

The CLMA logo is a blue square with the letters "CLMA" in white. Below the letters are three wavy blue lines of increasing size, suggesting a stylized wave or a construction element.

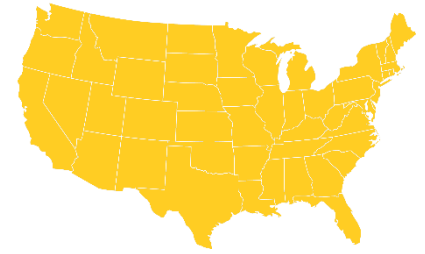
CLMA

A close-up photograph of a welder in an industrial setting. The welder is wearing a blue protective mask and an orange safety vest over a white shirt. They are using a welding torch to join metal components, with bright sparks flying from the point of contact. The background is dark and filled with industrial machinery.

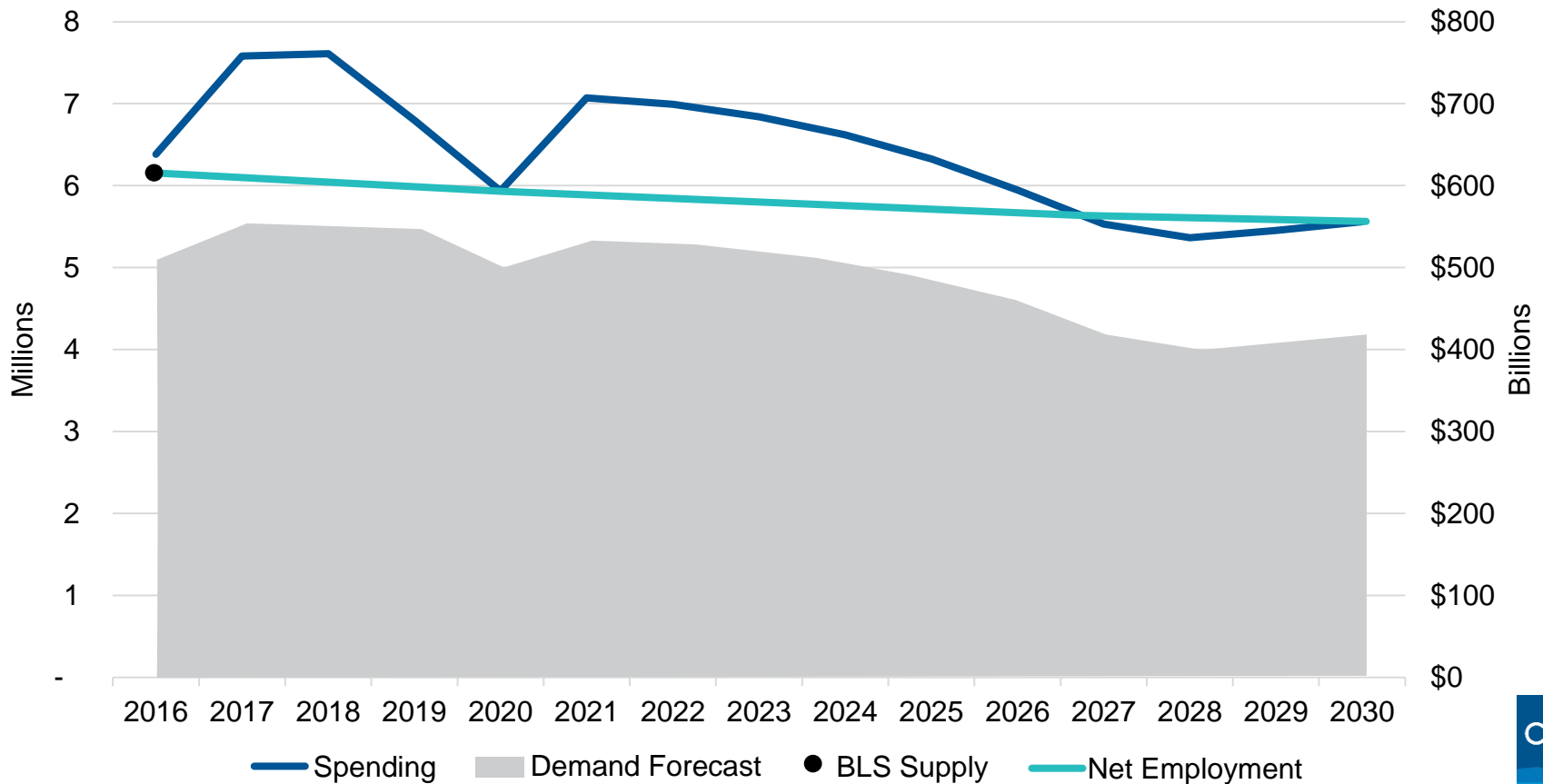
# THE FUTURE OF U.S. SKILLED LABOR

*Daniel Groves, CLMA/CURT*

