FATALITIES, INJURIES, AND DISEASE

The latest fatality and injury statistics suggest that there has been some health and safety improvement within the construction industry, but the statistics also demonstrate that we are still far from our goal of zero workplace deaths, injuries, and illnesses.

Sixteen workers died from injury in 2007, compared to 27 in 2006. While we hope this positive trend continues, we see in Table 1 that the number of fatalities has fluctuated greatly over the years. The top causes have not changed. Falls, being crushed or hit by equipment, being crushed or struck by objects, and electrocution are still causing the majority of traumatic deaths in Ontario construction.

Despite the fact that both total hours worked and total number of workers increased in 2007, the number of critical injuries and lost-time injuries (LTIs) decreased.

In 2007, occupational disease killed more workers than injury did. This relationship has not changed in almost a decade. Noise-induced hearing loss continues to be the number-one cause of allowed non-fatal occupational disease claims in Ontario.

Traumatic Fatalities

To arrive at meaningful statistics, CSAO divides the number of construction deaths for the year by the estimated size of the construction workforce as determined by Statistics Canada. This allows us to calculate a fatality rate per 100,000 workers—a measure that stays constant regardless of changes in the total number of industry personnel. This fatality rate permits comparison from one year to the next. The table on the right presents figures from 1966 to 2007.

There was no distinct pattern to the fatalities that occurred in 2007. The 16 traumatic deaths in 2007 yield a fatality rate of 3.9 per 100,000 workers. This represents a decrease from the rate of 6.7 in 2006. Approximately 31% of traumatic fatalities were due to falls and 44% due to being struck or crushed by equipment and materials. Two deaths were caused by electrocutions. See Table 2 on page 4 for descriptions of the traumatic fatalities.

Table 1: Fatalities

Year	Number of Fatalities [a]	Number of Workers [b]	Fatality Rate per 100,000 Workers	Percent Change since 1966
1966	72	202,898	35.5	N/A
1967	47	203,440	23.1	-34.90%
1968	37	216,225	17.1	-51.80%
1969	45	207,998	21.6	-39.00%
1970	41	206,616	19.8	-44.10%
1971	41	206,856	19.8	-44.10%
1972	44	198,933	22.1	-37.70%
1973	54	237,103	22.8	-35.80%
1974	45	229,975	19.6	-44.90%
1975	42	217,335	19.3	-45.50%
1976	40	222,004	18.0	-49.20%
1977	39	205,662	19.0	-46.60%
1978	38	220,264	17.3	-51.40%
1979	36	216,714	16.6	-53.20%
1980	23	212,281	10.8	-69.50%
1981	36	215,860	16.7	-53.00%
1982	24	253,332	9.5	-73.30%
1983	24	222,518	10.8	-69.60%
1984	29	244,796	11.8	-66.60%
1985	27	277,374	9.7	-72.60%
1986	40	286,237	14.0	-60.60%
1987	42	303,800	13.8	-61.10%
1988	39	307,000	12.7	-64.20%
1989	34	329,600	10.3	-71.00%
1990	36	327,100	11.0	-69.00%
1991	20	285,200	7.0	-80.30%
1992	16	269,200	5.9	-83.88%
1993	17	264,000	6.4	-81.97%
1994	15	270,500	5.6	-84.23%
1995	12	268,500	4.5	-87.32%
1996	21	261,400	8.0	-77.46%
1997	14	282,300	5.0	-85.92%
1998	24	287,500	8.4	-76.30%
1999	20	300,100	6.7	-81.10%
2000	16	323,600	4.9	-86.20%
2001	21	343,300	6.1	-82.82%
2002	21	354,100	5.9	-83.38%
2003	30	371,400	8.1	-77.18%
2004	20	368,500	5.4	-84.79%
2005	20	396,100	5.1	-85.63%
2006	27	405,200	6.7	-81.13%
2007	16	412,600	3.9	-89.01%

a Source: Ontario Ministry of Labour.

b Source for 1966 to 1986: Statistics Canada: Catalogue 64-201, Table 7.
Source for 1987 to 2007: Statistics Canada: "Labour Force Survey," Employed Workforce Table.

