

# Oregon Construction Experience

## Heavy Construction (SIC) 16

### All Injuries vs. Musculoskeletal Injuries, Claims Rates and Cost per Hour 1997-2001

Based on data from Oregon Department of Consumer and Business Services, Information Management  
Division and Oregon Employment Department

# Introduction

- In fall 2002, Oregon OSHA's Stakeholder Ergonomics Steering Committee (O-SESC) broke out into two industry focus groups, healthcare and construction. The construction group, the Construction Ergonomics Initiative, is working to generate interest in ergonomics in the construction industry. The group's first effort was to look at soft-tissue injuries in the industry. This presentation, one for Heavy Construction, along with three others (All Construction, Building Construction, and Specialty Trade Contractors) looks at Oregon's musculoskeletal disorder (MSD) accepted disabling claims (ADC) rates for the last five years (1997 to 2001). Also, the claims costs and industry employment numbers were used to figure the costs per hour worked for all claims and MSD claims. The Oregon Department of Consumer and Business Services' Information Management Division (IMD) provided the claims characteristics and costs data, while the Oregon Employment Department's Oregon Labor Market Information System (OLMIS) provided the employment numbers. The Construction Ergonomics Initiative hopes this information will help draw attention to the MSD injury costs and encourage the construction industry to make changes to reduce these injuries.
- Informational notes are provided for each slide. Choose the Notes Page view to see the notes.

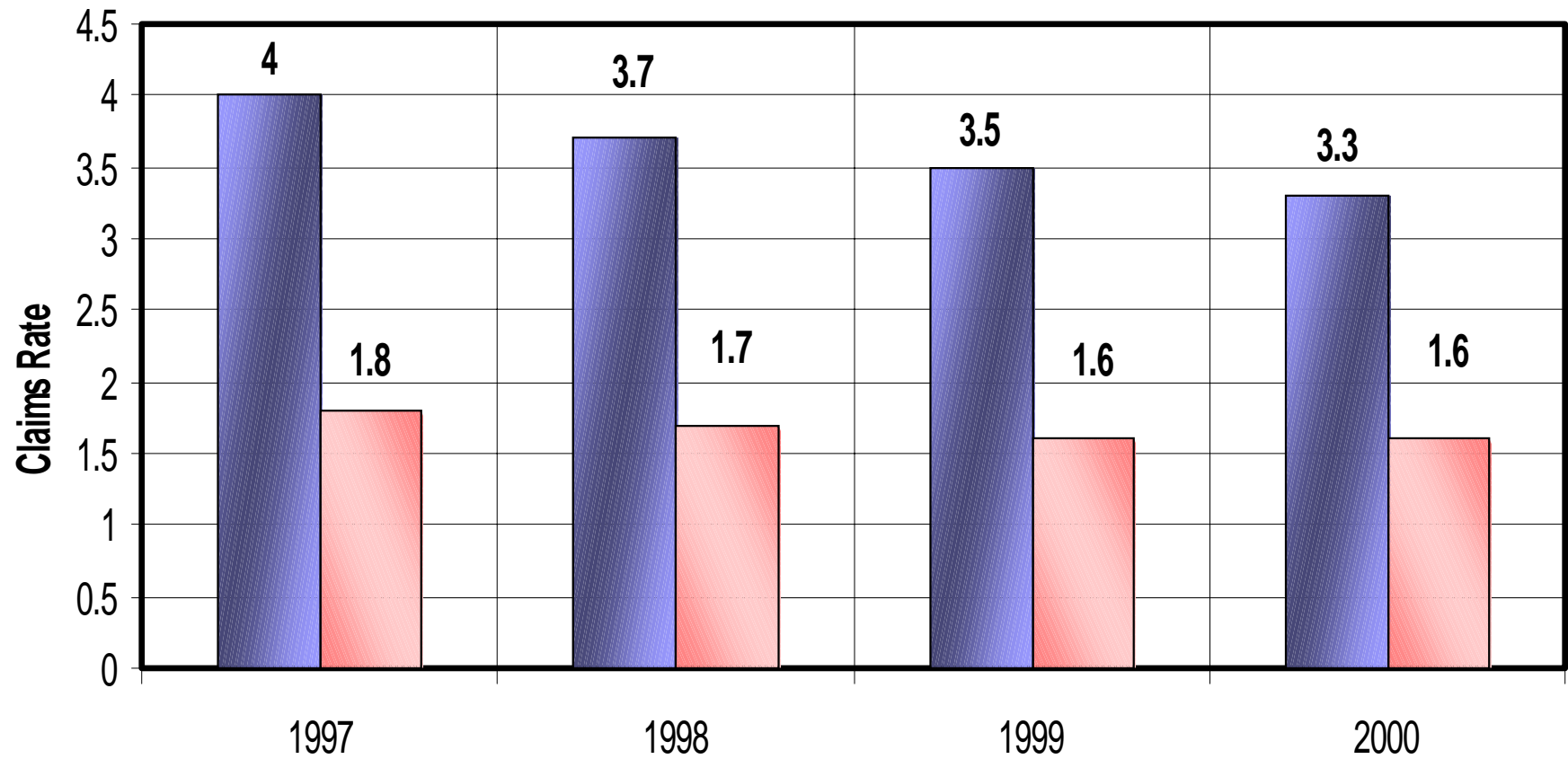
Based on data from Oregon Department of Consumer and Business Services, Information Management Division and Oregon Employment Department

