

# Fatal Falls from Elevation in Construction: Analysis of Incidents in Washington

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# Washington FACE Program

- **Goal:** Prevent work-related fatal injuries and acute trauma injuries

Three Primary Program Activities:

- 1) Tracking all work-related acute trauma fatalities in Washington State.
- 2) Investigations of a select number of these incidents.
- 3) Developing and disseminating interventions for the prevention of fatal injuries.

# WA FACE Prevention Efforts

## **Four Types of Written Materials**

### 1) Fatality Narratives

Monthly email distribution of construction fatality narratives for each incident in the industry.

### 2) Investigation Reports

In-depth investigations of selected fatalities based on NIOSH and Washington FACE priorities using root-cause analysis.

### 3) Hazard Alerts

Brief documents alerting an industry to a specific incident and hazard based on a recent fatal outcome.

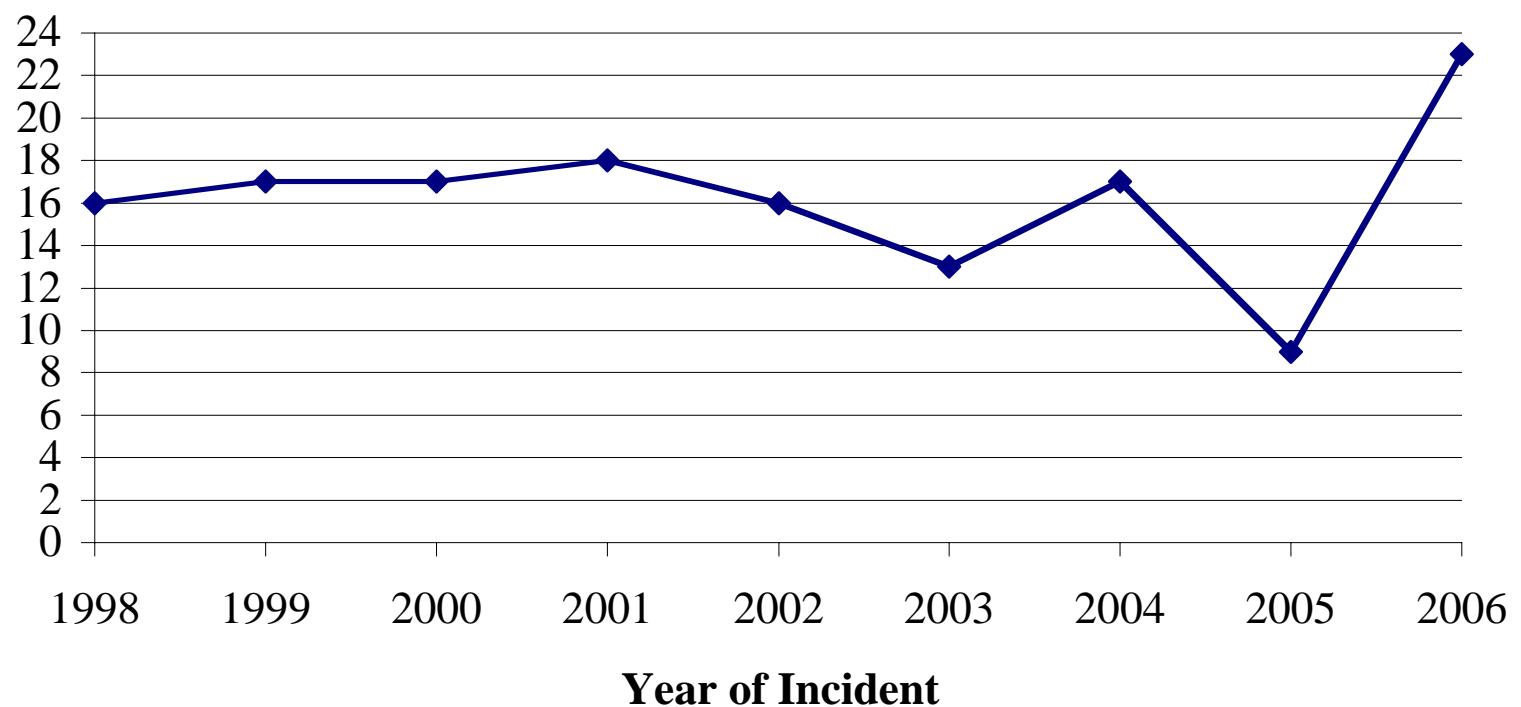
### 4) Case Series

A document similar to a hazard alert but highlighting a hazard that has resulted in multiple recent incidents in the state.

