



Oregon Fatality Assessment and Control Evaluation

Lessons Learned

**National Safety Stand-Down to Prevent Falls in Construction
May 8, 2015**

Oregon Institute of Occupational Health Sciences

Agenda

- **What is OR-FACE**
- **Surveillance/Assessment**
- **Investigation**
- **Team Exercise**
- **Proposed projects**
- **Resources**

OR-FACE

ORegon Fatality Assessment & Control Evaluation

- **NIOSH surveillance research program**
 - Began in 1982
 - Expanded to states in 1992
- **OR-FACE**
 - Joined 14 other state programs in 2002
 - 2010 only 9 states

OR-FACE Personnel



Ryan Olson, PHD
Program Director



Illia Gilbert-Jones, MS, CIH, CSP
Program Manager/Field Investigator



Melodie Bianchini
Portland State University
Student Worker

OSU MPH Student Interns

- Alexandra Varga (Biostatistics) completed
- Ashley Chase (upcoming summer)

Contract Investigators

- Construction
- Logging
- Maritime

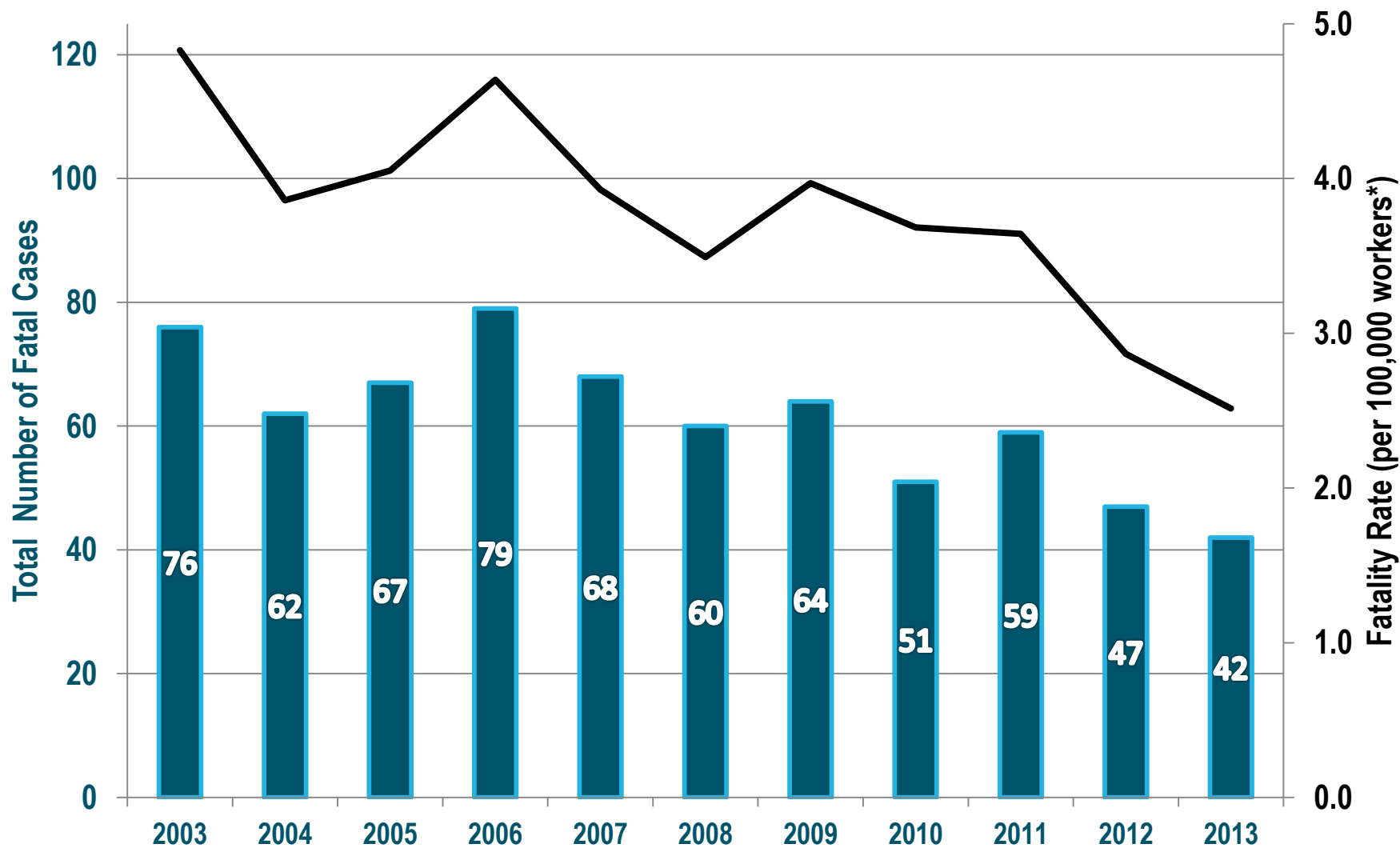
Publications Review Panel

- Paul Moore
- Marilyn Schuster
- Dede Montgomery
- Jeff Wimer
- Dan Cain
- W. Kent Anger

Mission

- **Prevent traumatic work-related deaths in Oregon through**
 - **Surveillance**
 - **Targeted investigation**
 - **Assessment**
 - **Outreach**

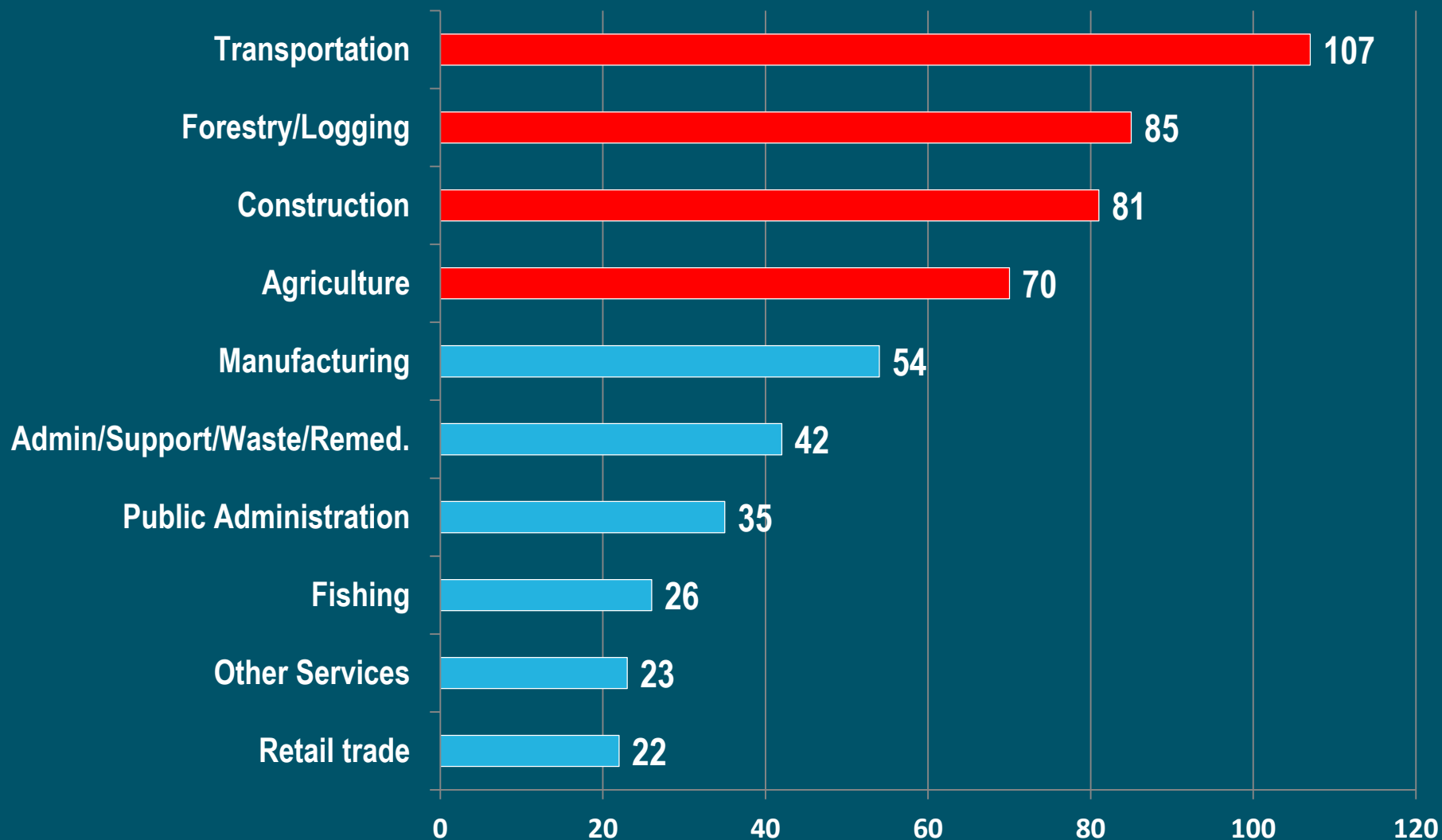
Worker fatalities in Oregon (2003-2013)





Worker fatalities in Oregon (2003-2013)

