

***GOLDEN TRIANGLE
BUSINESS ROUNDTABLE***



***CONTRACTOR SAFETY
SURVEY
2008 REPORT***

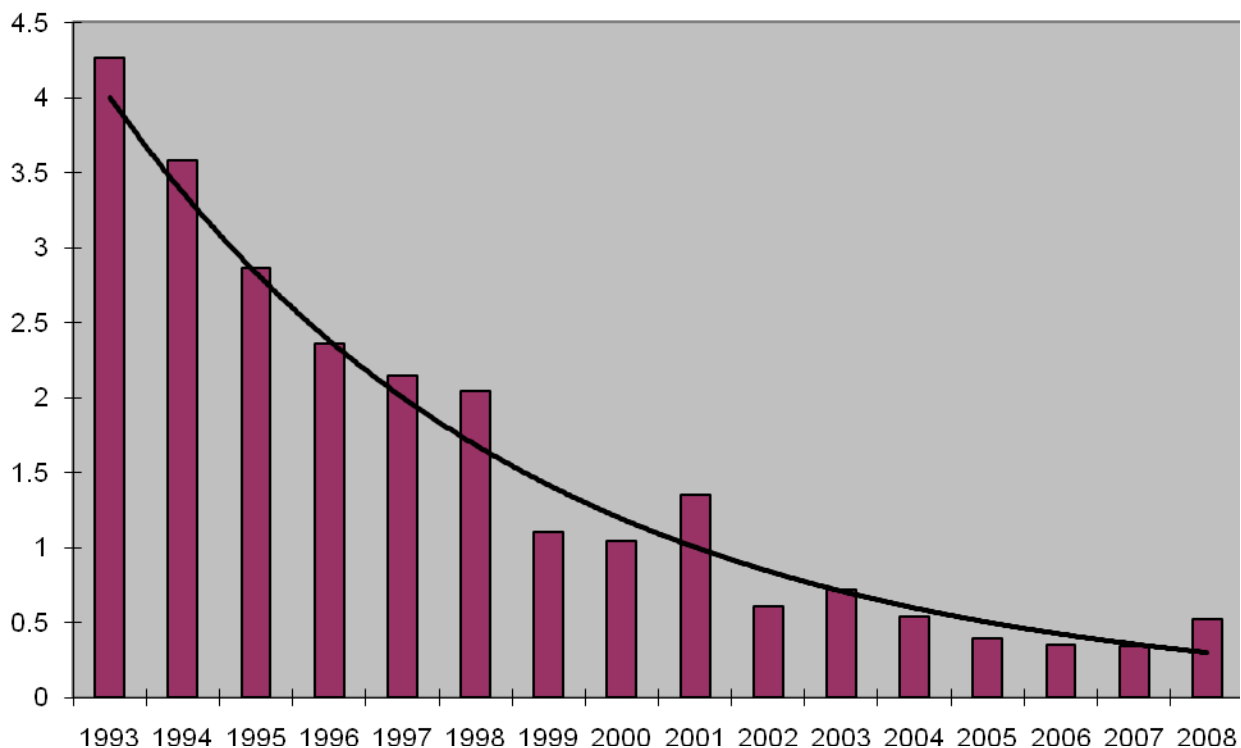
Executive Summary

This report is compiled by the Industrial Safety Training Council from voluntary responses to the Golden Triangle Business Roundtable Contractor Incident Data Survey. Historical data for 1993 through 2007 is reported here as well as the results received from the 2008 survey.

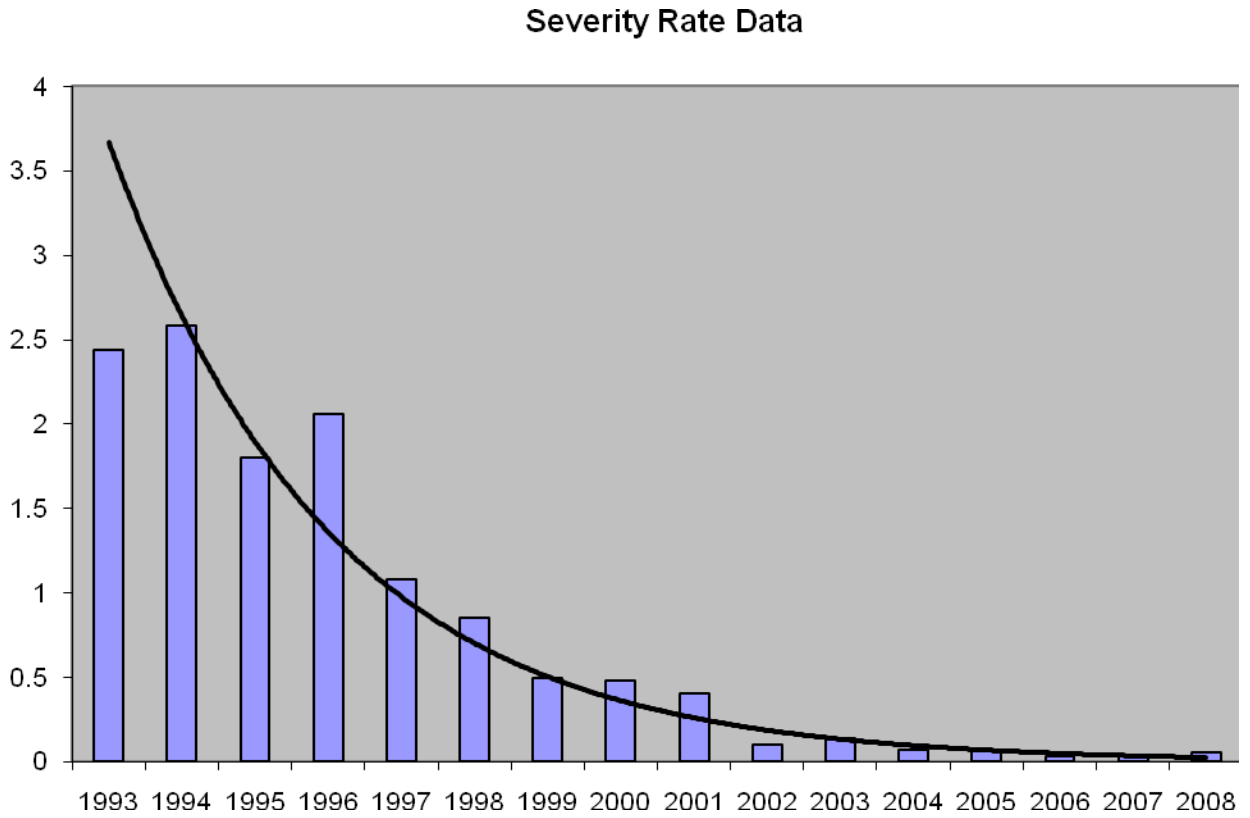
Trends

1. The total number of OSHA Recordable Incidents increased for 2008.
2. The Experience Modifier Rate increased as compared to 2007.
3. A decrease in incident rates 1993-2008, with the exception of a slight increase in 2001, 2003 and 2008 as compared to the previous year.