16 deaths from injury in 2007

Table 2: Descriptions of Fatalities

Type	Month	Sector	Age	Description
Fall	January	Industrial	51	A worker sustained fatal head injuries after falling from a basket attached to the forks of a lift truck.
Fall	January	Residential	17	A young worker working on a roofing repair project fell 14 storeys.
Fall	June	Industrial	40	A worker repairing a roof fell six storeys and succumbed to his injuries.
Fall	July	Residential	46	A worker fell off a ladder into a window well with a concrete bottom.
Fall	November	Residential	69	Tarpaulin was tied to scaffolding that was four frames high (20 feet) and positioned against a wall. A worker fell off the scaffolding when the tarpaulin acted as a sail and pulled the scaffolding away from the wall.
Crushed	January	Commercial	57	A cement and wood wall that was part of a movie set collapsed on one of the workers who was taking it down.
Crushed	March	Commercial	41	A worker at a logging site was crushed by equipment.
Crushed	May	Commercial	74	A 1,200-lb gate to a construction site collapsed on a worker who was opening it at the beginning of the work day. The worker was alone at the time.
Crushed	September	Commercial	57	A worker noticed that a bulldozer was operating unattended. Upon investigating, the equipment operator was found to have been run over by the bulldozer.
Crushed	October	Highway / Road	47	A worker was operating an earth scraper when the scraper slipped down an embankment. The operator was thrown out of the cab and crushed by the scraper.
Electrocution	October	Industrial	26	A young worker was assisting with the installation of temporary lighting and was electrocuted.
Electrocution	May	Commercial	21	A backhoe was dragging a metal dumpster full of mud by means of a metal chain. The dumpster dug into the ground and contacted a live powerline only six inches below the surface. A young worker touched the metal chain and was electrocuted.
Struck by	January	Residential	46	A worker on the ground outside a high-rise building was struck on the head by a guardrail that fell from the 14th floor.
Struck by	April	Industrial	38	A crew of 12 workers had completed an asbestos removal project inside a subway tunnel. While exiting the tunnel, a work platform that was attached to a work car struck a structure inside the tunnel. This caused the work platform to enter the work car behind it, striking the driver of that work car.
Drowning	December	Highway / Road	37	A worker was operating a grooming machine during the construction of a winter road across a lake. The operator drowned when the machine went through the ice into 50–75 feet of water.
Unknown	September	Residential	52	An owner of a construction firm was found lying unconscious in front of a house that was under construction. The owner had contusions to the back of the head and significant blood loss. The owner died later in the hospital. No one else was at the house. The cause of the injuries is unknown.