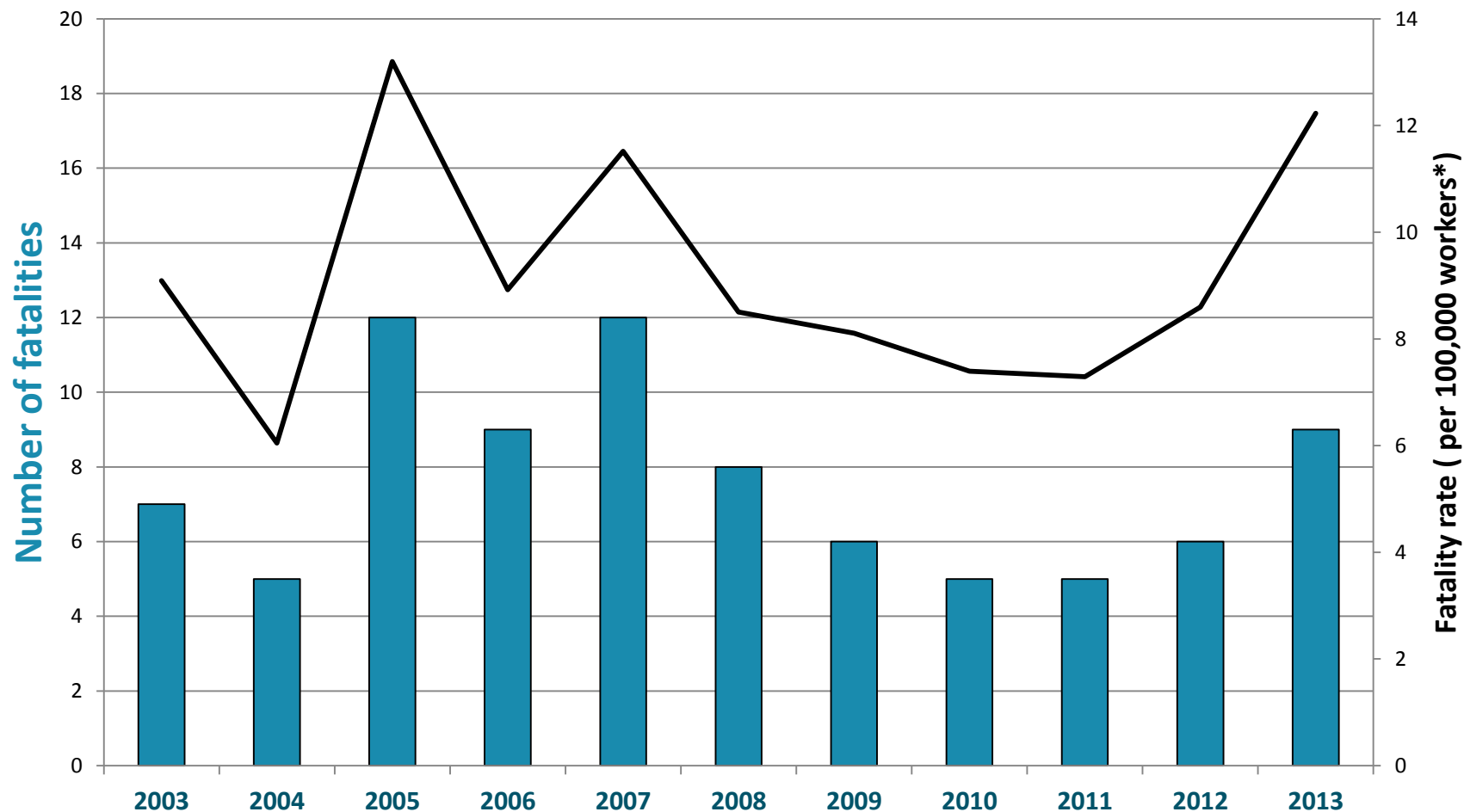
Top 10 industries in total number





Worker fatalities in Oregon (2003-2013)

Construction



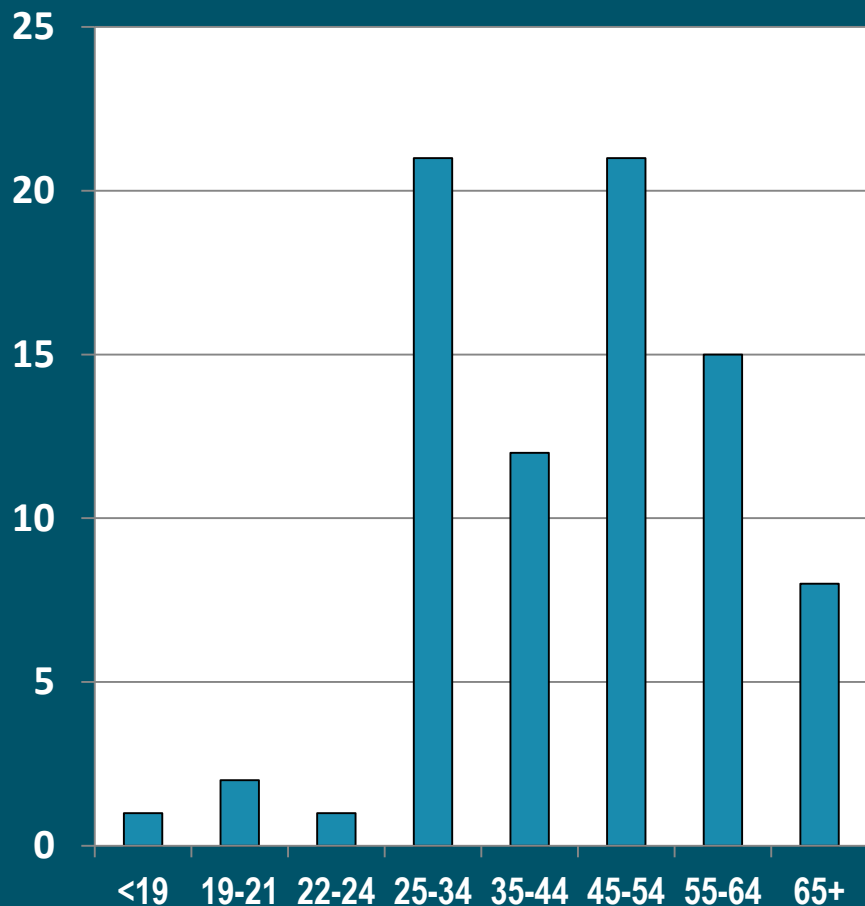
*State of Oregon Employment Department (Total nonfarm employment, annual average not seasonally adjusted)



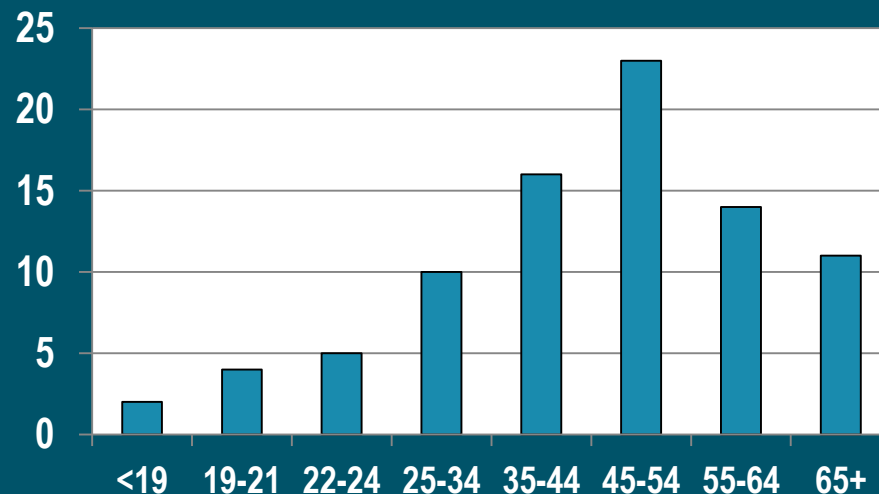
Worker fatalities in Oregon (2003-2013)

