10. **Discussion and possible action on fire fighter injury data collected for 2013 for inclusion in the annual report to be sent to the State Fire Marshal's Office.**

Appendix

Texas Commission on Fire Protection

January 1, 2013 to December 31, 2013

TCFP

TEXAS COMMISSION ON FIRE PROTECTION

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Executive Summary

This report includes the abstract, mission, and the reports, information and data collected, as well as user-community input and outreach activities.

The report includes fire fighter injuries reported to the Texas Commission on Fire Protection in 2013, with charts and graphs depicting the collected information. The report also compares with National Fire Protection Association (NFPA) U.S. Firefighter Injuries - 2012.

Under Texas Government Code §419.048, the Texas Commission on Fire Protection is charged with developing and establishing criteria to receive and analyze injury information pertaining to Texas fire fighters. The commission reviews this information to develop recommendations to help reduce fire protection personnel injuries. The commission provides this information to the State Fire Marshal's Office (SFMO) by September 1 of each year for inclusion in the SFMO's annual Firefighter Fatality Investigations Report. The commission has enacted rules about reporting injuries in the Texas Administrative Code (TAC) Title 37, Chapter 435, and has established the criteria and policies for reporting and analyzing the information.

The commission finished building the data systems necessary to gather this information in March 2010. Development is ongoing as we receive feedback from stakeholders on the efficiency of the system. The entire reporting process is accomplished online through the commission's website. Every fire department regulated by the commission has been notified of the requirement to report. Several volunteer departments, which are not regulated by the commission, are also participating voluntarily.

This report concludes with recommendations from the commission.

Abstract

The Texas Commission on Fire Protection received 4,050 reported injuries in calendar year 2013. Of these, 838 occurred during fire suppression activities, representing 20.7 percent of the total reported injuries. This is nearly identical to the fire suppression injuries reported in 2012, in which 889 of 4,264 total injuries, or 20.9 percent, were in fire suppression.

A larger number of reported injuries occurred in emergency medical services (EMS) activities; 1,116 of the 4,050 total reported injuries, or 27.6 percent. This is also virtually the same as in 2012, in which 1,242 of 4,264 total injuries, or 29 percent, were in EMS. Although more *total* injuries occurred in EMS, fire suppression activities resulted in more serious injuries; while 16 percent of the injuries in EMS were serious injuries, 24.6 percent of the fire suppression injuries were serious. The commission defines a serious injury as one that results in missed work.

Leading injuries in fire suppression are strains and sprains, followed by burns and exposures. The leading injuries in EMS are also strains and sprains, followed by exposures to airborne, chemical and blood pathogens.

After EMS and fire suppression, the next highest number of the injuries reported in 2013 occurred in the performance of station duties, with 654, or 16 percent, of the total injuries. This is also nearly the same as in 2012, with 741, or 17 percent, of the total injuries occurring in station duties.

Skills training and wellness/fitness activities are the next highest tasks with injuries, with 418 (10.3 percent) and 408 (10.1 percent), respectively. The total number of injuries reported in these three non-emergency tasks - station duties, skills training, and wellness/fitness activities – represented just over a third (36.5 percent) of the total injuries.

In 2012, the commission separated EMS from rescue non-fire (which includes swift water, confined space, trench, extrication and other rescues) into its own category in order to better track EMS incidents and injuries. In August 2012 the commission also began collecting more information about the tasks that the individuals were performing when the injuries occurred. This report compares 2012 and 2013 injuries in several areas.

Mission

The commission shall gather and evaluate data on fire protection personnel injuries and develop recommendations for reducing injuries.

The commission 's educational and outreach programs provide information on the various educational resources available through TCFP's Ernest A. Emerson Fire Protection Resource Library; associated references linked to this subject; TCFP outreach programs such as the "Avoid Injury!" blog and newsletters; and the adoption of the "Courage to be Safe" program.

Building a Community of Safety

The goal of the Texas Commission on Fire Protection's injury reporting program is to help the fire service community identify common injuries and learn how to avoid risk and prevent injuries.

Why we are collecting injury data

Under Texas Government Code §419.048, the Texas Legislature charged the commission with gathering and evaluating data on injuries. The rules requiring regulated entities to report injuries to the commission are in Texas Administrative Code §435.23. The commission encourages volunteer entities to report injuries so that it can gain as accurate a picture as possible concerning injury trends in the Texas fire service. The injury reporting program began in March 2010.

What information does the commission collect?

- Minor, serious, critical and fatal injuries
- Activities where fire personnel are injured
- Types of injuries (burns, strain-sprains, wounds, etc.)
- Body parts being injured
- Tasks performed at the time of injury
- Missed time
- Work assignment after injury
- Malfunctions/failures of personal protective equipment (PPE), self-contained breathing apparatus (SCBA), personal alert safety systems (PASS devices) and standard operating procedures (SOPs)

How this will help the fire service

- Identify common injuries
- Identify trends in injuries
- Identify needed training
- Evaluate and find improvements in procedures
- Track lost time injuries (requested by user community)

Learn more and get help

The commission provides information on reported injuries to the fire service via its website, its "Avoid Injury!" blog, its Facebook page and in its year-end addendum to the State Fire Marshal's Office's annual report.

Reports, Information and Data Collection

This report contains data submitted by regulated and non-regulated entities. The data collected in 2013 was the third full year of reporting. The commission anticipates that it will take five full years of reporting to provide more substantive and accurate data for trending and analysis.

Of the approximately 592 commission-regulated entities included in this report, 490, or 82.77 percent, either submitted an injury report or a "no injury" report for months in which their personnel did not have any injuries. An additional 77 non-regulated departments are participating voluntarily in the program.