For statistical analysis purposes, the Information Management Division of Oregon's Department of Consumer & Business Services Department uses the definition of a Muscular Skeletal Disorder as defined by Federal OSHA.	
The definition comes out of the former proposal of Ergonomic Standards and is defined as sprains, strains, and tears; pain; carpal tunnel syndrome; hernia, or musculoskeletal diseases-- when caused by bending, reaching, or twisting; overexertion; or repet	
OIIICS coding	
Nature	
1241 - Carpal Tunnel Syndrome	
17 - Musculoskeletal system and connective tissue diseases and disorders	
153 - Hernias	
021 - Sprains, Strains & Tears	
0972 - Back pain, Hurt back	
0973 - Soreness, pain, hurt, except the back	
combined with...	
Event	
22 - Overexertion	
23 - Repetitive Motion	
211 - Bodily reaction from bending, climbing, crawling, reaching, twisting	
SIC <sup>1</sup>	Industry <sup>2</sup>
152	Residential Building Construction
153	Operative Builders
154	Nonresidential Building Constr
161	Highway & Street Construction
162	Heavy Construction,Exc. Highway
171	Plumbing,Heating,Air Condition
172	Painting,Paper Hanging,Decorat
173	Electrical Work
174	Masonry,Stonework,& Plastering
175	Carpentering And Flooring
176	Roofing,Siding,Sheetmetal Work
177	Concrete Work
178	Water Well Drilling
179	Misc Special Trade Contractors
<sup>1</sup> Standard Industrial Classification Manual, 1987.	
<sup>2</sup> Industries covered by Workers' Compensation laws	

Based on data from Oregon Department of Consumer and Business Services, Information Management Division and Oregon Employment Department

## ADC Rates: Construction Vs All Industries

■ Construction ■ All Industries

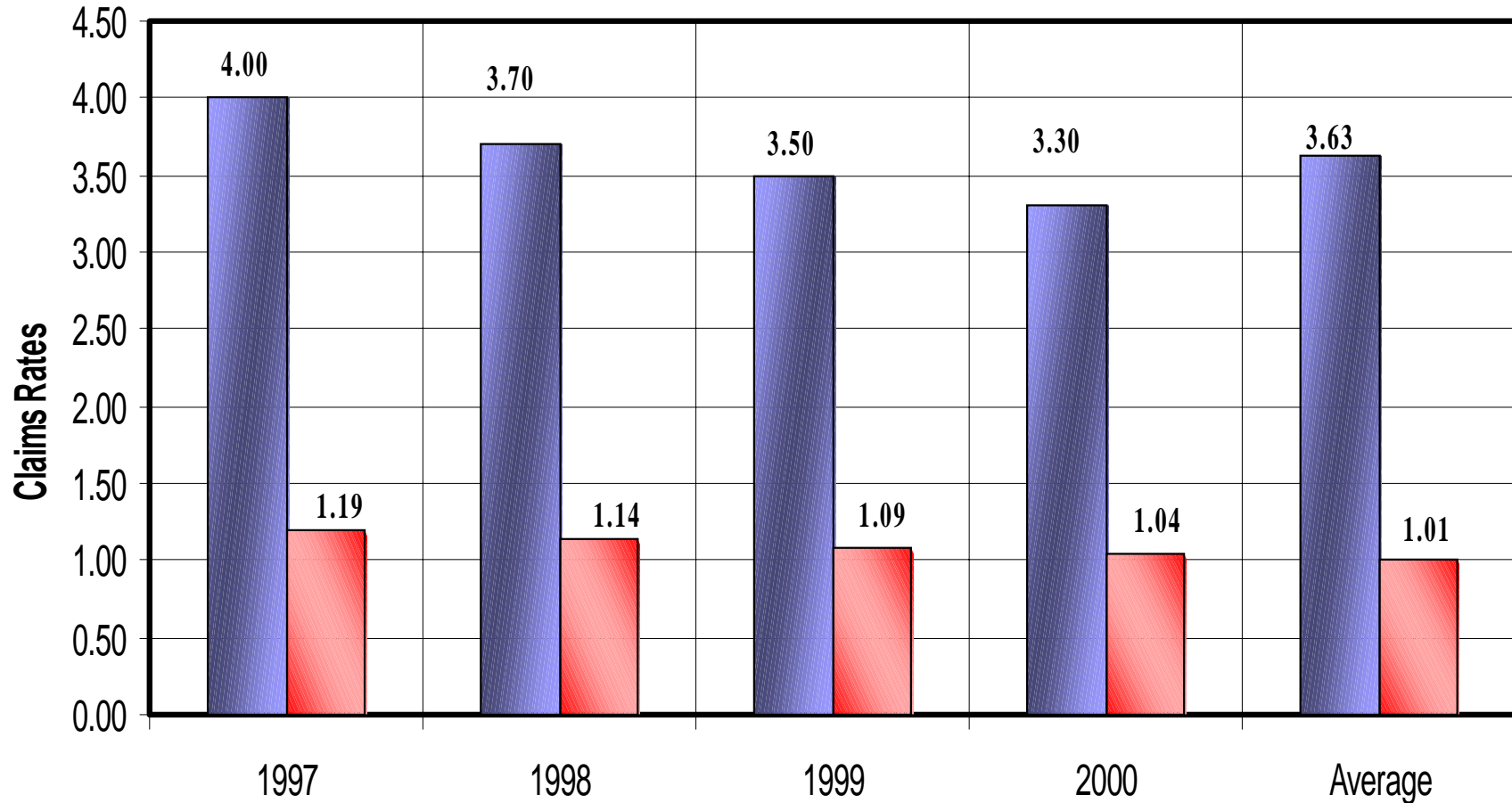


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## Accepted Disabling Claims Rates (All Construction)