Age Range

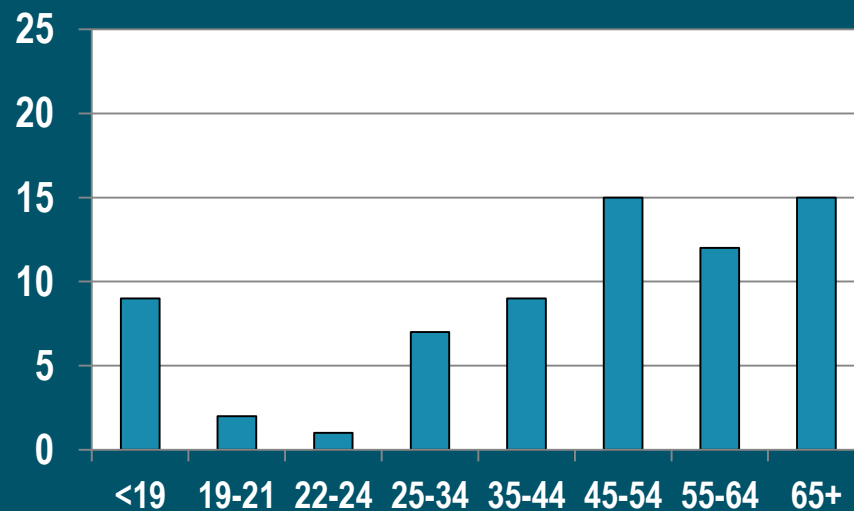
Construction



Forestry/Logging



Agriculture

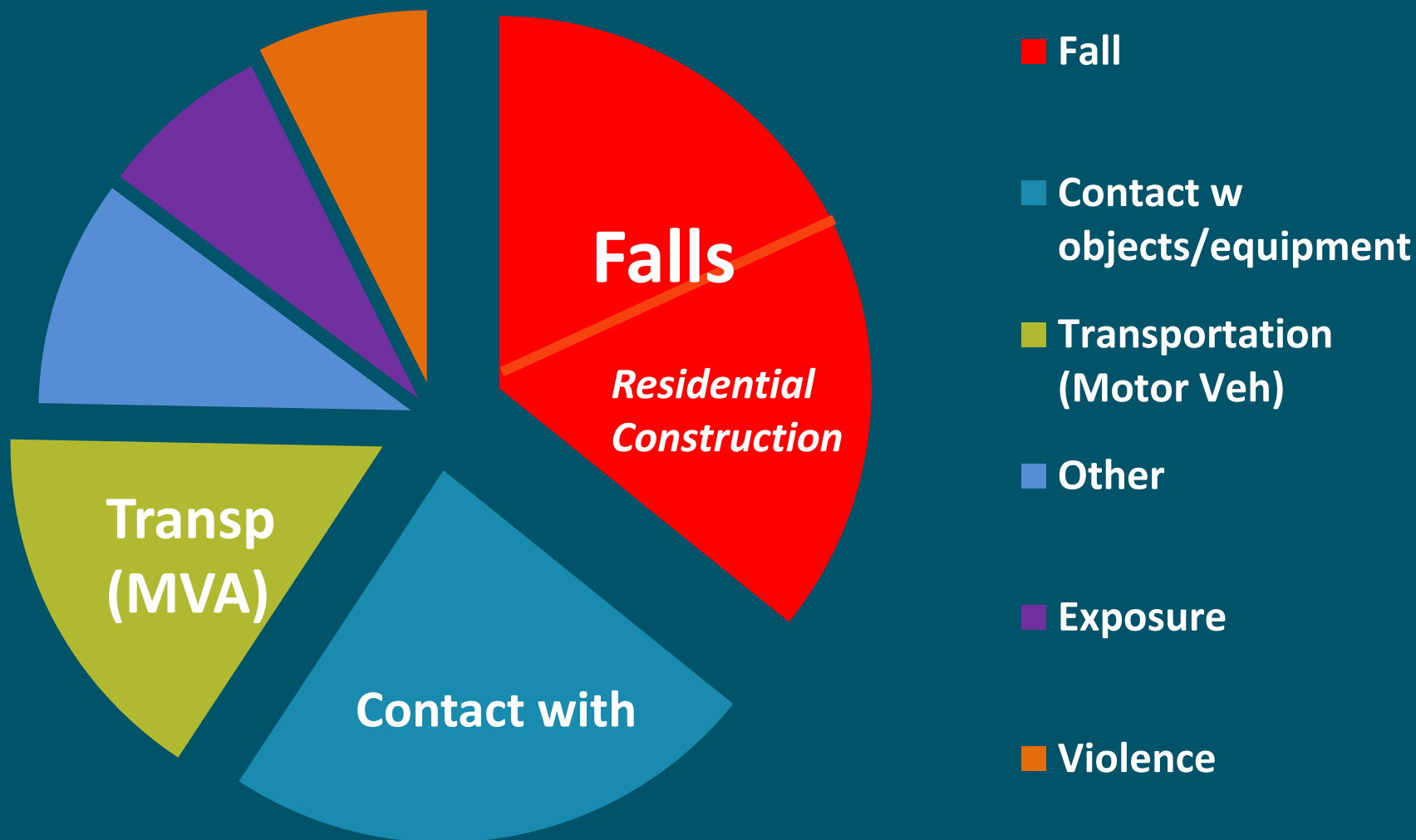




OR-FACE

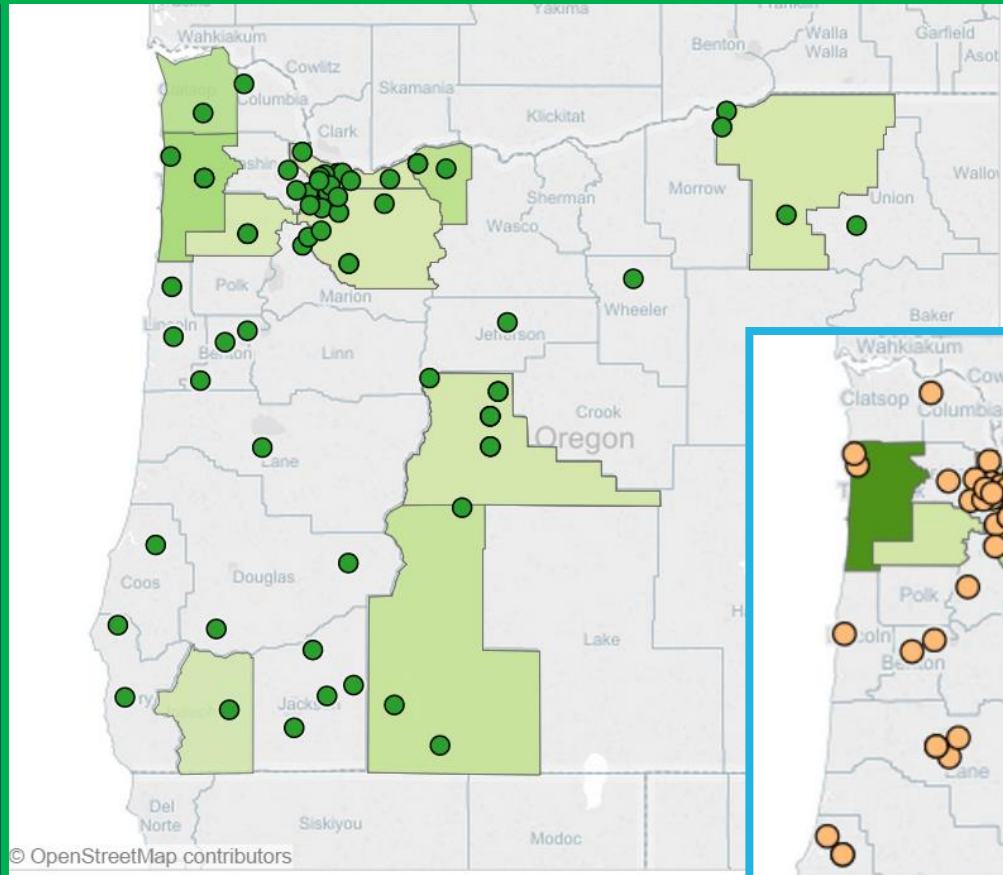
Worker fatalities in Oregon (2003-2013)

Construction Events

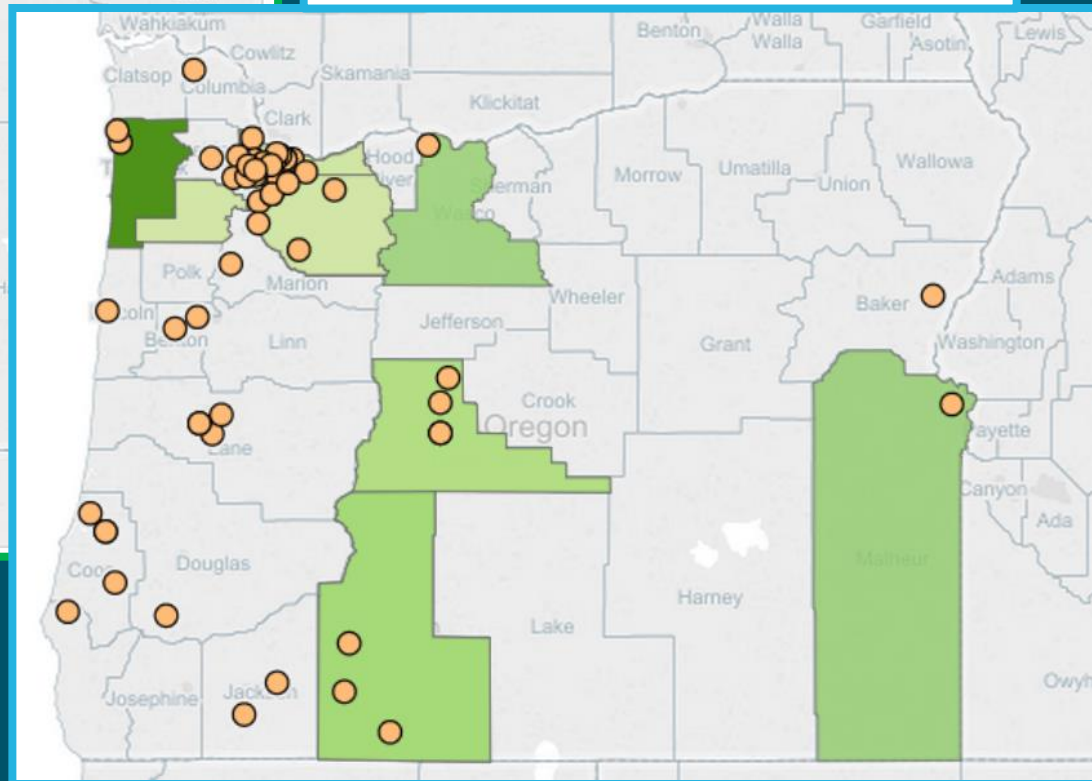


OR-FACE Interactive Maps

Construction fatalities 2003-2012 (81 cases, 25 falls)



Fall fatalities 2003-2012 (65 cases)



Published (2014-2015)

1. Experienced journeyman machinist killed while operating an engine lathe
2. Collapsed roof trusses kill carpenter foreman
3. Vineyard worker killed in fall from trailer
4. Contract sanitation worker killed cleaning meat blending equipment
5. Driver killed when ejected from logging truck



Experienced Journeyman Machinist Killed While Operating an Engine Lathe

SUMMARY

A 69-year-old machinist was killed while operating an engine lathe. When he reached out to smooth out a cloth and a rotating work arm sleeve, he was pulled multiple feet into the lathe. He repeatedly tried to pull himself out, but the worker rushed to the machine. He pushed the emergency stop button, but the machine threatened to crush him.

RECOMMENDATIONS

- Employers should ensure that workers are properly trained and supervised.
- Employers should ensure that workers are properly trained and supervised.
- Supervisors should ensure that workers are properly trained and supervised.

Keywords: Machinist, Engine Lathe, Fatality
Publication Date: 2012-18-1
This report is published by the Oregon Institute of Occupational Health Sciences.



