

# Noise in construction: Why should we care?

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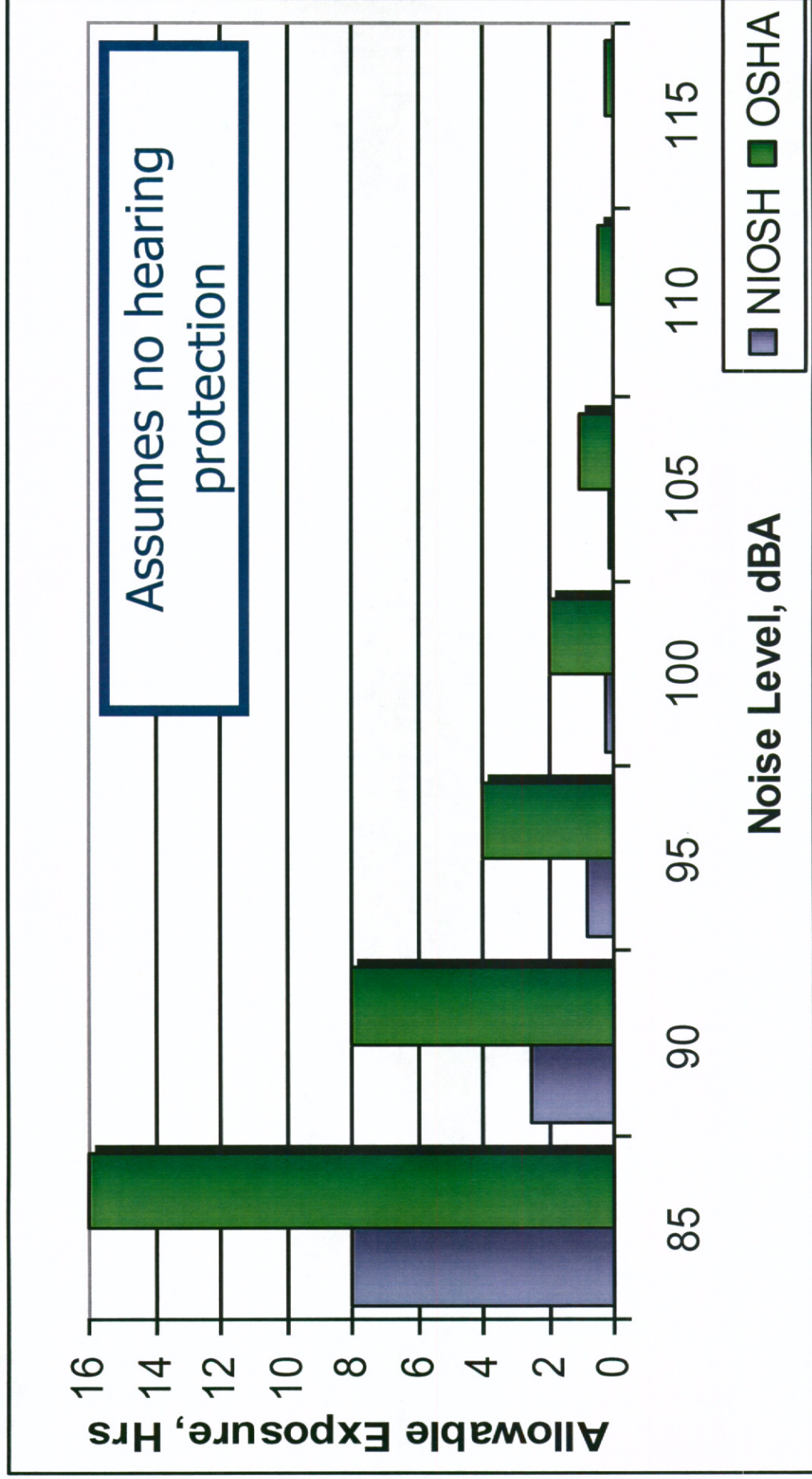
# Introduction

- Research on noise and hearing loss in construction, 1997-2011
  - 10-yr longitudinal study of noise-induced hearing loss (NIHL) in construction apprentices
  - Hearing protection intervention study
  - ANSI A10.46 working group, “Hearing Loss Prevention in Construction and Demolition Workers”