### All Injuries Vs WRMSD

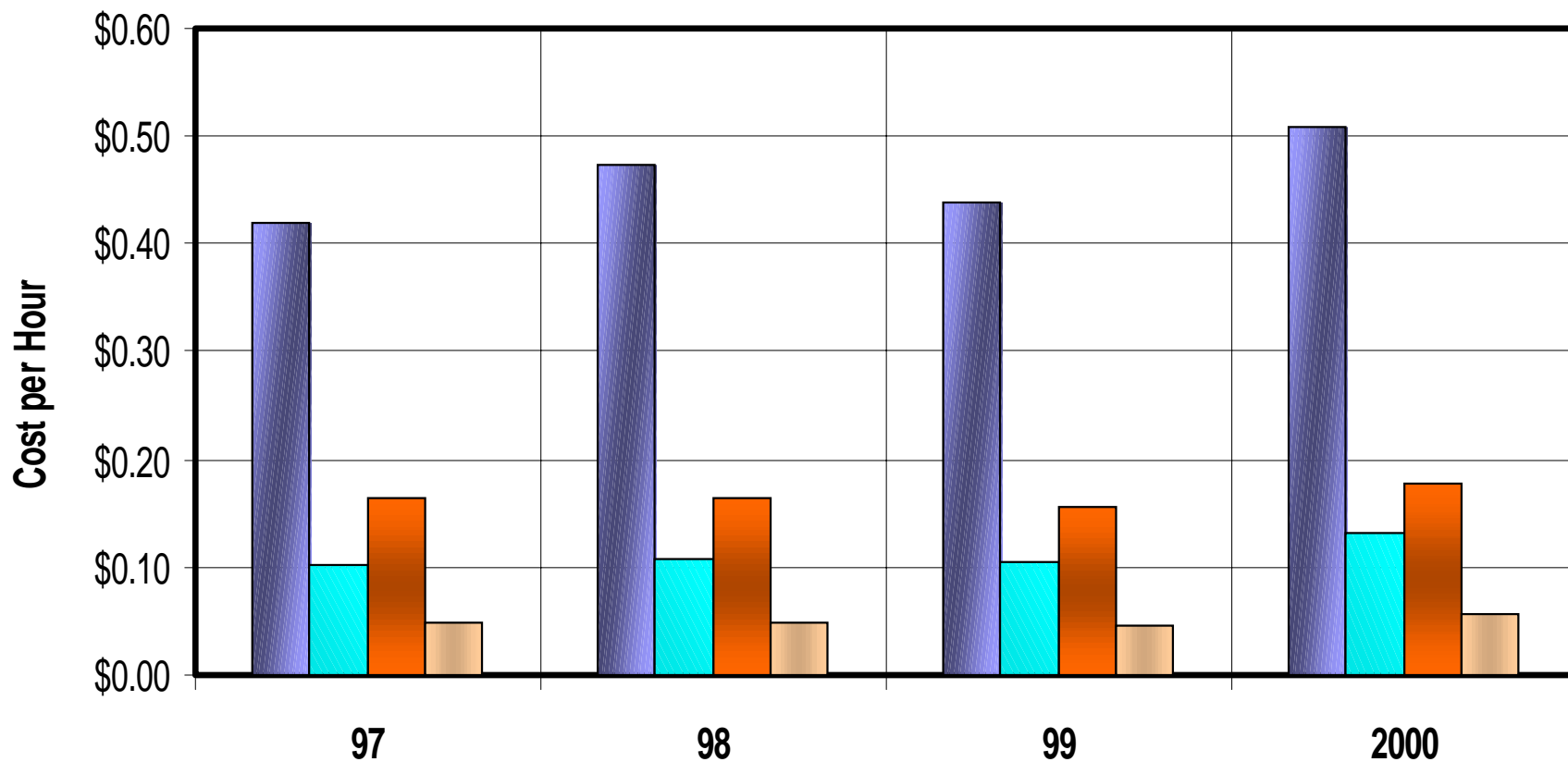
■ All Injuries ■ WRMSD



Based on data from Oregon Department of Consumer and Business Services, Information Management Division and Oregon Employment Department