SUMMARY

A 33-year-old carpenter foreman was killed when a roof truss system collapsed. The project was completed a few days before the incident. The victim was on the roof when the truss collapsed, and he was killed by the falling truss.

RECOMMENDATIONS

- Employers should ensure that workers are properly trained and supervised.
- Employers should ensure that workers are properly trained and supervised.
- Supervisors should ensure that workers are properly trained and supervised.

Keywords: Carpenter, Roof Trusses, Fatality
Publication Date: 2013-27-1
This report is published by the Oregon Institute of Occupational Health Sciences.



SUMMARY

It was the end of a long day for a vineyard worker when he fell from a trailer. The worker was standing on a platform that was not properly secured, and he fell when the trailer started to move.

RECOMMENDATIONS

- Employers should ensure that workers are properly trained and supervised.
- Employers should ensure that workers are properly trained and supervised.
- Supervisors should ensure that workers are properly trained and supervised.

Keywords: Vineyard, Trailer, Fatality
Publication Date: 2013-05-1
This report is published by the Oregon Institute of Occupational Health Sciences.



Contract sanitation worker killed cleaning meat blending equipment

SUMMARY

On April 2013, a contract sanitation worker was killed while cleaning meat blending equipment. The worker was using a high-pressure water hose, and he was struck by the hose when it recoiled.

RECOMMENDATIONS

- Employers should ensure that workers are properly trained and supervised.
- Employers should ensure that workers are properly trained and supervised.
- Supervisors should ensure that workers are properly trained and supervised.

Keywords: Sanitation, Meat Blending, Fatality
Publication Date: 2013-08-1
This report is published by the Oregon Institute of Occupational Health Sciences.



SUMMARY

On January 2014, a 39-year-old driver was killed when he was ejected from the cab of a logging truck after it veered off the haul road into a canyon. The driver had left a landing with a load of logs at about 5:30am. There were reports of dense fog in the area until about 7:30 am. Shortly thereafter, another truck driver noticed tire tracks that



Workers

➤ One death

- 33-year old carpenter foreman died in the fall
- Worked the center span
- 4 years as a carpenter

➤ Three serious injuries

- 1- Concussion (life-flight)
- 2- Bruise/contusion /abrasion (neck, head & back injuries) (ambulance)

➤ One uninjured

CAUSE OF DEATH Blunt force head trauma

**OREGON FATALITY ASSESSMENT
AND CONTROL EVALUATION**
Oregon Institute of Occupational Health Sciences

Fatality Investigation ReportOR 2013-27-1

Collapsed roof trusses kill carpenter foreman

SUMMARY

A 33-year old carpenter foreman was killed when the roof truss system he and his crew were installing collapsed. The victim was hired to be the foreman for a project to construct a residential shop building. A few days before the incident the crew began framing, sheathing and bracing the external four walls. On the day of the incident, vertical truss bracing (2 X 4's) were nailed to the north and the south wall (see Figure 2). The truss manufacturer arranged for the delivery of the trusses on a trailer pulled by a truck-mounted crane. The truck operator provided the foreman with the delivery packet containing the BCSI-B1 Summary Sheet-Guide to Handling, Installing, Restraining and Bracing of Trusses (see Reference #7) before setting up to offload the trusses from the trailer. The foreman assigned each of his four-man crew their positions and tasks. The foreman worked the center span of the trusses installing bracing and runners and unhooking each truss from the crane rigging. After the thirteenth truss was toenailed into its place and the temporary short member top chord lateral restraint was installed, the victim disconnected the truss from the rigging. The truck operator and crew member on the trailer saw the truss system collapsing and yelled to warn the crew. The two crew members working on the top plates of the framed walls were knocked off the structure to the concrete floor below and were injured from the fall and falling trusses. The worker on the concrete floor beneath the erected trusses cutting lateral restraints to size sustained a head concussion. The victim sustained a fatal head injury when he was struck on the head by a falling truss.



Figure 1. Collapsed trusses where the incident occurred.



Figure 2. The shop/garage building with collapsed trusses within the structure. Note the 2X4's nailed to the outside of the south wall and that ground bracing was not erected. Middle vertical brace remained unbroken.

Keywords: Construction, Truss collapse, Fall [NAICS=236117]
Publication Date: July 2014
This report is public information and free to copy

Oregon FACE Program
OR 2013-27-1
Page 1

Sequence of events

- Telephone interviews to hire personnel
- Foreman hired, two crew members hired
- Two crew members and foreman begin framing, sheeting and bracing external walls

Day of incident

- Two new crew members arrive
- Vertical truss bracing nailed to north and south wall



Sequence of events (continued)

Day of incident

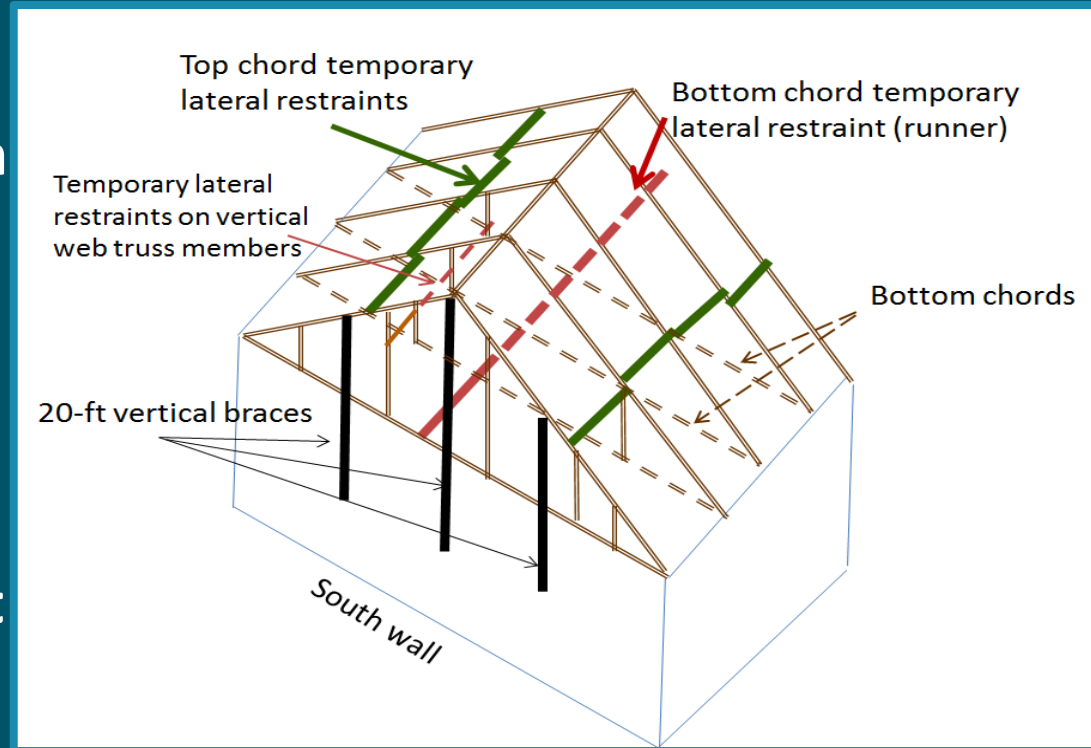
- ~12:30 truck-mounted crane arrives and hands BCSI-B1 to foreman
- Foreman assigns crew
 - ✓ 2 stand on top plates of framed east & west walls.
 - ✓ 1 on concrete floor to cut restraints
 - ✓ 1 on trailer rigging truss



Sequence of events (continued)

Day of incident

- First truss (gable end)
 - set in place
 - toe-nailed to the plate
 - nailed vertical braces on south wall
- Second truss
 - set in place
 - toe-nailed to plate
 - Restraints (2-ft long) cut and nailed on
- Repeat
- Truck driver and worker warn of inadequate bracing



Sequence of events (continued)

Day of incident

- 13th truss set in place
- Truss collapsed/vertical braces broke
- Foreman falls and is struck in the head by collapsing truss (~200 lbs)
- Workers on East and West fall
- Worker cutting restraints struck in head by falling truss



Top chord temporary lateral restraints

Bottom chord temporary lateral restraint (runner)