# LABOR GAP OUTLOOK

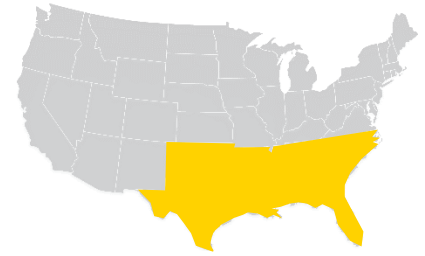


## Supply & Demand United States

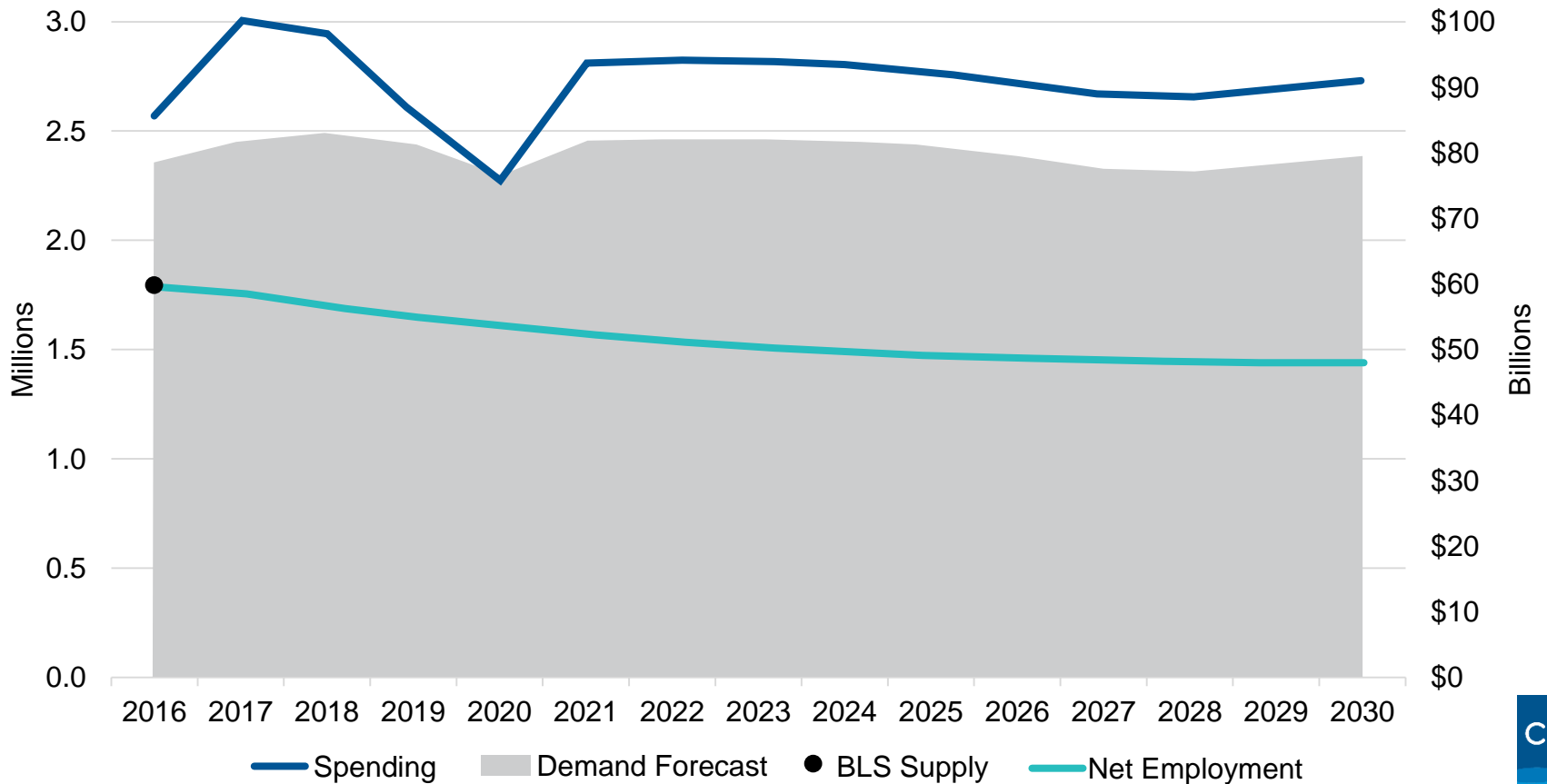


*Data represents all non-residential construction*

# LABOR GAP OUTLOOK



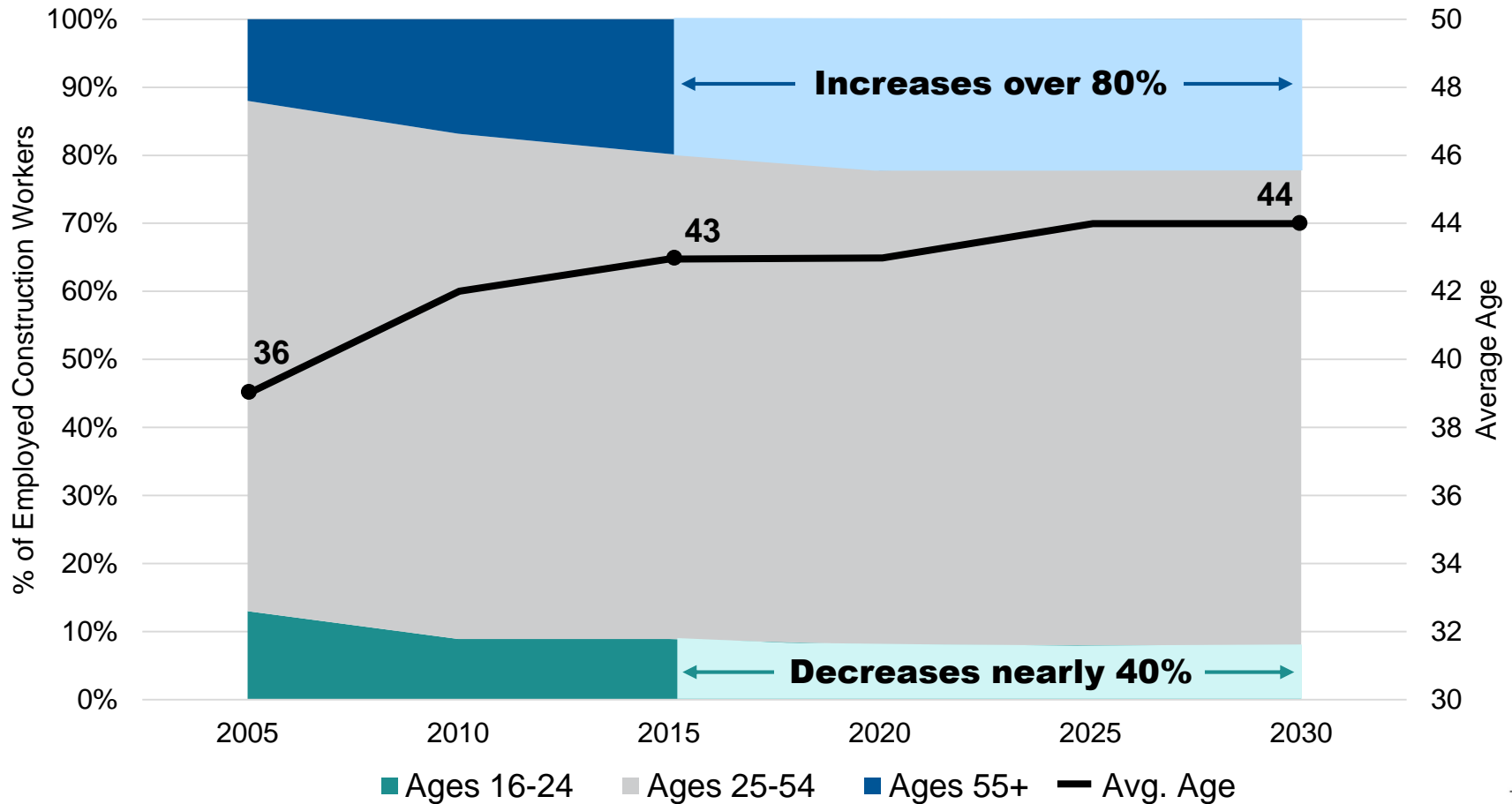