Recordable Incidence Rate



4. Incident severity rate has decreased from 1996-2008, with the exception a slight increase in 2003 and 2008.



5. Golden Triangle Area statistics reported are far below national trends as reported by the Bureau of Labor Statistics, U.S. Department of Labor.

Incident Specific Analysis - 2008

Most frequent response for each category:

1. Type of contact: STRUCK BY/AGAINST
2. Nature of illness/injury: FRACTURE
3. Body part injured: FINGER/HAND
4. Possible causes at time of incident: DECISION MAKING and USE OF PPE
5. Pre-existing causes: RISK TAKING, JOB PROCEDURES and OTHER

This data was compiled from survey responses reporting more than 34 million exposure hours and 90 recordable incidents, 9 with lost time and 81 medical treatment cases.

Tables of all survey results can be found in the Appendix.

Purpose

This Contractor Incident Data Survey is conducted to collect data on the contractor accident experience and safety performance for the Golden Triangle Area. Information specific to each OSHA Recordable accident is analyzed to identify target areas where the greatest impact can be made to eliminate accidents.

Scope

Data collection surveys are distributed requesting data from all Contractor employers currently listed as subscribers to the Industrial Safety Training Council. Historical data for the years 1993-2000 has been compiled to include the following:

- Total number of OSHA Recordable incidents
- Total number of lost workday cases
- Exposure hours
- Experience Modifier Rate
- Standard Industrial Classification (SIC) Code

Subsequent annual surveys request the following information:

- Exposure hours
- Statistics from OSHA 200/300 Log
- Number and types of OSHA recordables
 - * Type of contact
 - * Nature of illness/injury
 - * Body part injured
 - * Possible incident/accident causes

Examples of all forms used can be found in the Appendix.

Disclaimer

This report is a compilation of the responses to the annual survey conducted of area contractors by the Golden Triangle Business Roundtable. Those not responding are not in the compilation and so the reader should not assume that the compilation represents the experience of all area contractors or even all area contractors working at Roundtable member facilities, only the experience of those responding to the survey. As a matter of policy, the Roundtable has maintained the confidentiality of those responding and the sites for which they have responded.

Methodology

In order to analyze the data received, information was entered into an Excel spreadsheet by year with the statistical formula established for:

Incident Rate*

$$\frac{\text{Total OSHA Recordable Incidents} \times 200,000}{\text{Exposure Hours}}$$

Incident Severity Rate*

$$\frac{\text{Total Lost Workday Cases} \times 200,000}{\text{Exposure Hours}}$$

Average Experience Modifier

$$\text{Average} = \frac{\text{Sum of EMR numbers}}{\text{total responses}}$$

Percent Distributions

$$\% = \frac{\text{category responses}}{\text{total responses}} \times 100$$

*where 200,000 is the base for 100 full-time workers (40 hours per week, 50 weeks per year)

Conclusions

The responses to the 2008 GTBR Safety Survey reveal that we have had a substantial decrease in Incident Rate for the overall reporting period of 1993-2008. The Severity Rate has also declined during the overall reporting period. Data reported that recordable incidents and medical treatment cases had an increase as compared to 2007. Lost time incidents also had an increase as compared to 2007. Based on survey responses, reductions in the following categories are noted for the period 1993-2008.

<u>Category</u>	<u>Reduction reported</u>
Incident Rate	87%
Severity Rate	97%

The largest percentages of injuries reported by *type of contact* are as follows:

<u>2007</u>		<u>2008</u>	
Struck by/against	42%	Struck by/against	38%
Caught by/between	19%	Caught by/between	24%
Other	15%	Other	11%
Slip (same level)	10%	Slip (same level)	8%

The largest percentages of injuries reported by *nature of illness/injury* are as follows:

<u>2007</u>		<u>2008</u>	
Cut/Puncture	46%	Fracture	30%
Fracture	20%	Cut/Puncture	29%
Sprain/Strain	12%	Sprain/Strain	9%

The largest percentages of injuries reported by *body part injured* are as follows:

<u>2007</u>		<u>2008</u>	
Finger/hand	48%	Finger/Hand	40%
Mouth	10%	*Foot/Toes, Other	8%
*Wrist, Leg, Face/Hand	7%	Leg	7%

*These are different categories that each experienced the same percentage of reported injuries.

The final category of information requested was possible incident/accident causes, both at the time of the incident and pre-existing causes. The results are as follows:

2007

At time of incident:

Decision Making	40%
Tools/Equipment	22%
Workplace Hazards	20%

Pre-existing causes:

Other	25%
*Risk Taking, Job Procedures	18%
Communication	14%

2008

At time of incident:

Decision Making	42%
Use of PPE	16%
Workplace Hazards	15%

Pre-existing causes:

*Risk Taking/Job Procedures	18%
Other	16%
*Knowledge, Communication	10%

*These are different categories that each experienced the same percentage of reported injuries.

