

Construction Labor National and Regional Outlook

August 9, 2021





Topics:

Comparisons of Pre-Pandemic to Current Projections

Issues Affecting the Labor Market

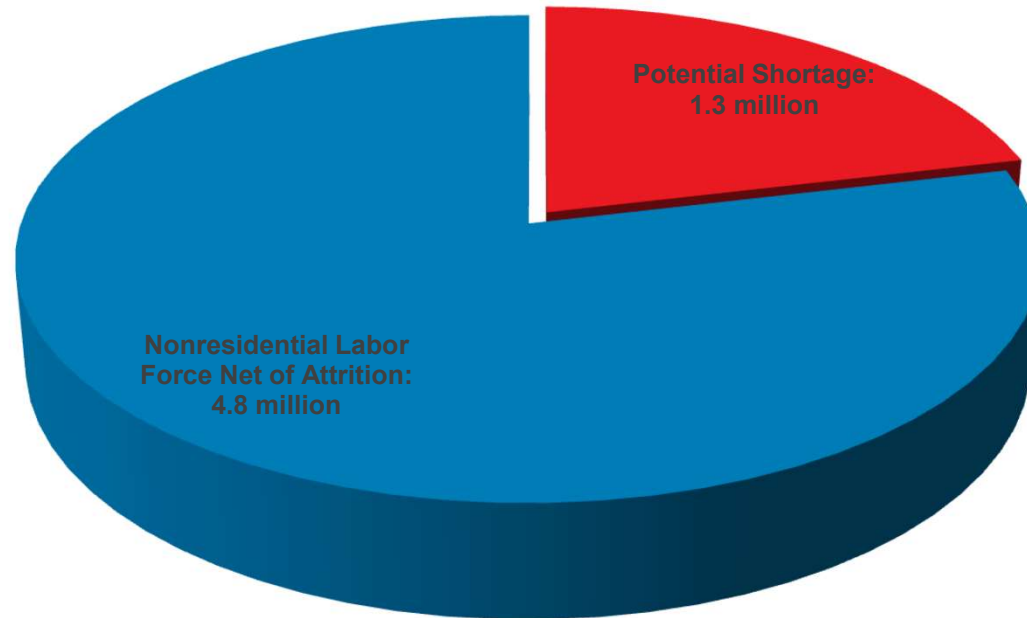
Outlook for the 2030 Construction Workforce

Pre-Pandemic National Construction Labor Demand



U.S. Peak Labor Demand

6.1M Skilled Workers (2019-2023)



Data as of: 02-Mar-2020
Source: U.S. Department of Labor & CLMA®

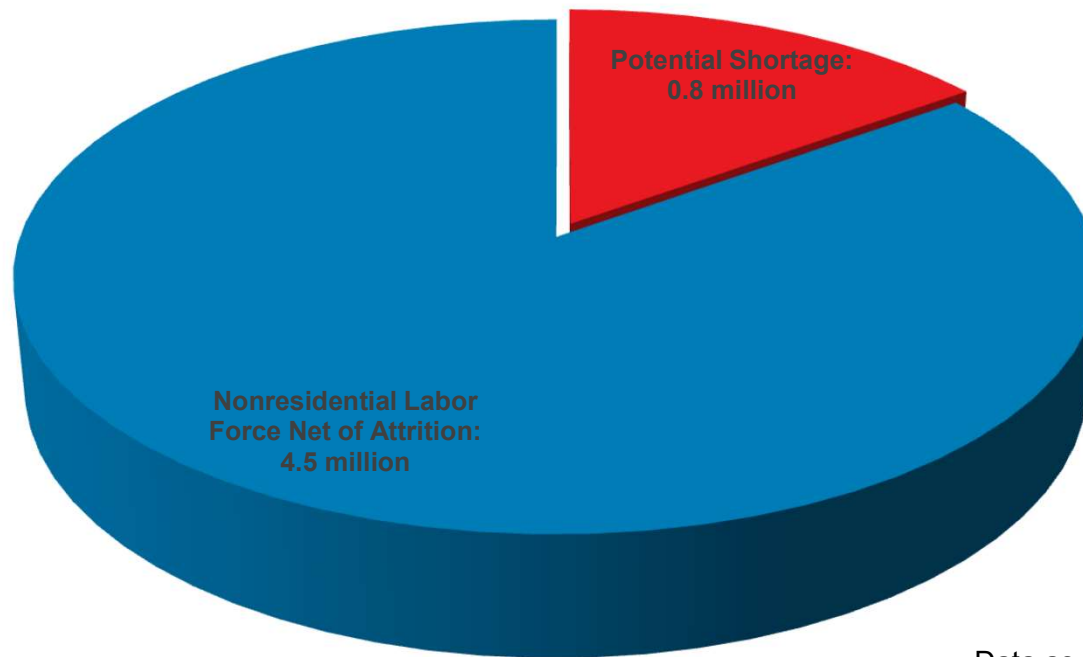
\$3.6T Forecasted Construction Spend 2019 - 2023

Current National Construction Labor Demand



U.S. Peak Labor Demand

5.3M Skilled Workers (2020-2024)



Data as of: 05-Aug-2021

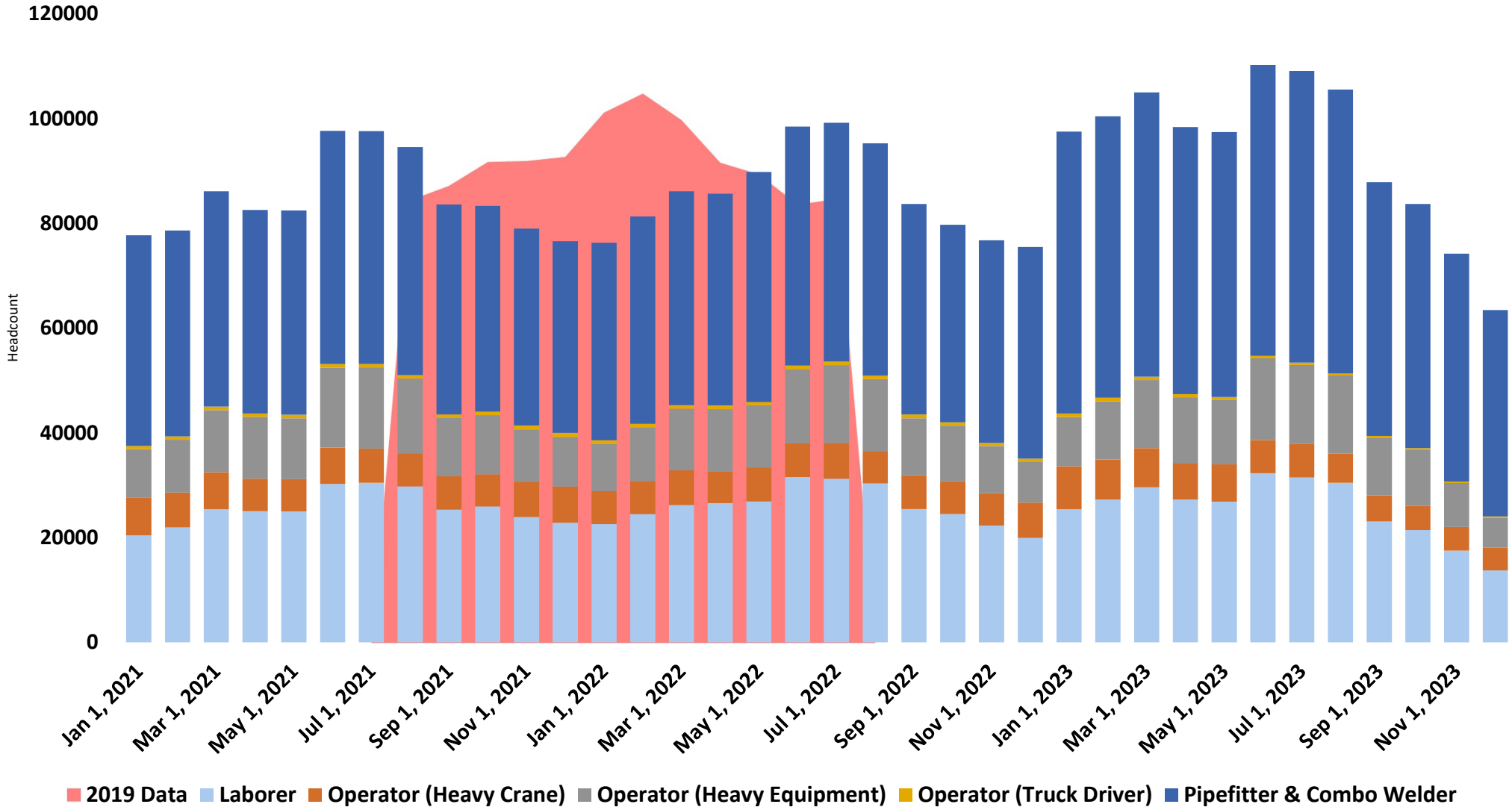
Source: U.S. Department of Labor & CLMA®

3.5T Forecasted Construction Spend 2021 – 2025

Comparisons of Regional Construction Labor Demand Pre-Pandemic to Current



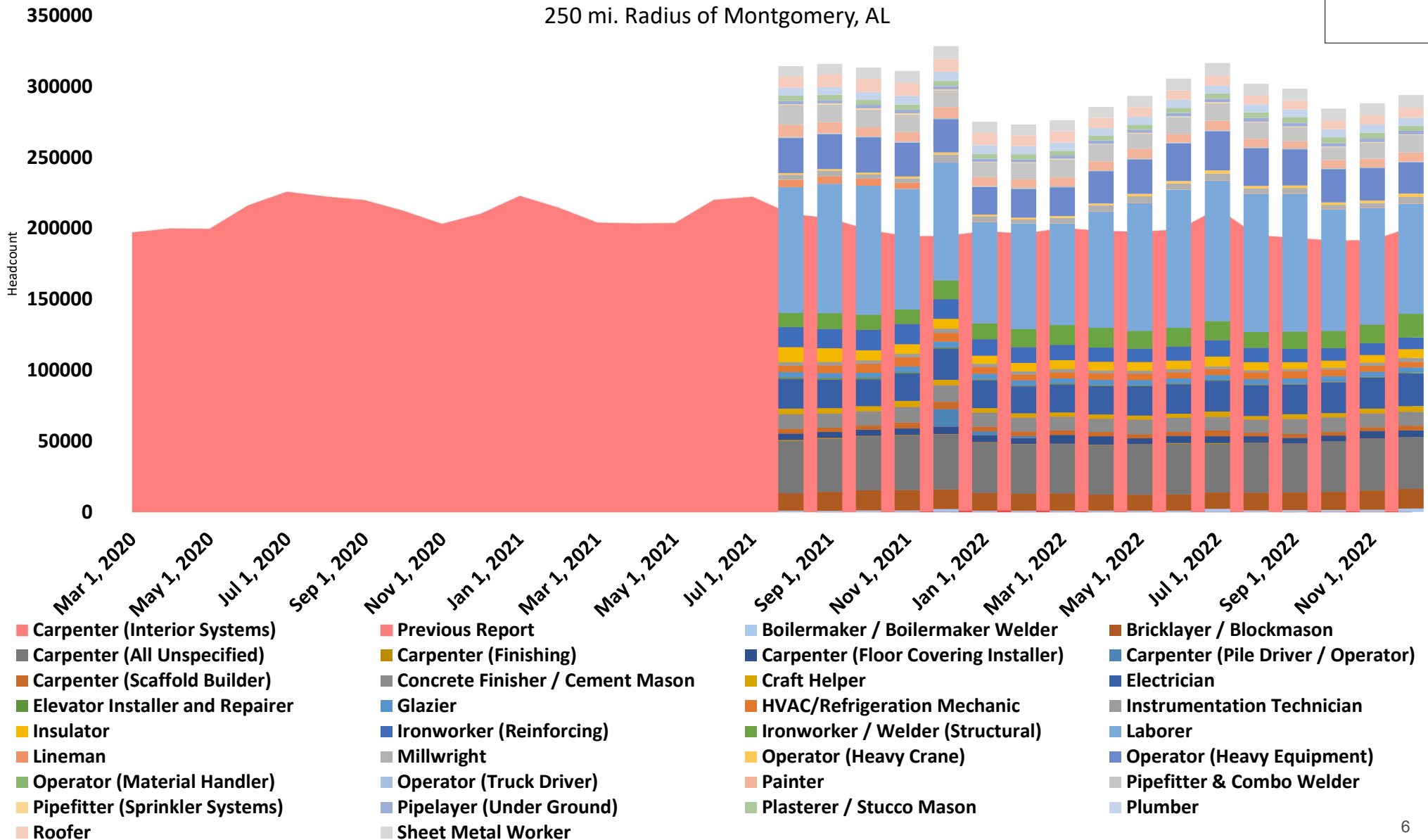
2019 Overlay Comparison
Southeast
Skilled Labor Supply & Demand