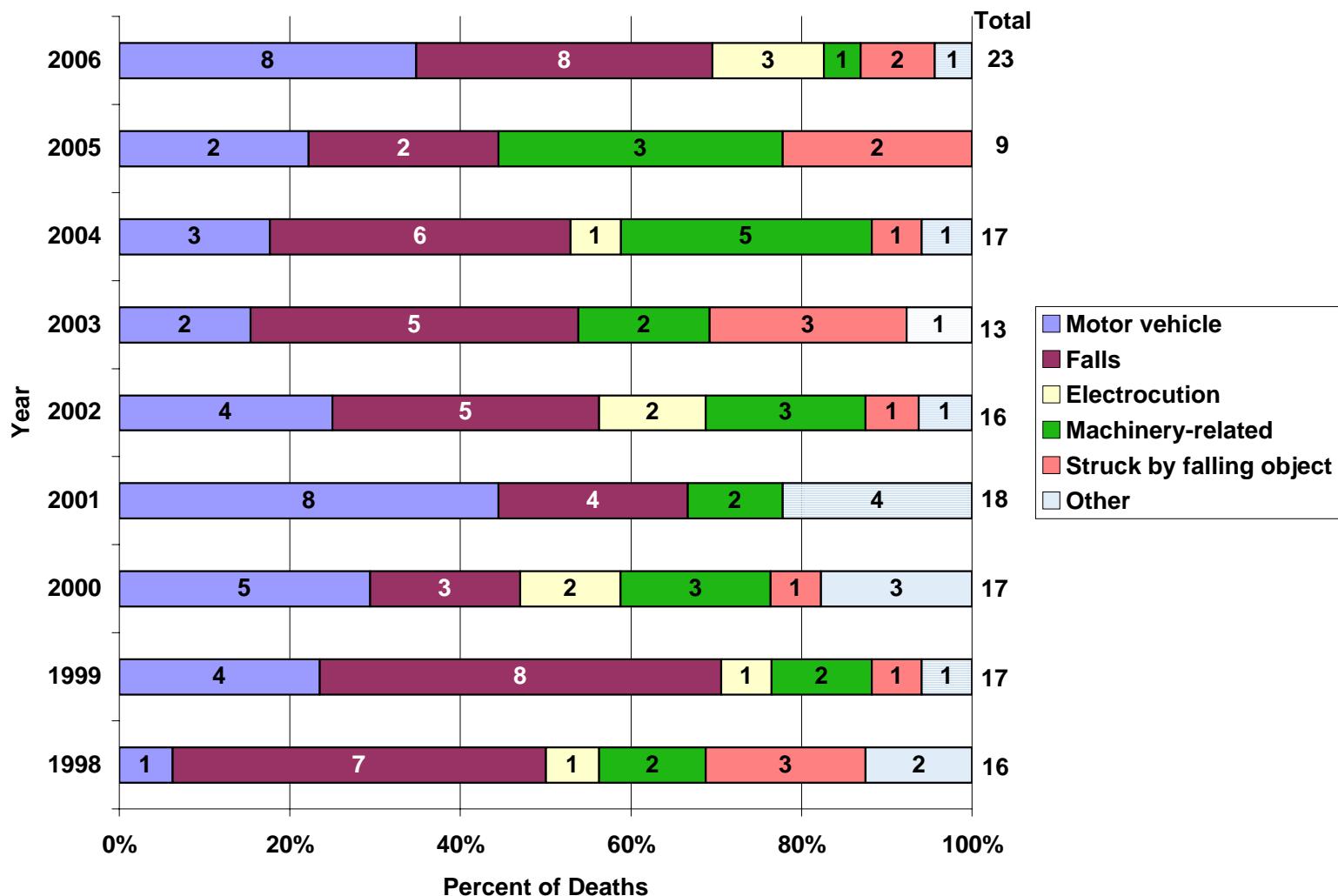
Everything is on the WA FACE web site:

[www.lni.wa.gov/safety/research/face](http://www.lni.wa.gov/safety/research/face)

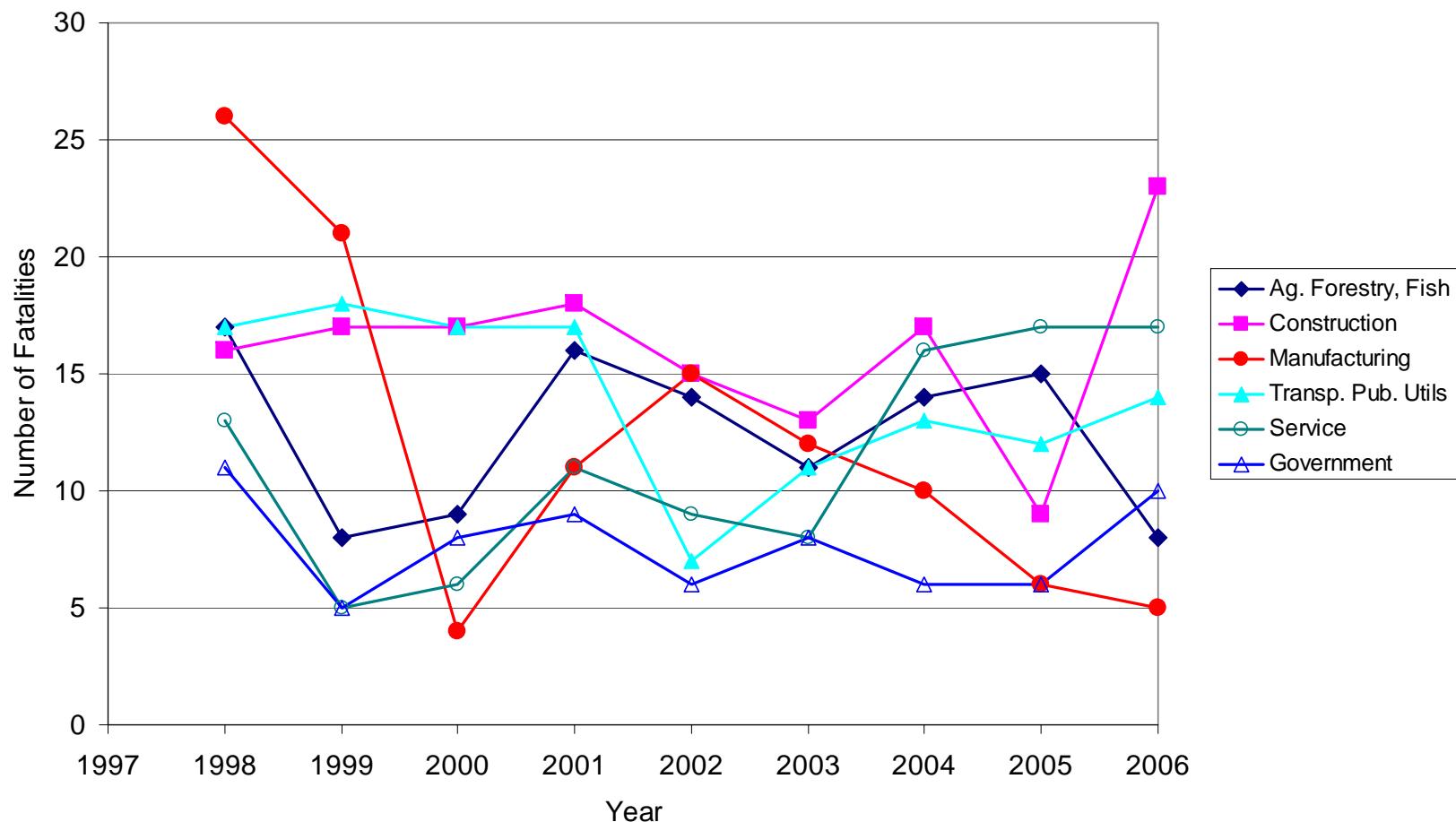
# Washington State Fatalities in Construction, 1998-2006