Recommendations

1. Increase worker awareness of the physical hazards and measures to be taken to protect themselves from injury. Ensure that workers are properly trained on proper PPE use for the tools and equipment they use. Decision making and use of PPE are reported as leading accident causes.
2. More emphasis on hazard recognition and analysis to mitigate or remove workplace hazards.
3. Hand and finger injuries continue to be the leading injuries reported. Reinforced efforts to reduce hand injuries through awareness, diligent use of PPE, engineering controls, and training.
 - Emphasize a workplace culture where risk taking and unsafe acts are not tolerated.
 - Continue with efforts to eliminate or control workplace hazards.
 - Reinforce positive, accident free decision making in all employees.
 - Reinforce following job procedures.
 - Reinforce good, open communication with all employees.
 - Ensure employees have the knowledge (skill) to perform the task they are doing.
4. Develop a proactive approach involving line workers in a job safety analysis (JSA) to identify the potential for injury and to determine the measures to take in order to complete each task injury free.
5. Struck by/against and caught by/between has accounted for a vast majority of the injuries reported for the last five years. Increased focus on reducing this type of contact through awareness, training and hazard controls would have a dramatic impact on worker injuries.
6. Cuts and punctures and fractures have led the nature of illness/injury category for the past five years and the combined categories represent 59% of the injuries reported for 2008. Continued focus on proper use of PPE and accident free decision making could help to reduce these types of injuries. Knowledge of skills required to perform a specific task could also help to reduce these types of injuries.

APPENDIX

DATA TABLES
HISTORICAL DATA

Totals of all Data by Year

<u>Year</u>	<u>Exposure Hours</u>	<u>OSHA Recordables</u>	<u>LWD* Cases</u>
1993	27,440,266	585	316
1994	31,600,604	567	408
1995	38,165,872	546	345
1996	38,864,397	457	400
1997	39,508,566	423	214
1998	32,092,756	327	120
1999	29,101,172	160	71
2000	19,658,830	102	47
2001	13,492,250	91	27
2002	22,447,655	69	11
2003	18,577,738	67	13
2004	17,180,787	46	6
2005	16,335,135	32	6
2006	36,390,723	63	5
2007	34,659,488	59	5
2008	34,771,386	90	9

*LWD, Lost Work Day

Statistical Analysis by Year

	<u>Incidence Rates</u>		<u>EMR+</u>
	<u>Frequency</u>	<u>Severity</u>	<u>Average</u>
1993	4.26	2.44	0.89
1994	3.58	2.58	0.80
1995	2.86	1.80	0.75
1996	2.36	2.06	0.72
1997	2.14	1.08	0.71
1998	2.04	0.75	0.70
1999	1.10	0.49	0.70
2000	1.04	0.48	0.76
2001	1.35	0.40	0.79
2002	0.61	0.10	0.69
2003	0.68	0.14	0.68
2004	0.54	0.07	0.70
2005	0.39	0.07	0.68
2006	0.35	0.03	0.70
2007	0.34	0.03	0.70
2008	0.52	0.05	0.71

**Bureau of Labor Statistics Estimates of
Nonfatal Occupational Injury and Illness
Incident Rate for Selected Industries
2007***

<u>Industry</u>	<u>NAICS/SIC Code</u>	<u>Incident Rates</u>	
		<u>Frequency</u>	<u>Severity</u>
Construction		5.4	2.8
Heavy Construction (except building)	237/1600	4.9	2.6
Special Trade Contractors	238/1700	5.7	3.0

**Estimates of
Nonfatal Occupational Injury and Illness
Incident Rate for Selected Industries
Golden Triangle Area, 2008**

<u>Industry</u>	<u>NAICS/SIC Code</u>	<u>Incident Rates</u>	
		<u>Frequency</u>	<u>Severity</u>
All Responses		0.52	0.05
Heavy Construction (except building)	237/1600	0.49	0.05
Special Trade Contractors	238/1700	0.65	0.02

*U.S. Department of Labor, 2007 Statistics

DATA TABLES
INCIDENT ANALYSIS

INCIDENT SPECIFIC DATA 2007

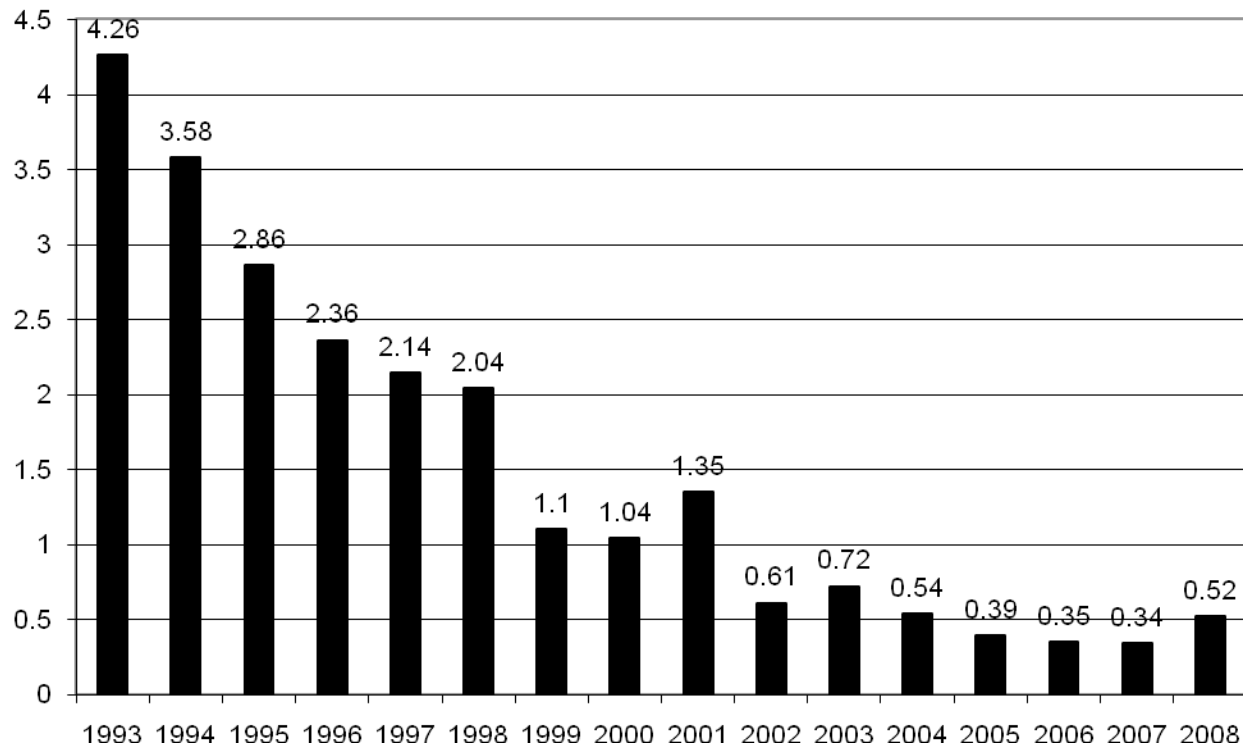
TYPE OF CONTACT	%	NATURE OF ILLNESS/INJURY	%
STRUCK BY/AGAINST	34 37.8	DEATH	0 0.0
SLIP(SAME LEVEL)	7 7.8	AMPUTATION	2 2.2
FALL(TO LWL LVL)	5 5.6	THERMAL BURN	3 3.3
CAUGHT BY/BETWEEN	22 24.4	CHEMICAL BURN	3 3.3
ELECTRICAL EXPOSURE	0 0.0	IRRITATION/INFECTION	2 2.2
FIRE/EXPLOSION	0 0.0	CRUSHED	4 4.4
THERMAL EXPOSURE	3 3.3	CUT/PUNCTURE	26 28.9
TEMP EXPOSURE(OTHER)	1 1.1	BRUISE	3 3.3
CHEMICAL EXPOSURE	4 4.4	FRACTURE	27 30.0
NOISE EXPOSURE	0 0.0	SPRAIN/STRAIN	8 8.9
WELDING FLASH	0 0.0	JOINT DISLOCATION	1 1.1
RADIATION EXPOSURE	0 0.0	REPEATED TRAUMA	0 0.0
REPETITIVE MOTION	0 0.0	ELECTICAL SHOCK	0 0.0
OVEREXERTION	4 4.4	HERNIA	1 1.1
OTHER	10 11.1	INHALATION	1 1.1
		POISONING	0 0.0
		HEAT DISORDER	2 2.2
		OTHER	7 7.8
TOTALS	90 100	TOTALS	90 100