Temporary lateral restraints on vertical web truss members

Bottom chords

20-ft vertical braces

South wall

Bracing installed

Top chord temporary lateral restraints

Diagonal brace

Ground brace diagonal

Ground lateral restraint

Driven ground stake

90°

Ground brace strut

BCSI - Recommended bracing

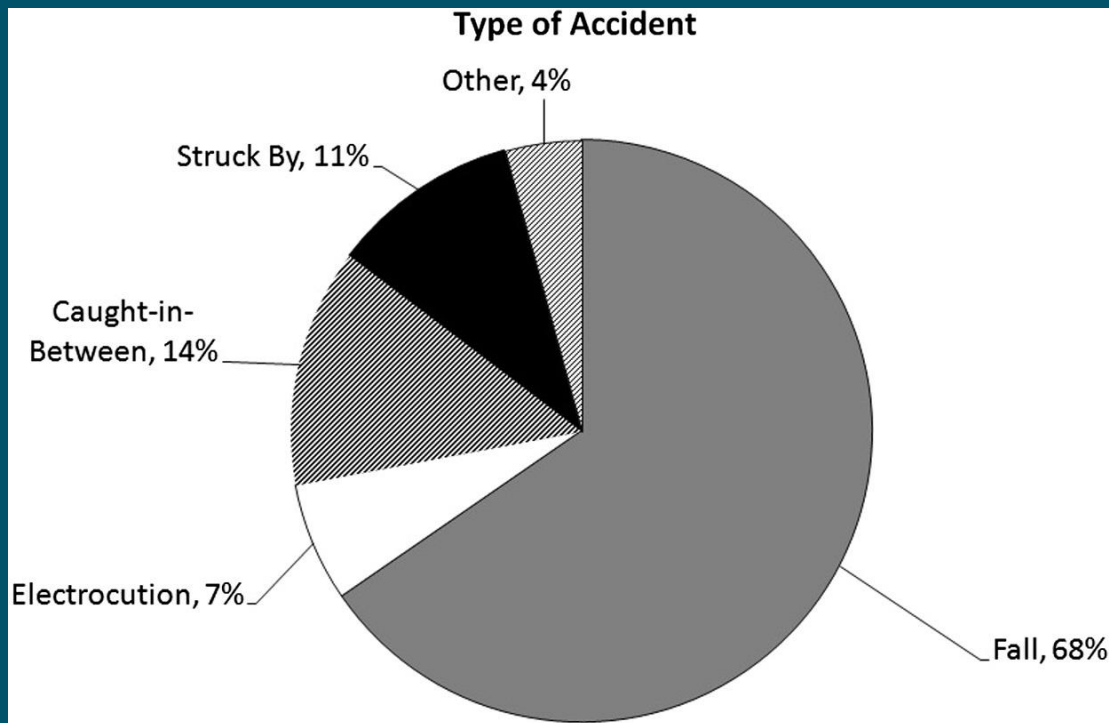


Contents lists available at ScienceDirect

Safety Science

journal homepage: www.elsevier.com/locate/ssci

Construction worker fatalities related to trusses: An analysis of the OSHA fatality and catastrophic incident database

Aneurin Grant^{a,*}, Jimmie Hinze^b^a Bldg. Const. Program, Dept. of Applied Science, Univ. of West Florida, 11000 University Parkway, Building 70, Pensacola, FL, USA^b M.E. Rinker, Sr. School of Bldg. Const., Univ. of Florida, 304 Rinker/P.O. Box 115703, Gainesville, FL, USA**1990-2009**

- 66% residential
- 68% falls
- 53% deficient or no bracing

Recommendations

- Assess the workplace hazards and plan each stage of construction – best practice, mitigate /prevent falls, follow manufacture guidelines

Fall Protection

Safe practices for setting and bracing wood trusses and rafters



Oregon Department of
Consumer & Business Services
Occupational Safety & Health Division

Ground assembly

- Reduce collapse potential
- Pre-installed anchors and lifelines before lifting



External and internal bracket scaffolds



Recommendations

Train supervisors and employees

- Communicate expectation for following safe practices
- Confirm that employees fully understand the hazards and controls required for the task assigned.

- ❖ Crew interviewed and hired over the telephone
- ❖ Crew not aware of a bracing plan
- ❖ Crew member with experience did not observe atypical practice
- ❖ No PPE provided or required
- ❖ No NEO (new employee orientation)



Key Findings (2003-2010)

- 1,917 workers died, nearly half (45.3%) from falls.
- Roofing 80.2% of fatalities were from falls.
- Ladder falls 23.0% fatal (12.7% in nonresidential construction)
- Approximately 1/3 of fatal falls occurred among self-employed

“Fall safety within residential construction lags behind commercial construction and construction in industrial settings”

Safety Pays, Falls Coast: A Foreman's Take on Fall Protection

Video



“Few things in communication research are known with certainty, here is one of them:
Adding crude drawing to text brings huge increases in comprehension.”

Dr. TJ Larkin & Sandra Larkin: *“You know safety, but admit it....you don’t know communication”*

More on Safety Communication

- **Technical communicators**
 - **Use simple language**
 - **5th-7th grade level (higher percentage of understanding)**
 - **Paper best for comprehension**
 - **Face-to-face best for change**

Dr. TJ Larkin & Sandra Larkin: *"You know safety, but admit it....you don't know communication"*

Exercise

1. A stick drawing to tell the story

Annual Report 2012 – pg 23 case 2012-4-1

Annual Report 2011 – pg 23 case 2011-28-1

Annual Report 2007 – pg 27 case 2007-49-1

Annual Report 2010 – pg 21 case 2010-02-1

2. 3 bullet points – simple text recommendations



Preventing Construction Fatalities: *The Toolbox Guide Initiative*

OR-FACE
PSU Occupational Health Psychology
Hoffman Construction
Fortis Construction
SAIF Corporation



PLAN

ahead to get the job done safely.

PROVIDE

the right equipment.

TRAIN

everyone to use the equipment safely.



OR-FACE

Tool Box Talk Guides: *Evidence-Based Structure*

FRONT: Scripted Story

BACK: Line Drawing

Toolbox Talk

Load of Lumber

INSTRUCTIONS side facing you

Our safety talk today is about a year-old framer from another company who died when a load of lumber fell on him. He was on a ladder to access a stairwell in a house while a rough bundle of lumber to weighed at least 600 pounds and tipped over. The lumber struck the victim's head and pinned him against the ladder. He fell to the first floor and probably died from the impact.

So here are some things happening where we work.

- Never exceed the load or extension limits of a lift or crane. You should be trained before you operate a lift or crane, and I can make sure you get the training.
- Never work directly under a load.
- Use a spotter and communication system to prevent lifts over workers.

ASK: "Does anyone have ideas for improving our communication systems?"

END WITH ACTION

- "Are there any other things we can do to make sure people are not under loads being moved?"
- "Does anyone have ideas for improving our communication systems?"
- "What do you all do to make sure people are not under loads being moved?"
- Discuss a similar situation at your current site.
- Express your commitment to training people for each machine they operate.
- Commit to follow-up at the next safety talk.

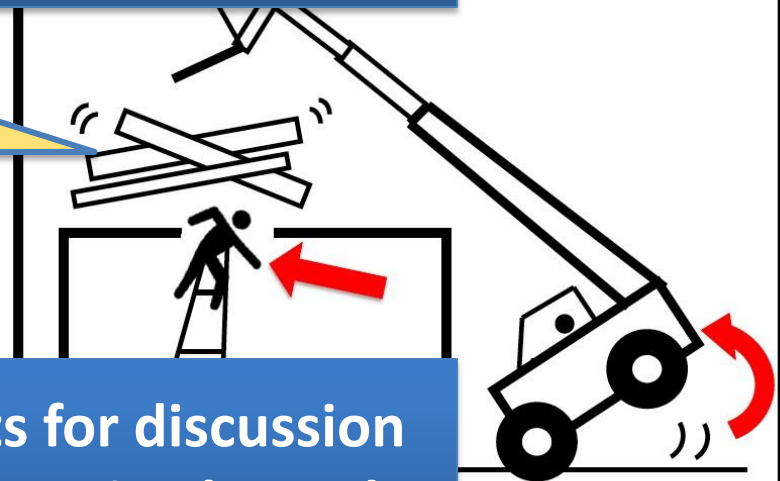
High urgency alert word in color

Script with instructions in black boxes

Line drawings increase understanding and viewing distance

Top 3 preventive actions in bullets

Prompts for discussion and correcting hazards

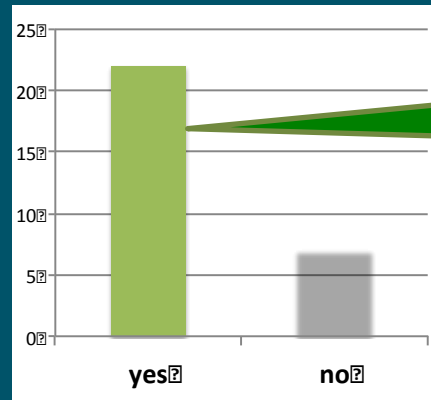


- Never exceed load or extension limits of a lift or crane
- Use a spotter and communication system to prevent lifts over workers
- Never work directly under a load

3 Field Studies (sample findings)

• Study 1: Current Pre-Shift Practices (n=28)

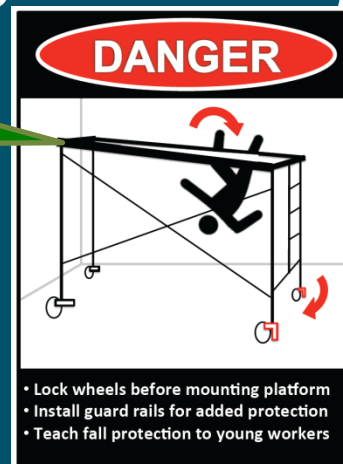
My company
conducts
pre-shift
talks/briefings



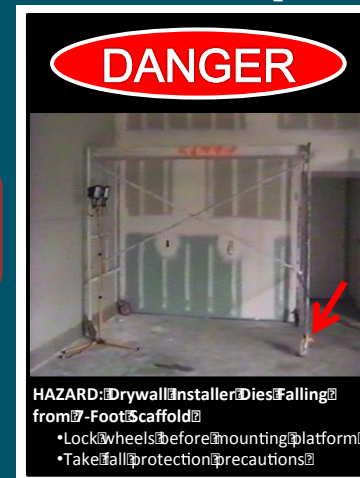
frequency
28% weekly
32% daily

• Study 2: Image Viewing Distances (n=30)

1 to 3 M
greater
viewing
distance



VS.



Study 3: Field Test (n=119)

Supervisors

Talk with
FACE report

VS.