# What's so special about construction?



# Noise standards: OSHA vs. NIOSH

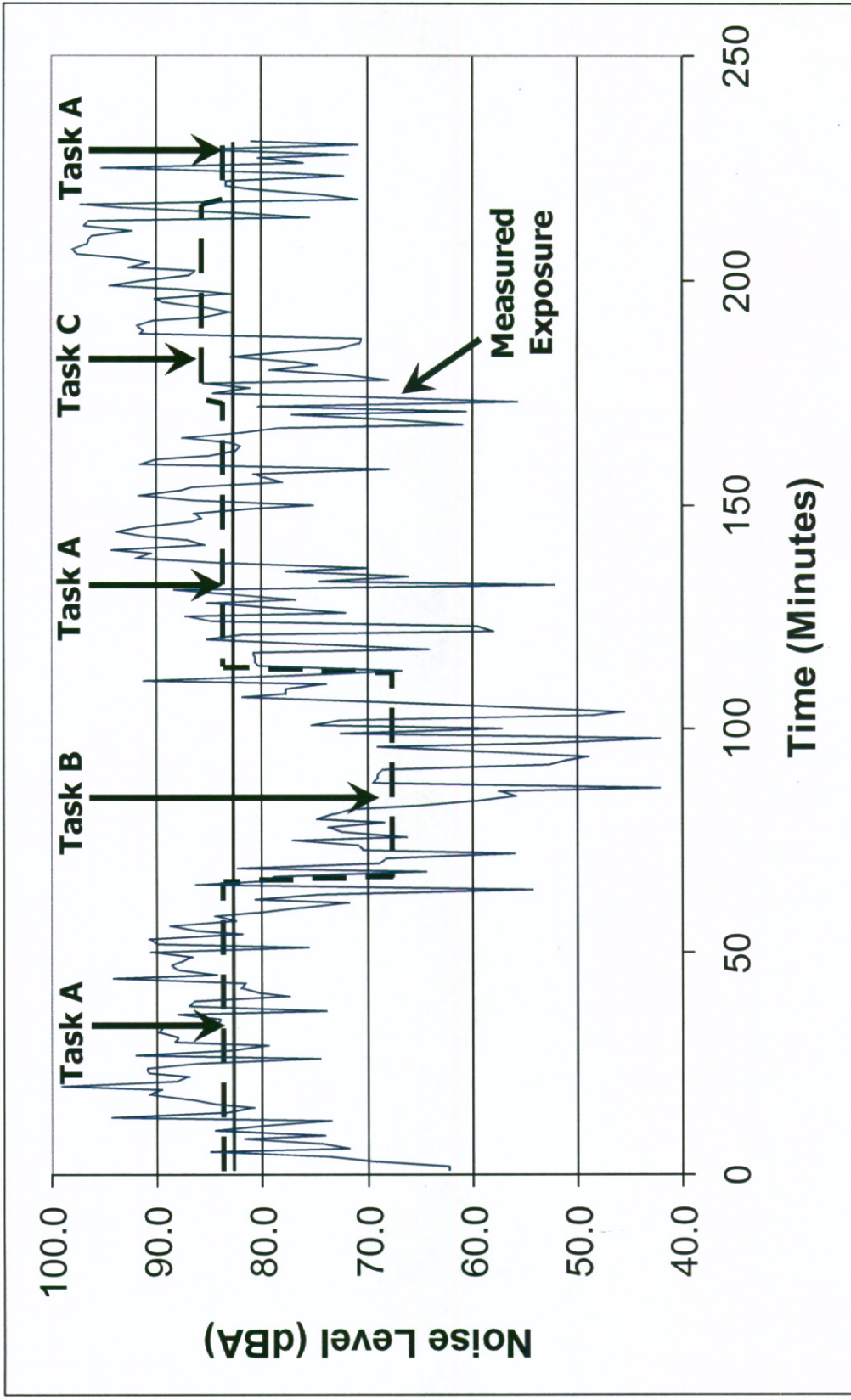


# How do we measure noise in construction?

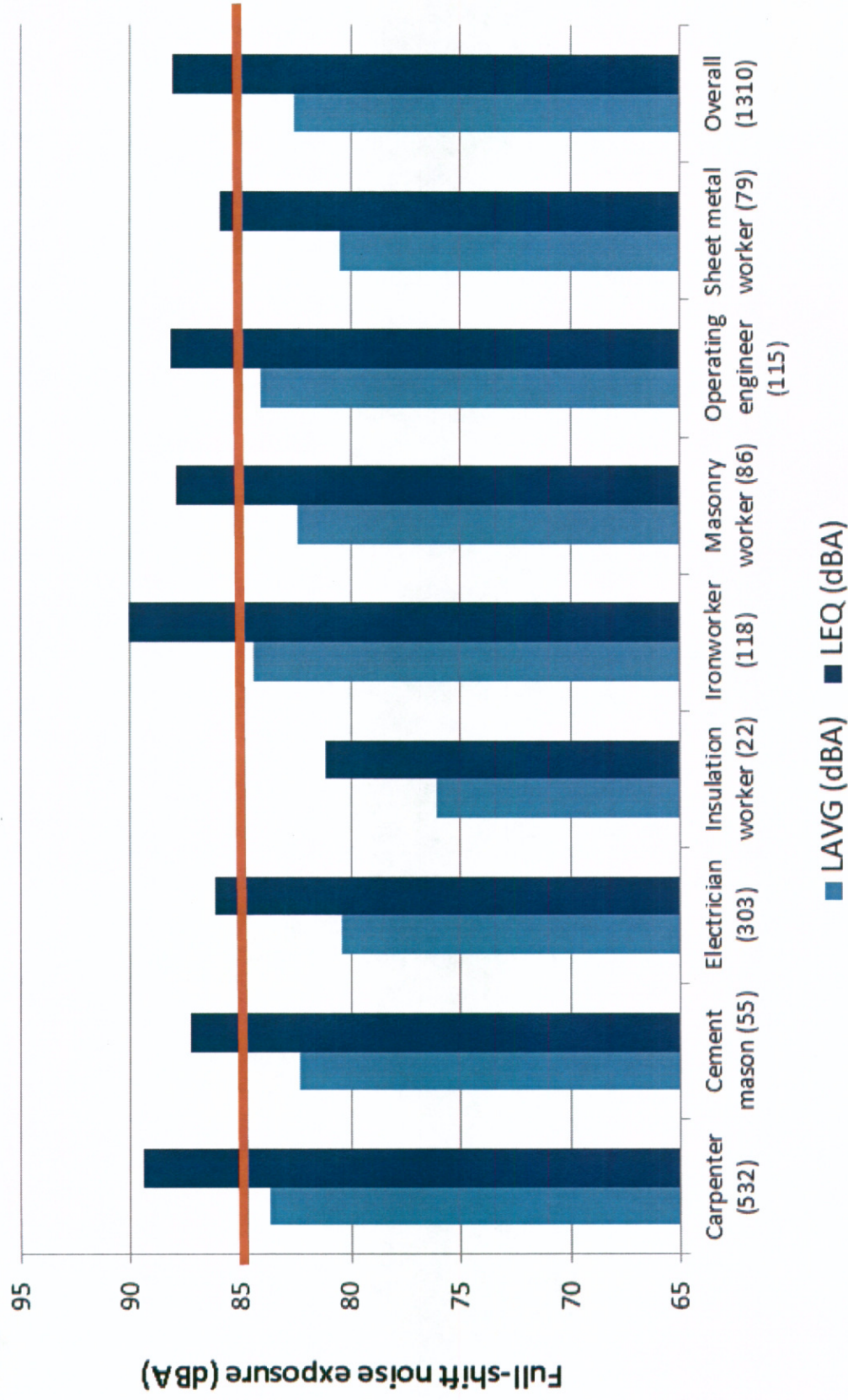
- Gold standard
  - Full-shift datalogging dosimetry
  - NIOSH  $L_{eq}$  and/or OSHA  $L_{avg}$ ,  $L_{max}$
- Alternative approach
  - Task- or tool-based measurements using a sound level meter
  - Sound pressure level