INCIDENT SPECIFIC DATA 2007

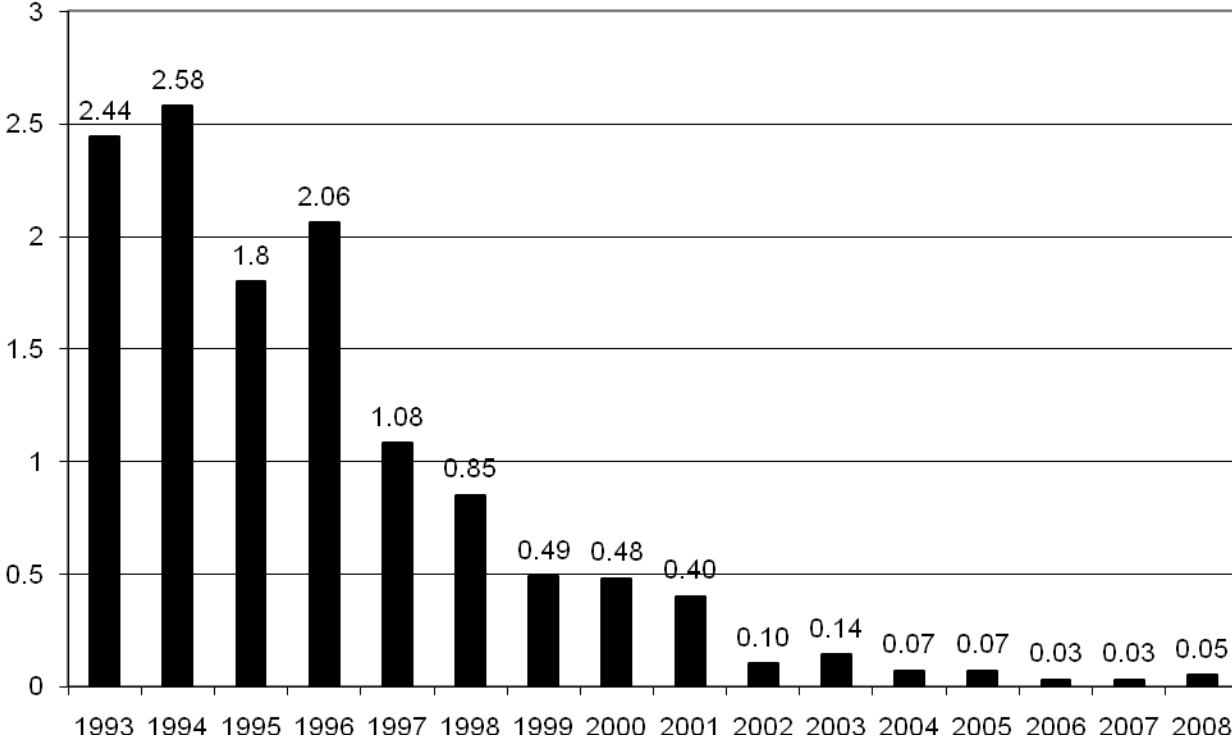
BODY PART INJURED	%	POSSIBLE INCIDENT/ACCIDENT CAUSES	%
SHOULDER	3 3.3	AT TIME OF INCIDENT	
ELBOW	2 2.2	USE OF GUARDS	1 1.4
WRIST	4 4.4	USE OF PPE	12 16.2
FINGER/HAND	36 39.6	TOOLS/EQUIPMENT	8 10.8
ARM	5 5.49	WORKPLACE HAZARDS	11 14.9
CHEST/RIBS	3 3.3	DECISION MAKING	31 41.9
BACK	1 1.1	PHYSICAL ACT	8 10.8
HIP	1 1.1	PROCEDURES	3 4.1
KNEE	0 0		
FOOT/TOES	7 7.69	TOTALS	74 100
ANKLE	1 1.1		
LEG	6 6.59	PRE-EXISTING CAUSES	
ABDOMEN	0 0	PHYSICAL INCAPACITY	2 4.0
GROIN	0 0	KNOWLEDGE/SKILLS	5 10.0
EYE	5 5.49	INTERNAL FACTORS	0 0.0
EAR	0 0	RISK TAKING	9 18.0
FACE/HEAD	5 5.49	ENGINEERING/DESIGN	3 6.0
MOUTH	2 2.2	JOB PROCEDURES	9 18.0
INTERNAL	1 1.1	MAINTENANCE	3 6.0
MULTIPLE	2 2.2	ERROR INDUCING	4 8.0
OTHER	7 7.69	ORG. FACTORS	1 2.0
		TRAINING	1 2.0
		COMMUNICATION	5 10.0
		OTHER	8 16.0
TOTALS	91 100	TOTALS	50 100