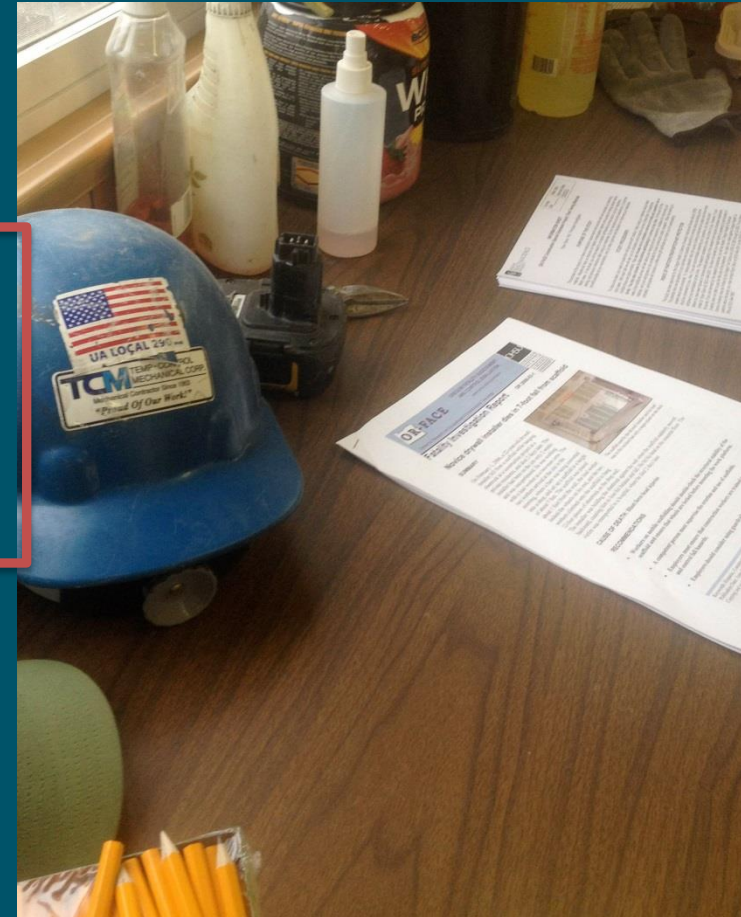
Talk with
Tool Box
Guide

**Preferred
3:1**

Workers

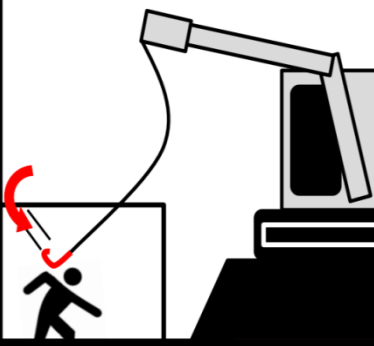
- **Reactions**
- **Behavioral intentions**
- **Preference**

Similar positive ratings
all $M > 3.7$ (out of 5)



Publications

FATAL HAZARD ⚠️



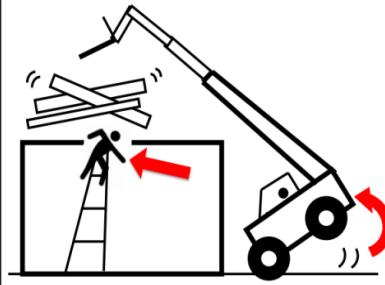
• Use hooks correctly
• Don't change hooks or other rigging setups
• Move beyond the reach of cables or rigging

FATAL HAZARD ⚠️



• Install guardrails, covers, or nets to block openings
• Wear fall arrest system when required
• Know location in case of emergency

FATAL HAZARD ⚠️



• Never exceed load or extension limits of a lift or crane
• Use a spotter and communication system to prevent lifts over workers
• Never work directly under a load

FATAL HAZARD ⚠️



• Work away from pinch points or swing pivot areas
• Avoid loose clothing when operating machinery
• Conduct hazard assessments for tasks to ensure safe work procedures

FATAL HAZARD ⚠️



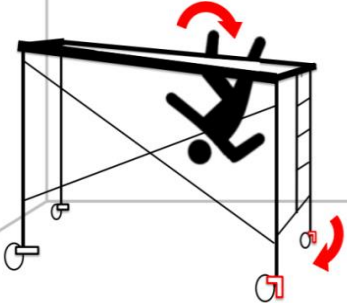
• Remove tool belt and avoid loose clothing while operating equipment
• Do not modify or use modified safety features on equipment
• Turn equipment off before exiting

FATAL HAZARD ⚠️



• Use a cricket or table to keep supplies stacked level and flat
• Never place ladder under unstable load
• Consider other access equipment

FATAL HAZARD ⚠️



• Lock wheels before mounting platform
• Consider guardrails for added protection
• Teach fall protection to young workers

CPWR Toolbox Talks



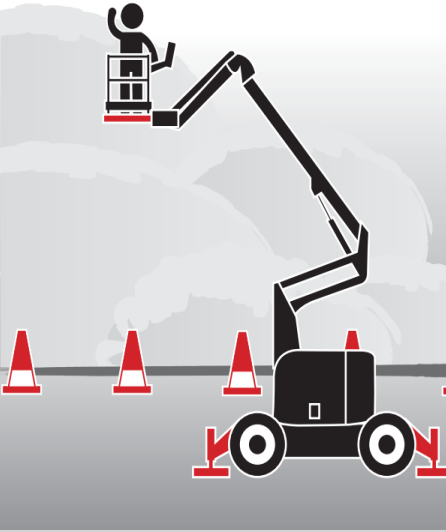
Falls: General Protection and Awareness



- Guardrails are required on work surfs.
- Guardrail must be 42 inches high. A mid-rail is required.
- Body harnesses with lanyards and self-retracting lifelines must be provided.



Aerial Lifts



- Set outriggers, brakes and wheel chocks, even if on a level surface.
- If working near traffic, set up work zone warnings using cones and signs.
- Stand on the floor of the bucket. Do not climb on or lean over guardrails.



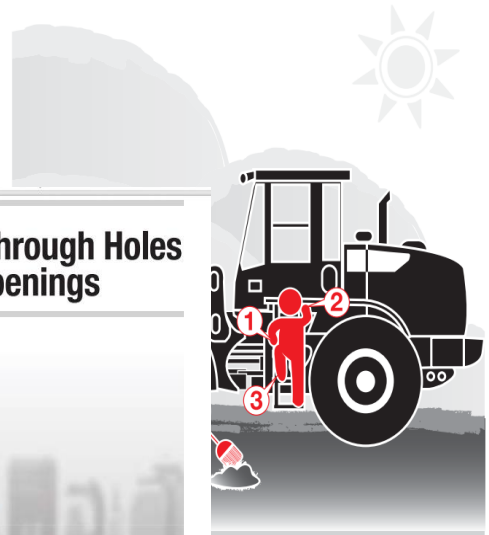
Falls from Moving Machinery



- Check the equipment and controls every day before you begin work.
- Always put the transmission in park, shut off the motor and set the brakes before working on equipment.
- If possible, operate equipment that has a ROPS (rollover protective structure) and fasten the seatbelt.



Equipment: Getting On and Off



on three-point contact when descending.
axis.
or conditions that will make the footing slippery.



Falls Through Holes and Openings



you have created or uncovered before you leave the work area.
word "HOLE" or "COVER" to provide warning of the hazard
r co-workers and if a hole is uncovered take action to cover it, EVEN
VER IT!



Oregon Fatality Assessment and Control Evaluation (OR-FACE)

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Oregon Fatality Assessment and Control Evaluation

OR-FACE is a NIOSH sponsored program designed to prevent occupational fatalities through surveillance, targeted investigation, assessment, and outreach associated with traumatic work-related deaths in Oregon. [See investigation reports](#)

Our Mission

The Oregon Fatality Assessment and Control Evaluation (OR-FACE) Program is a National Institute for Occupational Safety and Health (NIOSH) sponsored program designed to prevent occupational fatalities through surveillance, targeted investigations, assessment and outreach associated with traumatic work-related deaths.

Construction photograph by W. Kent Anger

Featured Investigation Report

[Driver killed when ejected from logging truck](#) (pub Mar 2015)

[Vineyard worker killed in fall from trailer](#) (pub Dec 2014) (rev Feb 2015)

National Safety Stand-Down

Participate in the Safety Stand-Down, May 4-15. Attend the May 8 Portland event. Complimentary course offered, OSHA 7405: Fall Hazard Awareness for the Construction Industry. [Event program](#)
 For registration and additional activities [click here](#). Visit the official [Campaign website](#) for training, resources, fatality map, videos and more.

News and Updates



February 2015

SAIF Agricultural Safety Seminar organizers Kirk Lloyd and Kevin Pfau collaborate with OR-FACE. The 2014-2015 seminar series incorporated OR-FACE information into two main topics: "Communication across generations" and "Lessons learned from serious injuries." The seminar (16 English and 8 Spanish sessions) is held in 18 cities throughout Oregon from October

OR-FACE Annual Reports

[2012](#) [2011](#) [2010](#) [2009](#)

[2008](#) [2007](#) [2006](#)

[2005](#) [2004](#) [2003](#)

All links above are PDFs. To ensure accurate fatality surveillance, each Annual Report is closed out and published approximately 18 months after the end of a study year. The projected release date for the 2013 Annual Report is July 2015.