## Cost per Hour All Claims vs MSD's (Construction Vs All Industry, 1997-2000)

■ Construction ■ Construction MSD's ■ All Industry ■ All Industry MSD's

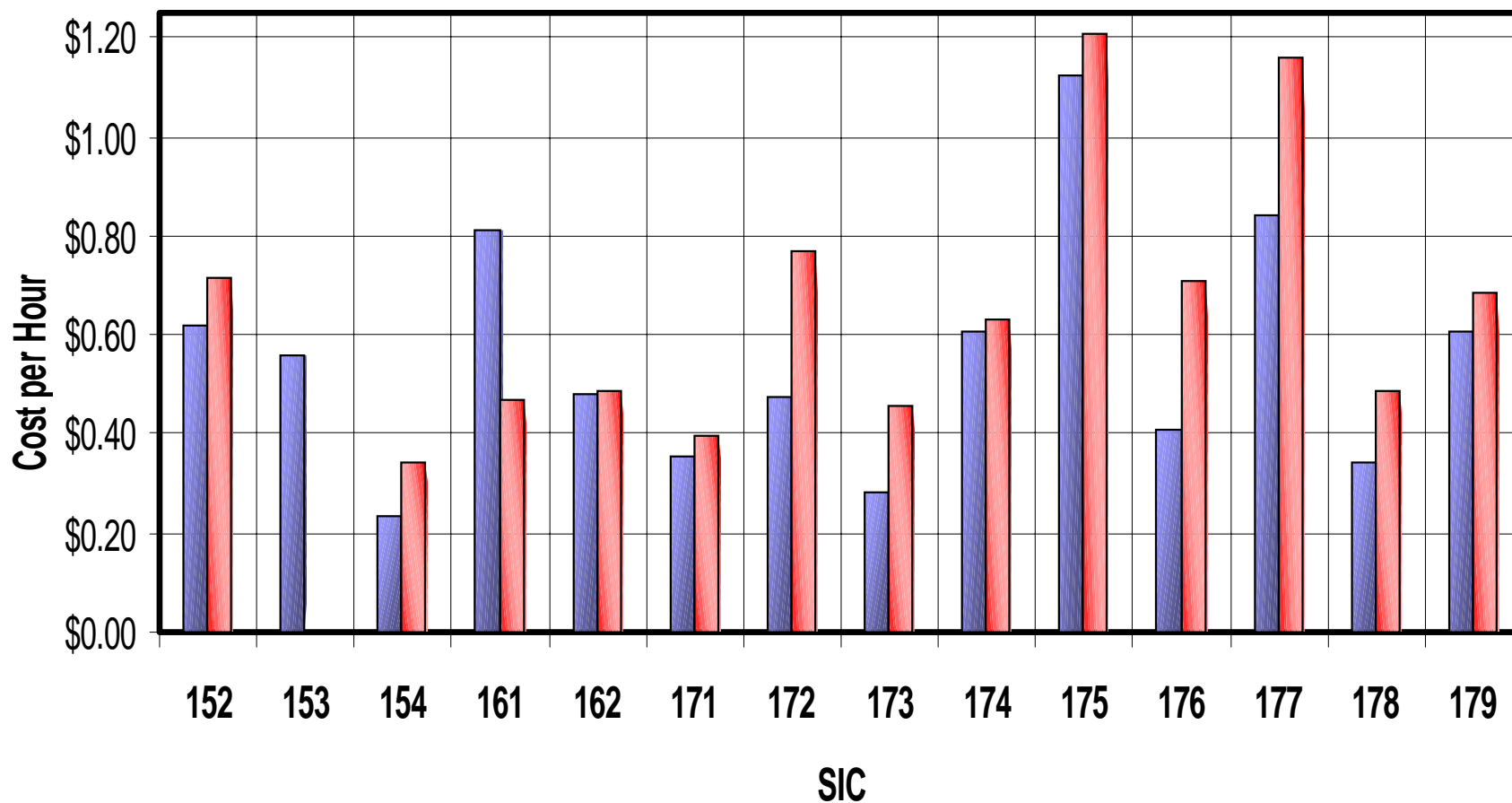


Based on data from Oregon Department of Consumer and Business Services, Information Management Division and Oregon Employment Department