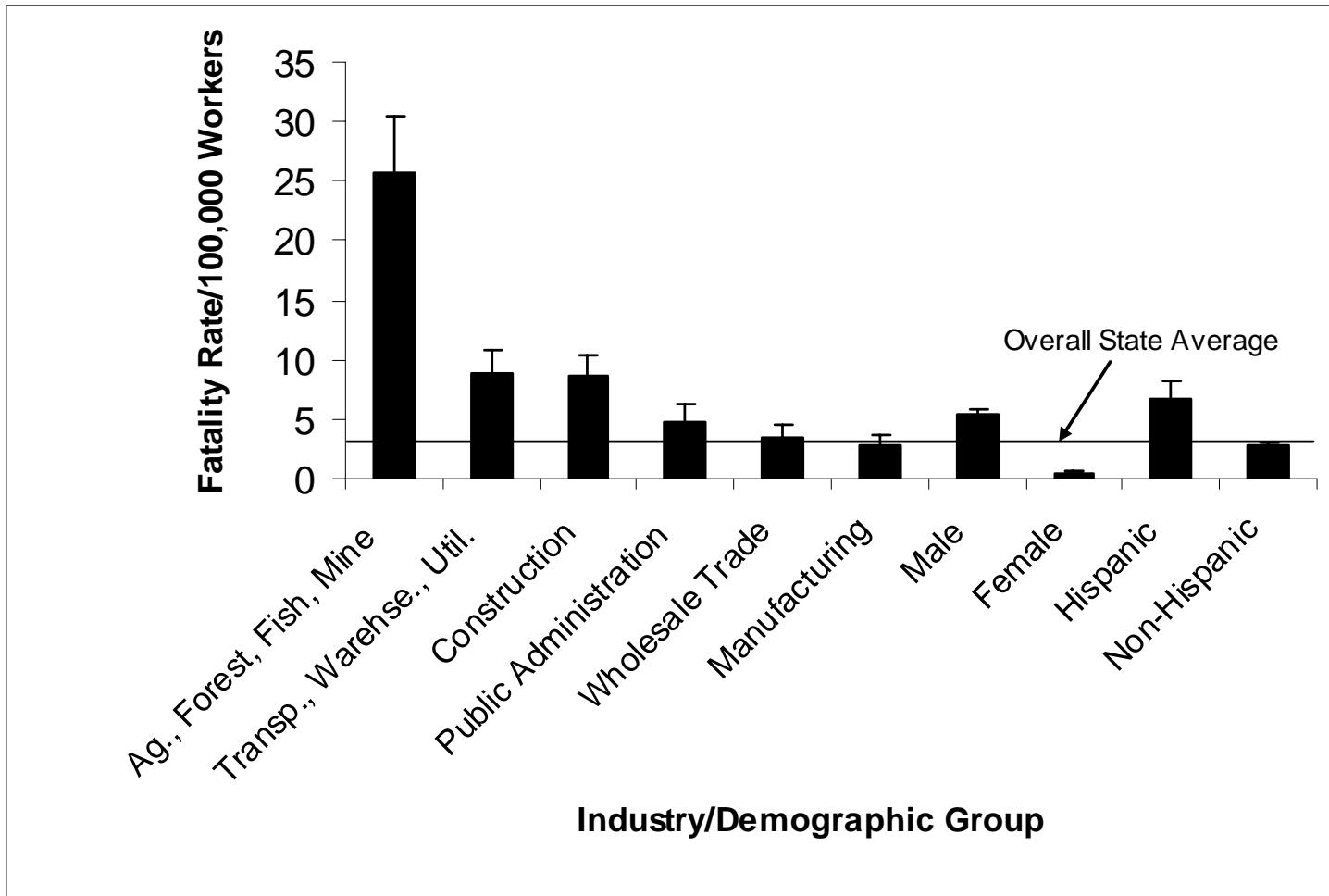
# Type of Fatal Incident in Construction by Year, 1998-2006