CHARTS

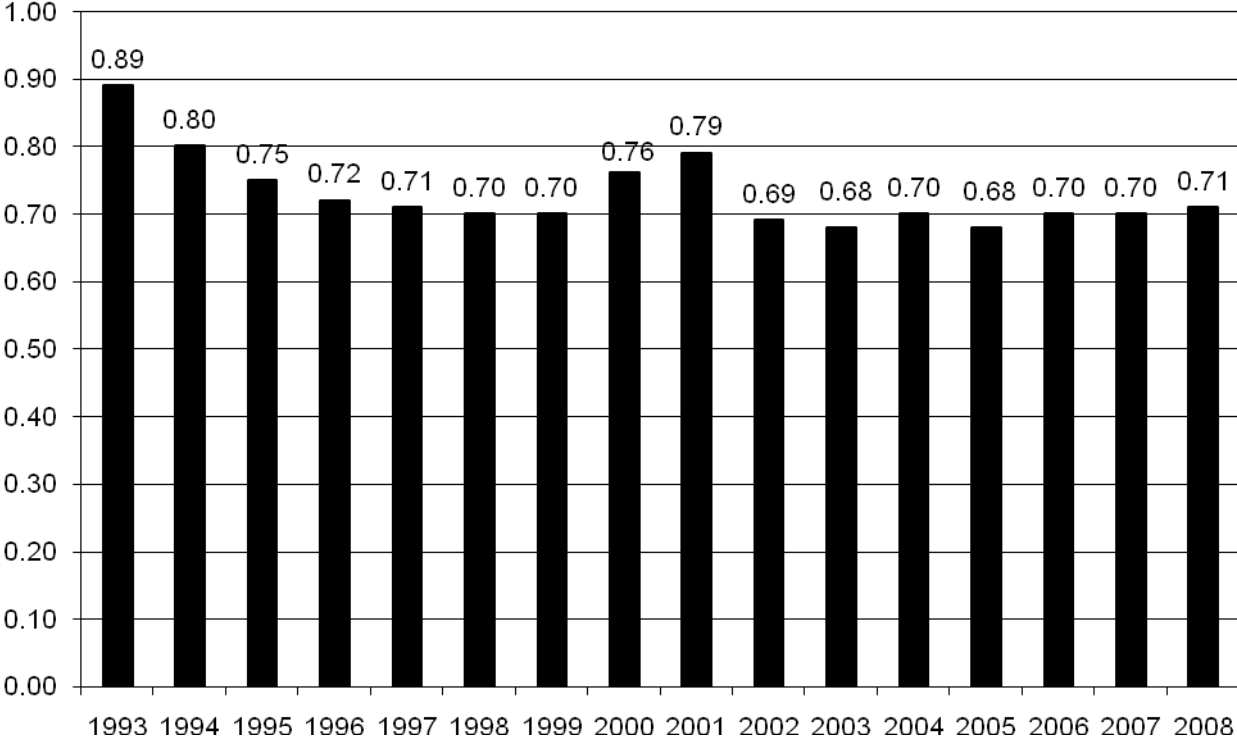
INCIDENCE RATE



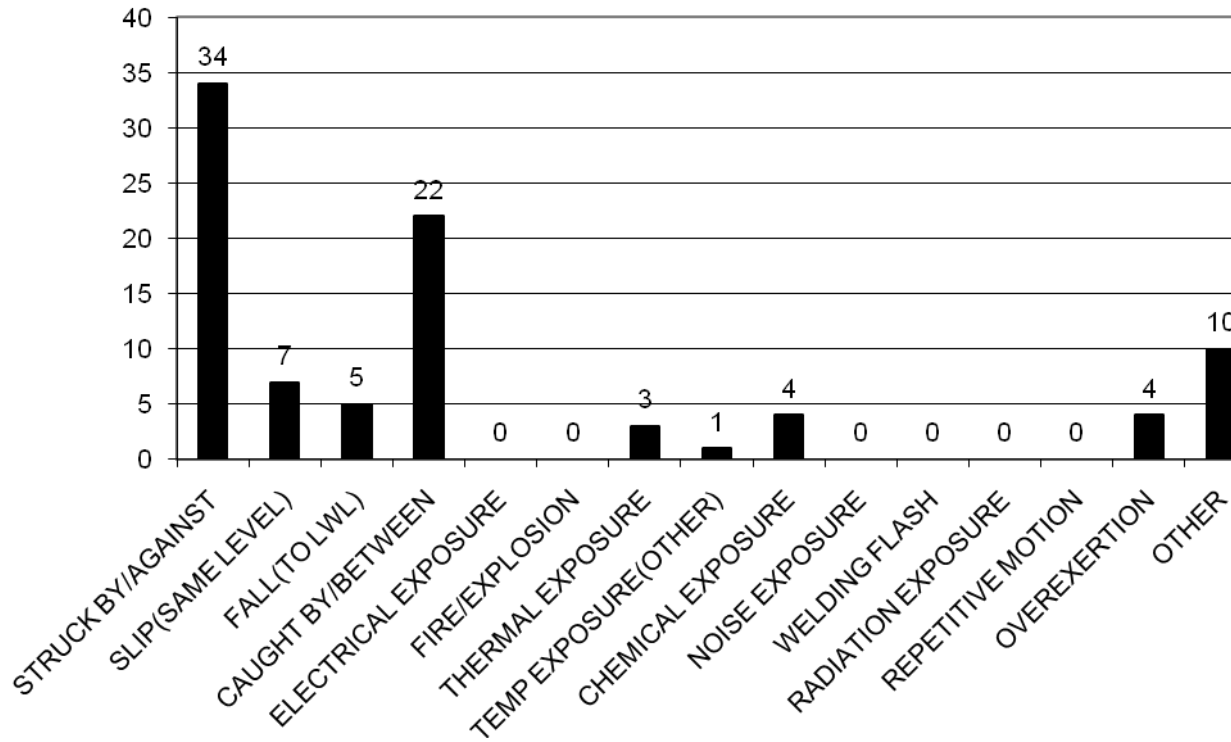
SEVERITY RATE



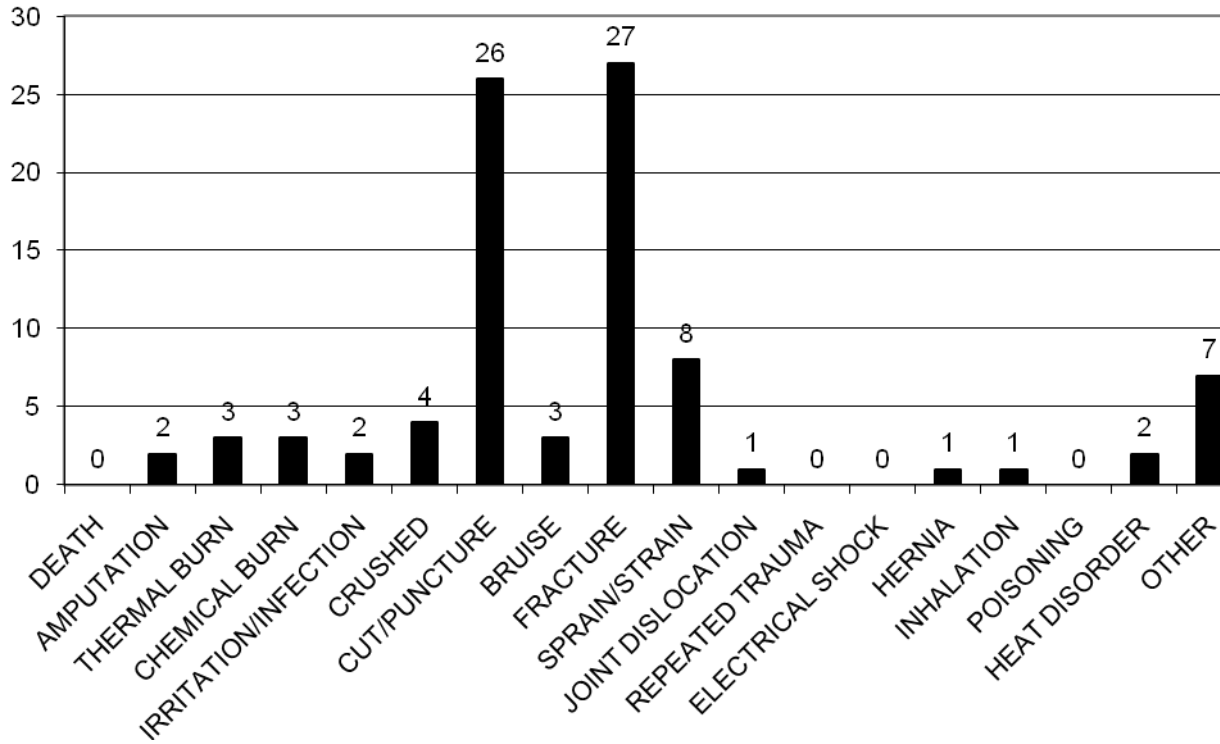
Average EMR



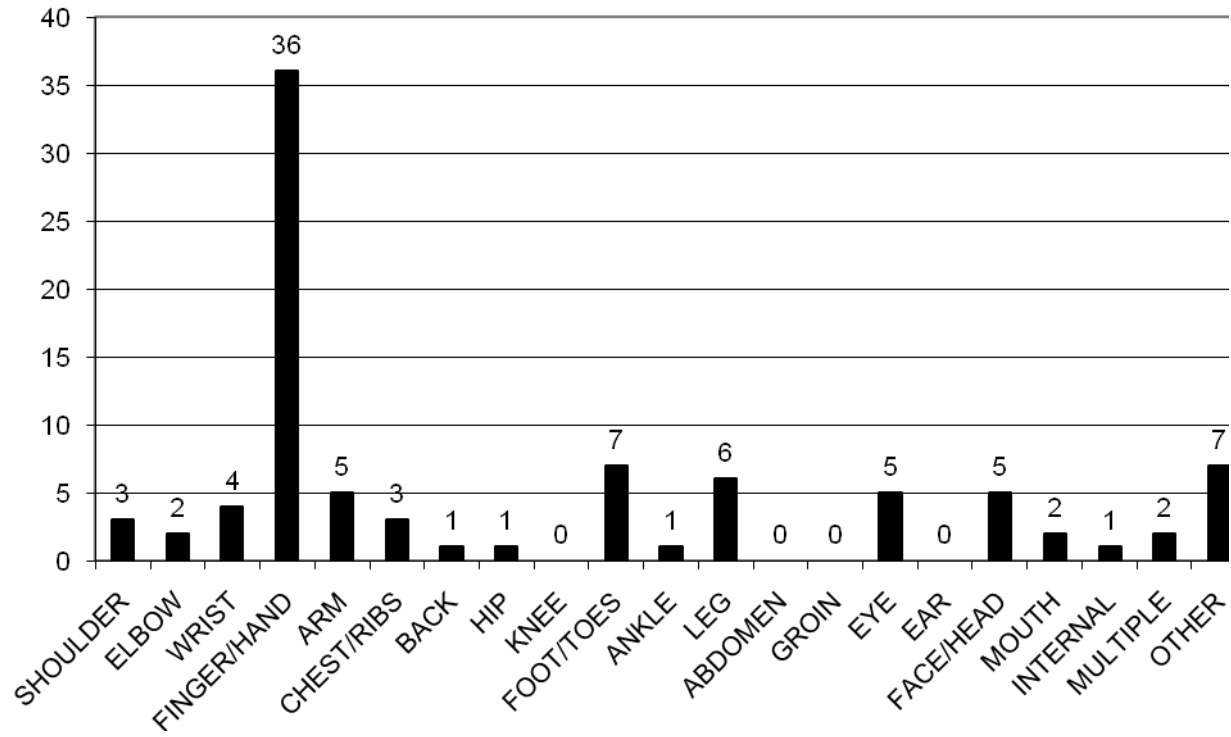
TYPE OF CONTACT



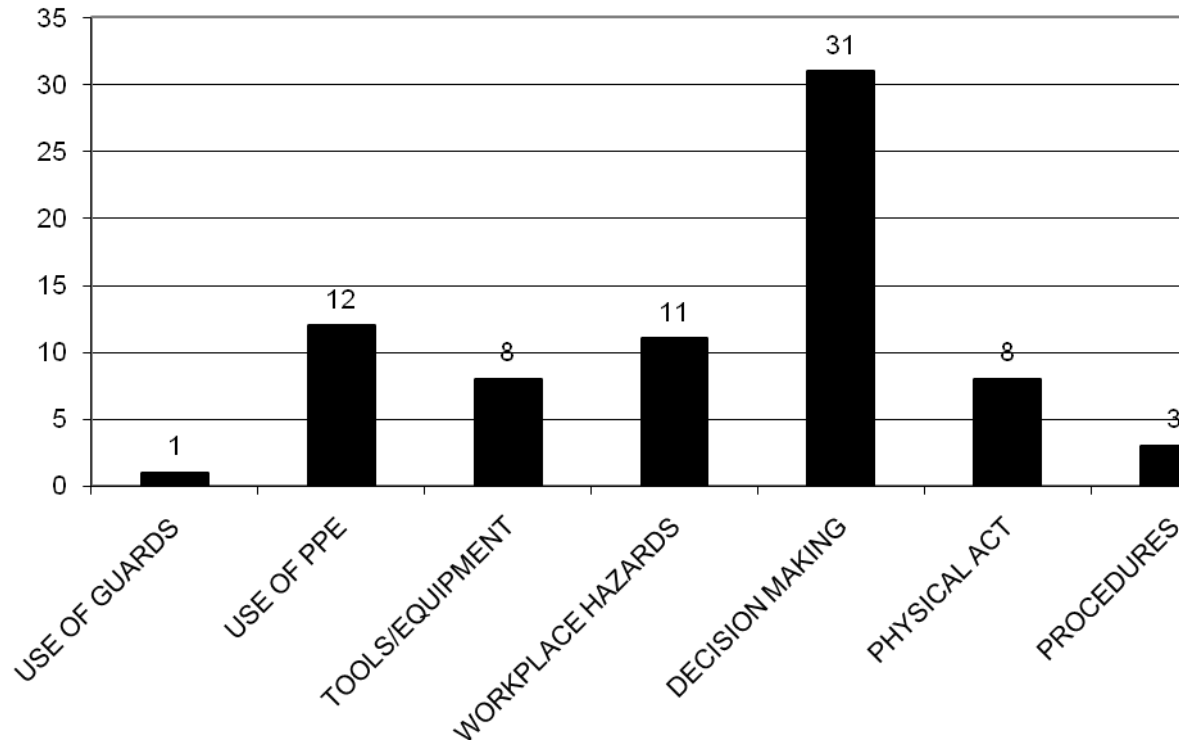
NATURE OF ILLNESS/INJURY



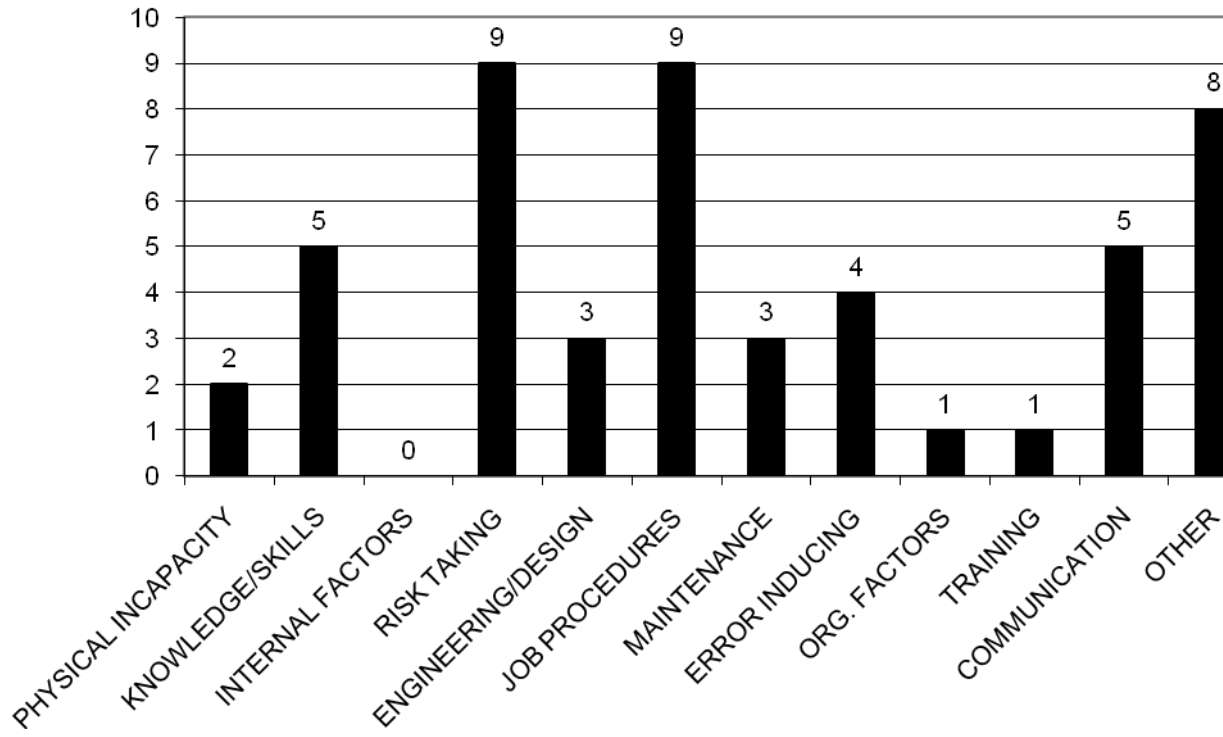
BODY PART INJURED



POSSIBLE CAUSES AT TIME OF ACCIDENT



POSSIBLE PRE-EXISTING CAUSES



EXAMPLES OF FORMS

GTBR SAFETY SURVEY (Golden Triangle Area Only)

COMPANY NAME: _____

COMPANY ADDRESS: _____

SIC Code* : 1500 _____
 1600 _____
 1700 _____

NOTE: Company name & address, SIC Code, EMR, and Golden Triangle Exposure Hours *must be provided for a valid response.*

- 1. EXPERIENCE MODIFIER RATE (EMR) _____
- 2. EXPOSURE HOURS _____
(REPORT ONLY HOURS FOR PERSONNEL WORKING IN THE GOLDEN TRIANGLE)
- 3. STATISTICS FROM OSHA 300 LOG - Number of incidents involving:
 FATALITIES (G) _____
 CASES INVOLVING DAYS AWAY FROM WORK (H) _____
 TOTAL NUMBER OF DAYS AWAY (L) _____
 MEDICAL TRTMT (I&J) _____