# Cost per Hour All Claims

## 2000 Vs 2001

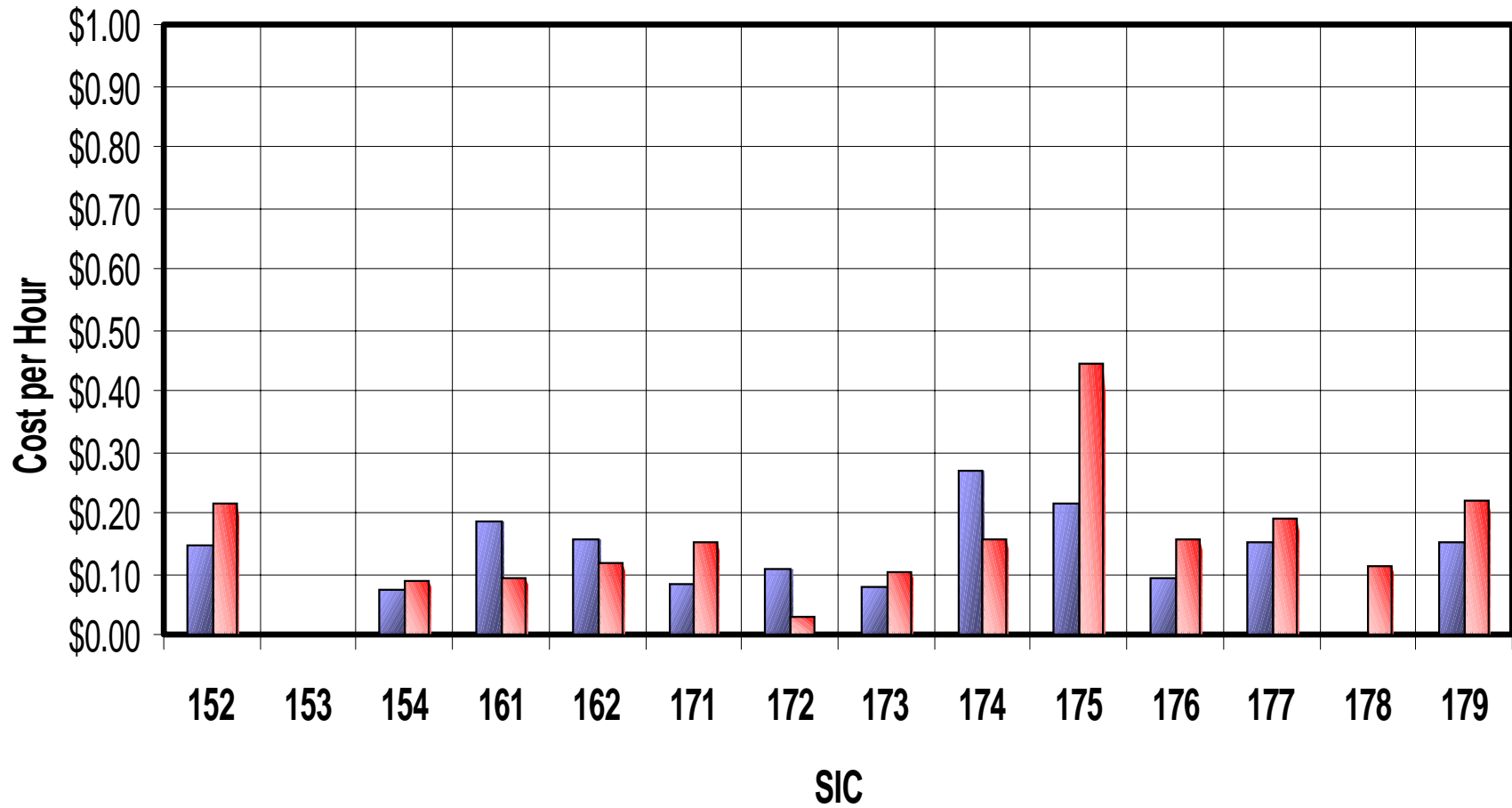
■ 2000 ■ 2001



Based on data from Oregon Department of Consumer and Business Services, Information Management Division and Oregon Employment Department

## Cost per Hour MSD's 2000 Vs 2001

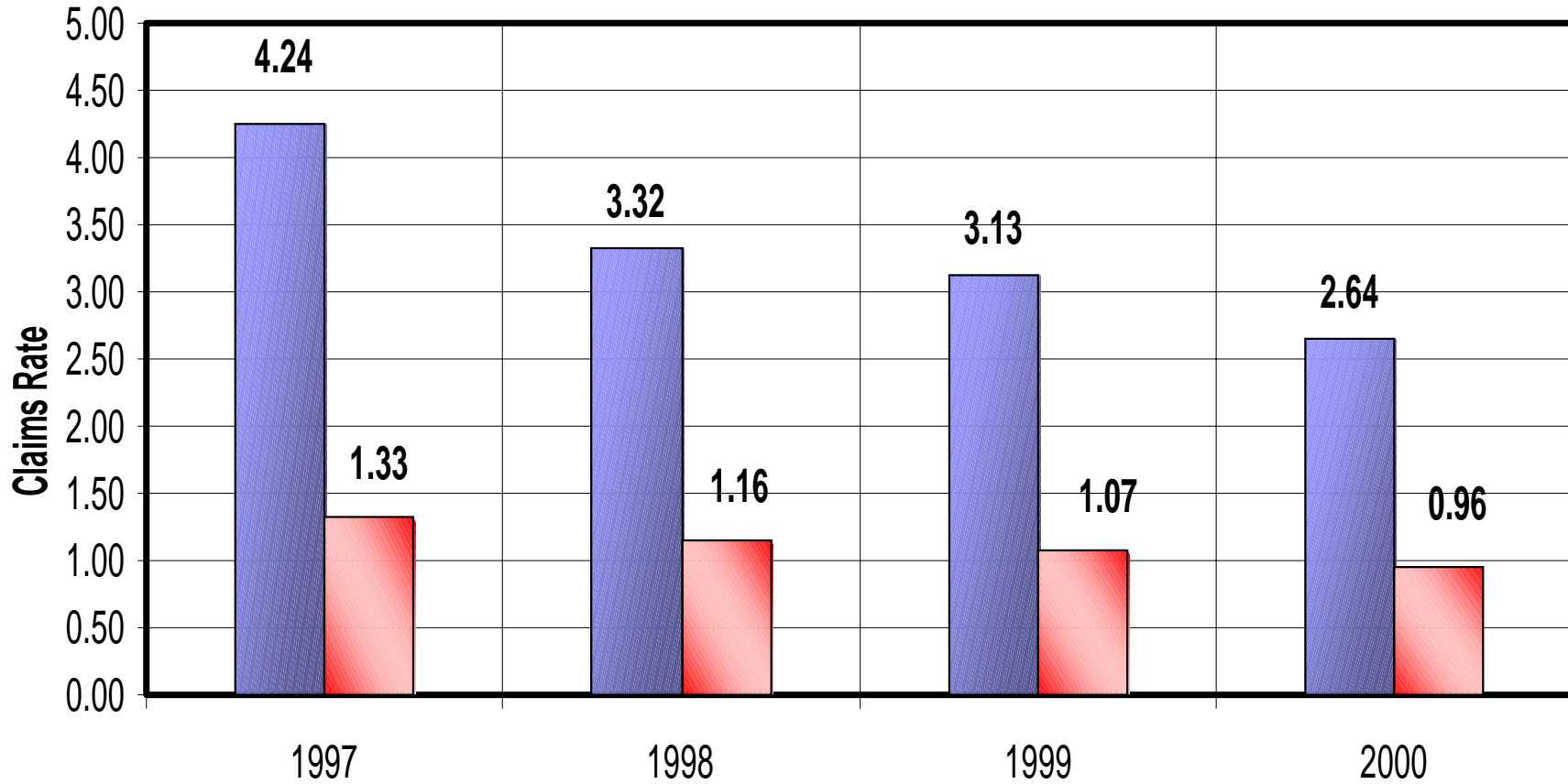
■ 2000 ■ 2001



Based on data from Oregon Department of Consumer and Business Services, Information Management Division and Oregon Employment Department