# Washington State Fatalities by Industry Group, 1998-2006



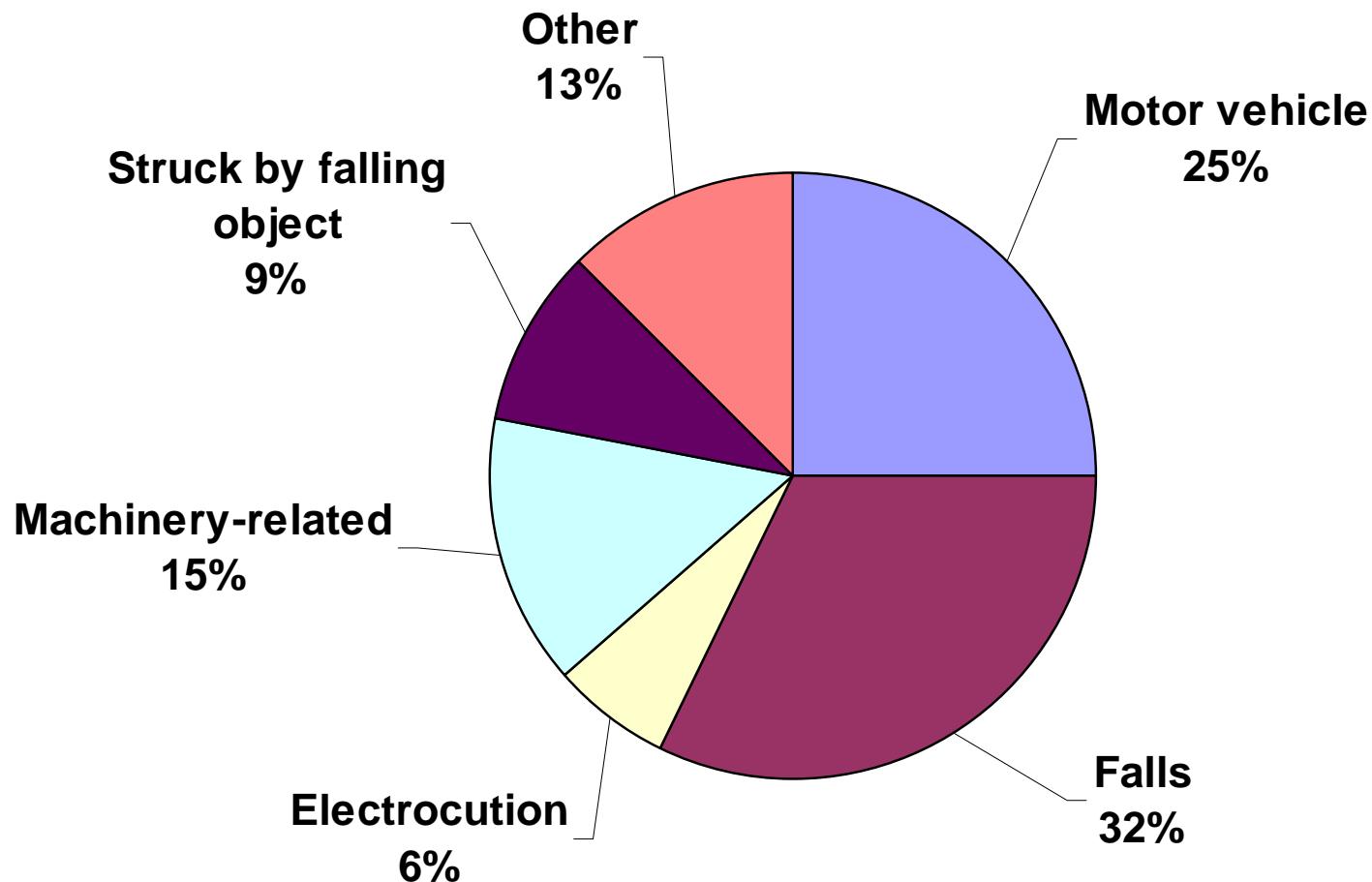
# WA Fatality Rates by Industry, 1998-2002