Table 3: Injuries

Year	Hours Worked (Derived by WSIB)	Injuries			Frequency			Percent Change since 1965		
		Lost Time	+ Medical Aid	= Total	Lost Time Injuries	Medical Aid Injuries	All Injuries	LTI Freq.	Med. Aid Freq.	All Injury Freq.
1965	288,018,460	19,491	29,763	49,254	13.53	20.67	34.20	N/A	N/A	N/A
1966	302,783,574	20,194	32,140	52,334	13.34	21.23	34.57	-1.4%	2.7%	1.1%
1967	298,211,482	18,336	32,194	50,330	12.30	21.59	33.75	-9.1%	4.5%	-1.3%
1968	303,038,144	18,192	29,255	47,447	12.01	19.31	31.31	-11.3%	-6.6%	-8.4%
1969	325,686,693	19,840	27,467	47,307	12.18	16.87	29.05	-10.0%	-18.4%	-15.1%
1970	329,526,894	18,561	26,284	44,845	11.27	15.95	27.22	-16.8%	-22.8%	-20.4%
1971	341,015,097	17,892	26,502	44,394	10.49	15.54	26.04	-22.5%	-24.8%	-23.9%
1972	337,098,325	18,346	25,653	43,999	10.88	15.22	26.10	-19.6%	-26.4%	-23.7%
1973	352,922,583	18,157	26,293	44,450	10.29	14.90	25.19	-24.0%	-27.9%	-26.4%
1974	364,749,387	18,918	27,401	46,319	10.37	15.02	25.40	-23.4%	-27.3%	-25.7%
1975	339,058,464	16,642	24,120	40,762	9.82	14.23	24.04	-27.5%	-31.2%	-29.7%
1976	331,983,015	18,535	26,674	45,209	11.17	16.07	27.24	-17.5%	-22.2%	-20.4%
1977	327,270,004	16,366	24,464	40,830	10.00	14.95	24.95	-26.1%	-27.7%	-27.0%
1978	310,015,157	15,071	21,469	36,540	9.72	13.85	23.57	-28.2%	-33.0%	-31.1%
1979	295,366,542	14,170	16,897	31,067	9.59	11.44	21.04	-29.1%	-44.6%	-38.5%
1980	283,882,879	14,387	15,540	29,927	10.14	10.95	21.08	-25.1%	-47.0%	-38.4%
1981	288,512,917	14,315	15,240	29,555	9.92	10.56	20.49	-26.7%	-48.9%	-40.1%
1982	254,255,256	12,023	11,632	23,655	9.46	9.15	18.61	-30.1%	-55.7%	-45.6%
1983	248,564,699	12,253	11,161	23,414	9.86	8.98	18.84	-27.2%	-56.5%	-44.9%
1984	255,699,010	13,307	11,591	24,898	10.41	9.07	19.47	-23.1%	-56.1%	-43.1%
1985	282,661,183	15,440	12,843	28,283	10.92	9.09	20.01	-19.3%	-56.0%	-41.5%
1986	325,218,468	16,593	13,844	30,437	10.20	8.51	18.72	-24.6%	-58.8%	-45.3%
1987	368,938,619	18,520	16,271	34,791	10.04	8.82	18.86	-25.8%	-57.3%	-44.9%
1988	389,050,601	18,566	18,600	37,166	9.54	9.56	19.11	-29.5%	-53.7%	-44.1%
1989	417,406,890	17,486	19,355	36,841	8.38	9.27	17.65	-38.1%	-55.1%	-48.4%
1990	371,820,998	15,157	16,866	32,023	8.15	9.07	17.22	-39.8%	-56.1%	-49.6%
1991	309,138,963	10,621	10,500	21,121	6.87	6.79	13.66	-49.2%	-67.1%	-60.0%
1992	255,365,936	8,086	8,322	16,408	6.33	6.52	12.85	-53.2%	-68.5%	-62.4%
1993	258,466,723	6,840	8,036	14,876	5.29	6.22	11.51	-60.9%	-69.9%	-66.3%
1994	258,499,801	6,532	7,724	14,256	5.05	5.98	11.03	-62.7%	-71.1%	-67.8%
1995	265,023,907	5,553	8,078	13,631	4.19	6.10	10.29	-69.0%	-70.5%	-69.9%
1996	272,897,745	5,290	7,922	13,212	3.88	5.81	9.68	-71.4%	-71.9%	-71.7%
1997	289,250,154	5,334	7,480	12,814	3.69	5.17	8.86	-72.8%	-75.0%	-74.1%
1998	304,027,295	5,285	7,716	13,001	3.48	5.08	8.55	-74.3%	-75.4%	-75.0%
1999	326,959,673	5,326	8,426	13,752	3.26	5.15	8.41	-75.9%	-75.1%	-75.4%
2000	368,993,192	5,990	9,423	15,413	3.25	5.11	8.35	-76.0%	-75.3%	-75.6%
2001	398,906,708	6,246	10,115	16,361	3.13	5.07	8.20	-76.9%	-75.5%	-76.0%
2002	432,353,545	5,961	10,797	16,758	2.76	4.99	7.75	-79.6%	-75.8%	-77.3%
2003	477,794,469	6,096	10,947	17,043	2.55	4.58	7.13	-81.1%	-77.8%	-79.1%
2004	492,297,537	6,333	11,184	17,517	2.57	4.54	7.12	-81.0%	-78.0%	-79.2%
2005	516,392,658	6,111	12,370	18,481	2.37	4.79	7.16	-82.5%	-76.8%	-79.1%
2006	528,670,588	5,676	12,197	17,873	2.15	4.61	6.76	-84.1%	-77.7%	-80.2%
2007	Final WSIB data unavailable at time of printing									

Sources:
1965-1968 WCB Annual Reports
1969-1978 WCB RD57C185 and WCB Annual Reports
1979-1994 WCB Association Profiles
1995-2006 WSIB Enterprise Information Warehouse as of December 2007

NOTE

The frequency figures used in this report are based on injuries per 100 workers (200,000 hours worked) in keeping with the standard used in most jurisdictions worldwide.