Incident Abstracts



Oregon Fatality Assessment and
Control Evaluation (OR-FACE)

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Incident Abstracts

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If you are using OR-FACE data for your research, we'd love to hear from you! Please e-mail us at orface@ohsu.edu

Filter by Year

Filter By Industry

Show entries

Search all:

Abstract	Incident ID	Industry	Description	Report
	OR 2012-34	Construction	Ladder fall	
A 59-year-old construction worker died when he fell from a ladder and hit his head. He was working overhead on a four-foot ladder installing trim around a skylight opening. Co-workers heard a crashing sound, found the victim unconscious and called EMS. There was a wood stove and brick hearth nearby. It is unknown whether the victim struck either or both of these items, but EMS noted that they found no evidence of hitting the stove or hearth, with the possible exception of a small tear in the plastic on the hearth. There was a laceration on the right-side of the victim's head. Head CT showed a large subdural hematoma, large midline shift and multiple skull fractures. The worker remained unresponsive and died three days later when the ventilator was removed. The medical examiner declared that the cause of death was blunt force head trauma due to fall from height.				
	OR 2012-26	Construction	Ladder fall	
	OR 2012-08	Construction	Crushed by pipe	
	OR 2012-04	Construction	Ladder fall	
	OR 2011-55-1	Construction	40-foot fall	
	OR 2011-39-1	Construction	Dump truck fall	
	OR 2011-21-1	Construction	Plumber fall	
	OR 2010-35-1 (1989--	Construction	1989 scaffolding fall	
	OR 2008-46	Construction	Jump into river	

Proposed Projects

- **Mobile system to promote and evaluate**
 - **toolbox talks**
 - **hazard alerts**



Proposed Projects

- **Preventing falls in residential construction**
 - **Identify Participants**
 - Homebuilders Association
 - SAIF Corporation
 - **Study**
 - Experience in recent serious (non-fatal) fall from elevation will increase contractors participation in surveillance survey
 - Small grants program to supply fall prevention equipment and training.

Blogs



Oregon and the Workplace

Blog Home About What we do

National Safety Stand-Down for Construction

For those who aren't aware June 2-6, the National Safety Stand-Down for construction. A Safety Stand-Down is a voluntary event for employers to talk directly to employees about a specific topic. The purpose of this National campaign is to raise awareness of fall prevention in construction. Falls from elevation continues to be the leading cause of death for construction workers. In 2014 there were 775 construction fatalities recorded and 269 of these were caused by falls from elevation.

Suggestions to prepare for the Safety Stand-Down are provided by OSHA.

In addition to the resources provided, outstanding training materials (in Spanish and English) are available.

For more Oregon-specific Toolbox Talk (FACE) has toolbox talks based on OSHA's 10 most common violations.

OSHA will have a webpage (active June 2-6) for the Safety Stand-Down and download Center.

Let's all participate in preventing falls from elevation, June 2-6.

SHARE



Oregon and the Workplace

Blog Home About What we do

OR-FACE Publishes More Toolbox Talk Guides



Safety communication is an integral part of maintaining an injury prevention culture. Its implementation can be in a variety of methods such as warning labels, safety trainings and meetings, hazard alerts and informal communications between supervisors, workers, and co-workers. In her ~30 years of experience as a safety and health professional, Ila Gilbert-Jones, program manager of the Oregon Fatality Assessment and Control (OR-FACE) program, has learned that increasing the level of interaction between supervisor and workers about safety positively influences safe behaviors. Moreover, if the interaction is about real world, reliable events, the impact can be significant.

Toolbox talks are a common form of safety communication, especially in construction but they have been used daily pre-shift meetings in general industry. OR-FACE has created several toolbox talk guides and recently published four. These two-page documents are based on information gathered from Oregon fatality investigations. One side of the toolbox talk is a simple line drawing for viewing from a distance and for ease in understanding the key elements of the incident. At the bottom of the line drawing are key actions to prevent a similar incident. On the other side, are instructions for leading the toolbox talk, a narrative of the incident, bulleted items that reiterate the key prevention actions and a list of questions to facilitate a discussion on current practices, unsafe conditions, and commitment to an action plan.

The overarching goal of these toolbox talk guides is to provide supervisors/leaders with documents to increase interaction and positively influence safe behaviors. The format uses evidence-based safety communication principles and real-world (Oregon) reliable events.

SHARE

OR-FACE presents at logging and construction safety events



Clark Vermilion thanks Ila Gilbert-Jones on behalf of the CSS.

Oregon." You can find both presentations and resources on the OR-FACE website.

Submitted by Ila Gilbert-Jones, CIH, CSP, Oregon FACE Program Manager/Field Investigator.

Oregon Fatality Assessment and Control (OR-FACE) presented at the January meetings of the Washington Contract Loggers Association and the Portland Construction Safety Summit (CSS).

Jeffrey Wimer, OR-FACE Safety Consultant and State University Manager of Student Logging presented OR-FACE logging data and resources to 500 attendees at the annual WCLA Safety Summit near Olympia on January 17. The resource and OR-FACE will contribute to the Washington Logger Safety Initiative. The Oregon for industry had 91 FACE cases from 2003-2014, second in the highest number of total fatalities.

The Oregon construction industry ranks third in occupational cases. Ila Gilbert-Jones presented construction data and resources to 40 men at the January 20 meeting. Construction and logging are high risk industries in Oregon and providing out information to these two industry groups at OR-FACE mission to "prevent occupational fatalities, targeted investigation, assessment, outreach associated with traumatic work-related events."



SAIF agricultural safety seminars



Instructors Kirk Lloyd and Kevin Pfau.

SAIF Corporation is Oregon's not-for-profit workers' compensation insurance company. For the past 20 years SAIF has been providing free Agricultural Safety Seminars throughout Oregon. The well-attended 2014-2015 seminar series included 27 training sessions held in 18 cities and eight of the trainings conducted entirely in Spanish.

In the summer of 2014, OR FACE met with seminar organizers Kirk Lloyd, Kevin Pfau, and Chuck Easterly to discuss collaboration and intervention based on Oregon agricultural fatality data. Kirk and Kevin have been developing the seminar curricula for many years and are also the primary English session presenters.

OR FACE along with nearly 80 farm owners and workers attended the seminar held in Clackamas on February 26. The success of these seminars is evident in attendees returning year-after-year. One attendee at the Clackamas seminar mentioned that she started coming the 2nd year it was offered and hasn't missed one since. Kirk did an exceptional job in using personal stories that combined OR-FACE agricultural data and concepts in communication across generations. Kevin covered electrical safety and lessons learned from serious injuries. He facilitated successful group breakout sessions in which

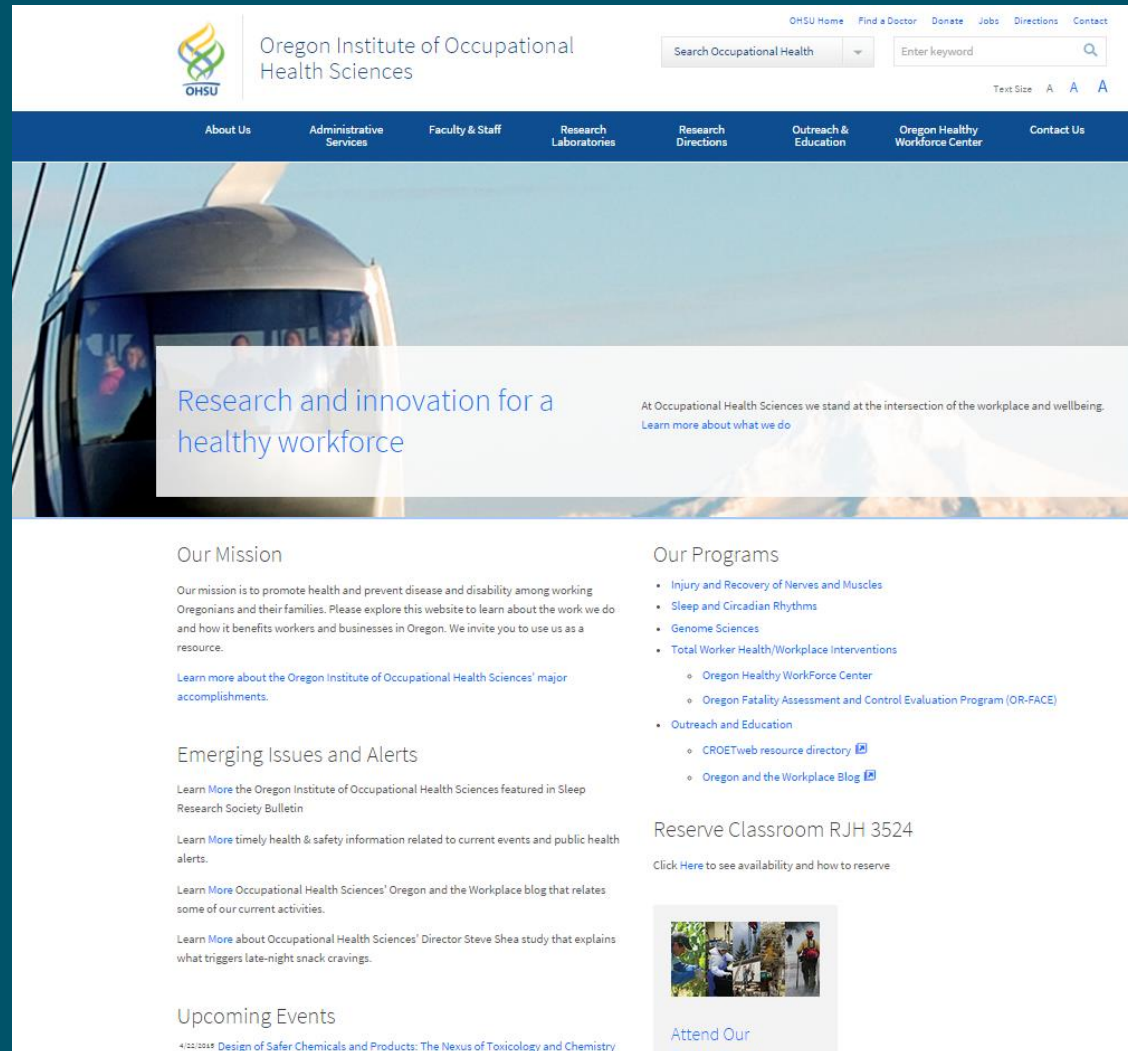
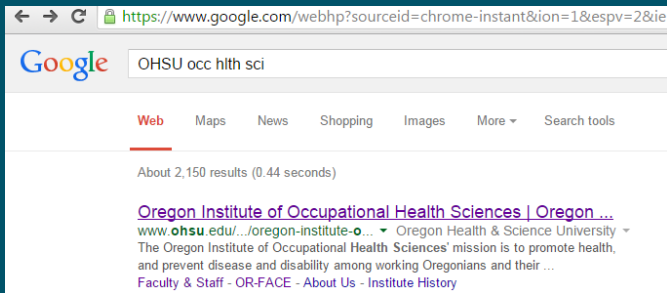


attendees analyzed the causes of a tractor fatality and an amputation case. Descriptions of the topics covered can be found here.