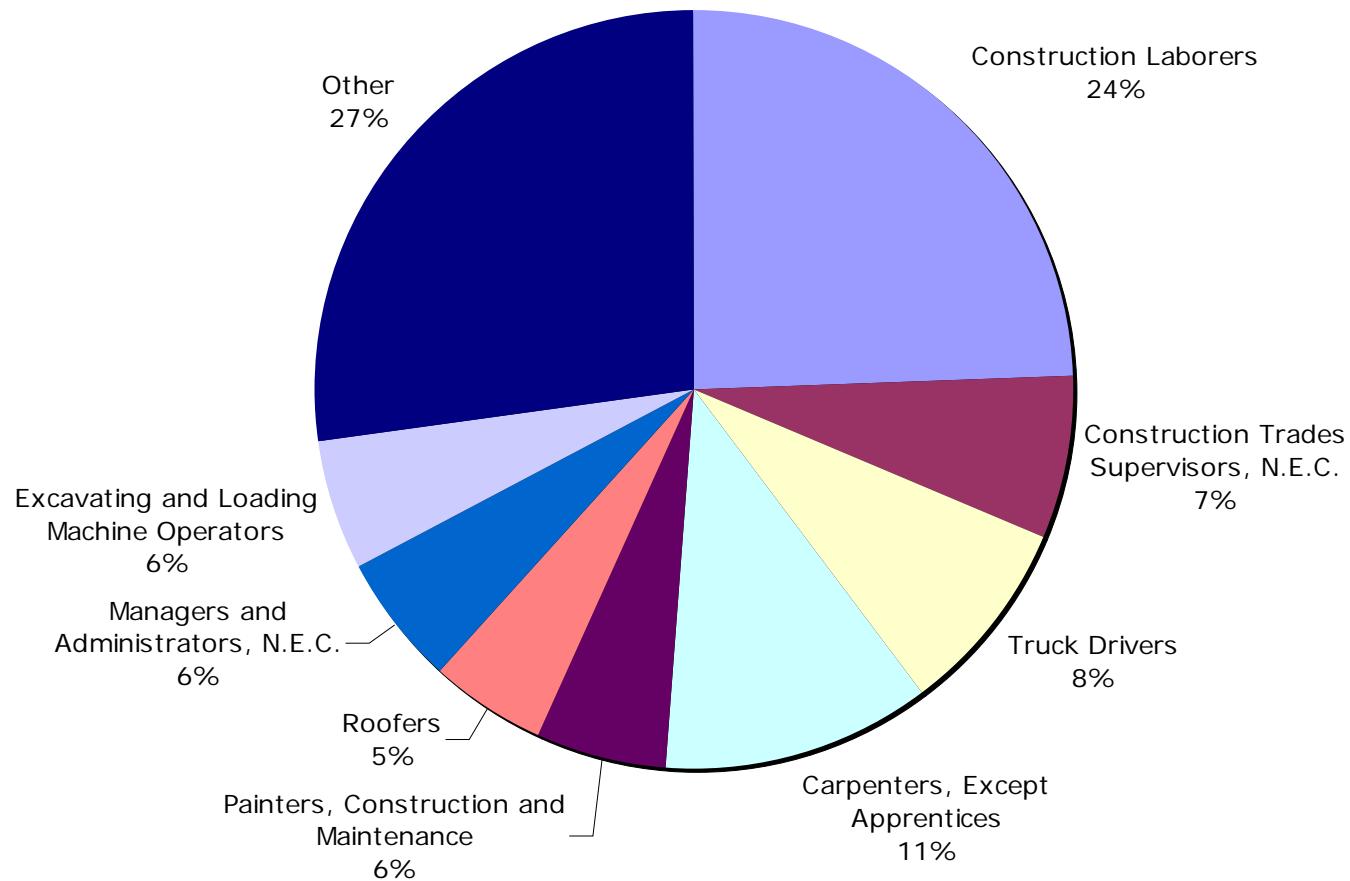
Source: WA FACE Program and CPS Data

# Incident Types in Construction, 1998-2006

137 deaths

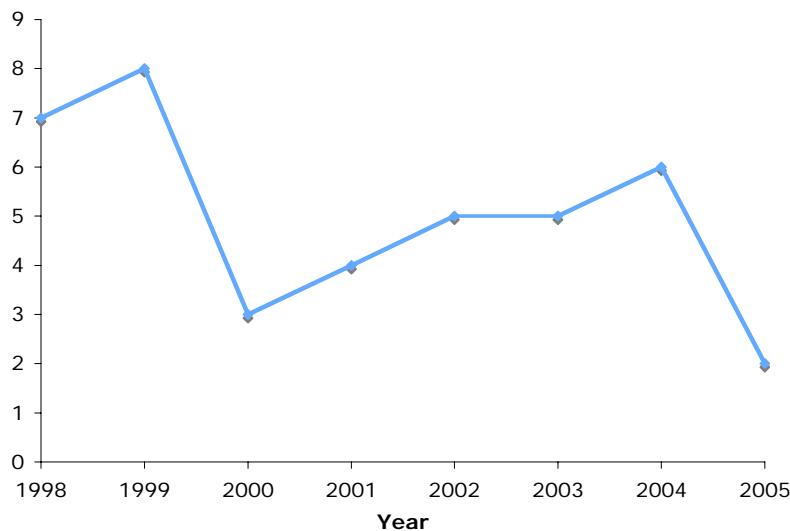


# Occupations in Construction, 1998-2006



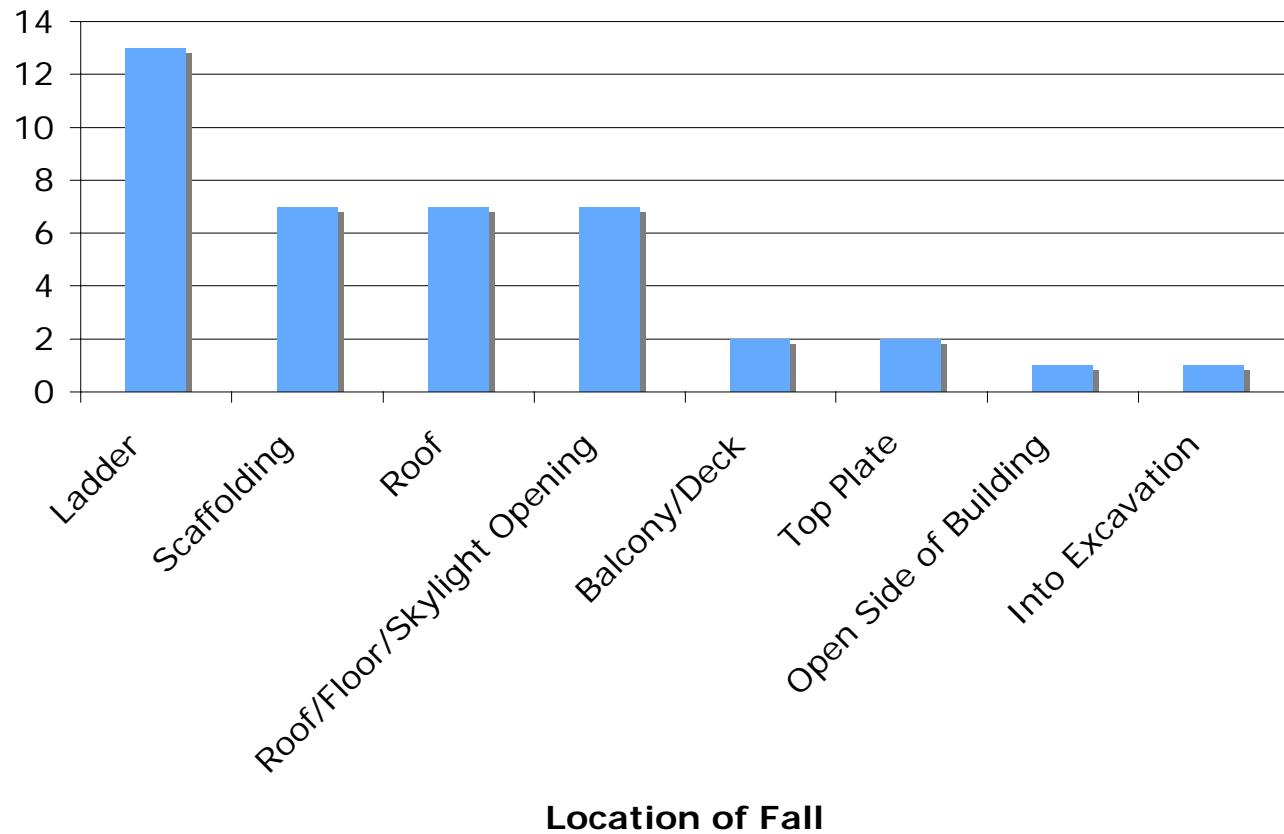
# Falls from Elevation in Construction

- 48 fatal falls out of 137 construction fatalities in Washington 1998-2006
- Between 1998-2005 Over 50% of fatal falls were from less than 20 ft



Distance of Fall (feet)	Fatalities
1 – 9	5
10 – 19	16
20 – 29	12
30 – 39	4
Over 39	2
Unknown	1

# Fatal Construction Falls by Location of Incident



# Preventing Construction Falls

- **Identify fall hazards.** All tasks that expose workers to a potential fall should be identified.
- **Perform risk assessment/job hazard analysis.** Assess the risk level of falls to employees. For example, for a given task consider the height at which work will be done, type of surface, experience and knowledge of workers, and nature of task.
- **Train employees.** Train employees to recognize and avoid unsafe conditions.
- **Control the risk.** Can a safer method be substituted? Where workers are exposed to a fall hazard- implement measures to ensure their safety.



