Introduction

The Construction Chart Book, now in its fourth edition, marks the 10th year since it was first published in 1997. This fourth edition uses updated statistics to characterize the changing construction industry and its workers in the United States, monitor the impact of such changes on worker safety and health, and identify priorities for safety and health interventions in the future. While addressing a broad audience, this book focuses on aspects of the construction industry that are most important to the decision makers responsible for worker safety and health.

The data used are from a wide variety of available sources, most of which are large national datasets collected by government agencies, such as the U.S. Census Bureau and the Bureau of Labor Statistics. For the fourth edition, several newly released datasets are added to the analyses, including the American Community Survey, American Time Use Survey, and others. Data from NIOSH's Survey of Respirator Use and Practices are used for the first time in this edition. Data sources used for each page are briefly discussed; relevant publications and websites are carefully selected and cited throughout this book. Detailed footnotes accompanying the text and charts should enhance the information provided. Most of the tabulations have been conducted by the CPWR Data Center staff specifically for this book. Thus, some numbers may not be comparable to other publications using similar data sources due to different quantitative methods.

Most of the employment and demographic data compiled for this edition are updated to 2005 to match the latest available injury and illness data. The exceptions are the industry data from the Economic Census, which are collected every five years: the most recent year is 2002. Because the data represent the industry as it was several years ago, recent circumstances such as the housing/mortgage crisis and the consequential decline in residential construction are not covered.

This fourth edition, composed of about 180 charts and tables, is presented in five sections with text and charts displayed side by side for each topic. The Industry Summary section profiles the features of construction establishments and their owners, the value of construction work, and the impact of the changes in the industrial coding systems from the SIC to NAICS on construction statistics. The section on Labor Force Characteristics highlights the restructured demographics of the construction workforce and addresses topics such as union membership, the aging workforce, skills shortages, immigration, and the rapid increase of Hispanic workers in the construction industry. The Employment and Income section graphs the trends in construction employment, work hours, earnings and benefits (such as health insurance coverage and retirement plans), alternative employment (such as self-employment, contingent workers, and day laborers), worker misclassification, overtime, and so on. This section is followed by Education and Training, which depicts educational attainment, apprenticeships, and future projections in the construction industry.

The last section, Safety and Health, is greatly enhanced and expanded from previous editions. While this section continues to provide detailed construction injury statistics, additional calculations on health risk factors and chronic illnesses are included. This section also compiles the recent findings from research conducted by CPWR staff, CPWR consortium members, NIOSH researchers, and other published studies. Newly developed information includes results from the NIOSH lead surveillance program (ABLES), the latest reports on noise-induced hearing loss, respirator use, worker exposure to manganese and chromium during welding, and OSHA enforcement efforts, just to name a few. For the first time, this section presents an estimation of the total costs of construction fatal and nonfatal injuries.

Despite the attempt to serve as a comprehensive resource and reference tool for our broad audience, the results are limited by data availability, space, and other constraints. Limitations of this collection, suggestions for further research, as well as policy implications that could improve the existing data systems, are also included in this edition.

MAIN FINDINGS:

- The total number of construction establishments increased by about 9.2% from 2.55 million in 1997 to 2.78 million in 2002, of which 710,307 were establishments with payroll. About 3% of the increase in the number of payroll establishments resulted from the transition of the industrial coding systems.
- More than two million construction establishments had no payroll (nonemployer, such as sole proprietorships), yet they accounted for less than 9% of the dollar value of business done in the construction industry.
- Small construction companies abound. Construction establishments having one to nine employees accounted for 79% of the construction establishments with payroll, even though they employed only 24% of the workforce.
- During the last decade the construction industry has benefited from strong, sustained growth that has exceeded the national economy as a whole. As a result, construction grew from 4.1% of the total Gross Domestic Product (GDP) in 1997 to 4.6% in 2002, and 4.9% in 2005.
- Total construction employment expanded from 7.7 million in 1995 to 11.2 million in 2005. Growth has been most striking among the Hispanic workforce, which more than tripled in the last decade to 2.6 million in 2005.
- More than 700,000 construction workers held contingent jobs as of February 2005, which was 12% of the total U.S. contingent workforce. Despite a possible underestimation, this rate is still disproportionately high given that the construction industry shares less than 8% of the overall workforce.
- Day laborers make up a notable portion of the construction workforce. More than 11% of all construction businesses used day laborers on a regular basis. Hispanic contractors were about 40% more likely to use day laborers than non-Hispanic contractors.
- The construction workforce is aging. In 2005, the average age of construction workers was 39 years old, three years older than two decades ago.
- The workforce increasingly is divided into two demographics: the entry of a large number of young Hispanic workers and the existing workforce that is growing older. Therefore, it is expected that both occupational training and safety and health training will be in high demand.
- Construction employment is predicted to rise in the coming decade, although not as quickly as in previous years, adding 792,000 wage-and-salary jobs by 2014.
- The prevalence of employment-based retirement plans among construction workers is low. Only 10% of construction workers employed in small companies (fewer than 10 employees) participated in employment-based retirement plans in 2005, compared with 60% in companies with 500 or more employees. The type of plan has shifted significantly over the years from defined benefit (traditional pension) to defined contribution such as 401(k) plans.
- About 58% of construction wage-and-salary workers had employment-based health insurance in 2005, but just 30% of Hispanic construction workers had such coverage.
- Union members in construction have substantial advantages in educational attainment, wages, health insurance coverage, retirement plan enrollment, training, and longer employment tenures, compared with non-union workers. There are also significantly less racial and ethnic disparities in wages and benefits among union members.
- For construction overall, work-related death rates have decreased by 22% from 1992 to 2005, while rates of reported nonfatal injuries and illnesses with days away from work dropped dramatically by 55% during this period.
- Hispanic workers, and workers employed in small establishments (less than 20 employees), had a higher rate of deaths from injuries but a lower rate of nonfatal injuries and illnesses, compared with the construction industry as a whole.
- Falls and electrocutions are still leading causes of fatal injuries in construction. At the same time, the fatality rates for falls and electrocutions have declined dramatically over the past 15 years due to focused efforts on prevention.
- Being struck by an object, falls to lower level, and overexertion in lifting, remain the leading causes of nonfatal injuries. However, the rates have dropped steadily since 1992.
- The estimated direct and indirect costs of fatal and nonfatal construction injuries totaled $13 billion (2002 dollars) annually. The medical expenses of nonfatal injuries alone cost more than $1.36 billion per year; of which only 46% were paid by workers' compensation.
- The number of construction workers with elevated blood lead levels is disproportionately high compared with other workforce sectors.
- Overexertion when lifting caused 42% of the WMSDs with days away from work in construction.
- During the last decade, the prevalence of diabetes dramatically increased among workers in construction trades, particularly among those over age 55. About 41% of construction workers age 55 and older were diagnosed with hypertension in 2005.