## Supply & Demand Southeast Region



*Data represents all non-residential construction*

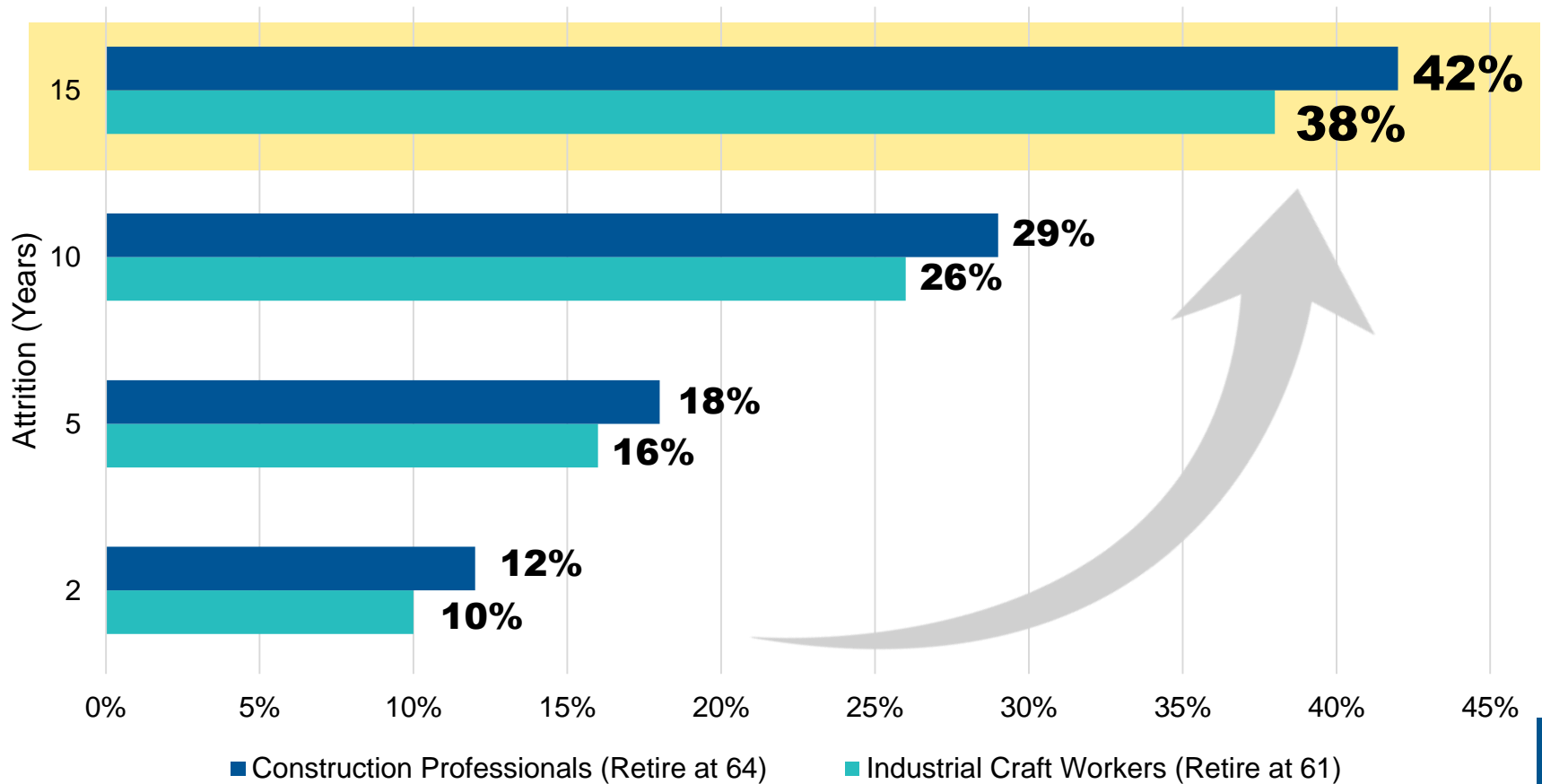
# CRAFT WORKER DEMOGRAPHICS

## Age Distribution of Employed Construction Workers



# PROJECTED ATTRITION

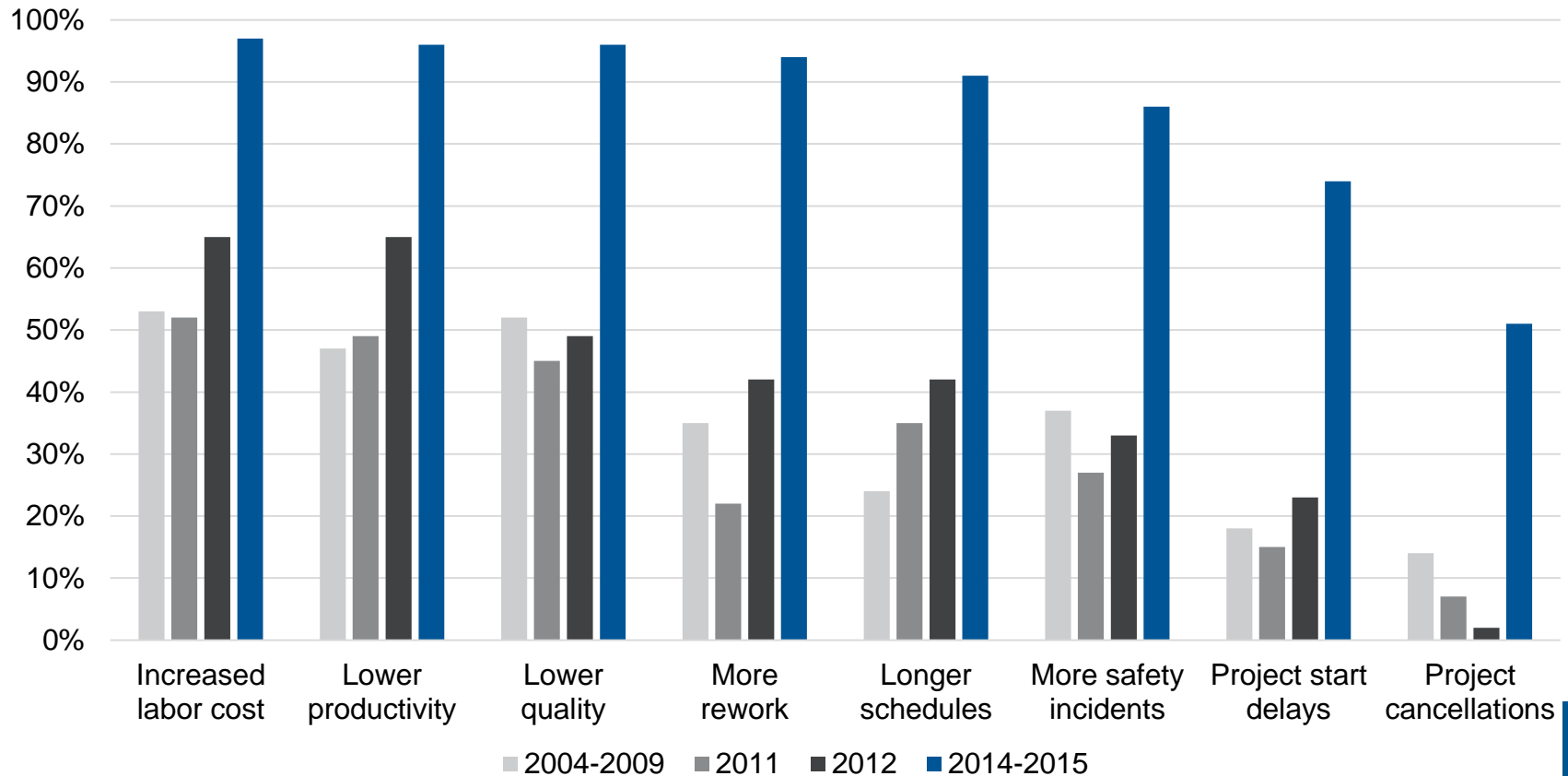
## Attrition Of Industrial Craft Workers & Professionals