The commission continually reaches out to fire protection entities to communicate the need to report, the types of information needed, and how to respond to requests for additional information. Commission staff members attended and presented at the Texas Fire Chiefs Association's regional meetings, local chiefs' meetings, Southwest Fire Rescue, and State Firemen's and Fire Marshals' Association conferences to provide information about the injury reporting program. The commission stresses the need for participation and provides reminders to regulated entities of the statutory requirement to report.

The commission's "Avoid Injury!" blog provides information on current statistics, as well as information about resources available through the Ernest A. Emerson Fire Protection Resource Library. Statistics are updated semi-monthly. Blog posts and Facebook updates provide the fire service with information on the National Fallen Firefighters Foundation's "Courage to be Safe" program and its "16 Life Safety Initiatives," and how the initiatives have impacted individual departments or the fire service as a whole.

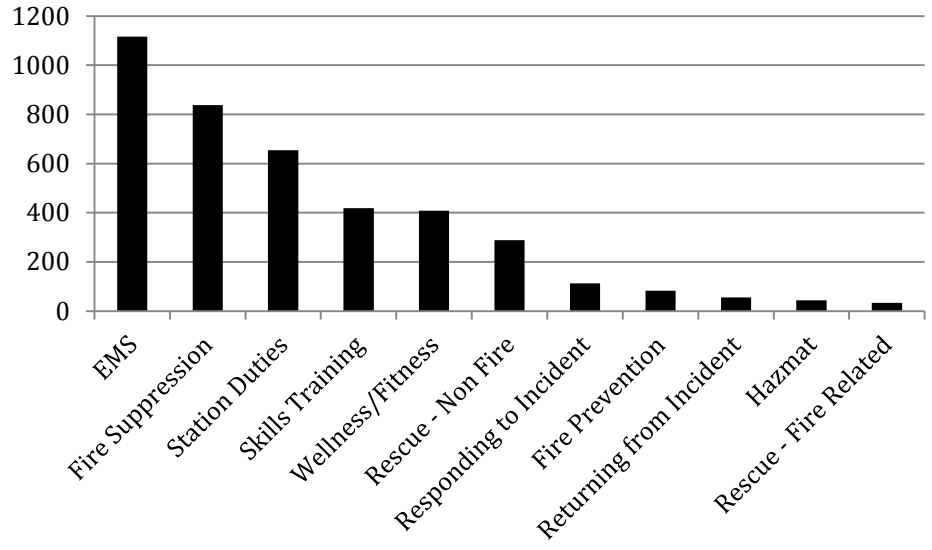
As in previous years, the commission continues to receive feedback from stakeholders on challenges they have experienced and changes they would like to see in the injury reporting program.

Fire Protection Personnel Injuries

Table 1: Injuries by Activity and Severity, 2013

Activity	Minor	Serious	Critical	Fatal	Total
EMS	934	179	3		1116
Fire Suppression	619	206	7	7	839
Station Duties	452	201	1		654
Skills Training	317	99	1	1	418
Wellness/Fitness	285	122		1	408
Rescue - Non Fire	243	46			289
Responding to Incident	70	42			112
Fire Prevention	66	17			83
Returning from Incident	37	18			55
Hazmat	44				44
Rescue - Fire Related	18	11	3	1	33
Total	**3085**	**941**	**15**	**10**	**4051**

Figure 1: Total Injuries by Activity, 2013



Emergency vs. Non-Emergency Injuries

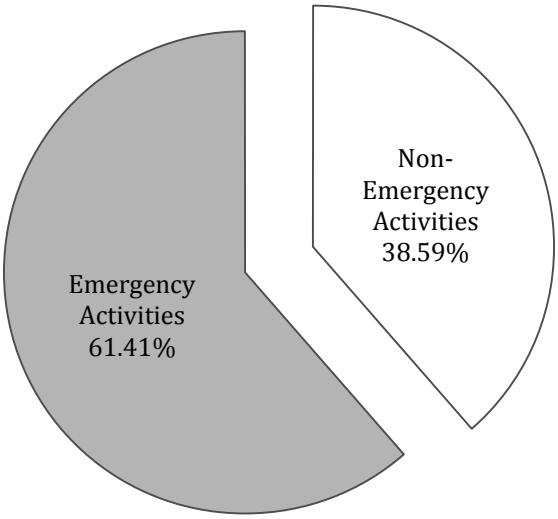
Table2: Injuries by Emergency Activity and Severity, 2013

Activity	Minor	Serious	Critical	Fatal	Total
EMS	934	179	3		1116
Fire Suppression	619	206	7	7	839
Hazmat	44				44
Rescue - Fire Related	18	11	3	1	33
Rescue - Non Fire	243	46			289
Responding/Returning	107	60			167
Total	**1965**	**502**	**13**	**7**	**2488**

Table3: Injuries by Non-Emergency Activity and Severity, 2013

Activity	Minor	Serious	Critical	Fatal	Total
Fire Prevention	66	17			83
Skills Training	317	99	1	1	418
Station Duties	452	201	1		654
Wellness/Fitness	285	122		1	408
Total	**1120**	**439**	**2**	**2**	**1563**

Figure 2: Percent of Total Injuries in Emergency and Non-Emergency Activities, 2013



Injuries by Type

Table 4: Types of Injury, 2012-2013

	2012		2013	
Type of Injury	**Count**	**Percent**	**Count**	**Percent**
Strain-Sprain	2140	50.19%	2118	52.30%
Wound	631	14.80%	548	13.53%
Exposure Airborne Pathogens	404	9.47%	281	6.94%
Burns	176	4.13%	166	4.07%
Exposure Blood Pathogens	160	3.75%	164	4.05%
Exposure - body fluids	124	2.91%	138	3.41%
Environmental	133	3.12%	106	2.62%
Exposure-Chemical	128	3.00%	90	2.22%
Bites-Stings	93	2.18%	87	2.15%
Exposure-Undetermined	23	0.54%	77	1.90%
Pain Medical Unspecified	49	1.15%	62	1.53%
Broken Bones	46	1.08%	59	1.46%
Chest Pains-Cardiac	40	0.94%	50	1.23%
Debris/Penetrating	51	1.20%	38	0.94%
Smoke-Gas Inhalation	22	0.52%	30	0.74%
Hearing Loss - Acute	18	0.42%	14	0.35%
Electrocution	11	0.26%	12	0.30%
Exposure-Chemical-CO	1	0.02%	6	0.15%
Hearing Loss - Chronic	7	0.16%	2	0.05%
Heart Attack	2	0.05%	2	0.05%
Broken Spine-Neck	4	0.09%	1	0.02%
Stroke	1	0.02%	0	0.00%
Total	**4264**	**100.00%**	**4051**	**100.00%**