Comparisons of Regional Construction Labor Demand Pre-Pandemic to Current

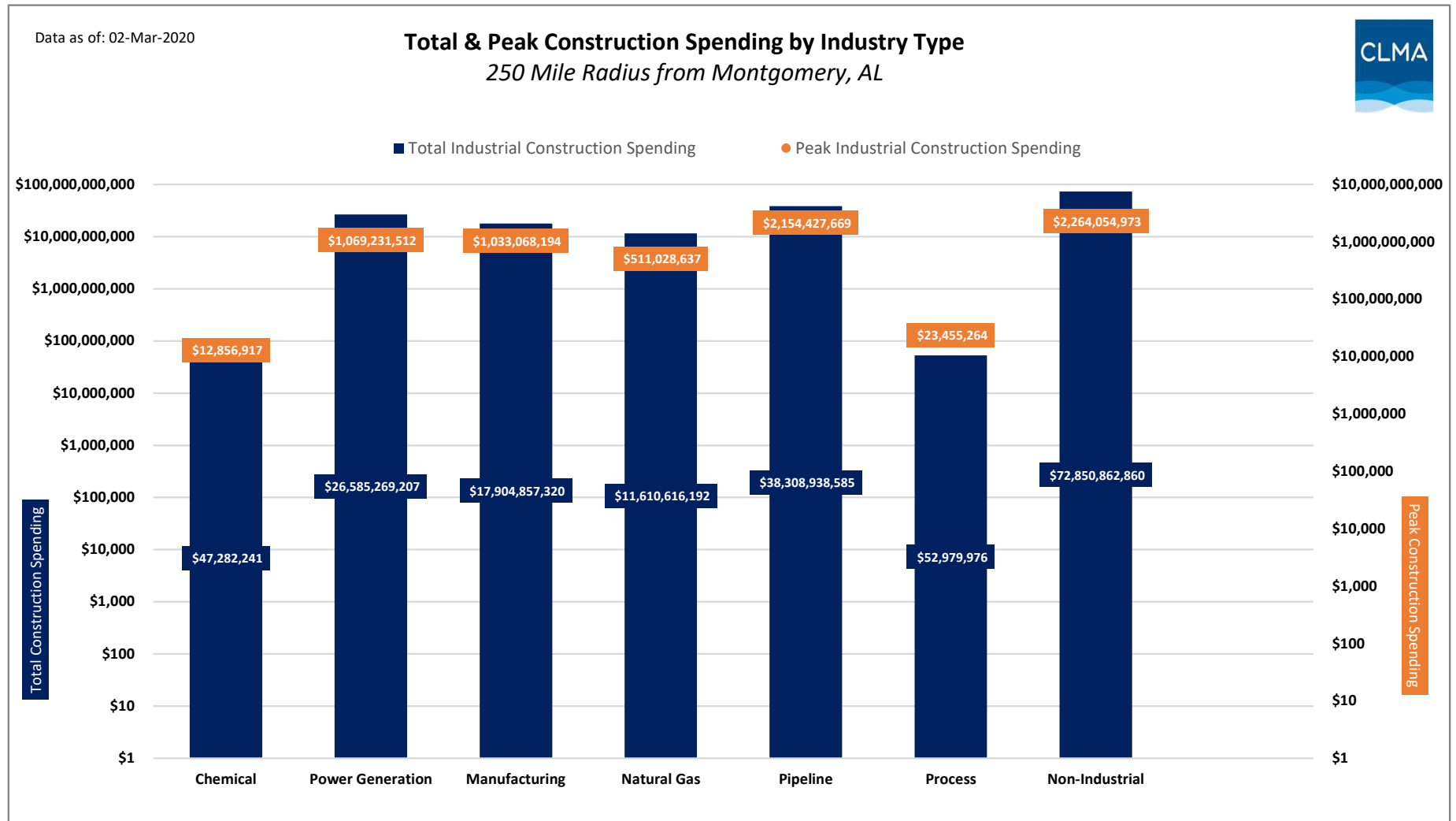


Previous Report Overlay Comparison Skilled Labor Supply & Demand 250 mi. Radius of Montgomery, AL



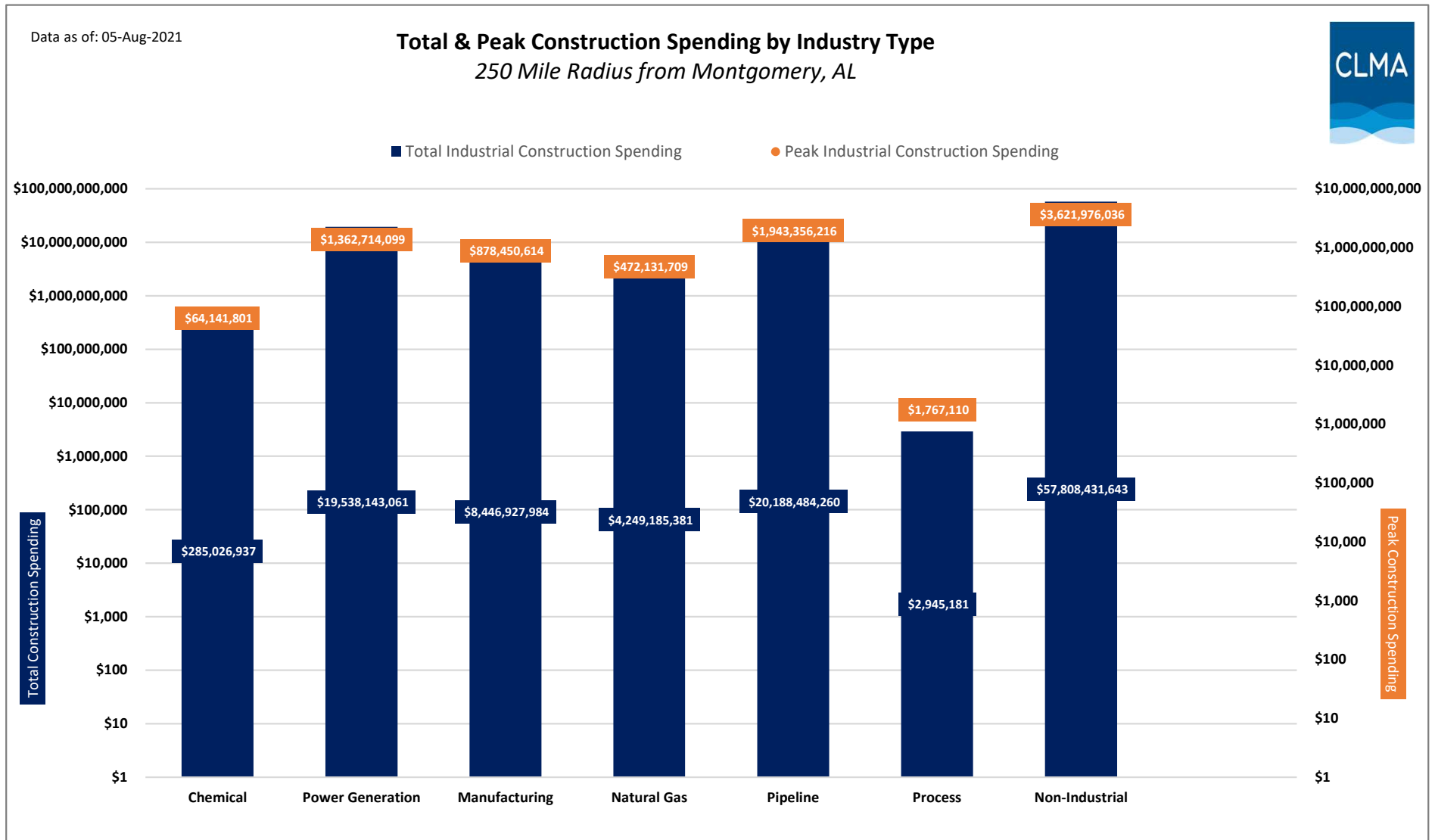


Pre-Pandemic Regional Construction Spending





Current Regional Construction Spending



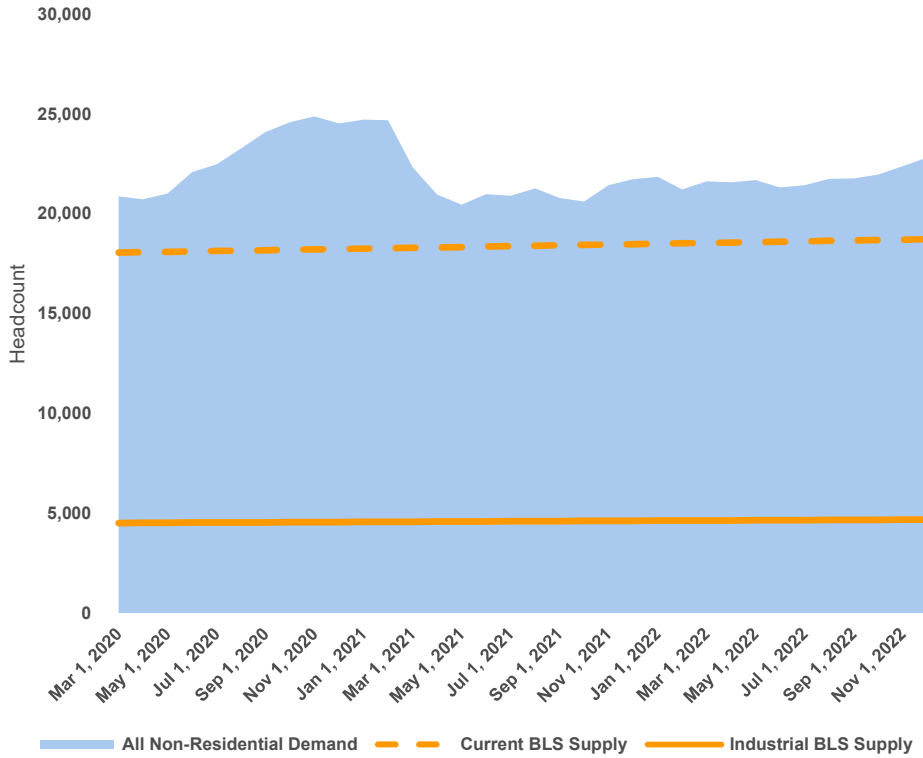
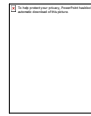
Comparisons of Demand vs. Supply Charts



Data as of:
02-Mar-2020

Carpenter (All Unspecified)

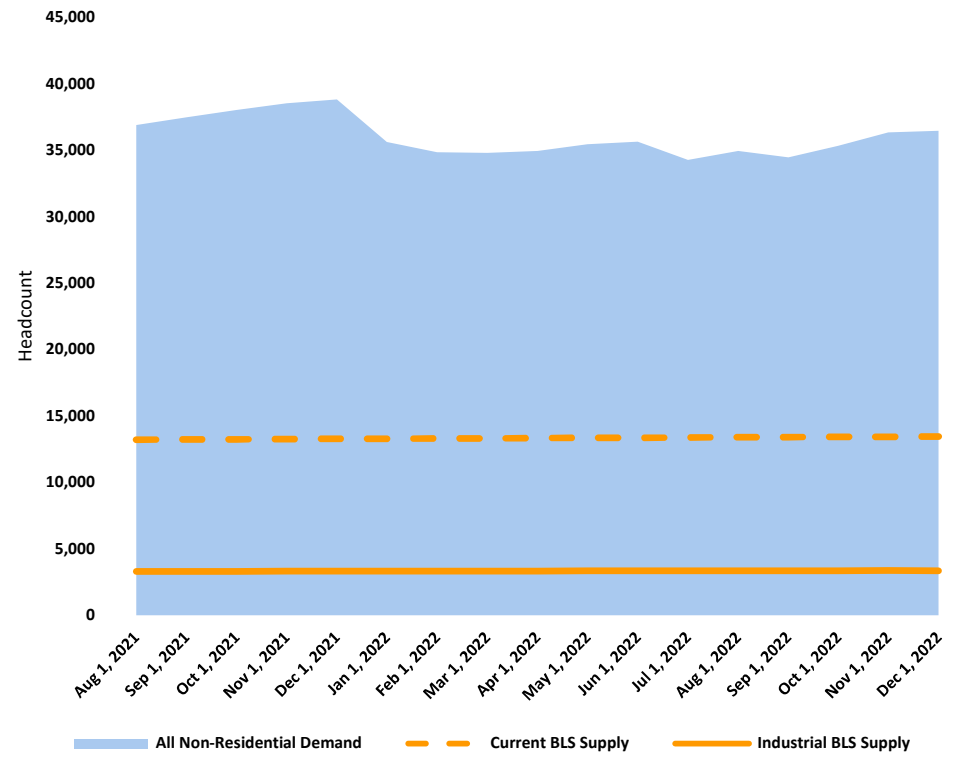
250 Mile Radius from Montgomery AL
Skilled Labor Supply & Demand



Data as of:
05-Aug-2021

Carpenter (All Unspecified)