# LABOR SHORTAGE CHALLENGES

**What was the impact of the skilled labor shortages/challenges on your project(s)?**



# LABOR SHORTAGE IMPACT ON PROJECTS

**Is there a demographic craft labor cliff that will affect project performance?**

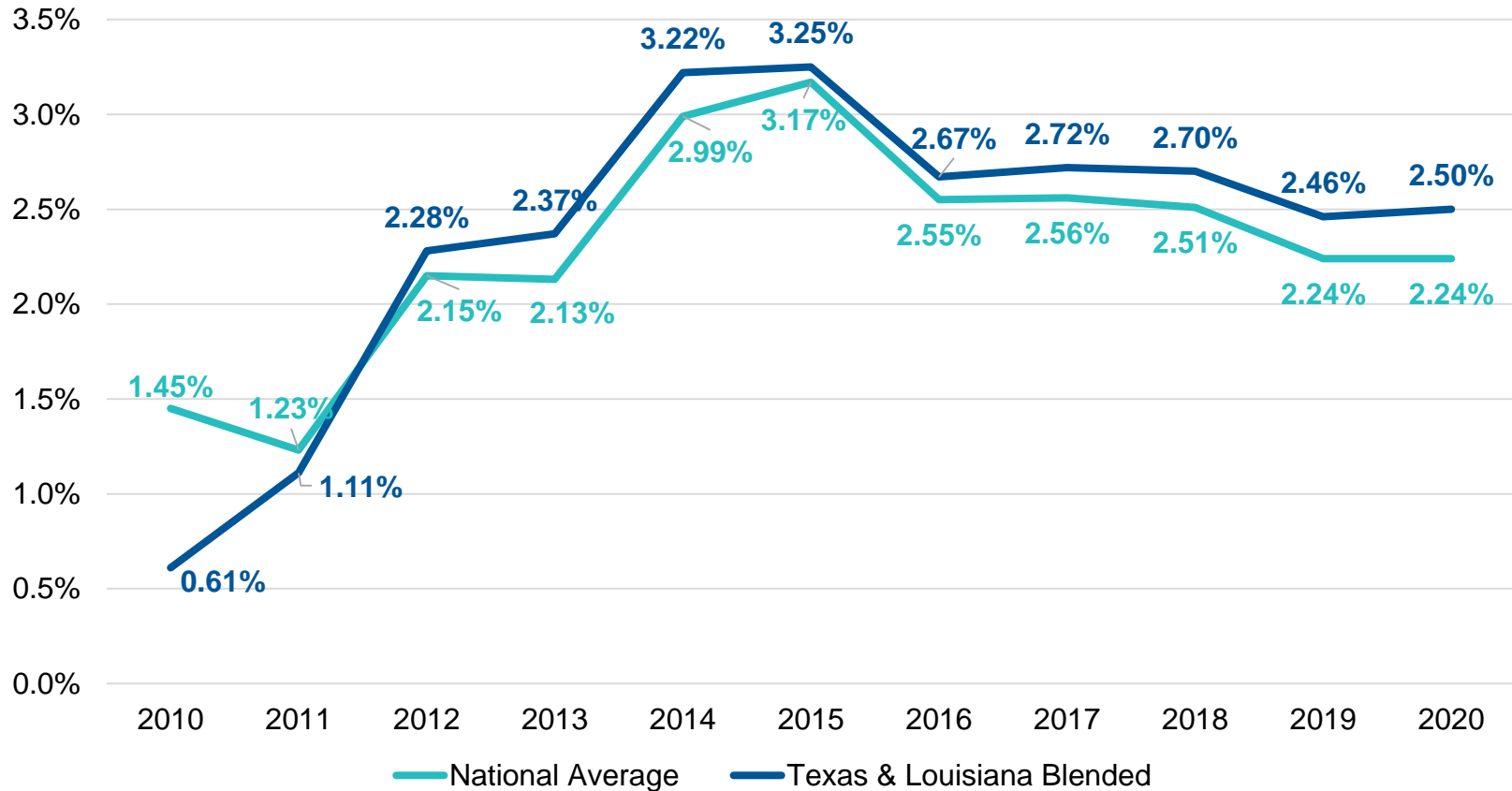
*CII RT 318, Aug 2015*

CRAFT LABOR STAFFING DIFFICULTY	AVERAGE COST CHANGE	AVERAGE SCHEDULE CHANGE	OSHA RECORDABLE INCIDENT CASES (PER 200,000 HOURS)
Moderate - Severe	<b>17.3 %</b> (8.4%, 26.2%)	<b>22.5%</b> (11.5%, 33.4%)	<b>0.94</b> (0, 2.84)
Slight	<b>3.2 %</b> (-0.9%, 7.3%)	<b>12.8 %</b> (7.7%, 17.9%)	<b>0.43</b> (0, 1.72)
No Difficulty	<b>-6.2 %</b> (-10.7%, -1.8%)	<b>6.4 %</b> (1%, 11.8%)	<b>0.26</b> (0, 1.25)