FATALITIES, INJURIES, AND DISEASE

Lost-Time Injuries

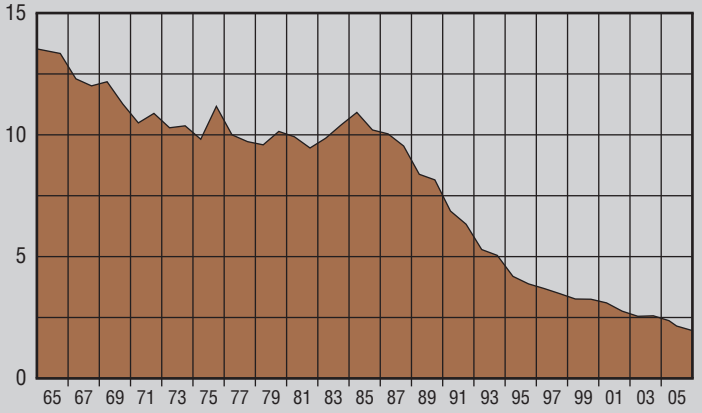
The statistics on lost-time injuries (LTIs) include both fatal and non-fatal injuries, as well as all other cases where the WSIB has permanent or temporary disability payments. Graph 1 indicates overall performance since 1965.

The number of LTIs in 2006 (the last year for which complete statistics are available) decreased by approximately 7.2% from 2005.

This improvement occurred despite a 2.3% increase of the number of hours worked. As defined by total hours worked, construction activity in Ontario has more than doubled since the low of 255 million hours in 1992. This growth continued in 2006.

The decrease in LTIs and the increase in hours worked yielded an LTI frequency of 2.15 injuries per 200,000 hours worked in 2006. This represents a decrease of 9.7% from the LTI frequency in 2005. For details, see Table 3 on page 5.

Graph 1: Lost-time injury frequency since 1965



Ontario construction continues to have the lowest LTI frequency among provincial construction industries in Canada (see Table 4). The table is based on Statistics Canada data on the employed workforce. This information is gathered in a different way from WSIB data, but allows for consistent comparison across Canada.

All Injuries

As a constant measure of frequency, CSAO counts all construction injuries that require medical assistance: LTIs plus medical aid cases. In 2006, there was a 1.4% decrease in medical aid injuries, despite the increase in construction activity noted earlier. The "all injury" count decreased by 3.3% from 2005.

Factoring in hours worked, the all-injury frequency of 6.76 injuries per 200,000 hours worked was lower than in 2005 (7.16%). This is the first time since 2003 that there has been a notable decrease in the all-injury rate. Graph 2 shows the history of all-injury frequency since 1965.