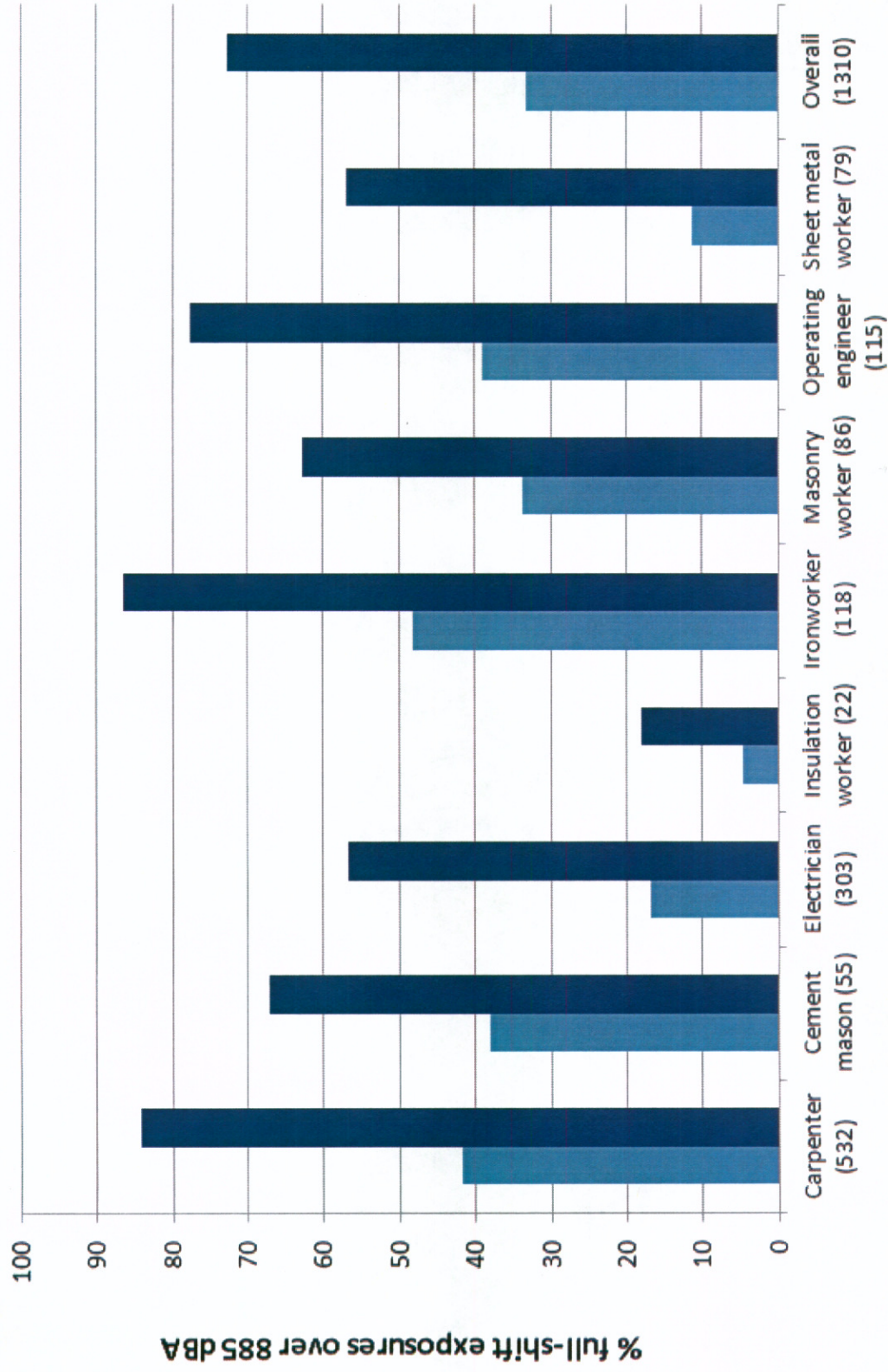
# What do we know about noise in construction?