Figure 3: Types of Injury, 2013

Task at Time of Injury

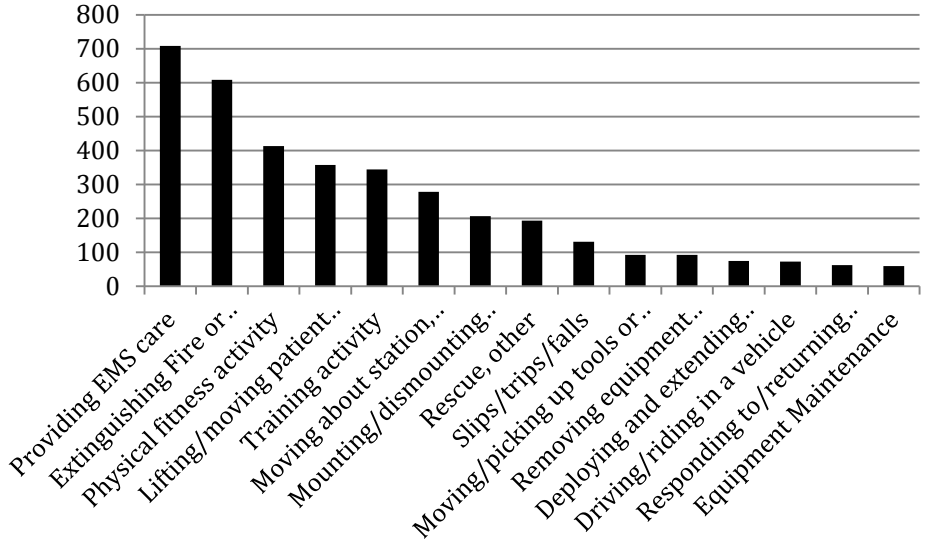
The commission began gathering task information in mid-2012.

Table 5: Top 15 Tasks at Time of Injury, 2013

Task	Count
Providing EMS care	708
Extinguishing Fire or Neutralizing Incident	609
Physical fitness activity	413
Lifting/moving patient (EMS)	357
Training activity	344
Moving about station, normal activity	278
Mounting/dismounting apparatus	206
Rescue, other	193
Slips/trips/falls	131
Moving/picking up tools or equipment	92
Removing equipment from/returning equipment to apparatus	92
Deploying and extending hoseline	74
Driving/riding in a vehicle	72
Responding to/returning from incident	62
Equipment Maintenance	59
All other*	361
Total	**4051**

* All Other, in Descending Order: Overhaul (54), Other: Description (38), Station Maintenance (37), Forcible Entry (36), Inspection Activity (30), Ascending/descending ladder (19), Moving about station, alarm sounding (17), Vehicle Maintenance (17), Ascending/descending stairs (16), Incident Investigation (14), Operating manual tool (14), Extrication (13), Non-Fire Incidents (9), Operating power tool (9), Raising/lowering ladder (7), Administrative Work (6), Manually moving item to gain access (5), Operating Fire Department Apparatus (4), Carrying/dragging a person (rescue) (3), Crawling in a confined or otherwise hazardous area (3), Operating nozzle (3), Rescue-Fire Related (3), Undetermined (2), Rescue - Non fire (1), Salvage (1)

Figure 4: Top 15 Tasks at Time of Injury, 2013

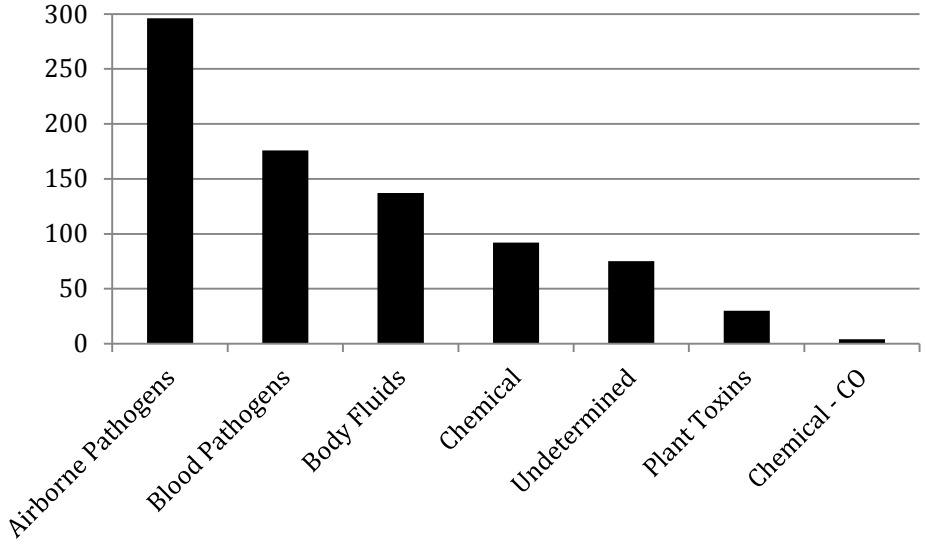


Exposures

Table 6: Exposure Agents, 2013

Exposure Agents	Count
Blood	159
Meningitis	129
Body fluids	96
TB	94
Chemicals/household/industrial	89
Unknown	51
Airborne, Other	37
Vomit	33
Poison Plants	30
Animals/Wildlife	29
MRSA	16
Explosive residue	8
Hep C	8
Scabies	8
Carbon Monoxide	5
Sickness, other	5
Asbestos	4
HIV	4
Lice	2
Mold	2
Staph	1
Total	**810**

