Health Surveillance Program-- Transportation Injury Prevention



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- 11,332 occupational motor vehicle collisions in 2013
- ~6,000 commercial motor vehicle collisions per year

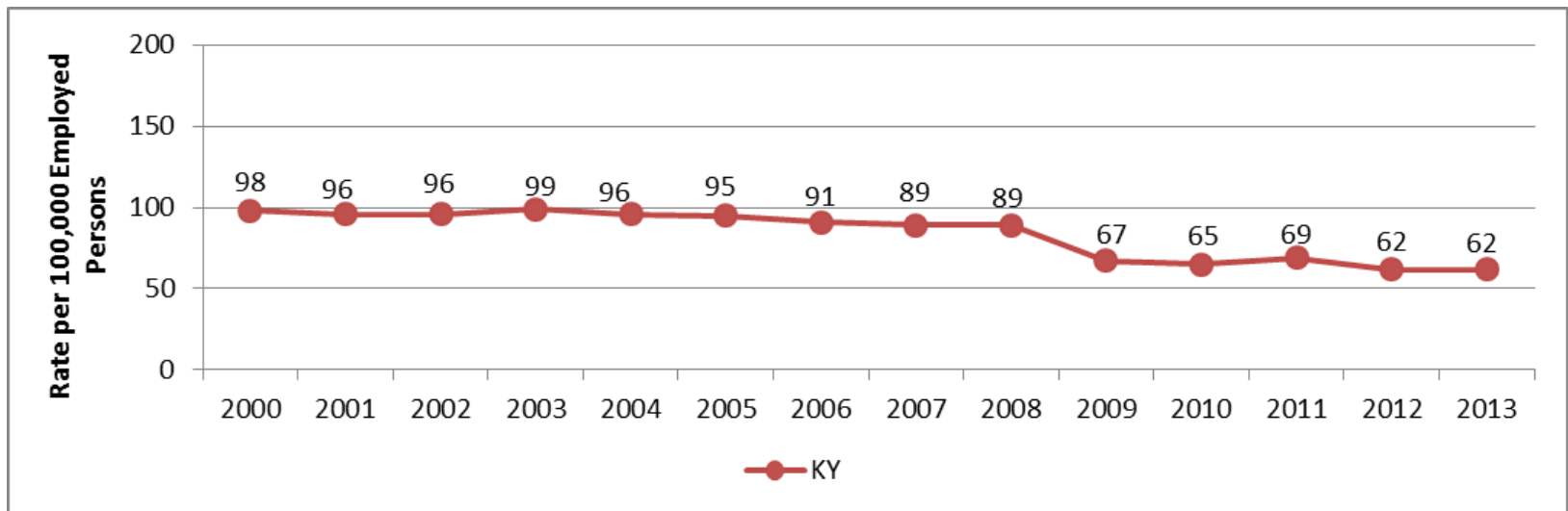




Kentucky Commercial Vehicle Collisions, 2009-2013

	Year				
	2009	2010	2011	2012	2013
Commercial vehicles involved in collisions in Kentucky	5,683	5,984	6,395	6,122	6,296
Unit number 01	3,674	3,840	4,166	3,951	4,097
Driver's injury					
Fatal	19	9	13	10	9
Incapacitating	38	31	48	37	37
Non-incapacitating	138	145	116	110	125
Possible injury	138	139	143	150	139
Vehicle fire	25	33	20	31	25
KY license	3,252	3,466	3,080	2,848	2,909
Total number of fatalities in CVCs	107	99	83	81	72
Total # of injuries in CVCs	1,392	1,438	1,438	1,392	1,399
Single vehicle collision	1,319	1,316	1,475	1,407	1,440
Unit type					
Bus	116	148	136	143	156
School bus	55	59	75	69	71
Truck and trailer	1,013	1,018	1,125	1,083	1,094
Truck – single unit	1,473	1,498	1,385	1,419	1,484
Truck tractor & semi-trailer	2,894	3,111	3,491	3,279	3,358
Truck – other combination	94	122	138	109	106
Other	34	28	44	20	26
Hazard cargo present	156	171	151	133	136

Occupational Motor Vehicle Collision Injury Rates in Kentucky, 2000-2013





KOSHS Occupational Motor Vehicle Injury Prevention Aims

- Population-based surveillance of occupational MVCs
- Case-based surveillance of occupational MVC fatalities
- Epidemiological studies on occupational MVCs
- Development of web-based trucker safety training interventions
- Establishing new transportation safety partnerships



Narrative and Qualitative Analyses of Workers' Compensation Covered Injuries in Short-Haul and Long-Haul Trucking

Mark D. Chandler, MPH, Terry Bunn, PhD, Svetla Slavova, PhD

Aims

1. Identify and characterize injury differences between workers in short-haul and long-haul trucking
2. Describe typical short-haul and long-haul trucking injury scenarios
3. Develop short-haul and long-haul trucking injury prevention recommendations based on typical injury scenarios identified

Dataset

- 2012 Kentucky workers' compensation first reports of injury (FROI)
- **KY Revised Statute 342.038** requires injuries resulting in > 1 day absence be reported to KY Department of Workers' Claims within 1 week

Demographics

- 284 long-haul, 455 short-haul

Demographic Characteristic	Short-haul Trucking	Long-haul Trucking	<i>p</i> -value ^a
Gender	<i>n</i> = 284	<i>n</i> = 455	
Male	270 (95%)	420 (92%)	0.142
Female	14 (5%)	35 (8%)	
Age			0.021
19-24	22 (8%)	14 (3%)	
25-34	33 (12%)	67 (15%)	
35-44	64 (23%)	129 (28%)	
45-54	97 (34%)	146 (32%)	
55-64	57 (20%)	89 (20%)	
65+	11 (4%)	10 (2%)	
Average Age	45.51	45.37	