250 Mile Radius from Montgomery, AL
Skilled Labor Supply & Demand



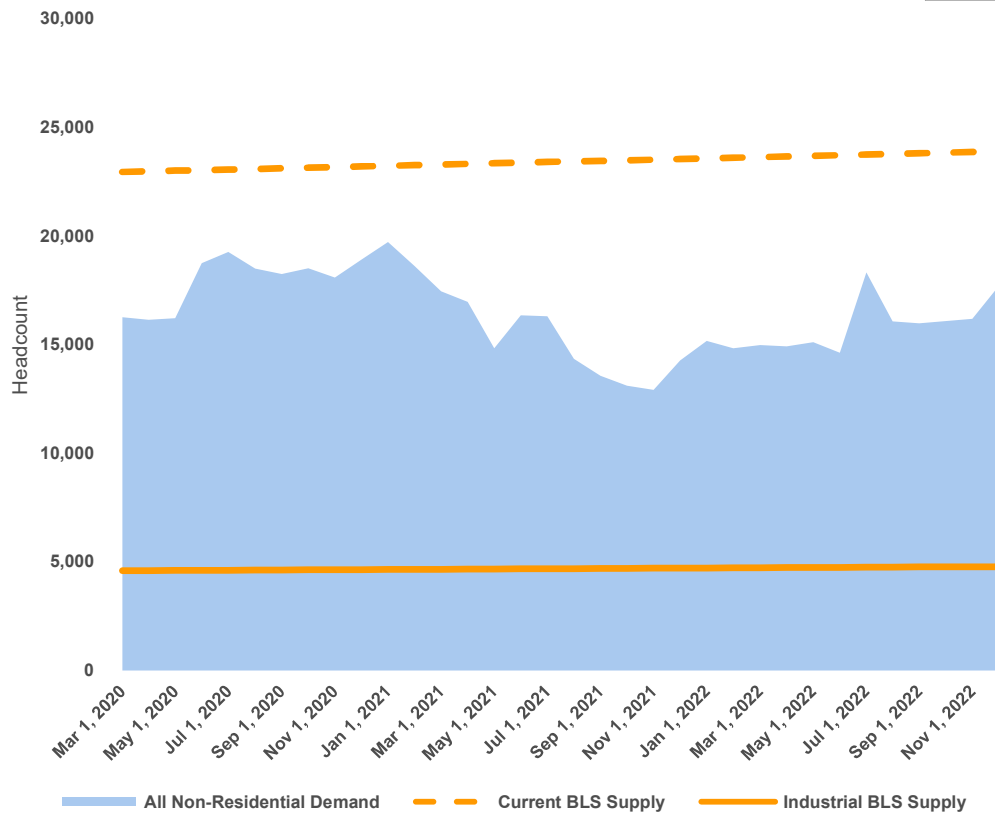
Comparisons of Demand vs. Supply Charts



Data as of:
02-Mar-2020

Electrician

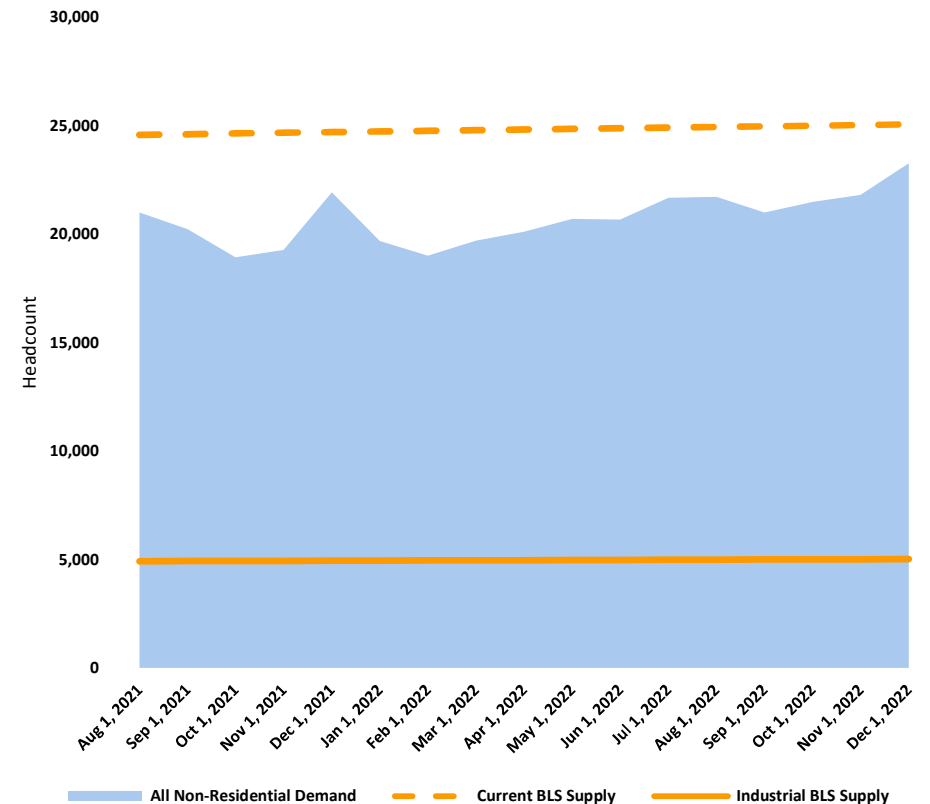
250 Mile Radius from Montgomery AL
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Data as of:
05-Aug-2021

Electrician

250 Mile Radius from Montgomery, AL
Skilled Labor Supply & Demand



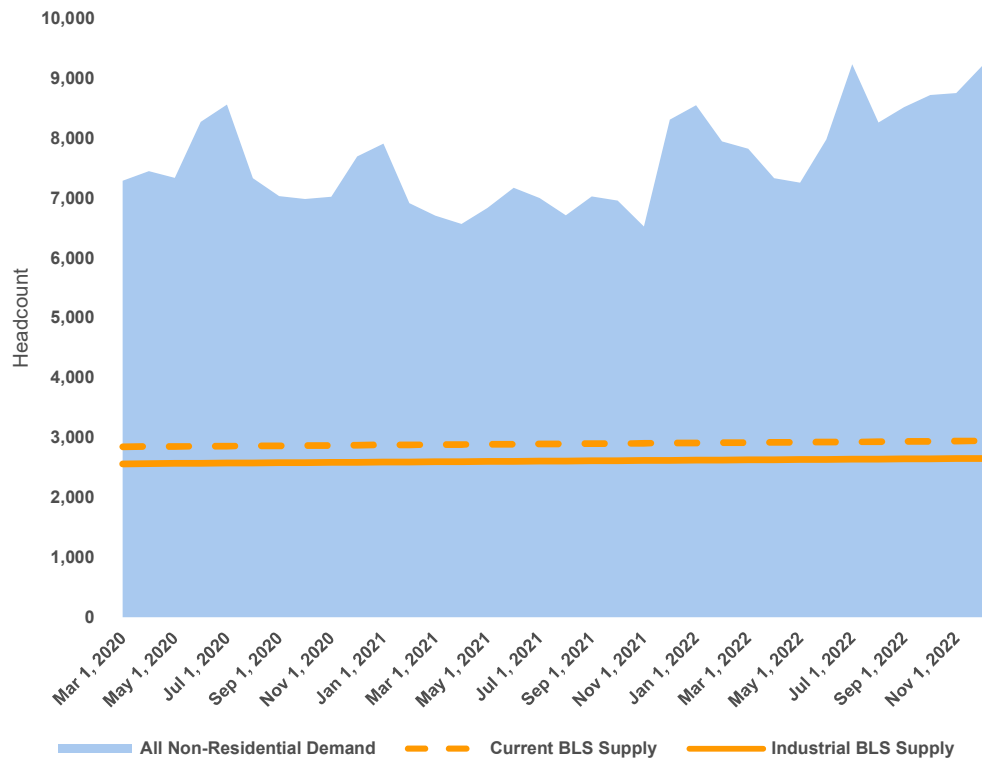
Comparisons of Demand vs. Supply Charts



Data as of:
02-Mar-2020

Ironworker / Welder (Structural)

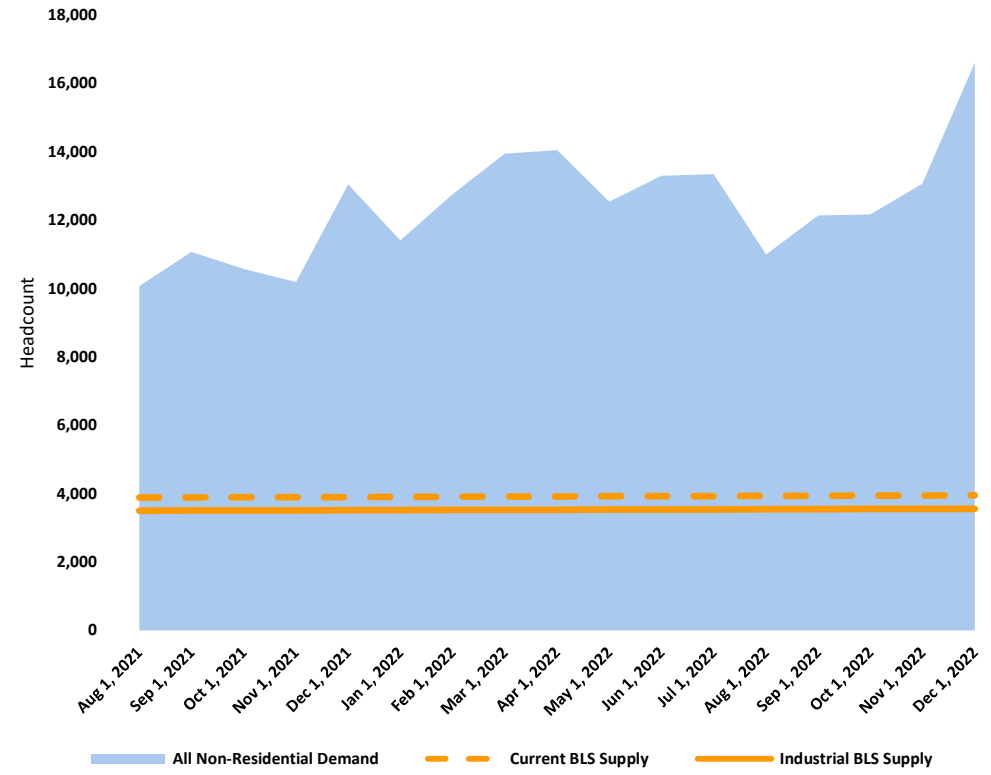
250 Mile Radius from Montgomery, AL
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05-Aug-2021

Ironworker / Welder (Structural)

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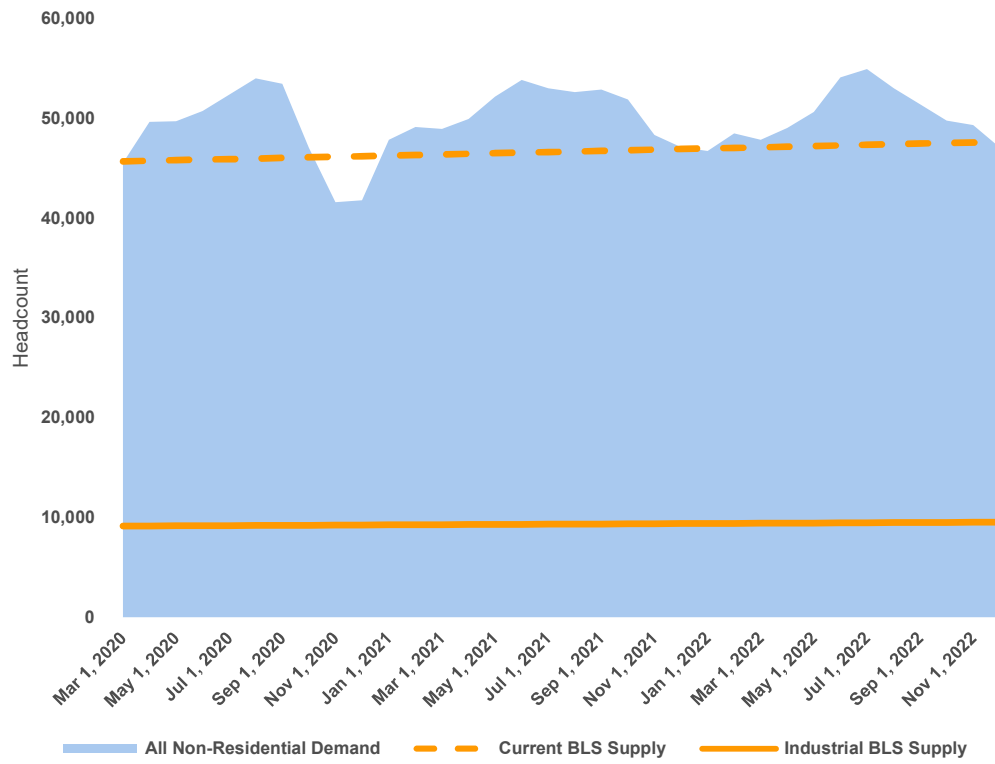
Comparisons of Demand vs. Supply Charts