Graph 2: All-injury frequency since 1965

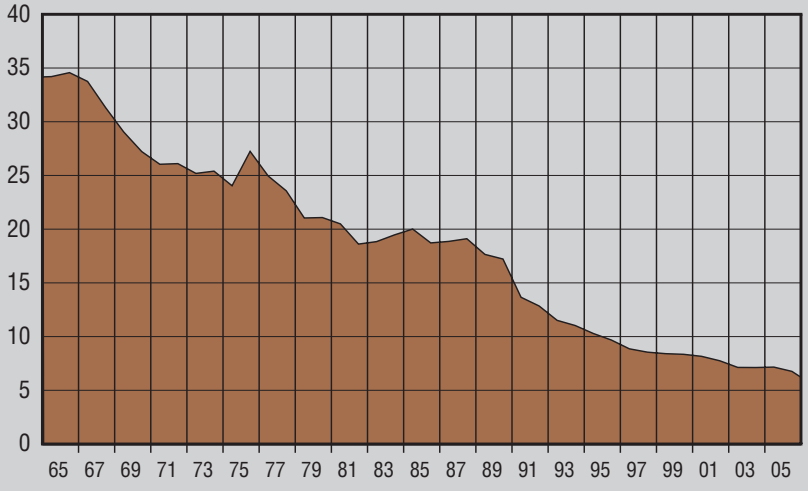


Table 4: Lost-time injury rate by province

Year	Canada	BC	AB	SK	MN	ON	QUE	NB	NS	PEI	NF
1995	4.2	6.7	3.7	8.1	6.4	2.3	4.7	2.3*	4.4	11.5	6.9
1996	4.1	6.8	4.1	7.8	6.1	2.1	4.6	2.0*	3.6*	14.3	6.5
1997	4.1	6.6	5.3	7.7	6.2	2.0	4.9	1.7*	3.5*	4.6	4.8
1998	4.0	6.1	5.2	7.3	5.8	1.9	5.0	1.7*	3.4*	5.3	4.6
1999	3.8	5.0	4.8	7.1	5.7	1.9	4.9	2.2*	3.7*	5.3	4.9
2000	3.6	6.4	4.3	6.8	5.7	1.7	4.4	1.9*	2.9*	5.4	4.1
2001	3.7	5.8	4.4	6.0	5.5	1.9	4.9	2.0*	3.2*	4.2	5.7
2002	3.5	5.2	4.3	6.0	6.1	1.8	4.6	1.7*	3.0*	3.7	5.2
2003	3.3	5.2	3.9	6.1	6.1	1.6	4.5	1.9*	3.1*	3.5	4.5
2004	3.3	5.4	3.2	5.0	5.9	1.8	4.6	1.8*	2.7*	3.2	3.8
2005	3.2	5.1	3.2	5.3	6.6	1.6	4.2	1.7*	2.9*	2.2	3.4
2006	3.1	5.3	3.2	4.5	6.9	1.5	3.8	1.8*	2.9*	1.7	3.0

Sources: 1995 – 2004, Statistics Canada, "Labour Force Survey," Employed Workforce Table
1995 – 1998, Association of Workers' Compensation Boards of Canada, "National Work Injuries," Table 9
1999 – 2004, Association of Workers' Compensation Boards of Canada, "National Work Injuries," Table 10
2005 – 2006: Association of Workers' Compensation Boards of Canada, "National Work Injury, Disease and Fatality Statistics 2003 –2006
Statistics Canada, "Labour Force Estimates," Employed Workforce Table (2006)

* New Brunswick has a three-day waiting period for compensation benefits, unless the employee is off for more than 5 weeks.
* Nova Scotia has a two-day waiting period for compensation benefits, unless the employee is off for more than 5 weeks.

For all other provinces, compensation benefits are payable starting the day after the injury.

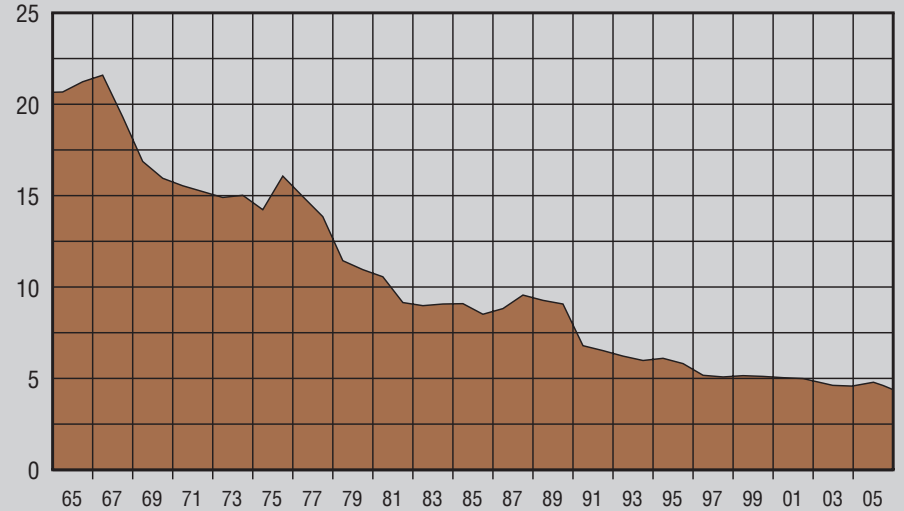
Medical-Aid Cases

Medical-aid cases require treatment by a doctor but do not result in additional lost time.

In 2006, there were 12,197 medical-aid injuries. That is a decrease of 173 from 2005. When combined with hours worked, the medical aid frequency for 2006 was 4.61, representing a decrease of 3.8% from 2005.

Medical-aid frequency rates are shown in Table 3 and in Graph 3.