Figure 5: Exposure Types, 2013



Injuries by Body Part

Table 7: Injuries by Body Part, 2012 and 2013

Body Part	2012	2013
Multiple body parts, whole body	760	595
Back, except spine	686	588
Knee	419	407
Hand and fingers	453	403
Shoulder	272	293
Ankle	213	207
Face	95	128
Leg, lower	105	108
Foot and toes	132	105
Eye	106	100
Head	96	94
Hip, lower back, or buttocks	35	91
Arm, lower, not including elbow or wrist	89	84
Wrist	71	79
Neck	101	71
Elbow	98	68
Chest	30	66
Multiple Parts	5	62
Multiple body parts, upper body	22	57
Ear	72	54
Other body parts injured	404*	391**
Total	**4264**	**4051**

* ***Other body parts injured, 2012, in descending order:*** *Abdomen (61), Arm, upper, not including elbow or shoulder (50), Trachea and lungs (45), Leg, upper (43), Heart (39), Pelvis or groin (37), Mouth, included are lips, teeth, and interior (30), Upper extremities (24), Neck and Shoulders (20), Head, other (15), Abdominal area (9), Lower Extremities (8), Multiple body parts, lower body (6), Nose (5), Internal (4), Part of body, other (2), Throat (2), Internal, other (1), Spine (1), Stomach (1), Thorax (1)*

*****Other body parts injured, 2013, in descending order:*** *Arm, upper, not including elbow or shoulder (52), Trachea and lungs (51), Leg, upper (47), Pelvis or groin (37), Abdomen (32), Neck and Shoulders (25), Lower Extremities (24), Multiple body parts, lower body (20), Mouth, included are lips, teeth, and interior (18), Upper extremities (16), Heart (15), Nose (14), Abdominal area (7), Genito-urinary (6), Head, other (5), Spine (4), Throat (4), Undetermined (3), Unspecified (3), Multiple parts, whole body (2), Arms (1), Hand (1), Hand and finger (1), Internal (1), Leg (1), Multiple body parts, whole body (1), None (1)*

Minor and Serious Injuries by Activity

EMS activities resulted in more minor injuries, but fire suppression and station duties resulted in a higher percentage of serious injuries.

Table 8: Minor Injury Activities, 2012 and 2013

	2012		2013	
Activity	**Count**	**Percent**	**Count**	**Percent**
EMS	1042	32.41%	934	30.28%
Fire Suppression	654	20.43%	619	20.06%
Station Duties	508	15.80%	452	14.65%
Skills Training	367	11.42%	317	10.28%
Wellness/Fitness	294	9.14%	285	9.24%
Rescue - Non Fire	147	4.57%	243	7.88%
Responding to Incident	90	2.80%	70	2.27%
Fire Prevention	45	1.40%	66	2.14%
Hazmat	24	0.75%	44	1.43%
Returning from Incident	30	0.93%	37	1.20%
Rescue - Fire Related	14	0.44%	18	0.58%
Grand Total	**3215**	**100.00%**	**3085**	**100.00%**

HazMat and Returning From Incident changed positions in 2012 and 2013; all others activities maintained their respective rankings.

Table 9: Serious Injury Activities, 2012 and 2013

	2012		2013	
Activity	**Count**	**Percent**	**Count**	**Percent**
Fire Suppression	231	22.36%	206	21.89%
Station Duties	233	22.56%	201	21.36%
EMS	196	18.97%	179	19.02%
Wellness/Fitness	134	12.97%	122	12.96%
Skills Training	113	10.94%	99	10.52%
Rescue - Non Fire	34	3.29%	46	4.89%
Responding to Incident	43	4.16%	42	4.46%
Returning from Incident	24	2.32%	18	1.91%
Fire Prevention	18	1.74%	17	1.81%
Rescue - Fire Related	7	0.68%	11	1.17%
Grand Total	**1033**	**100.00%**	**941**	**100.00%**

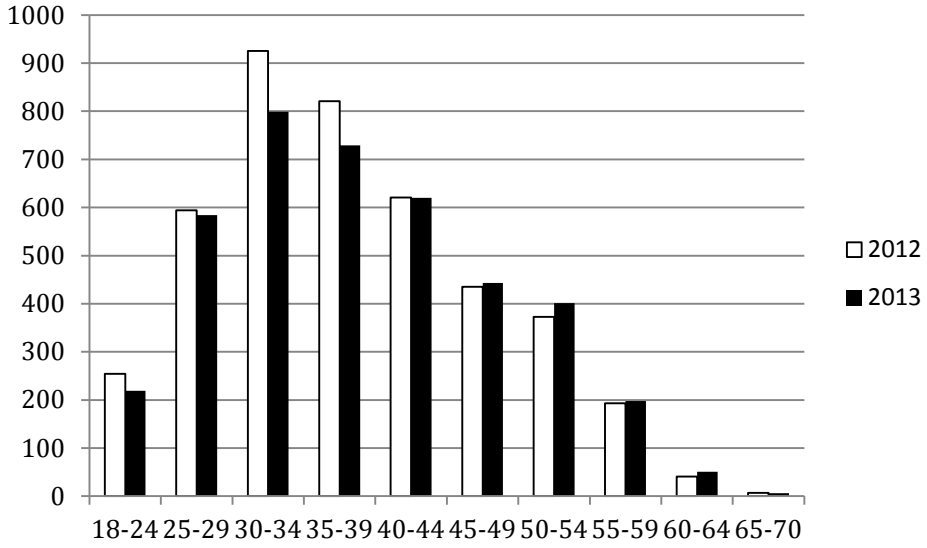
Fire Suppression and Station Duties changed positions in 2012 and 2013. Responding to Incident and Rescue - Non-Fire also changed positions. All other activities maintained their respective rankings.