# CRAFT WAGES & OPPORTUNITIES

## Annual Change in Average Base Wages



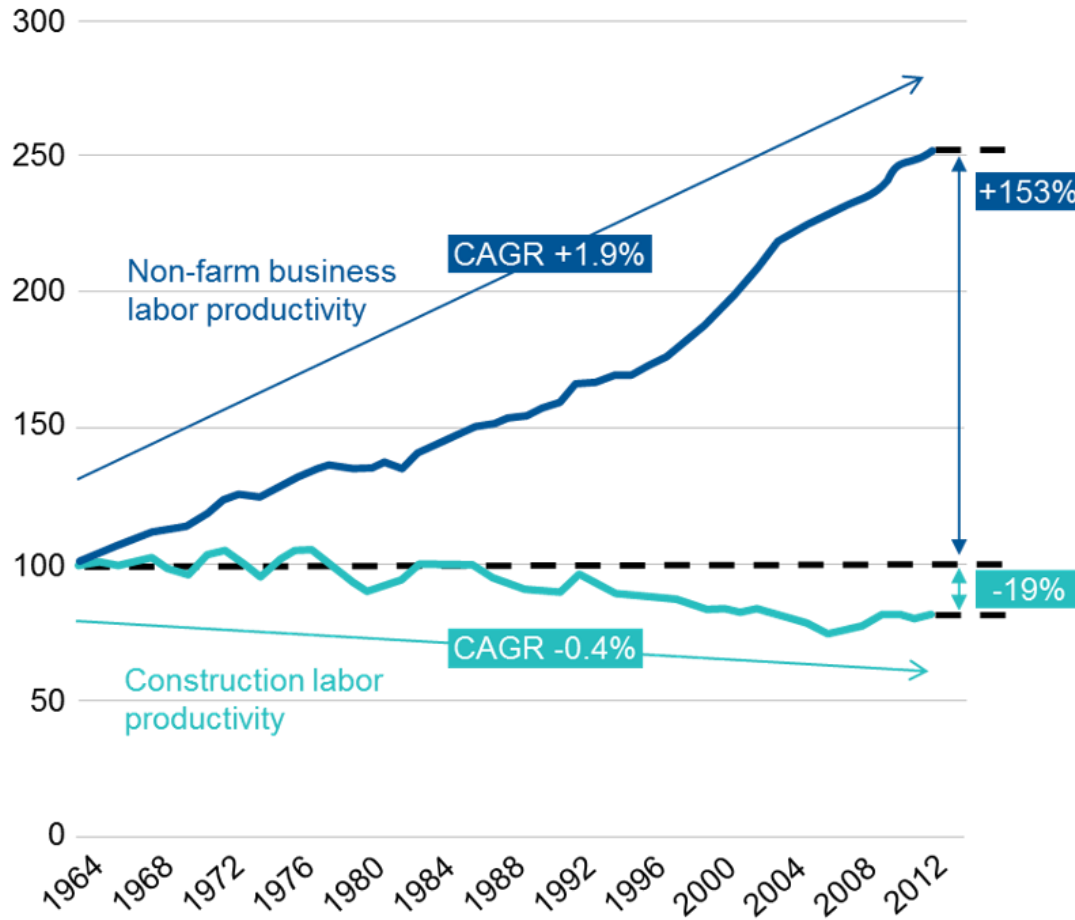
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*Disclaimer: The wage rates shown on this slide are blended forecasts based on multiple job skills and should not be used by individual facilities to predict future wages for a specific job category.*