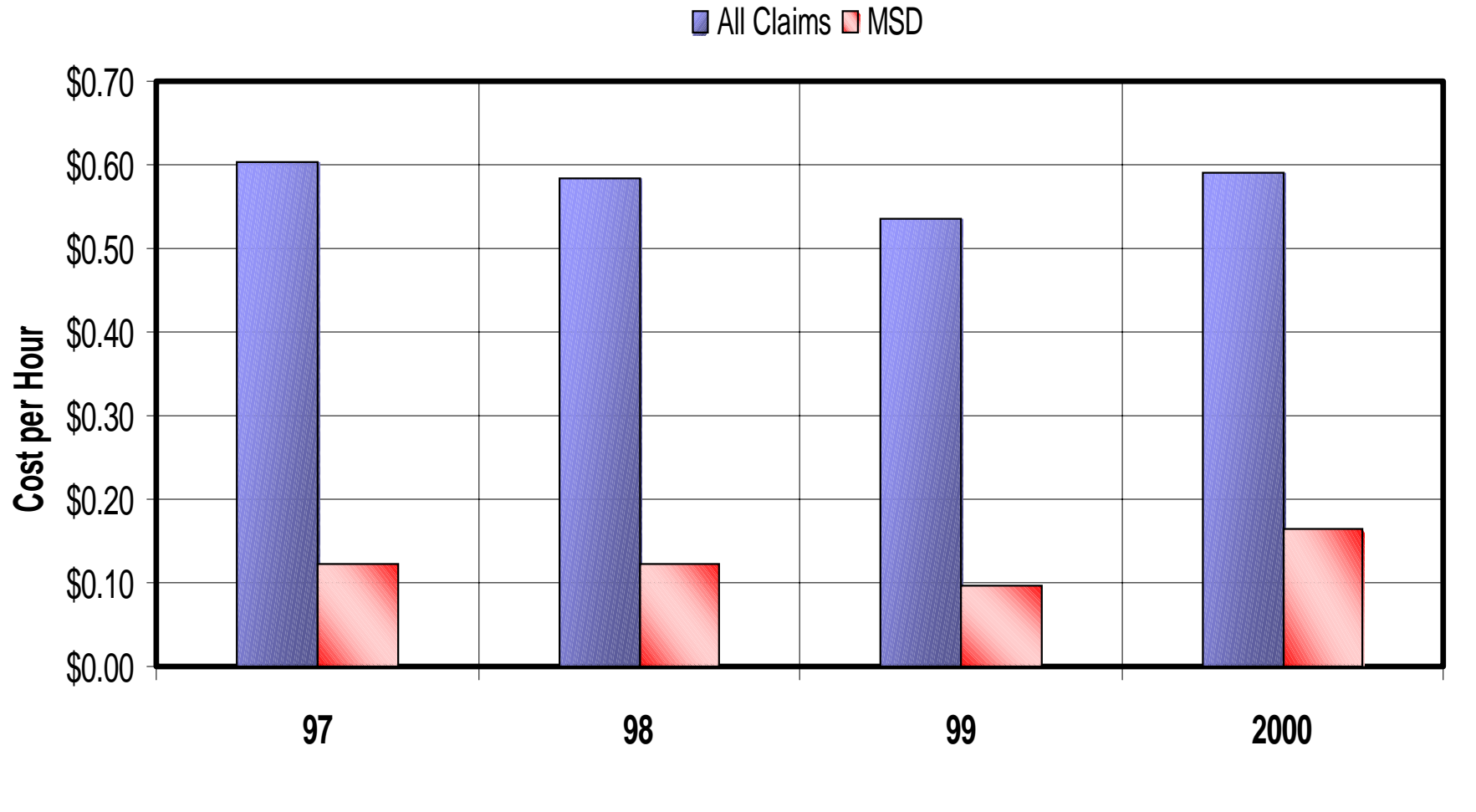
### All ADC's Vs Musculoskeletal ADC's In Construction (SIC 16)

■ All ADC's ■ MSD ADC's



Based on data from Oregon Department of Consumer and Business Services, Information Management Division and Oregon Employment Department