Data as of:
02-Mar-2020

Laborer

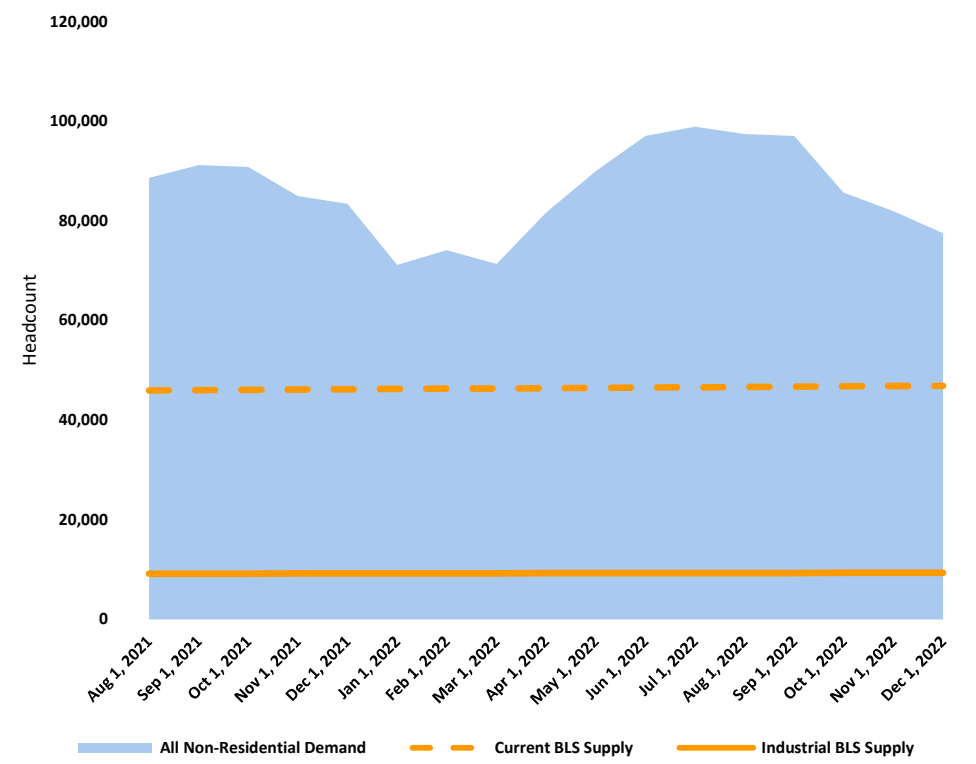
250 Mile Radius from Montgomery, AL
Skilled Labor Supply & Demand



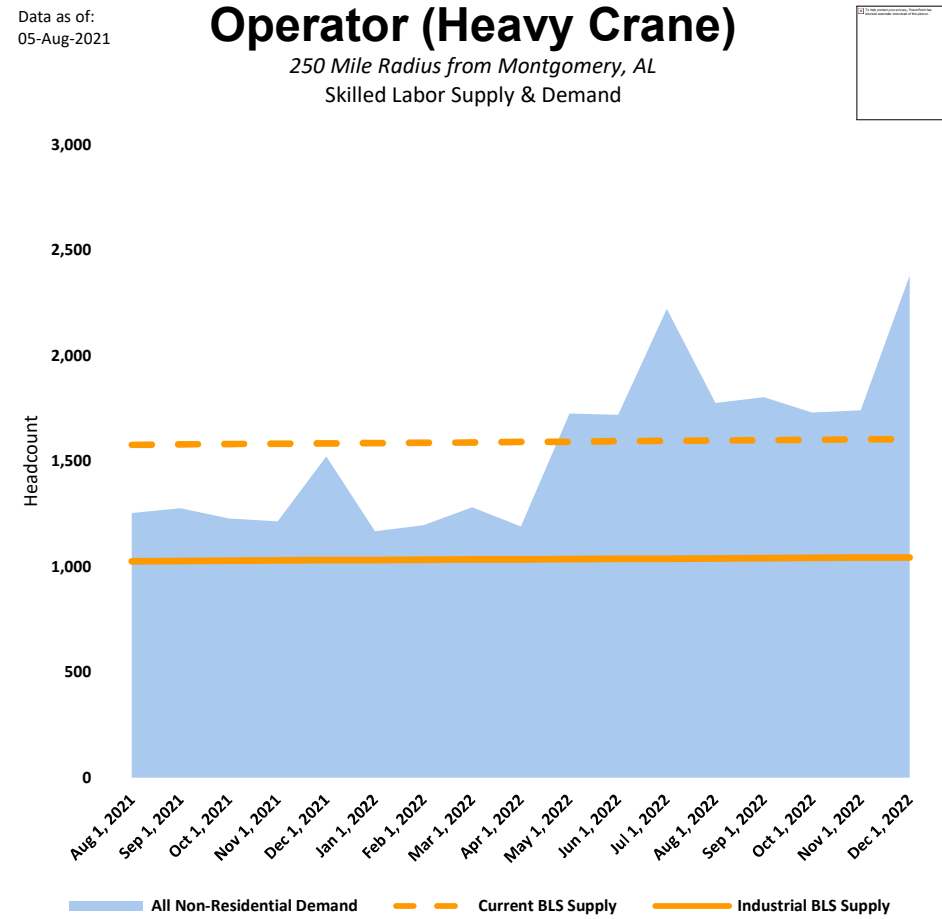
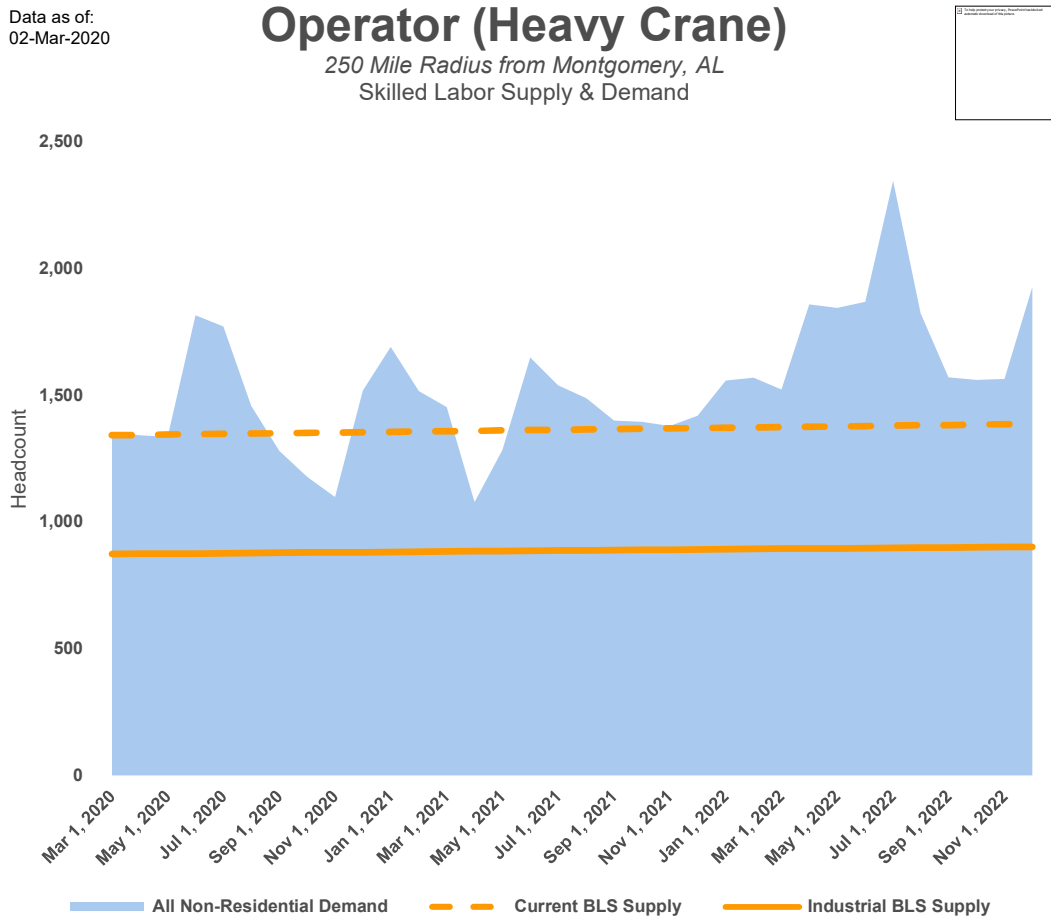
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Laborer

250 Mile Radius from Montgomery, AL
Skilled Labor Supply & Demand



Comparisons of Demand vs. Supply Charts



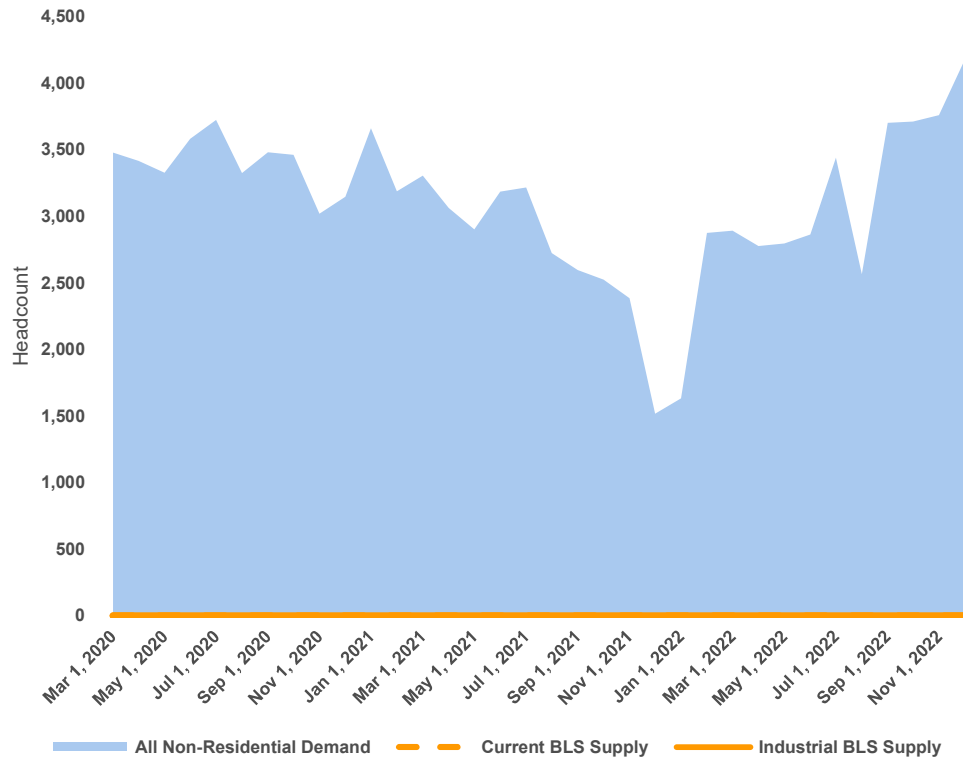
Comparisons of Demand vs. Supply Charts



Data as of:
02-Mar-2020

Pipefitter / Combo Welder

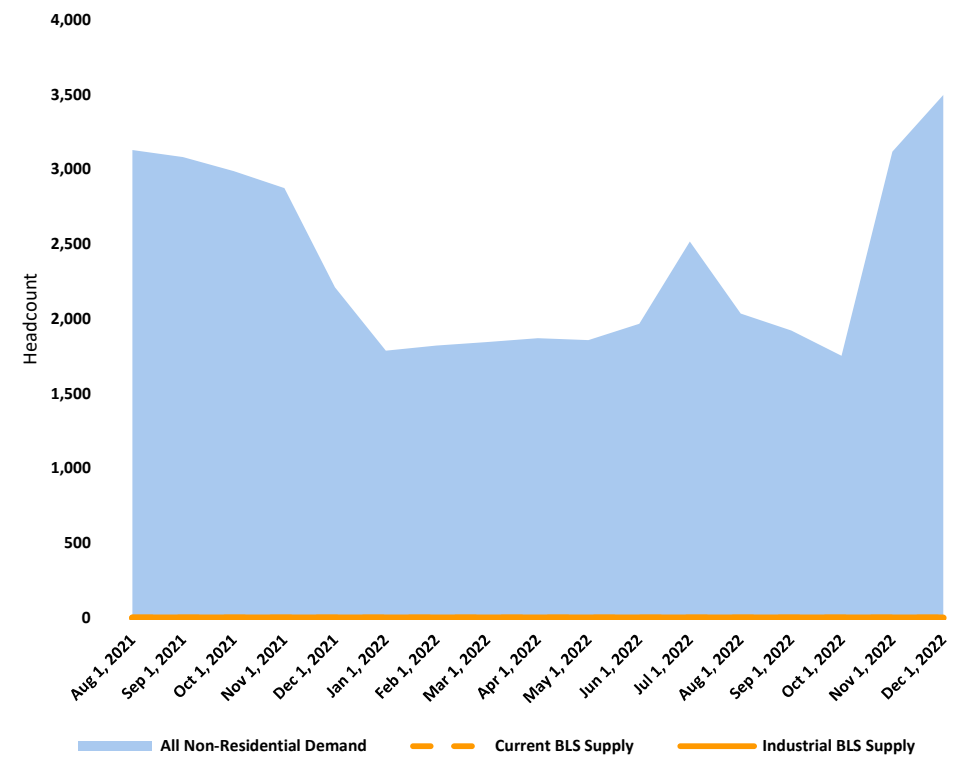
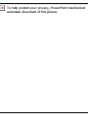
250 Mile Radius from Montgomery, AL
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Data as of:
05-Aug-2021