# Preventing Falls: Ladders

- Can the work be done in another, safer manner?

If not:

- Use the type and length of ladder that provides the safest application for the work being done.
- Set up straight ladders and extension ladders using the “4 to 1” rise to run rule to obtain the most stable working position.
- Ensure that the ladder remains stable by appropriately using ladder footings, stabilization and site preparation.
- When straight ladders are used to access an upper landing, secure the ladder at the top and bottom.
- Straight ladders should extend at least 3 feet above the upper landing surface.
- Maintain 3-points of contact with a ladder while climbing. Do not carry tools and materials up ladder.
- Do not stand on the top two steps of a stepladder.
- Follow manufacturer’s recommendations.



# Preventing Falls - Scaffolding

- Scaffolds must be erected, moved, or dismantled under the direct supervision of a competent person.
- Manufacturer's instructions must be followed when erecting scaffolds.
- Footings or anchorages for scaffolds should be sound, rigid and capable of carrying the maximum intended load without settling or displacement.
- Anyone working on or from a scaffold needs to be protected from falling by using guardrails, personal fall restraint, or fall prevention systems.

# Preventing Falls - Roof/Floor/Light Openings

- When working in the vicinity of temporary roof openings, precautions must be taken to protect the worker, such as using guardrails, safety nets, or a fall prevention/arrest system.
- Temporary roof openings may be securely covered and labeled with a warning sign.
- Guardrails or covers over skylights must be installed before construction work begins and remain in place until work is completed.
- Skylights should never be stepped on or leaned against, as they may not be strong enough to support the weight of a person.
- Cut holes immediately prior to installation.
- Safe access and egress must be provided.
- Physical fall protection is preferred for roof work.

# THANK YOU!

- 58 Construction Fatality Narratives, Data, and Publications on Hazards Available:

[www.Lni.wa.gov/Safety/Research/FACE](http://www.Lni.wa.gov/Safety/Research/FACE)

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