Injuries by Age Group

Table 10: Injuries by Age Group, 2012 and 2013

	2012		2013	
Age group	**Count**	**Percent**	**Count**	**Percent**
18-24	254	5.96%	219	5.41%
25-29	594	13.93%	584	14.42%
30-34	925	21.69%	799	19.73%
35-39	821	19.25%	729	18.00%
40-44	621	14.56%	620	15.31%
45-49	435	10.20%	443	10.94%
50-54	373	8.75%	402	9.90%
55-59	193	4.53%	198	4.89%
60-64	41	0.96%	51	1.26%
65-70	7	0.16%	6	0.15%
Totals	**4264**	**100.00%**	**4051**	**100.00%**

Figure 6: Injury Count by Age Group, 2012 and 2013



Injuries by Employment Status

Table 11: Employment Status, 2012 and 2013

Employment Status	2012	2013
Full-time	4046	3894
Volunteer*	85	61
Trainee (i.e. fire dept)	40	44
Part-time	25	34
Student (i.e. college)	68	18
Total	**4264**	**4051**

* *Volunteer injuries represent only those departments that voluntarily participate in the commission's injury reporting program.*

Injury Activities Resulting in Lost Time

Note: 141 lost-time incidents are still open as of the date of this draft. Staff will continue to work with departments to update return-to-work dates on these incidents.

Table 12: Activities Resulting in Lost Time, 2013

Activity	Count	Average Days Missed	Total Days Missed
Fire Suppression	213	32.33	6078
Station Duties	202	40.21	7117
EMS	182	27.39	3835
Wellness/Fitness	122	35.53	3766
Skills Training	100	33.78	2804
Rescue - Non Fire	46	30.78	1231
Responding to Incident	42	40.44	1577
Returning from Incident	18	56.73	851
Fire Prevention	17	36.87	553
Rescue - Fire Related	14	75.55	831
Total	**956**	**35.19**	**28643**

Table 13: Activities Resulting in Lost Time, Between 1 and 30 Days

Activity	Count	Average Days Missed	Total Days Missed
Fire Suppression	130	10.02	1302
Station Duties	121	10.02	1212
EMS	106	11.37	1205
Wellness/Fitness	72	11.15	803
Skills Training	54	10.89	588
Rescue - Non Fire	28	11.18	313
Responding to Incident	26	12.08	314
Fire Prevention	10	11.50	115
Returning from Incident	6	15.67	94
Rescue - Fire Related	4	19.00	76
Total, Between 1 and 30 Days	**557**	**10.81**	**6022**

Injury Activities Resulting in Lost Time (continued)

Table 14: Activities Resulting in Lost Time, Between 31 and 90 Days

Activity	Count	Average Days Missed	Total Days Missed
Fire Suppression	42	57.93	2433
Station Duties	33	55.00	1815
EMS	27	53.70	1450
Skills Training	21	51.62	1084
Wellness/Fitness	18	59.28	1067
Rescue - Non Fire	10	61.10	611
Rescue - Fire Related	5	47.60	238
Responding to Incident	5	56.00	280
Returning from Incident	5	37.60	188
Fire Prevention	4	41.50	166
Total, Between 31 and 90 Days	**170**	**54.89**	**9332**

Table 15: Activities Resulting in Lost Time, 91+ Days

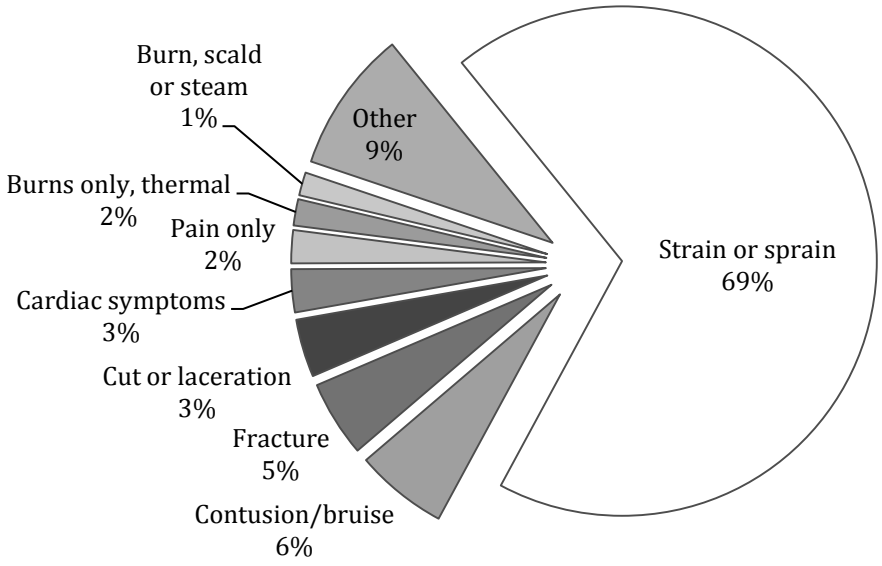
Activity	Count	Average Days Missed	Total Days Missed
Station Duties	24	174.17	4180
Fire Suppression	16	146.44	2343
Wellness/Fitness	16	118.50	1896
Responding to Incident	8	122.88	983
Skills Training	8	141.50	1132
EMS	7	168.57	1180
Returning from Incident	4	142.25	569
Rescue - Fire Related	2	258.50	517
Rescue - Non Fire	2	153.50	307
Fire Prevention	1	272.00	272
Total, 91+ Days Missed	**88**	**152.03**	**13379**