Pipefitter / Combo Welder

250 Mile Radius from Montgomery, AL
Skilled Labor Supply & Demand



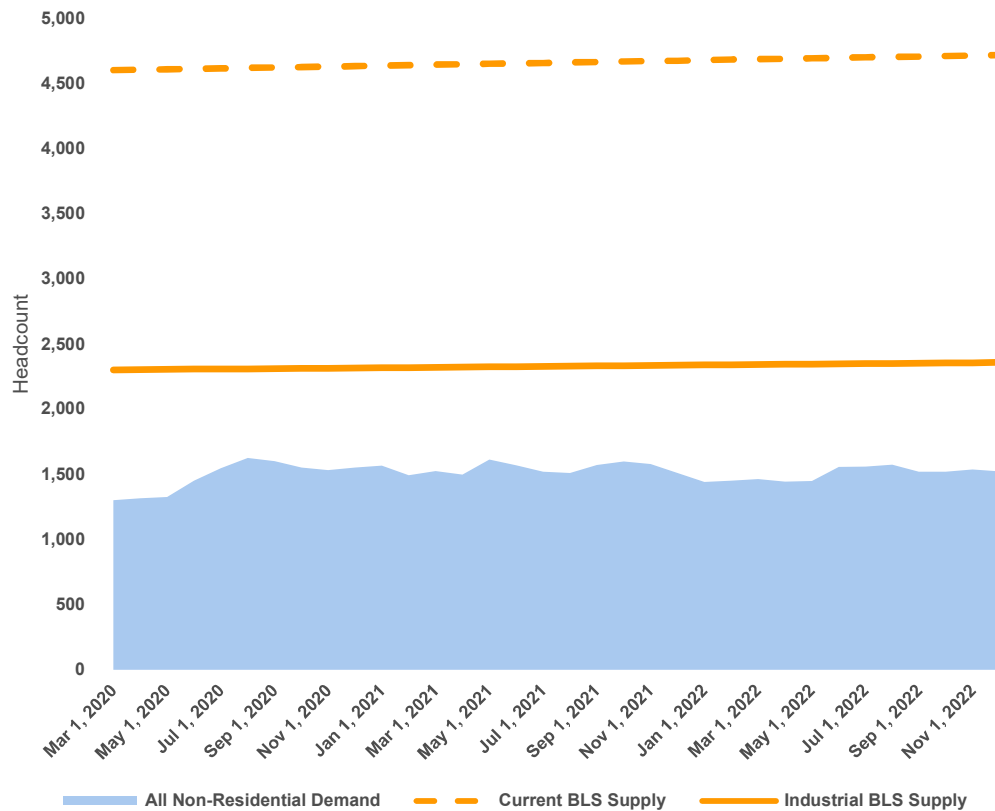
Comparisons of Demand vs. Supply Charts



Data as of:
02-Mar-2020

Pipelayer (Under Ground)

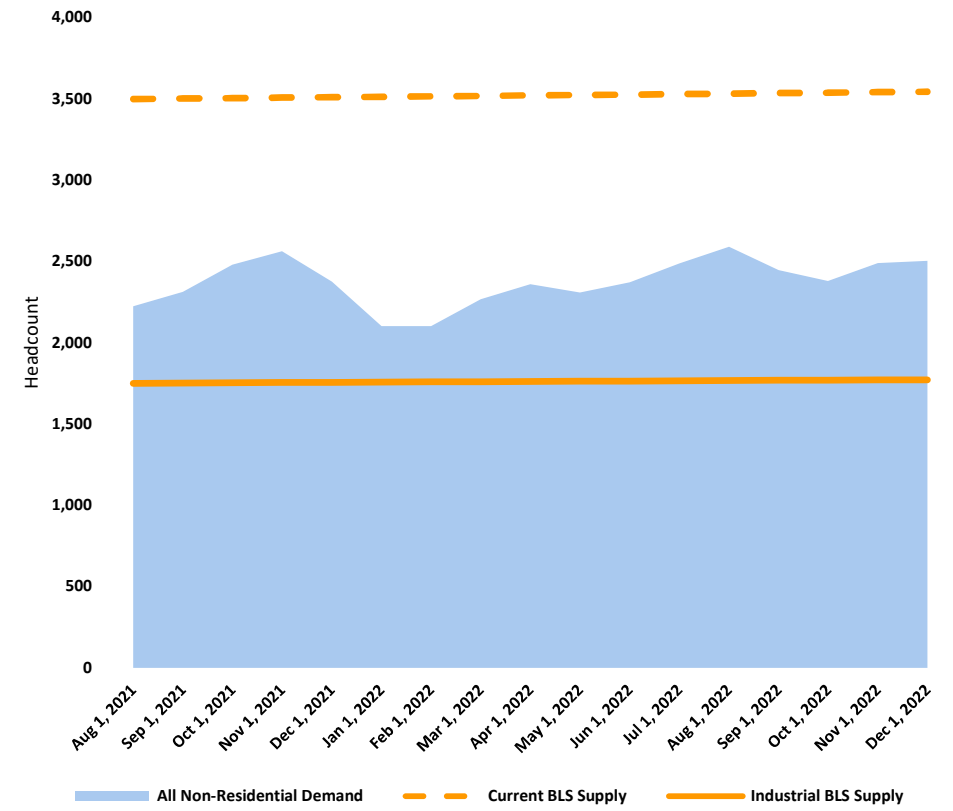
250 Mile Radius from Montgomery, AL
Skilled Labor Supply & Demand



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05-Aug-2021

Pipelayer (Under Ground)

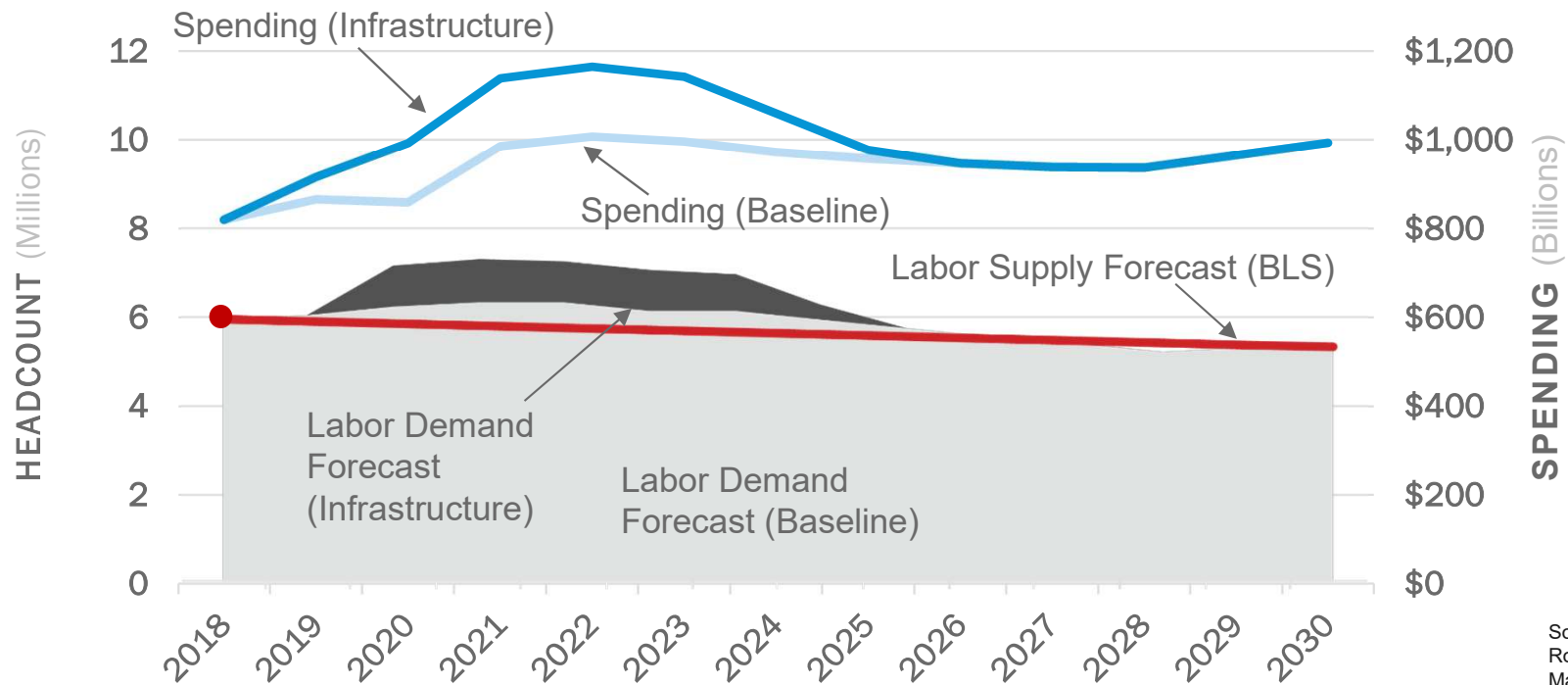
250 Mile Radius from Montgomery, AL
Skilled Labor Supply & Demand





Issues Affecting the Construction Industry

\$1T FOR INFRASTRUCTURE...WHO WILL BUILD IT?

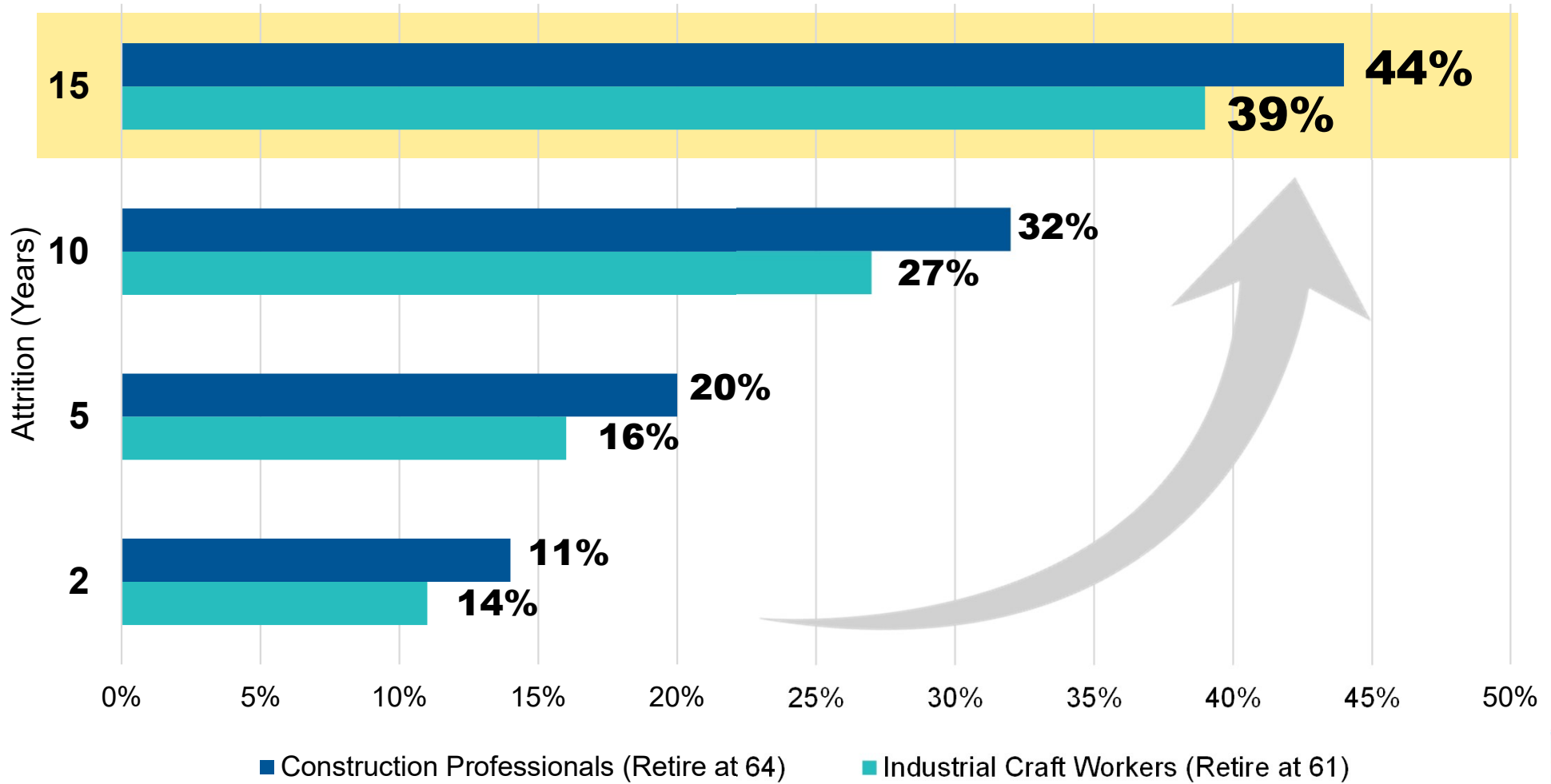


Source: Construction Users Roundtable Construction Labor Market Analysis and U.S. Bureau of Labor Statistics.