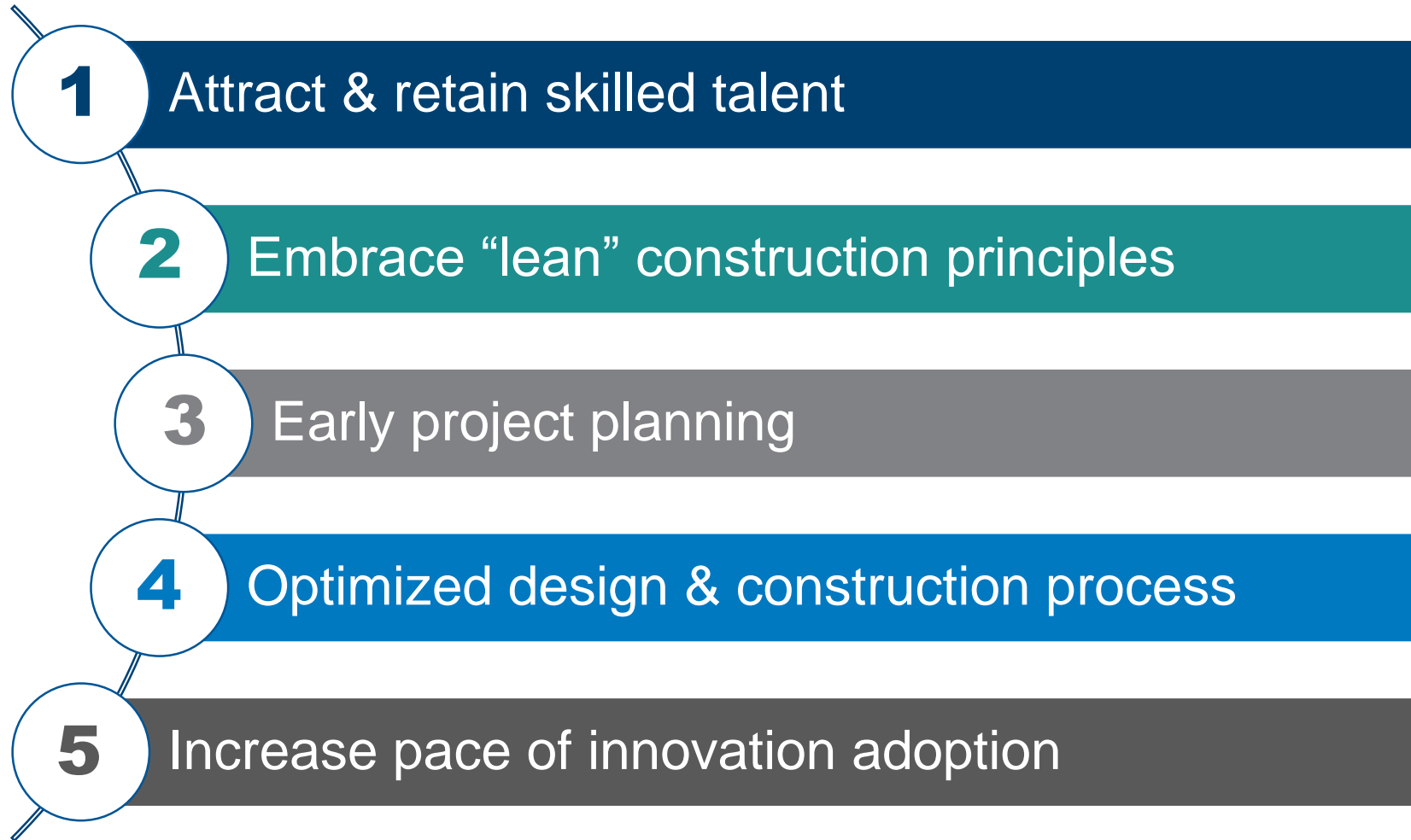
# PRODUCTIVITY PERFORMANCE



**1% increase**  
**in productivity**  
(construction cost reduction)  
**saves an estimated**  
**\$100B Globally**  
**\$7B U.S.**

Source: Global Vantage, Compustat, Bloomberg, National Bureau of Economic Research, BCG analysis