Types of Injuries with Lost Time

Table 16: Types of Injuries Resulting in Lost Time, 2013

Type of Injury	Count
Strain or sprain	657
Contusion/bruise, minor trauma	56
Fracture	46
Cut or laceration	35
Cardiac symptoms	26
Pain only	20
Burns only, thermal	16
Burn, scald or steam	14
Puncture wound/Stab wound: penetrating	13
Exhaustion/fatigue, including heat exhaustion	12
Allergic reaction, including anaphylactic shock	7
Crushing	5
Other	49
Total	**956**

Figure 7: Types of Injuries Resulting in Lost Time, 2013



Burn Injuries

Table 17: All Burns, 2013

All Burns - Types	Count
Thermal	92
Scald or steam	71
Electric	2
Total	**165**

Table 18: Burns With Lost Time by Type, 2013

Burns with Lost Time	Count	Average Days Missed	Total Days Missed
Thermal	17	55.88	782
Scald or steam	14	24.91	274
Electric	1	11.00	11
Total	**32**	**41.04**	**1067**

Table 19: Burns by Body Part, 2013

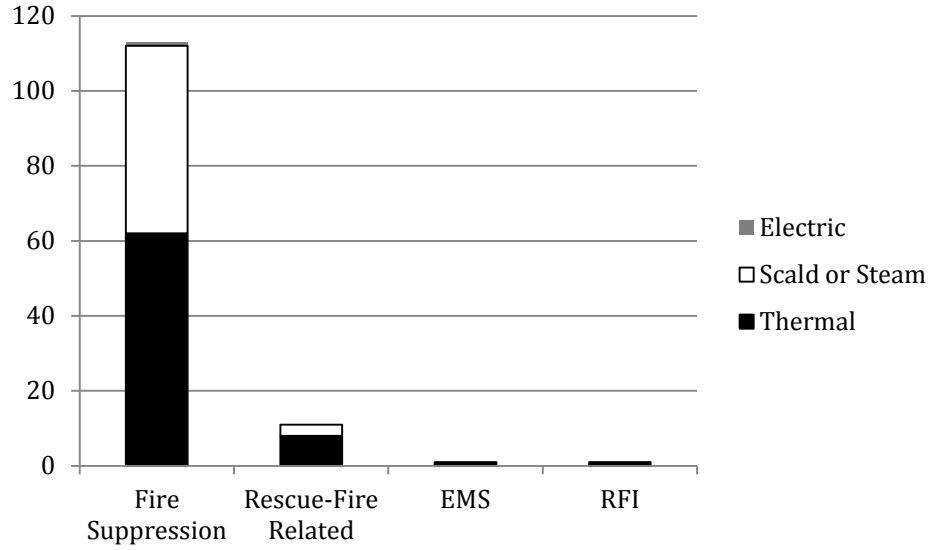
Body Part	Count
Hand and fingers	34
Ear	29
Face	14
Shoulder	13
Arm, lower, not including elbow or wrist	12
Multiple body parts, whole body	12
Wrist	10
Neck	9
Foot and toes	5
Head	5
Leg, lower	4
Leg, upper	3
Multiple body parts, upper body	3
Multiple Parts	3
Lower Extremities	2
Multiple parts, whole body	1
Arm, upper, not including elbow or shoulder	1
Chest	1
Elbow	1
Hand and finger	1
Knee	1
Neck and Shoulders	1
Throat	1
Total	**166**

Burn Injuries (continued)

Table 20: Burns by Emergency Activity, 2013

	Emergency Activities			
Type	**Fire Suppression**	**Rescue-Fire Related**	**EMS**	**Returning From Incident**
Thermal	63	8	1	1
Scald or Steam	50	3		
Electric	1			
Total	**114**	**11**	**1**	**1**

Figure 8: Burns by Emergency Activity, 2013

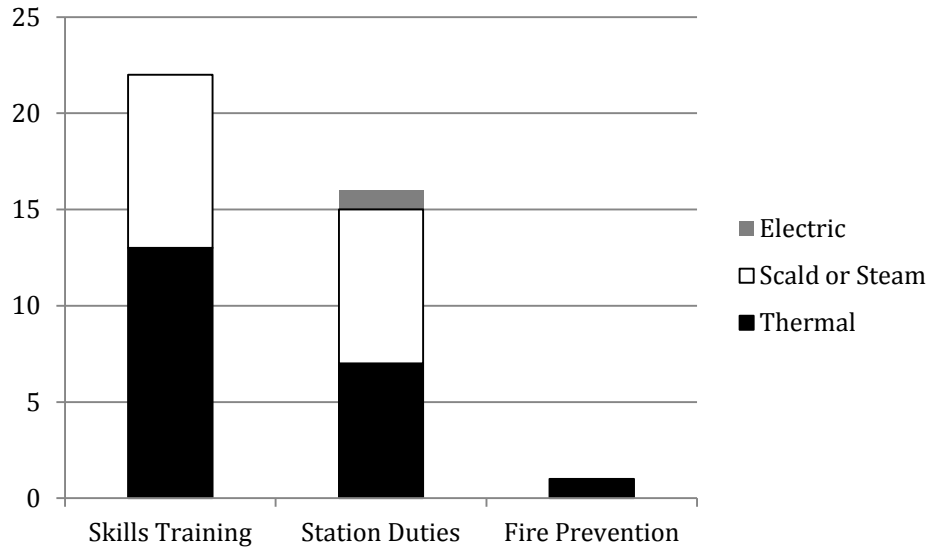


Burn Injuries (continued)

Table 21: Burns by Non-Emergency Activity, 2013

	Non-Emergency Activities		
Type	**Skills Training**	**Station Duties**	**Fire Prevention**
Thermal	13	7	1
Scald or Steam	9	8	
Electric		1	
Total	**22**	**16**	**1**

Figure 9: Burns by Non-Emergency Activity, 2013



SOP Issues

In 2013 there were 39 injuries attributed to failures of fire protection personnel to follow their departments' standard operating procedures (SOPs). All but a few were instances where the individuals were not wearing their provided PPE/SCBA gear in an environment or situation in which they should have been. Departments are reviewing their SOPs to make sure they are up to date, and are completing additional training to make sure these issues do not occur again.