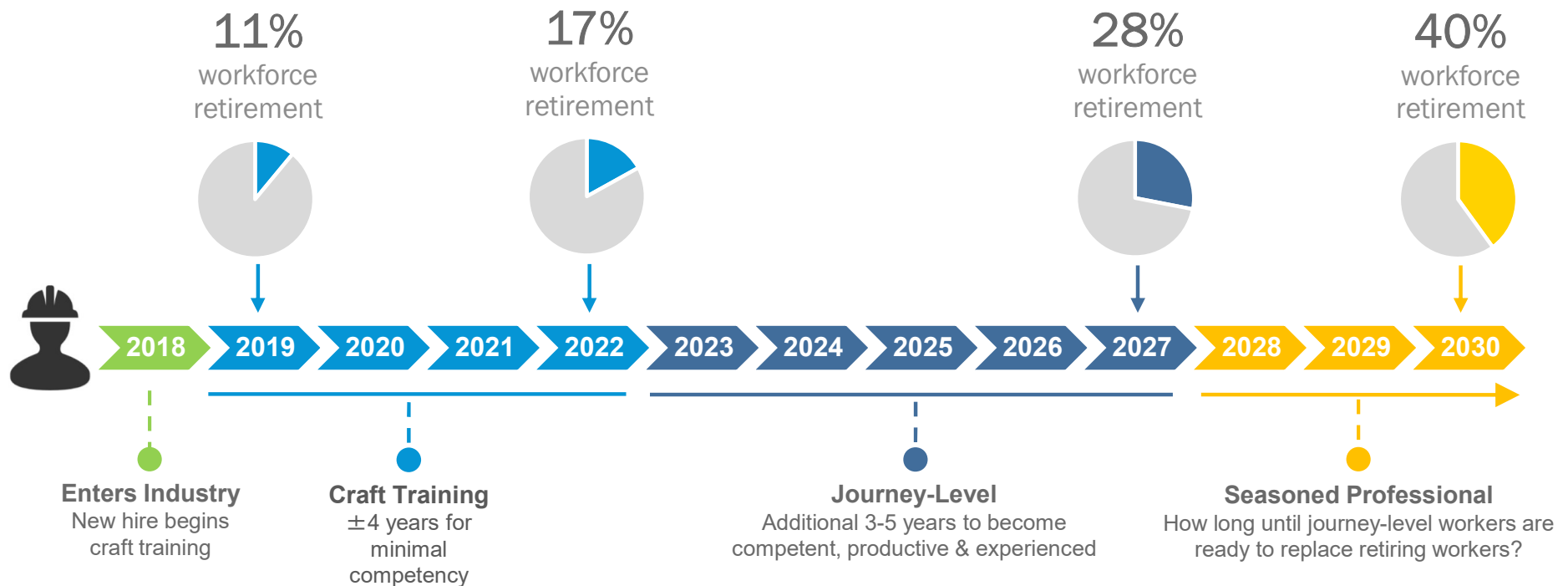


PROJECTED ATTRITION

Attrition Of Industrial Craft Workers & Professionals



DEVELOPMENT CYCLE FOR A CRAFT PROFESSIONAL



Source: Construction Industry Resources, LLC, 2018.



**Average age
of a registered
apprentice in
the U.S. in
construction:**

28

Source: Rolland, K. L. (2016). Apprenticeships and Their Potential in the U.S., CASCADE, No. 90, Winter 2016, Community Development Studies & Education.



The Carnage of the New Arms Race

1

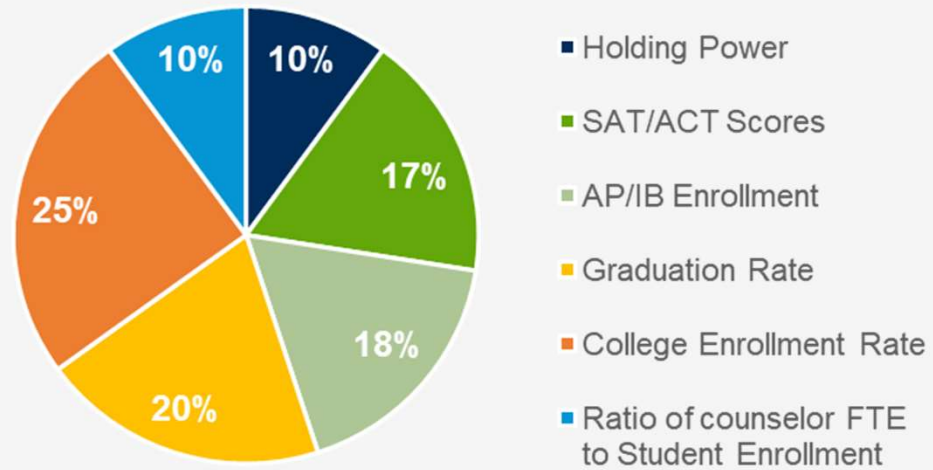
LABOR MARKET FACTS

Only **33%** of Future Jobs expected to require a 4-year or more degree

1:2:7

Reference: Occupational employment projections to 2024 – Monthly Labor Review

Newsweek Public School Rankings



60% of ranking based on college readiness...

0% based on career readiness

Slide 21

PG7

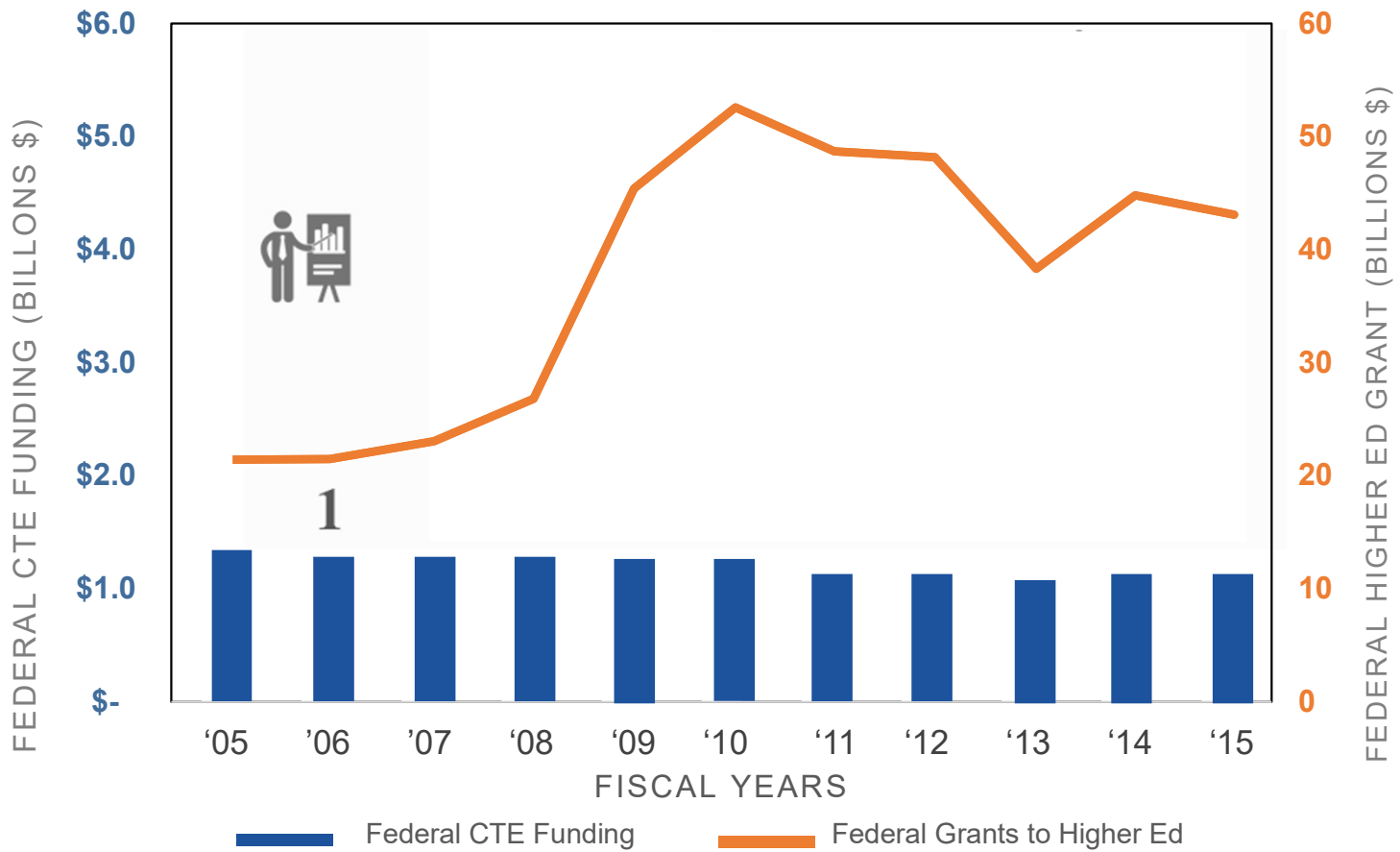
Introduce the 1:2:7 ratio here and include a pie chart for the 2018 job projections

PAUL GOODRUM, 4/12/2018

1

Curious where the subscript "2" refers to. Delete if unnecessary.
(after "Requirement2")

Christine Kenney, 6/27/2018



Source: U.S. Department of Education annual budget summary from 2005 to 2016

Imbalanced funding between CTE & higher education

Source: U.S. Department of Education annual budget summary from 2005 to 2016

How do we start?

WORKFORCE DEVELOPMENT POLICIES

1. **Revitalize** our work-based learning programs
2. **Measure** performance in workforce development when awarding construction contracts
3. **Establish** the awareness of career opportunities in our nation
4. **Redefine** how we measure the quality of our nation's secondary education system
5. **Increase** the participation of underrepresented groups in CTE
6. **Establish** and expand collaboration between industry, education, and government
7. **Develop** more balanced funding among post-secondary CTE & higher education



**CII RT-335 “Restoring the Dignity of Work:
Transforming the U.S. Workforce Development System into a World Leader”**

NCCER.org



Composition of the 2030 Construction Workforce

CII RT-370

Research Focus

Technology

*What is the level of technology proficiency in the workforce?
Where is tech investment focused?*

Workforce Skills

*How have multiskilling patterns changed?
What is the motivation behind becoming multiskilled?*

Workforce Culture

*What is the current workforce climate?
How does culture affect the future workforce?*

Construction Tech Investment

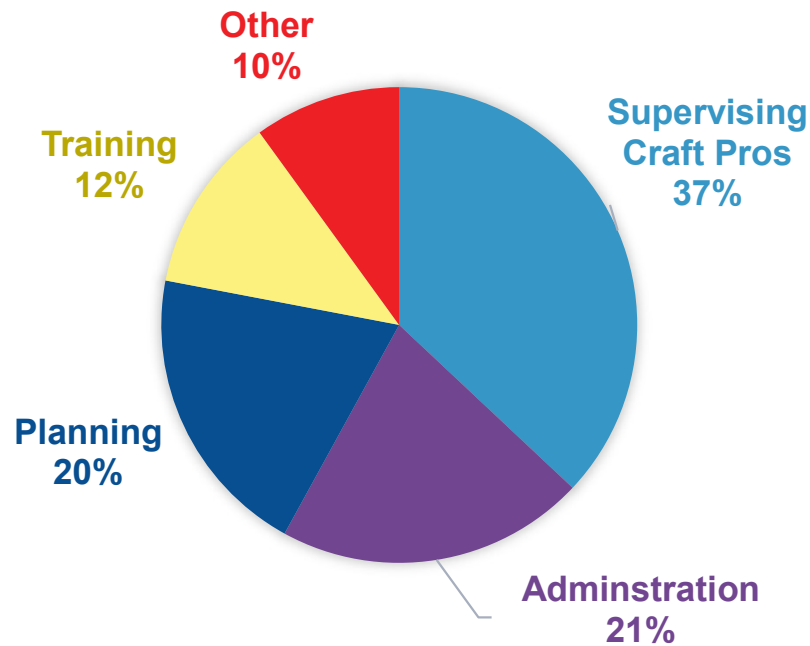


Venture capitalist investment in construction technology has outpaced (~8X) *all other industries* in the past ~5 years.

Source: McKinsey & Company

Supervisors Spend Less than 40% of Time Supervising, Which Is Far from Optimal

How Construction Supervisors Spend Their Time (N=1422)

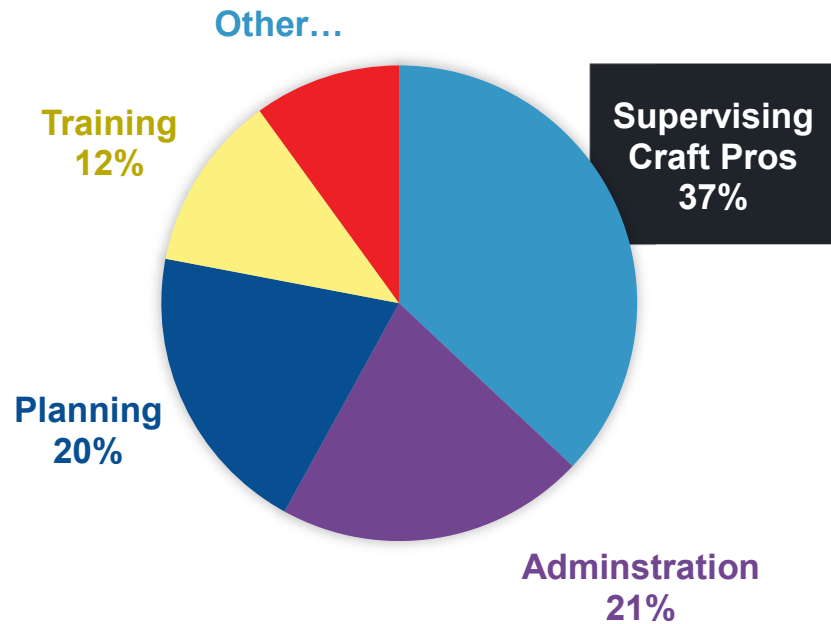


Experience level
Project management competency
Technology competency
No statistically significant difference in time allocation