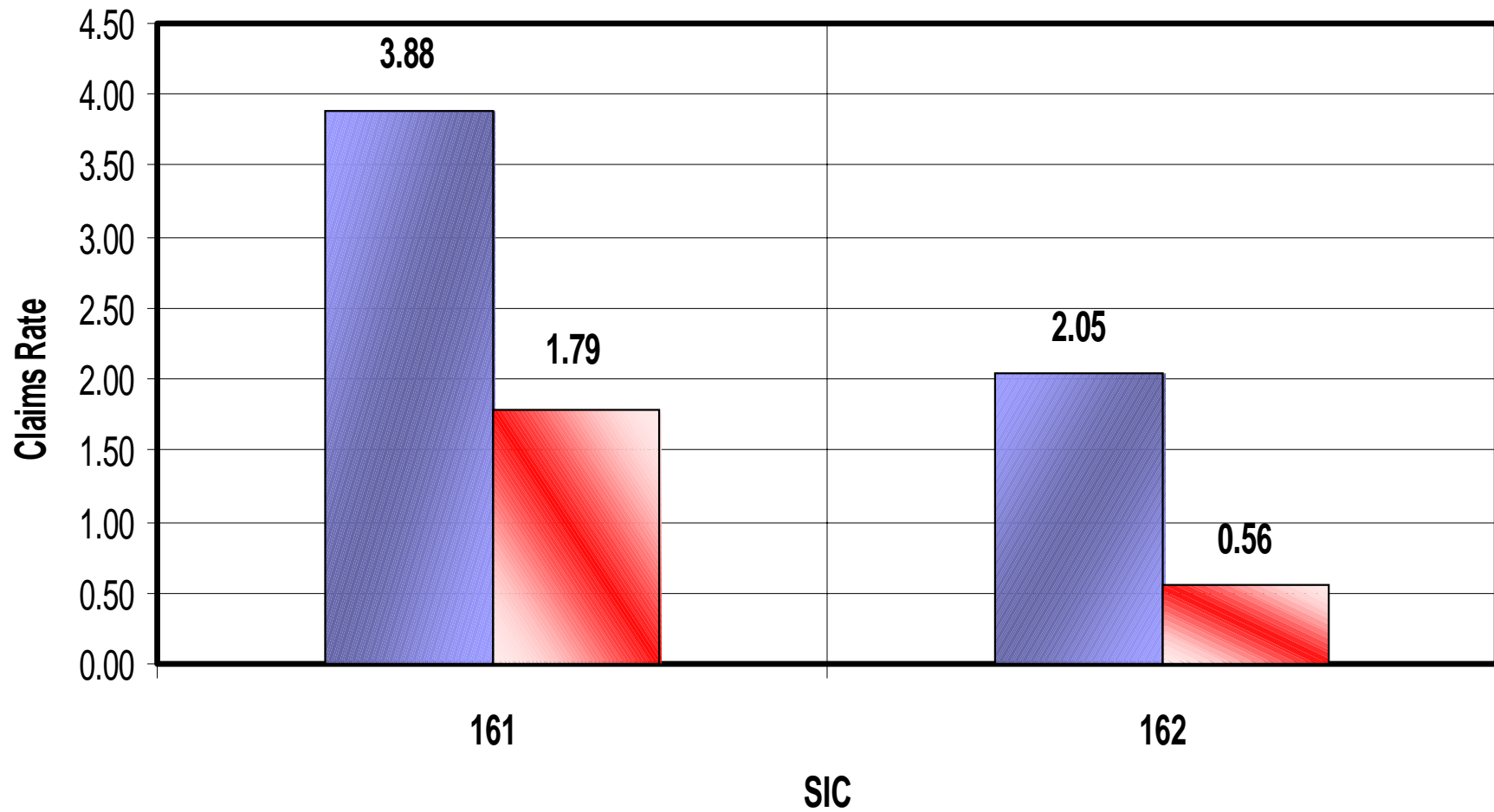
## Cost per Hour All Claims vs MSD Claims (SIC 16)



Based on data from Oregon Department of Consumer and Business Services, Information Management Division and Oregon Employment Department