QUESTIONS 4-7: INDICATE NUMBER, EACH TYPE OSHA RECORDABLE

- 4. TYPE OF CONTACT
 - ____ Struck By/Against ____ Fire/Explosion ____ Welding Flash
 - ____ Slip (Same Level) ____ Thermal Exposure ____ Radiation Exposure
 - ____ Fall (To Lower Level) ____ Temp Exposure (other) ____ Repetitive Motion
 - ____ Caught By/Between ____ Chemical Exposure ____ Overexertion
 - ____ Electrical Exposure ____ Noise Exposure ____ Other
- 5. NATURE OF ILLNESS/INJURY
 - ____ Death ____ Cut/Puncture ____ Electrical Shock
 - ____ Amputation ____ Bruise ____ Hernia
 - ____ Thermal Burn ____ Fracture ____ Inhalation
 - ____ Chemical Burn ____ Sprain/Strain ____ Poisoning
 - ____ Irritation/Infection ____ Joint Dislocation ____ Heat Disorder
 - ____ Crushed ____ Repeated Trauma ____ Other
- 6. BODY PART INJURED
 - ____ Shoulder ____ Hip ____ Eye
 - ____ Elbow ____ Knee ____ Ear
 - ____ Wrist ____ Foot/Toes ____ Face/Head
 - ____ Finger/Hand ____ Ankle ____ Mouth
 - ____ Arm ____ Leg ____ Internal
 - ____ Chest/Ribs ____ Abdomen ____ Multiple
 - ____ Back ____ Groin ____ Other
- 7. POSSIBLE INCIDENT/ACCIDENT CAUSES

<u>AT TIME OF ACCIDENT</u>	<u>PRE-EXISTING CAUSES</u>	
____ Use of Guards	____ Physical Incapacity	____ Maintenance
____ Use of PPE	____ Knowledge (Skill)	____ Error Inducing
____ Tools/Equipment	____ Internal Factors	____ Organization actors
____ Workplace Hazards	____ Risk Taking	____ Training
____ Decision Making	____ Engineering/Design	____ Communication
____ Physical Act	____ Job Procedures	____ Other
____ Procedures		

* Please see attached sheet for explanation of SIC Codes.

SIC CODES 1500, 1600, 1700

1500 - Building Construction - General Contractors and Operative Builders

- 1521 General Contractors - Single Family Houses
- 1522 General Contractors - Residential Buildings, Other Than Single Family
- 1531 Operative Builders
- 1541 General Contractors - Industrial Buildings and Warehouses
- 1542 General Contractors - Nonresidential Buildings, Other Than Industrial Buildings and Warehouses

1600 - Heavy Construction Other Than Building Construction - Contractors

- 1611 Highway and Street Construction, Except Elevated Highways
- 1622 Bridge, Tunnel, and Elevated Highway Construction
- 1623 Water, Sewer, Pipeline, and Communications and Power Line Construction
- 1629 Heavy Construction, N.E.C., EXCEPT Dredging and Surface Cleanup Activities

1700 - Construction - Special Trade Contractors

- 1711 Plumbing, Heating, and Air-Conditioning
- 1721 Painting and Paper Hanging
- 1731 Electrical Work
- 1741 Masonry, Stone Setting, and Other Stone Work
- 1742 Plastering, Drywall, Acoustical and Insulation Work
- 1743 Terrazzo, Tile, Marble, and Mosaic Work
- 1751 Carpentry Work
- 1752 Floor Laying and Other Floor Work, N.E.C.
- 1761 Roofing, Siding, and Sheet Metal Work
- 1771 Concrete Work
- 1781 Water Well Drilling
- 1791 Structural Steel Erection
- 1793 Glass and Glazing Work
- 1794 Excavation Work
- 1795 Wrecking and Demolition Work
- 1796 Installation or Erection of Building Equipment, N.E.C.
- 1799 Special Trade Contractors, N.E.C., EXCEPT Base Housing Maintenance

N.E.C. = Not Elsewhere Classified

DEFINITIONS OF POSSIBLE CAUSES

AT TIME OF ACCIDENT - Act/condition which immediately led to the incident

<u>Use of Guards</u>	Guards, alarms, etc., not used, not used properly, disabled, faulty, or inadequate, or equipment not properly secured or isolated
<u>Use of PPE</u>	PPE not used, not used properly, faulty or inadequate
<u>Tools/Equipment</u>	Wrong tool used, correct tool unavailable or failed during use
<u>Workplace Hazards</u>	Dangers in the work setting - poor lighting, walking or working surfaces, housekeeping clearances, ventilation, heights
<u>Decision Making</u>	Inappropriate decision - unaware of hazards, distraction, inattention, improper work speed, poor judgment, body position or overexertion
<u>Physical Act</u>	Activity inappropriate, horseplay, operating equipment without authority, improper mixing of chemicals, poor placement/loading of materials
<u>Procedures</u>	Written procedures available but not used (Safety Procedures, Operating Procedures, or Maintenance Practices)

PRE-EXISTING CAUSES - Underlying factors contributing to the incident

<u>Physical Incapacity</u>	Permanent/temporary disability contributed (vision, hearing, injury, illness, drugs, alcohol, fatigue)
<u>Knowledge/Skills</u>	Lacked experience/training, misunderstood directions
<u>Risk Taking</u>	Actions taken without evaluation of consequences, actions could have been rewarded or not properly punished in the past, improper expectations from supervision
<u>Engineering/Design</u>	Improper/incomplete design/construction, field change orders not evaluated, released by operations before ready
<u>Job Procedures</u>	Task procedures not available/inadequate (standards, reference documents, hazard evaluation, etc.)
<u>Maintenance</u>	Improper/incomplete preventative/reparative maintenance (wear/corrosion, service life extension, etc.)
<u>Error Inducing</u>	Conditions conducive to errors (noise, repetitive tasks, physical demands, extreme concentration, O ₂ deficiency, etc.)
<u>Organization Factors</u>	Management systems inadequate or otherwise contributed (poor follow-up on unsafe conditions, inspection programs, purchasing procedures, job placement, management of change, etc.)
<u>Training</u>	Training was inadequate, unavailable or ineffective
<u>Communication</u>	Instructions not given, incomplete, unclear, ineffective, etc. (horizontally, vertically, between different organizations)
<u>Other</u>	Cause other than one mentioned