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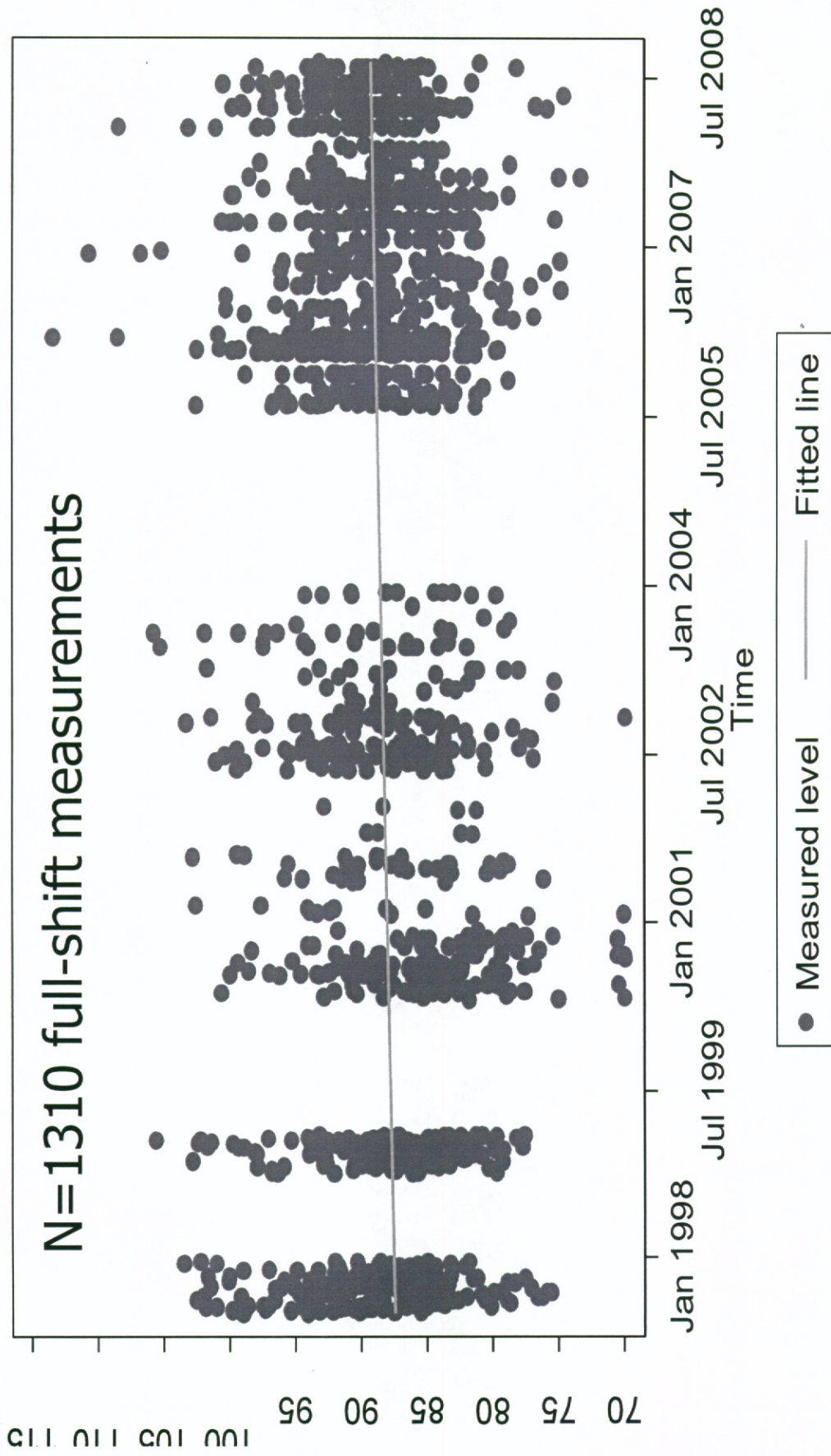
Neitzel et al, 2011



# What do we know about noise in construction?

<b>Tool</b>	<b>Average noise level (dBA)</b>	<b>Maximum noise level (dBA)</b>
Welding and Cutting Equipment	94.9	122.8
Other Hand Power Tool	95.4	118.3
Hand Power Saw	97.2	114.0
Screw Gun/Drill Motor	97.7	123.7
Rotohammer	97.8	113.5
Chopsaw	98.4	117.7
Rattle Gun	98.4	131.1
Stationary Power Tool	101.8	119.8
Chipping Gun	103.0	119.2
Powder Actuated Tool	103.0	112.8

# Is there any long-term trend in construction noise?



# What about hearing protection?

Different people have different patterns of use of personal protective equipment...