In its compliance inspections, the Texas Commission on Fire Protection verifies that fire departments have required SOPs and that they cover the appropriate subject matter. The commission does not become involved in any internal disciplinary actions surrounding these issues, as this is not within the commission's scope of authority. However, the commission stands ready to partner with the fire service by providing assistance, expertise and educational resources to promote a safer community.

Table 22: Injuries Attributed to SOP Issues, 2013

Activity	Minor	Serious	Total
EMS	7	2	9
Fire Suppression	11	4	15
Rescue - Non Fire	2	2	4
Responding to Incident	1	2	3
Skills Training	3		3
Station Duties	1	3	4
Wellness/Fitness	1		1
Total	**26**	**13**	**39**

Fatalities

The commission's 2013 injury report includes 10 fatalities. The fatalities listed in this report are only those reported to the Texas Commission on Fire Protection (TCFP) by the entities it regulates. The commission has no statutory authority to require reporting by departments it does not regulate.

These fatalities are not the only fire service-related deaths that occurred in Texas during 2013, which was a tragic year for Texas fire protection personnel. The commission mourns the loss of each and every first responder.

More comprehensive information regarding Texas fire service Line of Duty Deaths is included in the State Fire Marshal's Annual Report.

Example Injury Narratives

The following narratives represent one minor and one serious injury for each of the "activity" categories (EMS, Fire Suppression, Station Duties, Skills Training, Wellness/Fitness, Rescue - Non Fire, Responding to Incident, Returning from Incident, Fire Prevention, Hazmat and Rescue - Fire Related), except for Hazmat, in which no serious injuries were reported.

EMS – Minor - (Contusion/Bruise)
Firefighter was providing patient care in the module of the rescue when the driver was forced to take an evasive maneuver to avoid a collision. The firefighter was thrown into a cabinet, hitting his head.

EMS – Serious (Strain/Sprain)
Firefighter was conducting patient removal from a confined area and was operating in an awkward position. The incident required lifting a patient and the firefighter was unable to use proper lifting techniques.

Fire Suppression – Minor (Environmental)
Firefighter suffered symptoms of dehydration after completing approximately 30-40 minutes of fire suppression at a residential structure fire. Firefighter was transported to the hospital for further evaluation. Firefighter was treated for moderate dehydration and released back to full duty.

Fire Suppression – Serious (Burns)
Firefighter was operating a hose line from the first floor interior into the second floor near the stairwell. The house was under construction and the stairs had already burned away. Portions of the second floor collapsed near the hose crew. At this time the firefighter knelt down due to the heat and realized that his legs were burning. The hose the crew was using suddenly burst, causing the loss of an effective fire stream. The crew backed out of the building. The ambulance crews provided on-site treatment and transported the firefighter to the hospital.

Station Duties – Minor (Wound)
Firefighter was preparing lunch and while cutting a sweet potato, cut left thumb.

Station Duties - Serious (Strain/Sprain)
Firefighter strained back while moving rolled hose.

Skills Training – Minor (Environmental)
Firefighter completed SCBA drill, stood up, experienced a syncopal episode secondary to possible over-exertion and fell from a standing position, striking his head on a lumber maze prop.

Skills Training – Serious (Strain/Sprain)
Firefighter was participating in a swift water rescue training class and dislocated his knee while training in a strong current. The firefighter's foot became stuck to the bottom of the pool which caused his leg to stay in one place as the current forced his body in an opposite direction.

Wellness/Fitness – Minor (Strain/Sprain)
During physical fitness sustained injury to left shoulder lifting weights.

Wellness/Fitness – Serious (Cardiac Symptoms)
Firefighter was participating in physical fitness training in the fire station. After his workout he began to feel chest pain that radiated to his jaw.

Fire Prevention – Minor – (Exposure)
The firefighter responded to an activated fire alarm call and was possibly exposed to drug manufacturing fumes. The firefighter did not have complaint or symptoms from exposure. The firefighter was denied entry

into the house by the resident and the possible exposure was from the front door for a short amount of time. The sheriff's office was notified of the incident.

Fire Prevention – Serious (Strain/Sprain)
Firefighter was conducting an origin and cause investigation in a freight truck vehicle cab. The firefighter was removing fire debris from the driver's side when the steering column collapsed and struck him. This caused him to fall out of the elevated cab and strike the pavement with the left side of his body.

HazMat – Minor (Exposure)
While at a HazMat incident, firefighter went to open a bottle of Petro-Green to start cleaning up the scene. When he pulled the lid off, his right eye was splashed with the Petro-Green. He flushed eye with water and went to emergency room, where they flushed his eye a second time with positive results.

Rescue – Fire Related - Minor (Smoke-Gas Inhalation)
The firefighter had responded to an apartment fire and participated in rescuing trapped occupants on the second floor. During the rescue the firefighter climbed a ground ladder to rescue an occupant found at a second floor window. In the process the firefighter was exposed/inhaled smoke and gases. The firefighter did not make entry and conducted the rescue from the ground ladder. Later during the day the firefighter began to experience irritation in his throat and sinuses.

Rescue – Fire Related – Serious (Burns)
Firefighter was attempting to reach a trapped occupant during structure fire operations. Firefighter suffered second-degree burns to bottom of chin. Firefighter was evaluated at hospital and returned to duty.

Rescue Non-Fire - Minor (Environmental)
After helping an automobile crash victim from their vehicle in a creek in an area of heavy vegetation, the firefighter came up with poison ivy two days later.