# PRODUCTIVITY IMPROVEMENT



# WORKFORCE INVESTMENT ROI



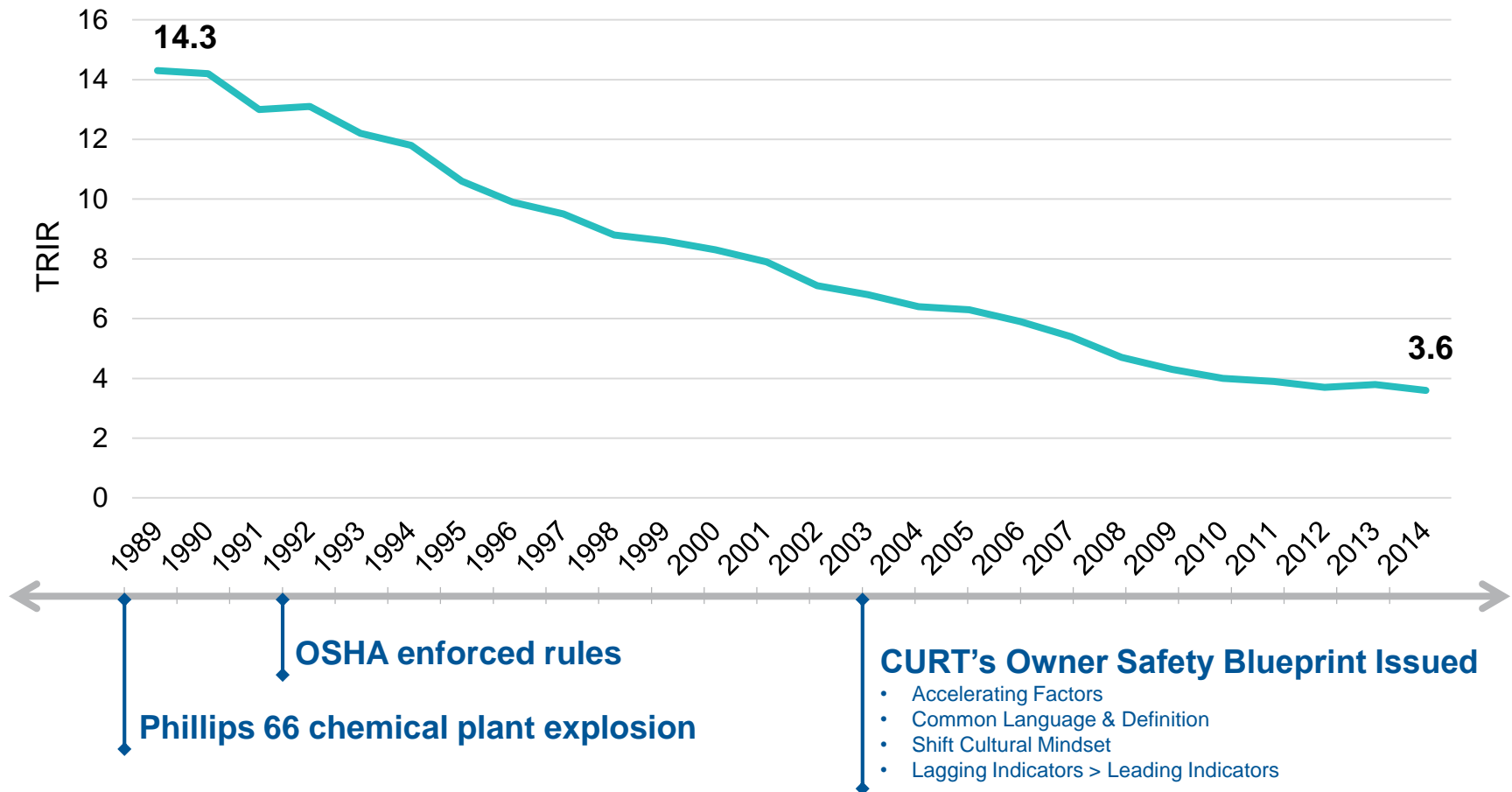
Research demonstrated high value by investing 1.0% of the total project labor budget in workforce development

CII RT 231 SUMMARY	AVERAGE IMPROVEMENT	
	Capital Projects	Maintenance Projects
Productivity	11 %	10 %
Turnover Cost	14 %	14 %
Absenteeism	15 %	15 %
Injury	26 %	27 %
Rework	23 %	26 %

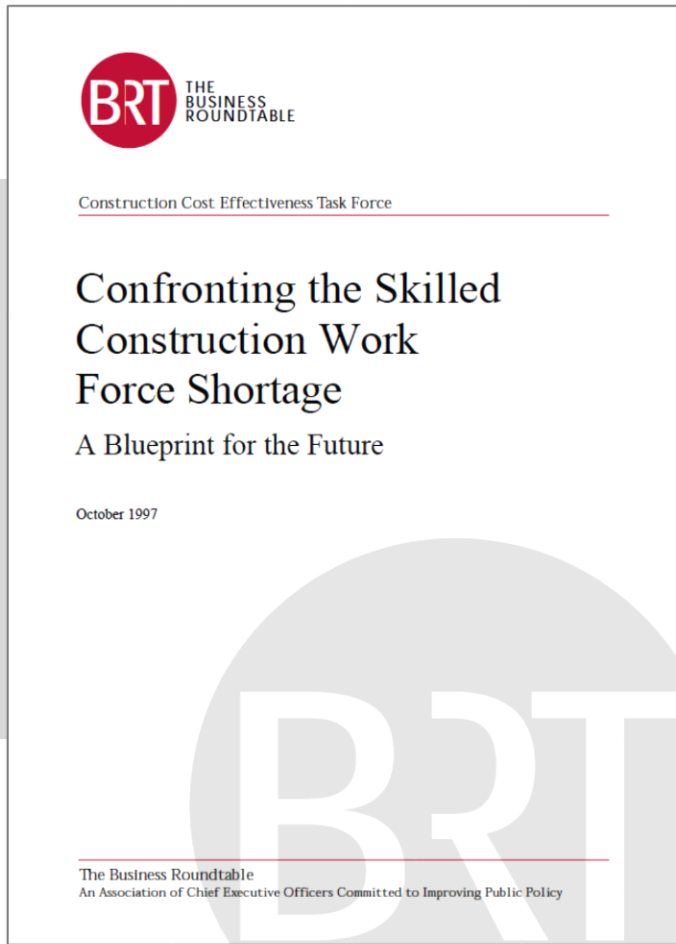
**\$1.00 invested  $\approx$  \$3.00 ROI**

# OWNERS' SAFETY TRAJECTORY IMPACT

Industry Average Total Recordable Incidence Rate  
1989-2013



# OWNERS' WORKFORCE RECOMMENDATION



*“Owners should only do business with contractors who invest in training and maintain the skills of their workforce.”*

# WHY SHOULD YOU CARE?



**Cost / Budget**



**Economic Growth**



**Leadership / Influence**



# SUMMARY

- Robust construction activity expected even with economic turbulence
- Labor shortages will impact projects
- Industry solutions available, but owners must lead
- How & why should you respond?



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