Ironworker

Photo by Vincent Laforet / The New York Times



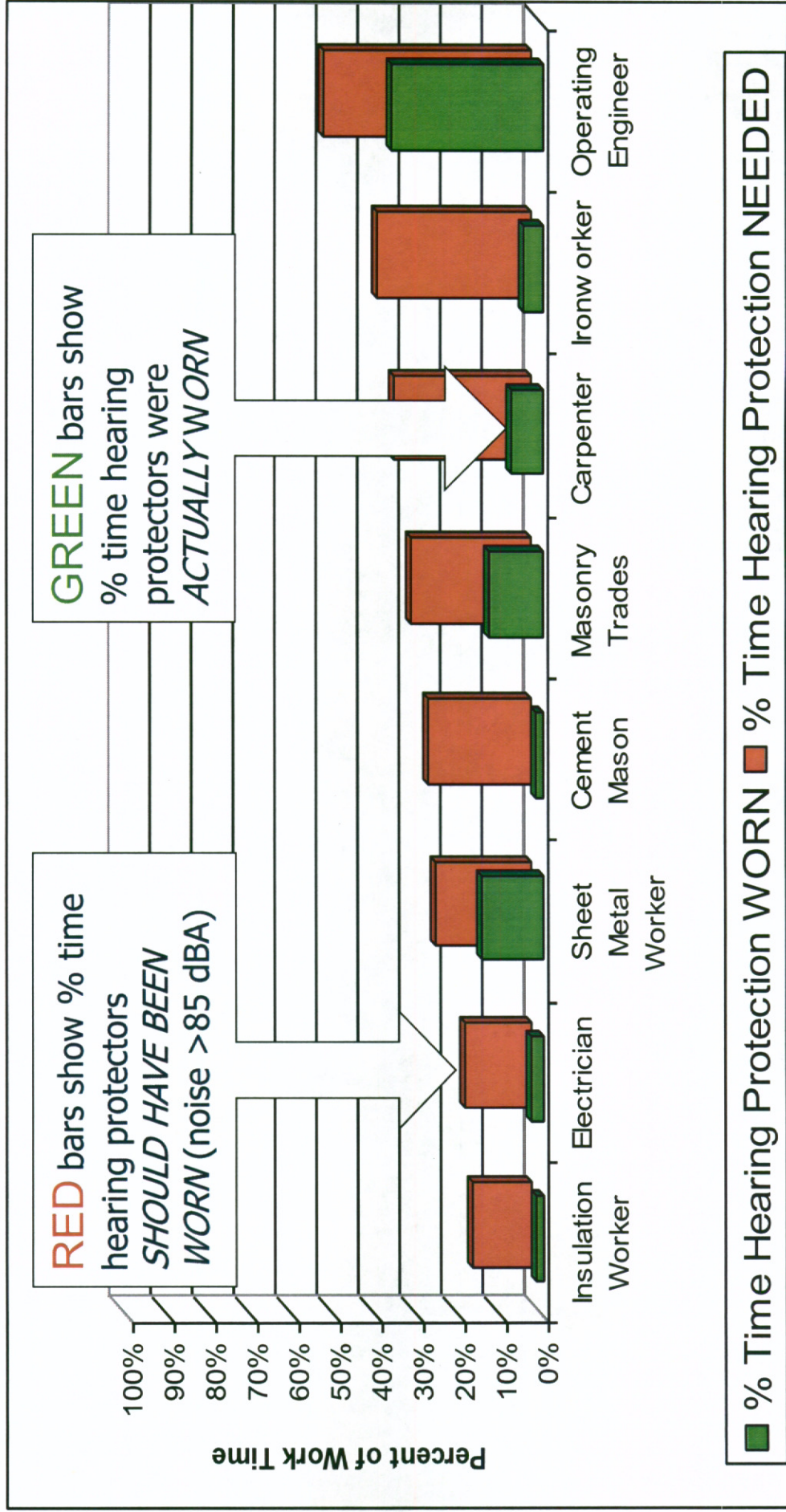
Industrial Hygienist

# Issues with hearing protection

- Issues with hearing protector fit
- Unpredictable noise