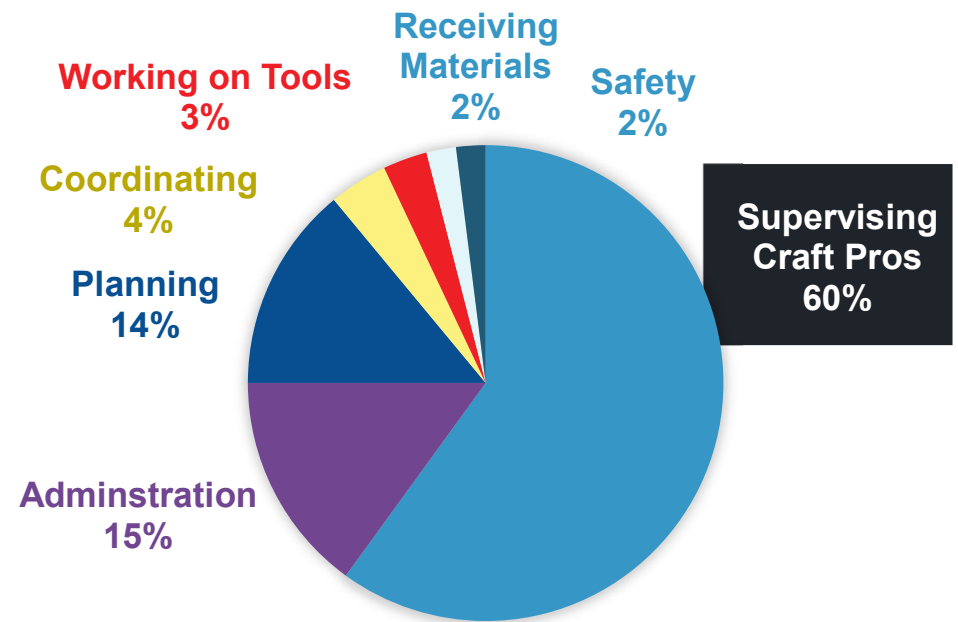
Sources: 2020 RT-370 Craft Survey and RT-330 Report

Technology Development Must Be Targeted to Be Effective

How Construction Supervisors Spend Their Time (N=1422)



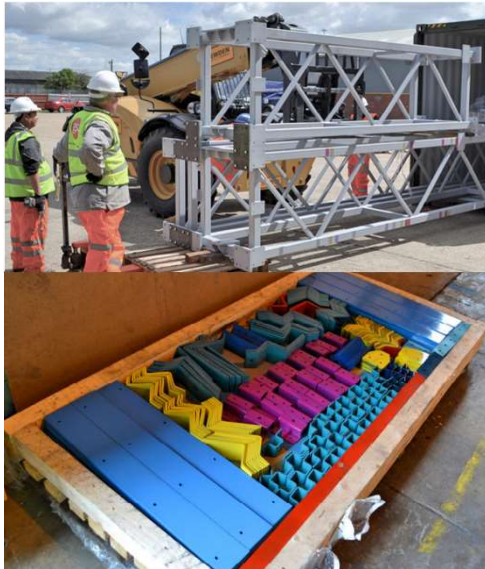
Optimal Supervisor Time Allocation



Sources: 2020 RT-370 Craft Survey and RT-330 Report

How Technology *Could* Affect Craft Workers

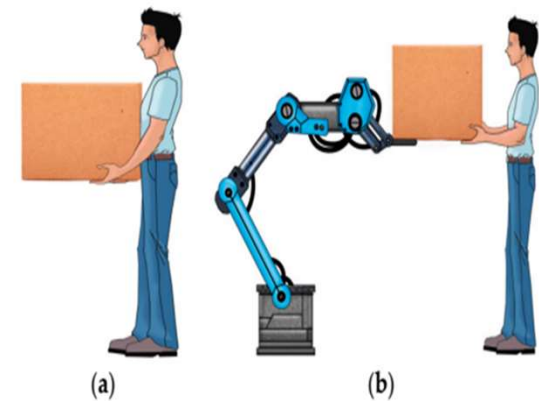
Project Design



Artificial Intelligence

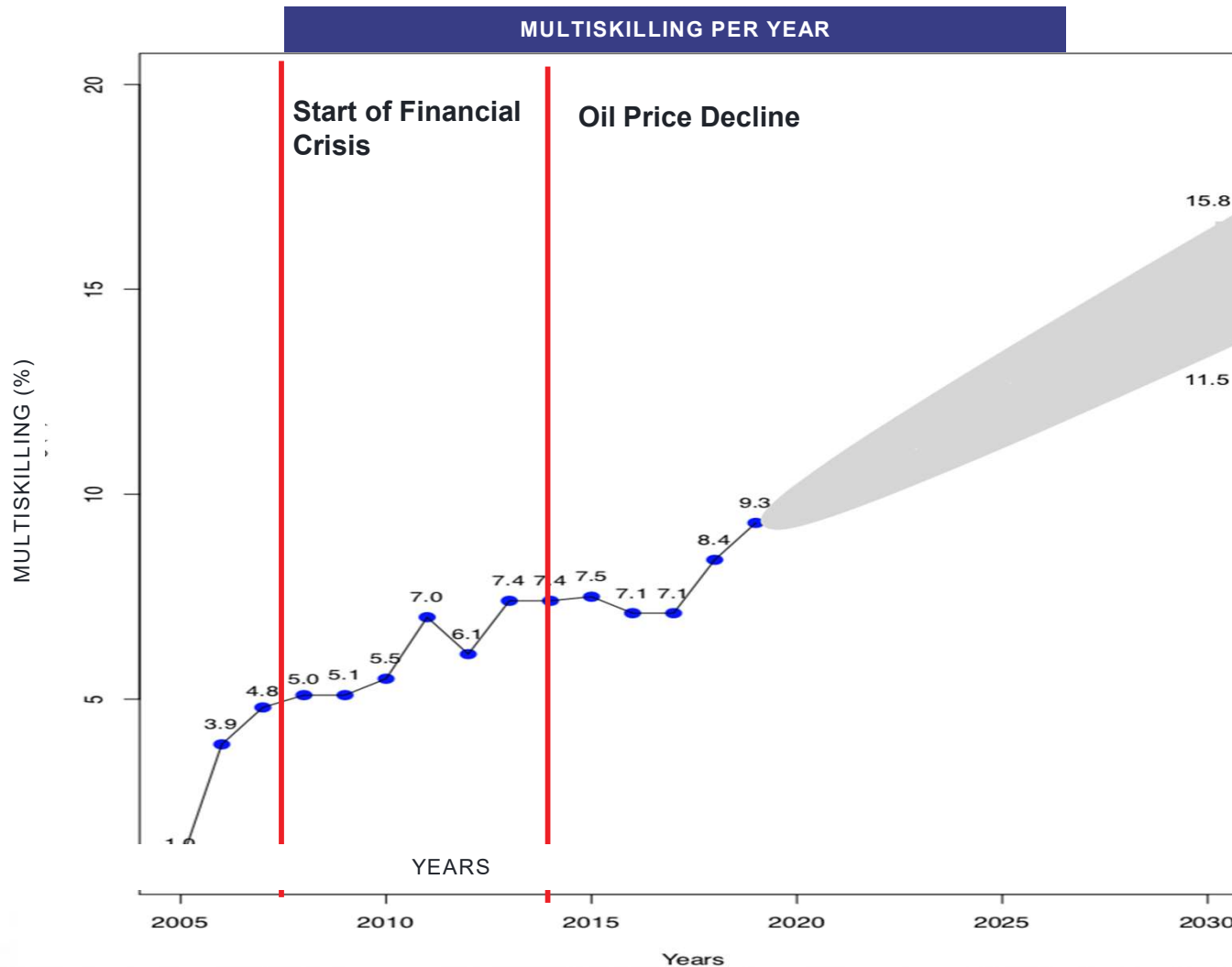


Robotics



Source: Machine Learning-Based Cognitive Position and Force Controls for Power-Assisted Human-Robot Collaborative Manipulation, Bryden Wood Design for Manufacture and Assembly - [link](#)

Multiskilling Is Increasing among Craft



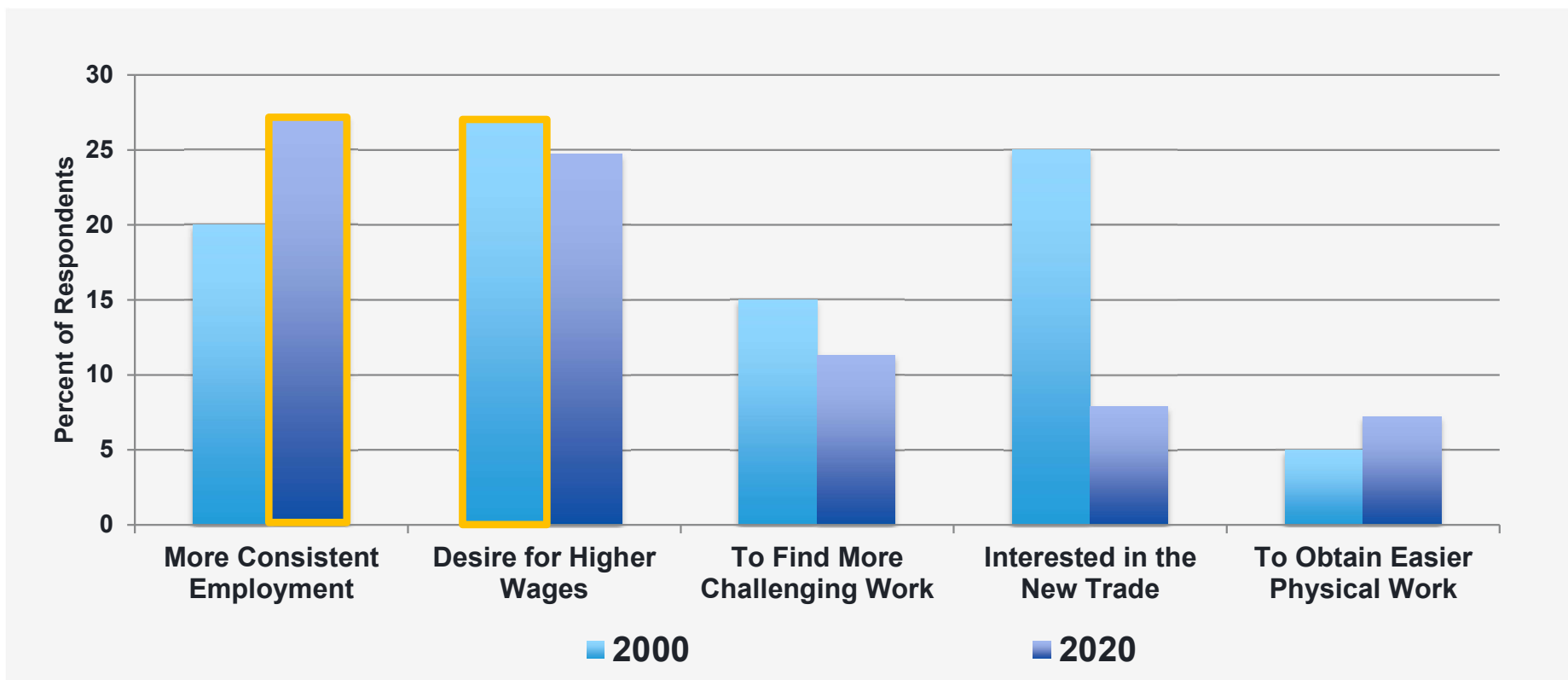
By 2030, the multiskilling percentage will be between 11.5 – 15.8.

** Prediction Interval Estimation

Source: NCACP Database

Employment Is the Top Incentive to Become Multiskilled

What Motivates Workers to Become Multiskilled?



Sources: Sloan Center for Construction Industry Studies 2000 Survey and 2020 RT-370 Craft Survey