Demographics

Demographic Characteristic	Short-haul Trucking	Long-haul Trucking	<u>p-value^a</u>
	n= 284	n= 455	
Length of Time Between Hire & Injury*			
< 30 days	20 (10%)	21 (6%)	0.049
≥ 1 month < 6 months	31 (16%)	79 (21%)	
≥ 6 months ≤ 1 year	24 (12%)	63 (16%)	
> 1 year ≤ 3 Years	40 (21%)	91 (24%)	
> 3 Years	80 (41%)	130 (34%)	
Missing Values	89	71	

Demographics

Demographic Characteristic	Short-haul Trucking <i>n</i> = 284	Long-haul Trucking <i>n</i> = 455	<i>p</i> -value ^a
Trucking Industry Code			
4212- Local, Without Storage	139 (49%)	0 (0%)	
4213- Trucking, Except Local	0 (0%)	339 (75%)	
4214- Local and Storage	16 (6%)	0 (0%)	
484110- General Freight, Local	119 (42%)	0 (0%)	
484121- General Freight, Long Distance, Truckload	0 (0%)	57 (13%)	
484122- General Freight, Long Distance, Less than Truckload	0 (0%)	54 (12%)	
484220- Specialized Freight, Local	10 (4%)	0 (0%)	
484230- Specialized Freight, Long Distance	0 (0%)	5 (1%)	

Demographics

Demographic Characteristic	Short-haul Trucking <i>n</i> = 284	Long-haul Trucking <i>n</i> = 455	<i>p</i> -value ^a
Occupation			
Truck drivers, heavy and light	162 (57%)	316 (69%)	0.006
Unknown	53 (19%)	64 (14%)	
Laborer	42 (15%)	34 (7%)	
Mechanic	12 (4%)	17 (4%)	
Administrative/Managerial	8 (3%)	10 (2%)	
Other	7 (2%)	14 (3%)	

Injury Characteristics

Injury Characteristic	Short-haul Trucking	Long-haul Trucking	<i>p</i>-value^a
Injury Activity	<i>n</i>= 284	<i>n</i>= 455	
Lifting/Cranking	88 (31%)	110 (24%)	0.003
Opening/Closing/Adjusting	56 (20%)	127 (28%)	
Truck Operation	43 (15%)	42 (9%)	
Maneuvering Into/Out of Truck Cab	34 (12%)	47 (10%)	
Other	63 (22%)	127 (28%)	
Top Causes of Injury			
Strain	103 (36%)	158 (35%)	0.318
Fall, Slip, or Trip	57 (20%)	101 (22%)	
Motor Vehicle	49 (17%)	59 (13%)	
All Other	75 (26%)	137 (30%)	

Short-Haul Truck Driver Injury Scenarios

Operating Truck (n=39, 24%)

- 'Turned rig over while turning into customer's location'
- 'Driving the truck downhill when the truck slipped due to the ground being so muddy'
- 'Employee was driving a truck and hit a light pole going approximately 5 mph'

Short-Haul Truck Driver Injury Scenarios

Lifting/Cranking ($n=39$, 24%)

- 'Employee was lifting ramp onto trailer when he felt a sharp pain in his back'
- 'Employee was loading cars, lifted the ramp attached to the trailer and felt a pull in his lower back'
- 'He was cranking the dolly on his trailer and strained his abdomen'

Short-Haul Truck Driver Injury Scenarios

Maneuvering Into/Out of Cab or Trailer (*n*= 28, 17%)

- 'Employee stepped out of truck onto step and his foot got stuck. He turned and felt his knee pop'
- 'Employee exiting cab with mud on his shoes; he slipped and reached to grab causing sprains to right elbow and right rotator cuff'
- 'Employee was exiting trailer and he tripped over a chain, falling on both hands onto the concrete'

Long-Haul Truck Driver Injury Scenarios

Securing/Opening/Closing/Adjusting (*n*= 93, 29%)

- ‘Opening trailer doors and a load of tires fell on her’
- ‘Injured worker was closing trailer door and right hand caught in hinge causing fracture’
- ‘On the trailer strapping a load and the strap was hung up and when he pulled, it came loose and he fell backwards to the ground, injuring his left knee’

Long-Haul Truck Driver Injury Scenarios

Lifting/Cranking (*n*= 57, 18%)

- 'Was cranking landing gear on trailer up and it sprang back and struck her in the face'
- 'Picked up a deck board inside a trailer to put on a rack when he felt something in his right arm pull'
- 'Cranking down dolly legs on trailer. Strained mid-low back while cranking'

Long-Haul Truck Driver Injury Scenarios

Maneuvering Into/Out of Truck Cab (*n*= 44, 14%)

- 'Struck left knee on truck step when climbing into cab. Left knee contusion'
- 'Employee tripped while exiting truck, grabbed seatbelt to break his fall, and felt pull in shoulder'
- 'Claimant states that he slipped while entering truck and fell backwards hitting his head on the ground'

Engineering Controls-Tarpping



Engineering Controls- Trailer Door Systems



Engineering Controls- Falls from Cab

Anti-slip step safety covers

Slip Resistant Footwear

Interior handle bars

3 points of contact training!



Conclusion

- Analysis of FROI narrative data provides valuable identification of specific contributing factors and outcomes associated with injuries that cannot be gleaned from analysis of standard WC dataset fields alone
- Study findings can inform interstate vs. intrastate trucking injury prevention control strategies