### 2000 SIC16 (All ADC's vs MSD ADC's)

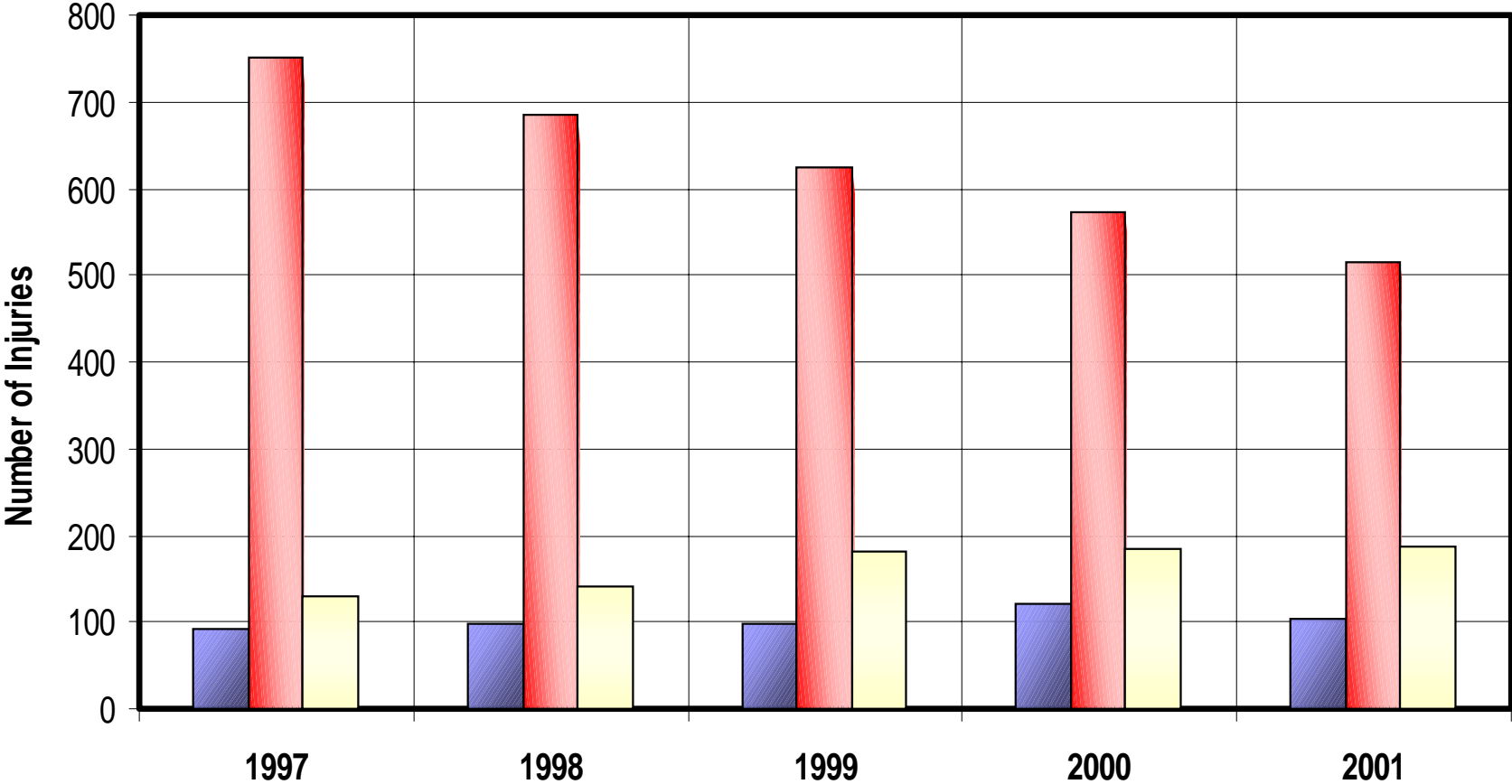
■ All ADC's ■ MSD ADC's



Based on data from Oregon Department of Consumer and Business Services, Information Management Division and Oregon Employment Department

# Risk Factors in Construction from WRMSD ADC's

Awkward Postures Overexertion Repetitive Motion



Based on data from Oregon Department of Consumer and Business Services, Information Management Division and Oregon Employment Department

# Notes for slides

- **Slide 3:** The Department of Consumer and Business Services' Information Management Division used the Musculoskeletal Disorder (MSD) definition contained in Federal OSHA's proposed ergonomics standard. All accepted disabling claims (ADCs, those with more than 3 work days lost) and MSD ADCs occurring in the construction industry Standard Industrial Classification (SIC) codes 152 through 179, in the last five complete years (1997 to 2001).
- **Slide 4:** The Claims Rates (number of Accepted Disabling Claims (ADC's) per 100 workers) for Construction are compared to All Industries combined. The Construction claims rates are at least twice the All Industries rates.
- **Slide 5:** In All Construction, the Claims Rates (number of Accepted Disabling Claims (ADC's) per 100 workers) for All Injuries are compared to those for Work-Related Musculoskeletal Disorders (WRMSDs). The WRMSD claims rates averaged 28% of All Injuries.
- **Slide 6:** The Cost per Hour for All Claims is compared to the costs for Musculoskeletal Disorder (MSD) Claims, for both All Construction and All Industry. The Costs per Hour is calculated by taking the total claims costs and dividing by the estimated hours worked. The estimated hours worked is calculated by taking the average annual employment and multiplying it by 2,000 hours (one person-year). The All Construction Costs per Hour are more than double All Industry. In All Construction, the Costs per Hour for MSD Claims is about a quarter of those for All Claims.

Based on data from Oregon Department of Consumer and Business Services, Information Management Division and Oregon Employment Department

# Notes for slides

- **Slide 7:** The Costs per Hour for All Claims varies greatly between the different Construction standard industrial classes. SICs 175 and 177 had the highest Costs per Hour. The Costs per Hour is calculated by taking the total claims costs and dividing by the estimated hours worked. The estimated hours worked is calculated by taking the average annual employment and multiplying it by 2,000 hours (one person-year). The SIC codes:

152 Residential Building Construction

153 Operative Builders

154 Nonresidential Building Constr

161 Highway & Street Construction

162 Heavy Construction, Exc. Highway

171 Plumbing, Heating, Air Condition

172 Painting, Paper Hanging, Decorat

173 Electrical Work

174 Masonry, Stonework, & Plastering

175 Carpentering And Flooring

176 Roofing, Siding, Sheetmetal Work

177 Concrete Work

178 Water Well Drilling

179 Misc Special Trade Contractors

- **Slide 8:** The Costs per Hour for Musculoskeletal Disorder (MSD) Claims varies between the different Construction standard industrial classes. SICs 174 and 175 had the highest Costs per Hour. The Costs per Hour is calculated by taking the total claims costs and dividing by the estimated hours worked. The estimated hours worked is calculated by taking the average annual employment and multiplying it by 2,000 hours (one person-year).

Based on data from Oregon Department of Consumer and Business Services, Information Management Division and Oregon Employment Department

# Notes for slides

- **Slide 9:** In SIC 16, Heavy Construction, the Claims Rates (number of Accepted Disabling Claims (ADC's) per 100 workers) for All Injuries are compared to those for Musculoskeletal Disorders (MSD's). The MSD ADC's rates are about 34% of the All ADC's rates.
- **Slide 10:** In SIC 16, Heavy Construction, the Cost per Hour for All Claims is compared to the costs for Musculoskeletal Disorder (MSD) Claims. The Costs per Hour is calculated by taking the total claims costs and dividing by the estimated hours worked. The estimated hours worked is calculated by taking the average annual employment and multiplying it by 2,000 hours (one person-year). The Costs per Hour for MSD Claims is about a 22% of those for All Claims.
- **Slide 11:** In SIC 16, Heavy Construction, the 2000 Claims Rates (number of Accepted Disabling Claims (ADC's) per 100 workers) are compared for the different SIC's within this group. SIC 161, Highway and Street Construction, had 1.9 times higher All Claims rates and 3.2 times higher MSD Claims rates than SIC 162, Heavy Construction, Exc. Highway.
- **Slide 12:** By far, the most common ergonomic risk factor identified in the Musculoskeletal Disorder (MSD) Claims reports was overexertion, followed by repetitive motions and awkward postures.

Based on data from Oregon Department of Consumer and Business Services, Information Management Division and Oregon Employment Department