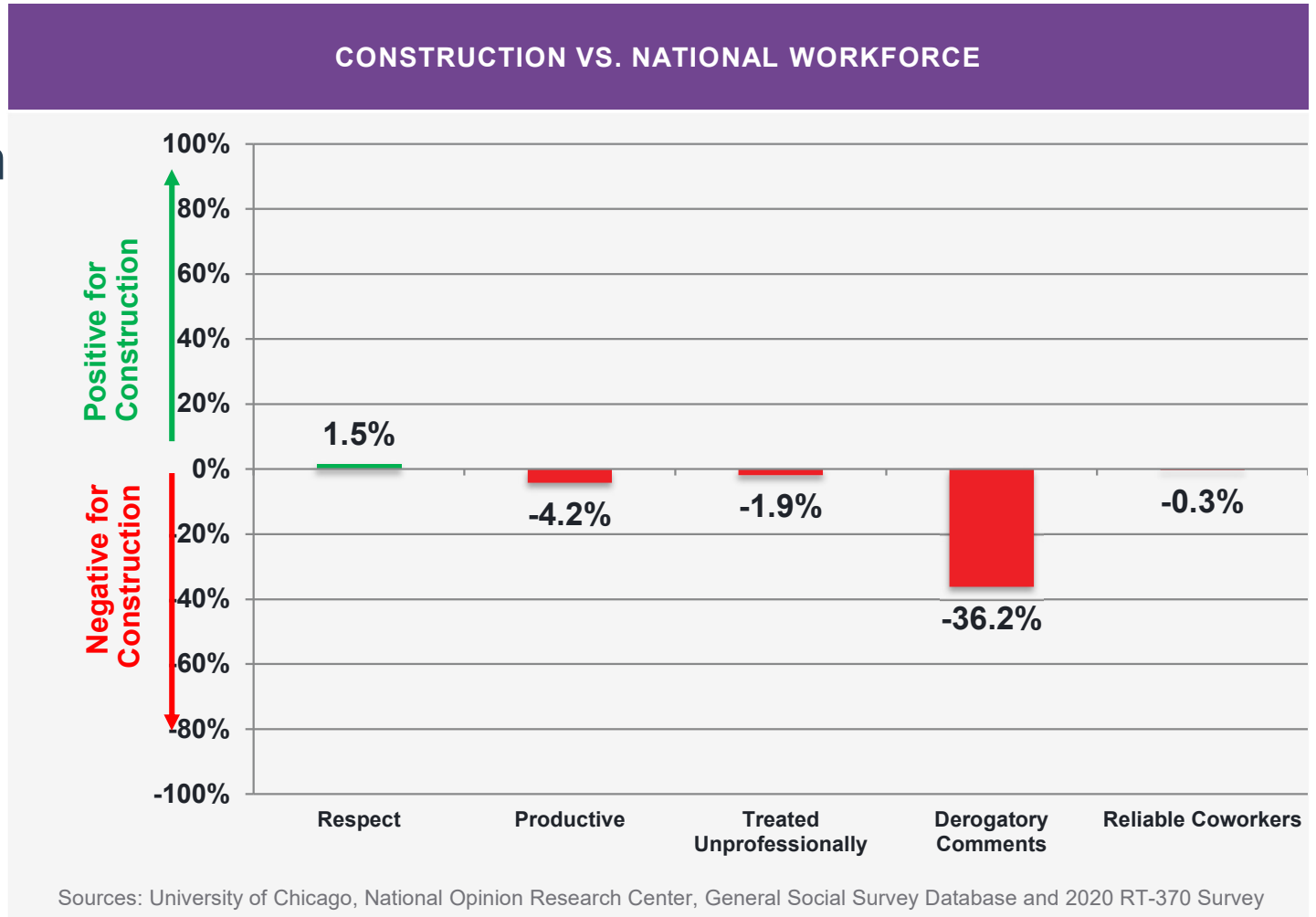
Workforce Skills Takeaways

Multiskilling
is increasing

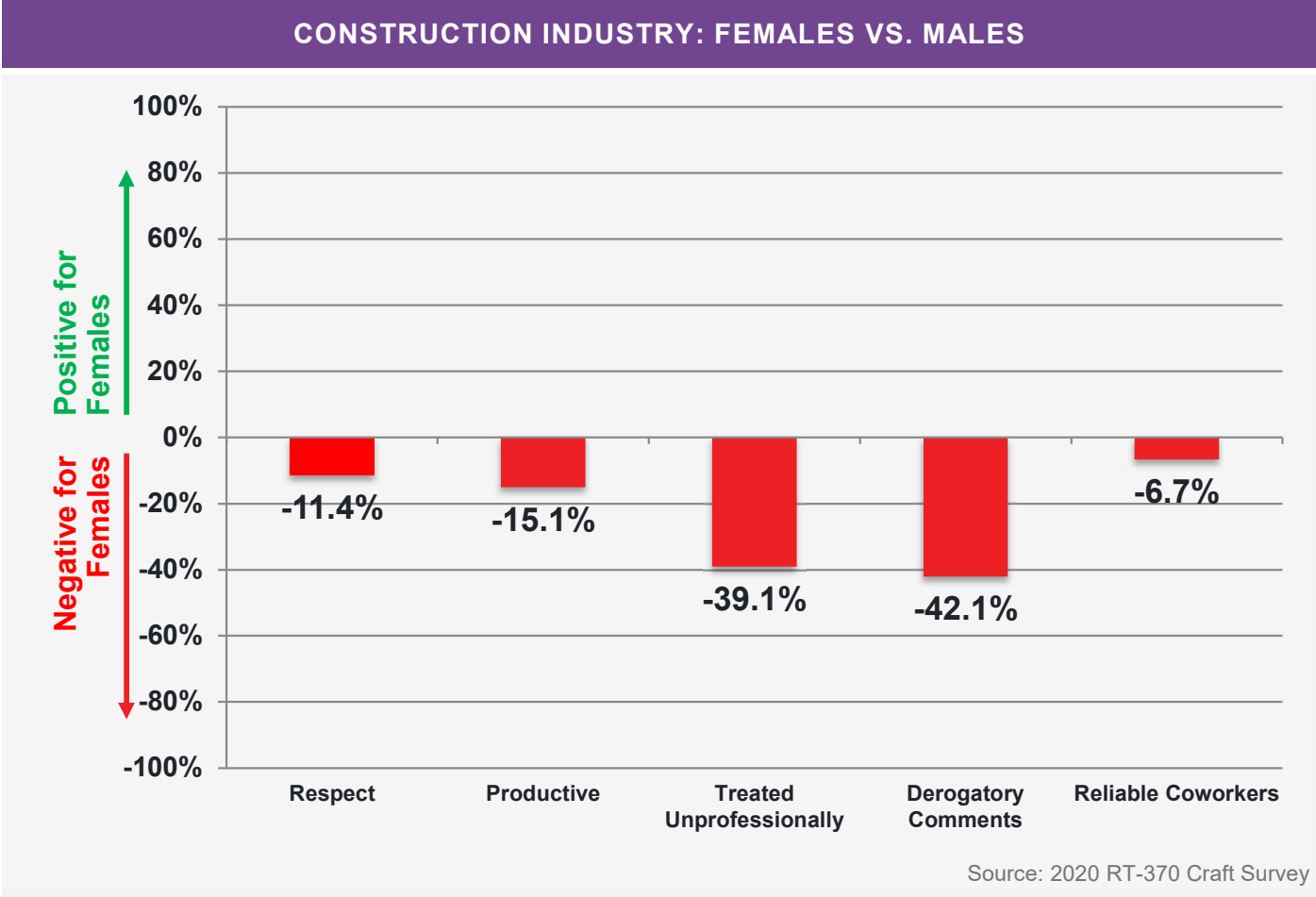
Multiskilling
is **organic** vs.
corporate
strategy

Less craftworker
mobility

The construction industry is challenged by derogatory comments.

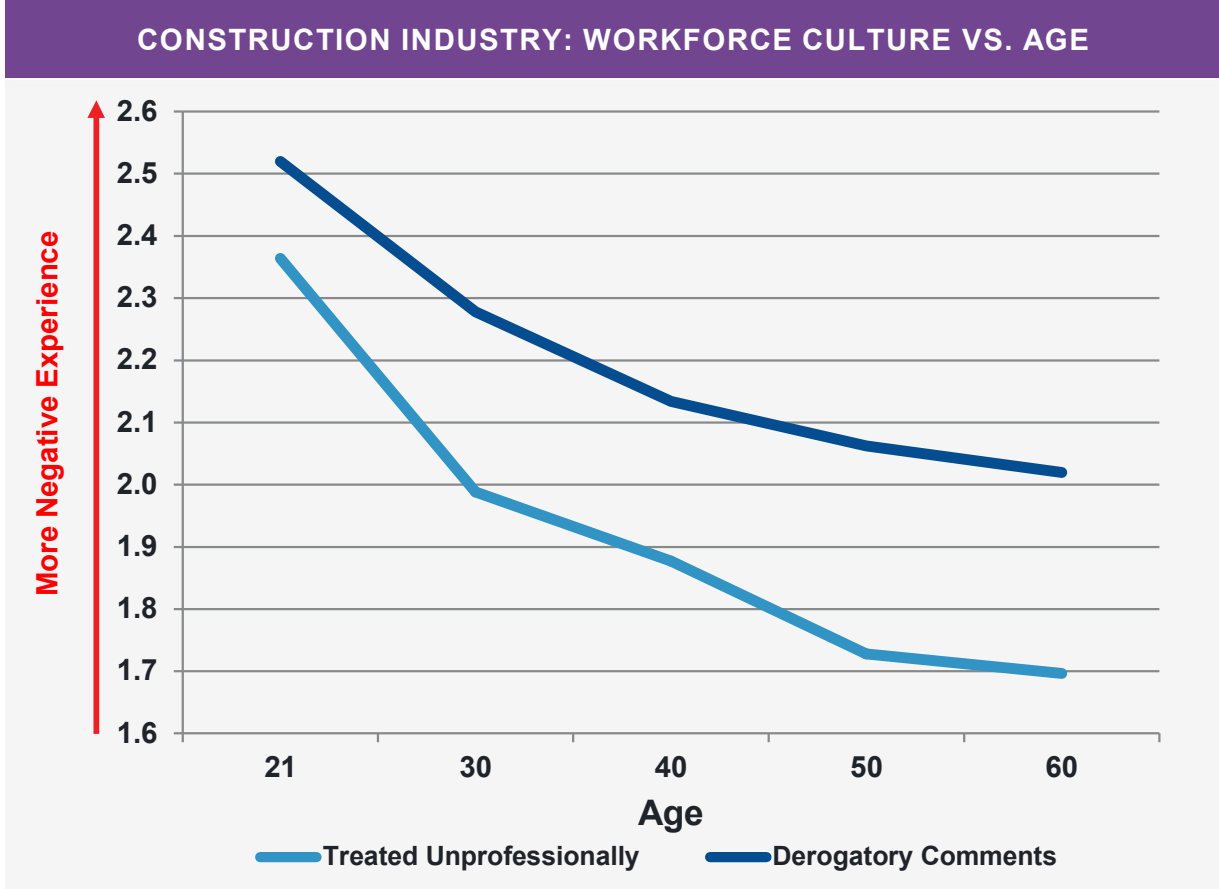


Females in construction have a significantly more negative work experience



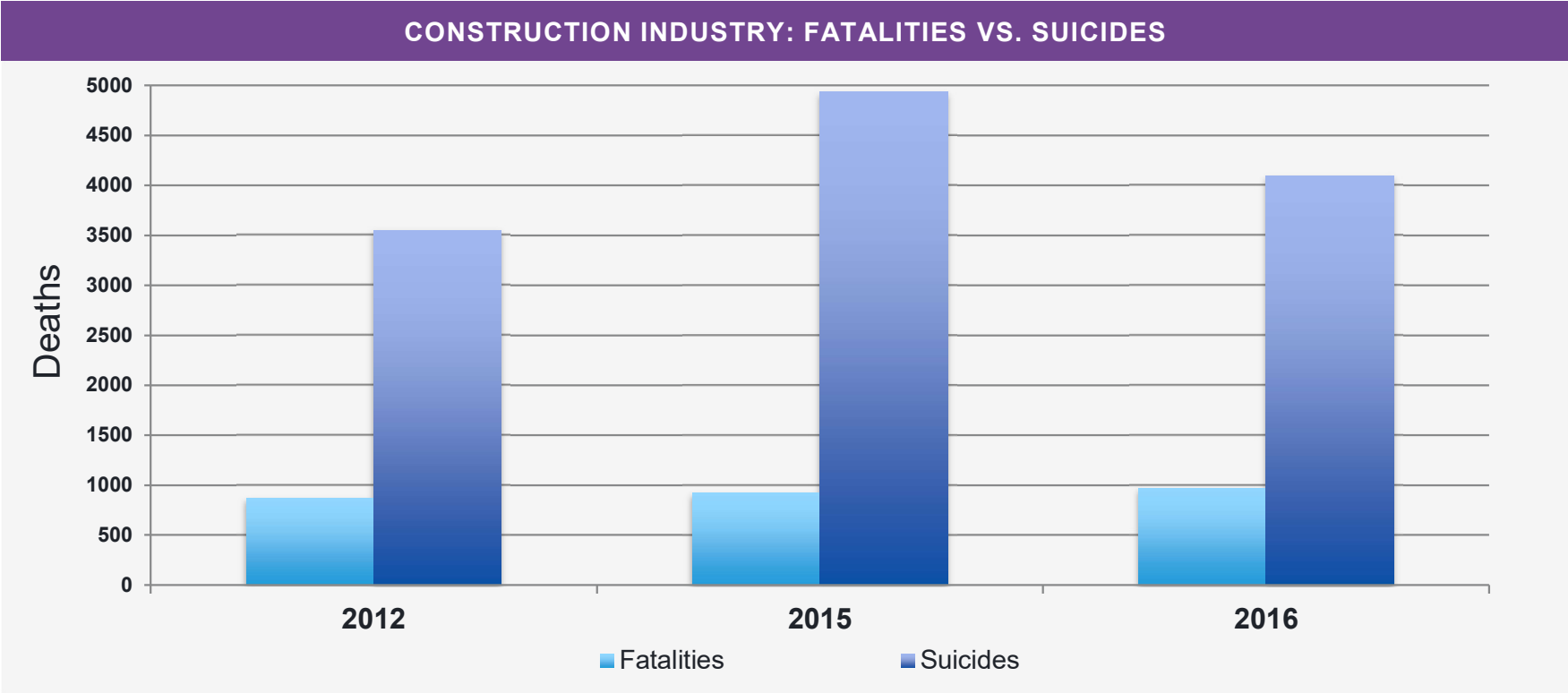
Younger workers have a more negative work experience

Data based on a Likert scale from 1-5



Source: 2020 RT-370 Craft Survey

The Suicide Rate in the Construction Industry is Four to Five Times Higher than the Jobsite Fatality Rate



*Suicide Numbers are estimated based on CDC suicide rate studies. Source: Suicide Rates in 2012 & 2015 are based on a CDC analysis from 17 states, and the female suicide rate is not reported. Suicide Rates in 2016 are based on a CDC analysis from 32 States, fatalities are based on data from the Bureau of Labor Statistics

Workforce Culture Takeaways

Culture has improved in some areas

Destigmatize mental health on jobsite

Support positive cultural change to ensure industry health



WORKFORCE 2030: Is the industry ready? Are you?

- Untapped technology at the jobsite
- More prefabrication
- Multiskilled, task-based workforce...
not smaller
- Less mobile, older workforce





Thank You!