Graph 3: Medical-aid frequency since 1965



Occupational disease fatalities

As of March 2008, the WSIB had allowed 40 fatal occupational disease claims for 2007. Many of these deaths, particularly those from pleural mesothelioma, are the result of past asbestos exposures.

There can be a time lag of more than a year between the filing of an occupational disease claim (fatal or non-fatal) and its acceptance by the WSIB. For example, by March 2007, the WSIB had accepted 34 fatal disease claims for 2006. Since that time, the WSIB has accepted another six claims for 2006, raising the total for that year to 40. We expect the number of accepted claims for 2007 to increase because of this lag time.

Noise-induced hearing loss is still the number-one cause of (allowed) non-fatal occupational disease claims in Ontario construction.

Graph 4: Allowed occupational disease fatalities

Source: WSIB Occupational Disease Information as of March 2008.

Table 5: Allowed fatal disease claims from the construction sector, 2007

WSIB occupational disease information as of March, 2008

Cause of Death	Number of Claims
Pleural mesothelioma	18
Lung cancer	9
Asbestosis	2
Chronic obstructive pulmonary disease	2
Esophagus cancer	2
Silicosis	1
Other cancers	4
Other diseases	2
Total	**40**

Table 6: Allowed fatal occupational disease claims from the construction sector registered from January 1, 1998 to December 31, 2007*

WSIB occupational disease information as of March, 2008

Cause of Death	Year registered										Total 10 Years
	1998	1998	2000	2001	2002	2003	2004	2005	2006	2007	
Pleural mesothelioma	22	9	13	12	12	26	18	17	18	18	165
Lung cancer	7	7	6	6	9	14	14	9	5	9	86
Asbestosis	2	2	0	1	1	0	1	1	2	2	12
Pulmonary fibrosis	0	0	2	0	0	0	1	3	2	0	8
Chronic obstructive pulmonary disease	0	1	1	0	0	1	2	0	0	2	7
Others	2	2	4	5	3	3	6	6	13	9	53
Total	**33**	**21**	**26**	**24**	**25**	**44**	**42**	**36**	**40**	**40**	**331**

**Excluding 100% permanent disability pension claims*

Table 7: Allowed fatal occupational disease claims from the construction sector: Primary occupation by year of registration*

WSIB occupational disease information as of March, 2008

Primary Occupation	Year of registration										Total 10 Years
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	
Plumber/pipefitter and related	10	6	5	11	5	14	11	8	8	7	85
Insulator	3	2	6	1	5	10	5	2	5	2	41
Electrician	4	3	5	1	3	2	6	6	3	5	38
Labourer	7	0	3	3	3	6	3	6	6	9	46
Various metal related work	4	4	4	3	1	3	4	3	4	4	34
Others	5	6	3	5	8	9	13	11	14	13	87
Total	**33**	**21**	**26**	**24**	**25**	**44**	**42**	**36**	**40**	**40**	**331**

**Excluding 100% permanent disability pension claims*

Table 8: Non-fatal occupational disease claims from the construction sector: Claims registered and accepted, 2006 and 2007*

WSIB occupational disease information as of March, 2008

Disease	Registered 2006	Allowed 2006†	Registered 2007	Allowed 2007†
Noise-induced hearing loss	579	383	648	296
Various physical symptoms	180	68	206	107
Respiratory diseases (e.g., asthma, chronic obstructive pulmonary disease, asbestosis, pleural plaques)	131	95	130	82
Hand-arm vibration syndrome	121	106	174	65
Toxic effect of venom, carbon monoxide, gases, fumes, vapours, etc.	71	45	64	54
Dermatitis and other skin or tissue diseases	78	44	66	41
Heat exhaustion	43	35	53	37
Cancers	28	14	44	22
Infectious or parasitic diseases	14	9	8	3
Circulatory diseases (heart attack, stroke, etc.)	32	9	29	3
Allergy, unspecified	18	5	23	11
All other diseases	18	8	13	4
Total	**1313**	**821**	**1458**	**725**

**Excluding 100% permanent disability pension claims*

† Note that the number of claims allowed as of March, 2008 does not necessarily represent the number of registered claims that will be allowed. There can be a time lag of more than a year between the filing of an occupational disease claim and its acceptance by the WSIB.