Rescue Non-Fire - Serious (Wound)
While at a motor vehicle collision, firefighter was aiding police department to direct traffic. A driver was directed to stop and turn the car off. The driver accelerated rapidly striking the firefighter and throwing his body onto the hood of the vehicle. The firefighter grabbed the hood but fell off the side of the car as the driver accelerated faster. The firefighter hit his head and multiple body parts as the vehicle sped away.

Responding to Incident – Minor (Strain/Sprain)
Fire truck was t-boned by a passenger car on the passenger side. Firefighter was sitting in the seat behind the driver. On impact he was jostled, injuring his right shoulder.

Responding to Incident – Serious (Strain/Sprain)
Firefighter was dismounting the engine at a fire scene and tripped on an unpainted curb.

Returning From Incident – Minor (Strain/Sprain)
Driver was exiting vehicle while at the station and missed the step causing him to fall to the floor.

Returning From Incident – Serious (Broken Bones)
Firefighter was putting his airpack back into bracket on engine. He was bracing himself on edge of door frame. Engine was on an incline. Door shut on his thumb and latched. Right thumb was broken above distal joint.

Comparison between the State of Texas (2013) and National Fire Protection Association (NFPA), U.S. Firefighter Injuries – 2012

For the purposes of comparison, the commission has mapped its categories to the NFPA categories as follows:

- "Fireground" includes the commission's Fire Suppression and Rescue – Fire Related.
- "Non-Fire" includes Rescue Non-Fire, EMS and Hazmat.
- "Other On-Duty" includes Fire Prevention, Station Duties and Wellness/Fitness.

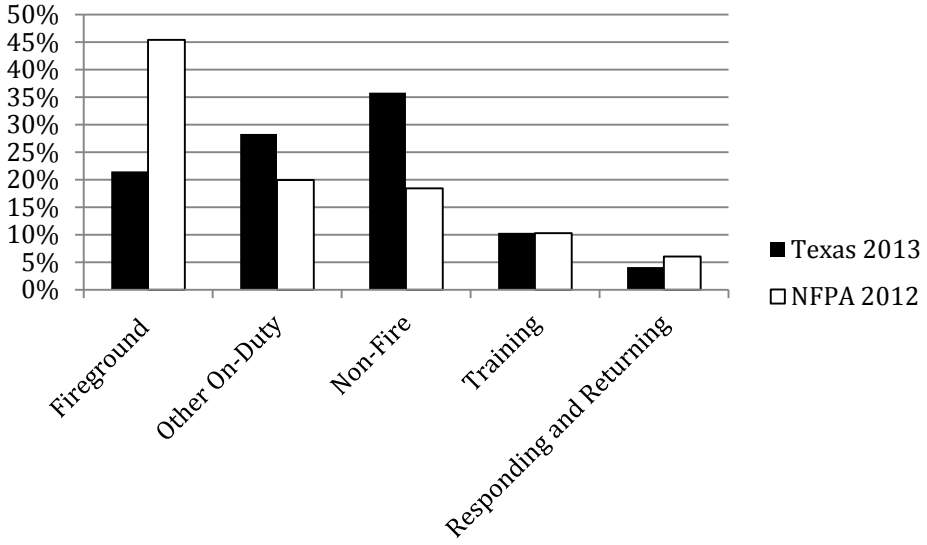
The NFPA's "Responding and Returning" and "Training" categories appear to closely correspond to the commission's categories. (The NFPA numbers include Texas statistics, although the reporting populations may not be the same.)

Table 23: Comparison of Texas 2013 and NFPA 2012

	Texas 2013		NFPA 2012*	
Category	**Count**	**Percent**	**Count**	**Percent**
Responding and Returning	167	4.12%	4190	6.04%
Fireground	872	21.51%	31490	45.37%
Non-Fire	1449	35.78%	12760	18.39%
Other On-Duty	1145	28.27%	13820	19.91%
Training	418	10.32%	7140	10.29%
Total	**4051**	**100%**	**69400**	**100.00%**

* *NFPA data is from U.S. Firefighter Injuries – 2012, copyright© 2013, National Fire Protection Association, Quincy, MA.*

Figure 10: Injuries by Activity – Comparison Texas 2013 and NFPA 2012



2013 Findings/Recommendations

The commission's injury reporting program received nearly identical numbers of injury reports in every category in 2013, with 4,051 reported injuries compared to 4,264 in 2012.

The Texas fire service has been proactive in adopting and promoting fireground safety, including the National Fallen Firefighter Foundation's "Courage to be Safe So Everyone Goes Home" program. All commission-certified firefighters are required to complete this training before Jan. 1, 2015. The commission continues to stress the importance of the program's 16 Life Safety Initiatives.

- Recommendations

The commission has adopted several NFPA and other nationally recognized standards to help keep Texas firefighters safe. This list summarizes the relationships between some of the Texas laws and national standards; it is not intended to be all-inclusive:

Texas Government Code

§419.040, Protective Clothing

§419.041, Self-Contained Breathing Apparatus

§419.042, Personal Alert Safety Systems

§419.043, Applicable National Fire Protection Association Standard

§419.044, Incident Management System

§419.045, Personnel Accountability System

§419.046, Fire Protection Personnel Operating at Emergency Incidents

§419.047, Commission Enforcement

2013 Findings/Recommendations (continued)

Texas Administrative Code

CHAPTER 425 FIRE SERVICE INSTRUCTORS

§443.9 National Fire Protection Association Standard

CHAPTER 435 FIRE FIGHTER SAFETY

- §435.21 Fire Service Joint Labor Management Wellness-Fitness Initiative
- §435.23 Fire Fighter Injuries
- §435.25 Courage to be Safe So Everyone Goes Home Program
- §435.27 Live Fire Training Structure Evolutions

CHAPTER 451 FIRE OFFICER

CHAPTER 457 INCIDENT SAFETY OFFICER CERTIFICATION

Other resources

See also the commission's web page, NFPA Standards adopted by the commission.