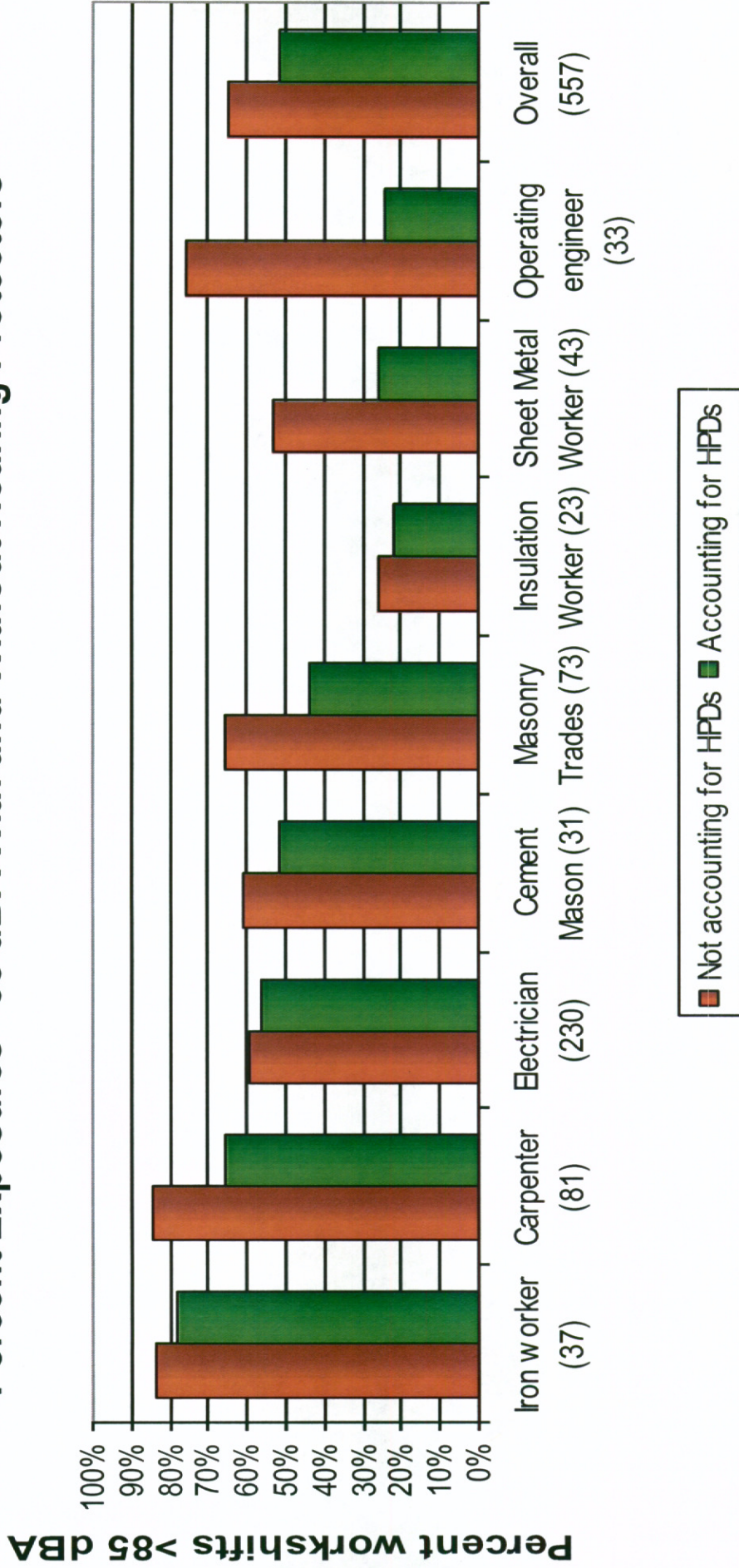


# What do we know about hearing protection use in construction?



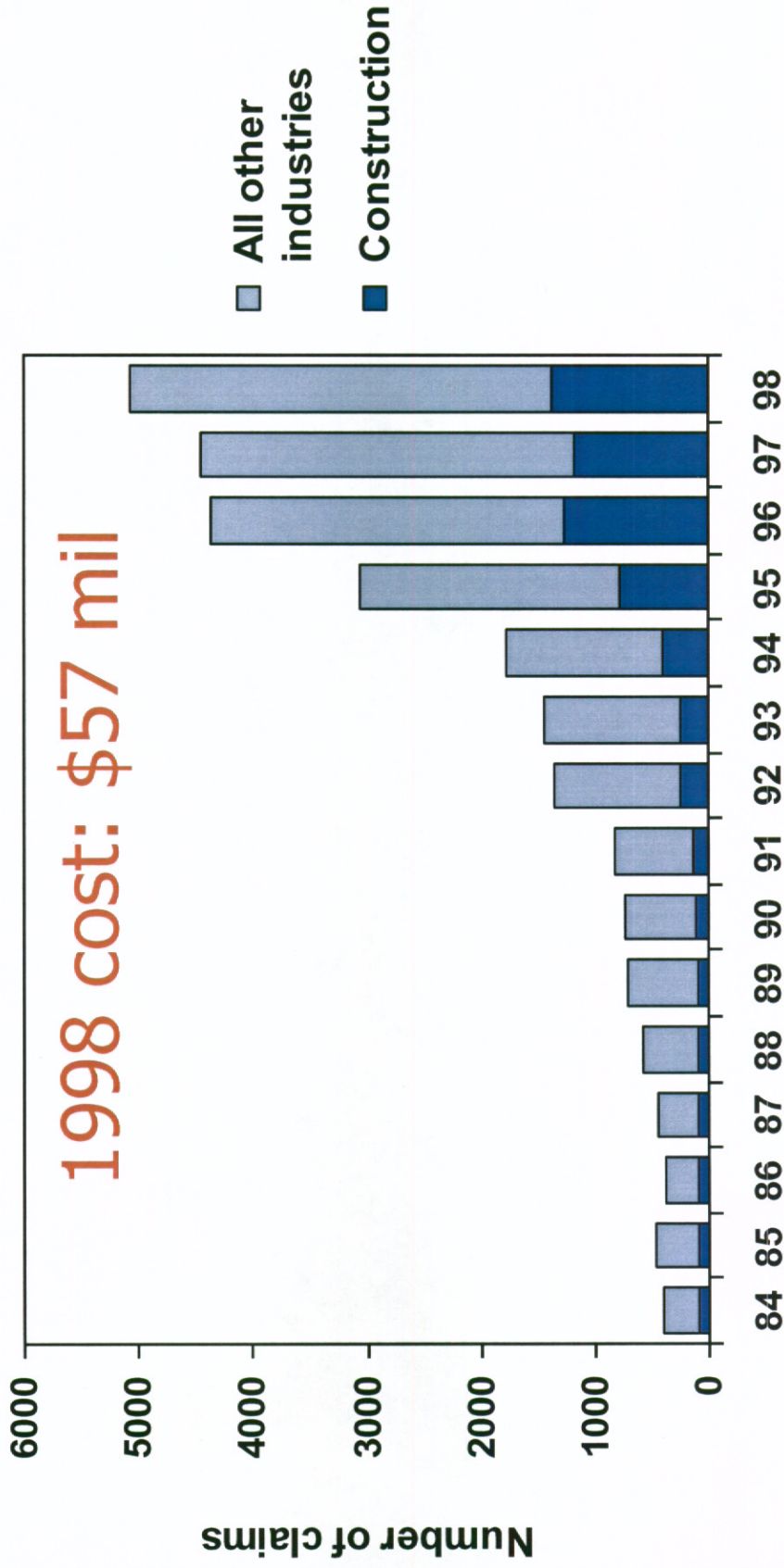
# What do we know about hearing protection use in construction?

Percent Exposures >85 dBA With and Without Hearing Protectors



# So what?

Studies show NIHL in 1/3 - 2/3 of construction workers



Year claim was filed (1984-1998)

# Questions?

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