Other Resources

Google "OHSU occ hlth sci"



Oregon Institute of Occupational Health Sciences

Safety toolbox talks

— Online videos

— Newsletter

— Blog

CPWR/NIOSH/Washington University, St.Louis Fall Protection Resource for New Home Construction

www.ot.wustl.edu/fptech/index.htm

Welcome! Fall Protection Resource for New Home Construction

This website catalogs fall protection equipment for residential construction. Equipment is classified by the type of fall protection or the phase of construction. This website was supported by CPWR through NIOSH cooperative agreement OH009762.

Click on a picture below to enter that portion of the resource. If you are using Internet Explorer browser (version 7 or older) and the content is too large for your screen, click "Tools" on your IE browser – Select "Compatibility View settings", and remove the wustl.edu address from the list generated.

Type of Fall Protection



[PFAS](#)



[Guardrails](#)



[Hole covers](#)



[Safety Nets](#)



[Scaffolds](#)



[Lifts](#)



[Ladders](#)

Phase of Construction



[Floor joist](#)



[Wall](#)



[Floor sheathing](#)



[Window](#)



[Roof truss](#)



[Roof sheathing](#)



[Roof shingling](#)



[Siding](#)



[HVAC](#)



[Attic work](#)



[Maintenance](#)

CPWR/NIOSH/Washington University, St.Louis Fall Protection Resource for New Home Construction

Folds FP Type (Scaffold)

1-12 13-



Side Wall Staging Bracket System



WallWalker



Stacker Bracket



Aluminum Multi-Function



ULTRA-Jack Pole System



ALL PRO Pole System



Power Pole System



HitchClip Roof Jack



HitchClip Bunk Jack



UltraPro Steel Mobile Scaffold



Indoor Hanger Bracket



Bronco

Indoor Hanger Bracket Scaffold

Purpose

Working platform that hangs from interior walls. Adjustable for 2x4 or 2x6 wall widths. Minimum of 2 units needed for the system. Guardrails are available. Must provide own planking.

Phase of Construction

Floor joist installation, roof truss installation

Manufacturer's Device Page

[Qualcraft](#)

Installation

Warning: Users must strictly adhere to the manufacturer's inspection, installation, maintenance and use directions; and must follow local, state and federal safety regulations. Failure to do so could result in serious injury or death.

Vendor

[associated-scaffolding.com](#),
[qualcraft.com](#), [westernsafety.com](#),
[bigrocksupply.com](#)

Cost

\$40.00 - \$185



Indoor Hanger Bracket

Join the National Safety Stand-Down

To Prevent Falls in Construction

MAY 4-15, 2015



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Certificate of Participation

Thank you for joining thousands of employers in the 2015 fall prevention Stand-Down. I want to give you this certificate of participation to recognize that you took time to talk about falls with your crew. Your work is not done yet though, I challenge you to build on the big step you took today. Keep talking to your workers and dedicating yourself to preventing falls at your worksites.

Sincerely,

Thomas E. Perez
Secretary of Labor



2014 National Safety Stand-Down

All US Data by State/Territory

Approximately 100 companies held Stand-Downs in 2 or more states

NOTE: These totals differ from those listed above because international stand-downs are not included in the list by state/territory. The Fall Fatality data has been collected by CPWR's Data Center, and is no way proven to be directly correlated to the stand-down data, but is included to show the comparison between stand-downs conducted and number of workers killed by falls in each state.

State/Territory	Number of Stand-Downs	% of Stand-Downs	Number of Individuals Reached	% of Individuals Reached	Fall Fatalities from CPWR's 2013 Data	% of US Fall Fatalities in 2013
Alaska (AK)	28	0.59%	1,278	0.18%	1	0.49%
Alabama (AL)	61	1.28%	5,346	0.74%	2	0.97%
Arkansas (AR)	30	0.63%	3,324	0.46%	2	0.97%
Arizona (AZ)	91	1.91%	12,765	1.78%	5	2.43%
California (CA)	316	6.63%	243,176	33.9%	13	6.31%
Colorado (CO)	66	1.39%	9,669	1.35%	4	1.94%
Connecticut (CT)	113	2.37%	4,831	0.67%	2	0.97%
District of Columbia (DC)	26	0.55%	7,701	1.07%	0	
Delaware (DE)	14	0.29%	1,677	0.23%	1	0.49%
Florida (FL)	265	5.56%	25,839	3.60%	18	8.74%
Georgia (GA)	135	2.83%	15,465	2.15%	7	3.4%
Guam (GU)	51	1.07%	1,422	0.20%	0 (or N/A)	--
Hawaii (HI)	55	1.15%	5,034	0.70%	2	0.97%
Idaho (ID)	40	0.84%	883	0.12%	2	0.97%
Illinois (IL)	211	4.43%	18,812	2.62%	7	3.4%
Indiana (IN)	69	1.45%	40,187	5.60%	2	0.97%
Iowa (IA)	37	0.78%	1,797	0.25%	2	0.97%
Kansas (KS)	55	1.15%	4,970	0.69%	2	0.97%
Kentucky (KY)	70	1.47%	7,524	1.05%	4	1.94%
Louisiana (LA)	104	2.18%	13,032	1.81%	4	1.94%
Maine (ME)	25	0.525	1,325	0.18%	3	1.46%
Maryland (MD)	109	2.29%	12,600	1.75%	4	1.94%
Massachusetts (MA)	79	1.66%	4,728	0.66%	4	1.94%
Michigan (MI)	183	3.84%	6,118	0.71%	6	2.91%
Minnesota (MN)	73	1.53%	18,720	2.61%	3	1.46%
Mississippi (MS)	55	1.15%	2,598	0.36%	3	1.46%
Missouri (MO)	96	2.01%	6,849	0.95%	3	1.46%
Montana (MT)	18	0.38%	347	0.05%	1	0.49%
Nebraska (NE)	23	0.48%	1,901	0.26%	1	0.49%
Nevada (NV)	30	0.63%	4,271	0.59%	3	1.46%
Oklahoma (OK)	47	0.99%	1,624	0.23%	4	1.94%
Oregon (OR)	19	0.40%	2,252	0.31%	2	0.97%
Pennsylvania (PA)	257	5.39%	27,733	3.86%	2	0.97%
Puerto Rico (PR)	34	0.71%	1,062	0.15%	2	0.97%
Rhode Island (RI)	13	0.27%	6,731	0.94%	2	0.97%
South Carolina (SC)	60	1.26%	5,074	0.71%	1	0.49%
South Dakota (SD)	6	0.13%	142	0.02%	2	0.97%
Tennessee (TN)	55	1.15%	8,954	1.25%	4	1.94%
Texas (TX)	439	9.21%	40,438	5.63%	27	13.11%
Utah (UT)	40	0.84%	6,341	0.89%	2	0.97%
Vermont (VT)	32	0.67%	1,570	0.22%	0	--
Virginia (VA)	82	1.72%	12,543	1.75%	10	4.85%
Washington (WA)	71	1.49%	5,934	0.83%	2	0.97%
Wisconsin (WI)	117	2.46%	5,850	0.81%	5	2.43%
West Virginia (WV)	26	0.55%	1,850	0.26%	3	1.46%
Wyoming (WY)	39	0.82%	1,857	0.26%	0	--
TOTAL	4,765		718,217	100%		100%

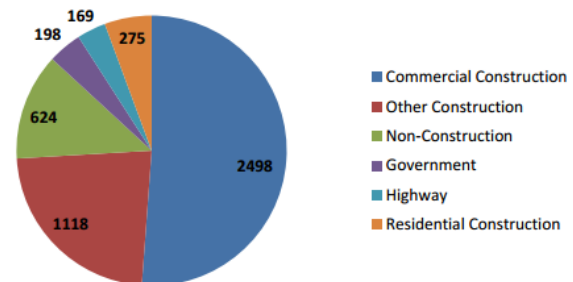
NOTE: The following data is based on information gathered only from the OSHA Stand-Down certificate database, where participants voluntarily entered their information in exchange for a certificate of participation. It does not include other sources of information, such as emails and anecdotes received by OSHA and CPWR. The actual numbers are likely much larger. For example, the US Air Force alone reached over 650,000 military and civilian personnel internationally.

Total Number of Entries Submitted: 4,882

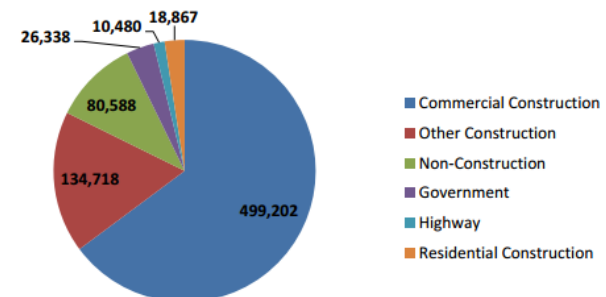
Total Number of Individuals Reached: 770,193

Type of Construction	Percentage of Entries Submitted	Percentage of Individuals Reached
Commercial Construction	51.17%	64.82%
Other Construction	22.9%	17.49%
Non-Construction	12.78%	10.46%
Government	4.06%	3.42%
Residential Construction	5.63%	2.45%
Highway	3.46%	1.36%

Number of Distinct Entries



Number of Individuals Reached



Questions/Comments