April 2022

U.S. Construction Outlook: Workforce Worries, Cost Challenges, Project Prospects

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Total Nonfarm & Construction Employment, Feb. 2020–March 2022
cumulative change (seasonally adjusted)

Change since Feb. 2020:

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Construction</td>
<td>161,000</td>
<td>5.4%</td>
</tr>
<tr>
<td>Total Nonfarm</td>
<td>-1,579,000</td>
<td>-1.0%</td>
</tr>
<tr>
<td>Nonresidential Construction</td>
<td>-157,000</td>
<td>-3.4%</td>
</tr>
</tbody>
</table>

Source: BLS current employment statistics, https://www.bls.gov/ces/
Construction job openings exceed hires, set record high for Feb.

Job openings and hires, February 2001-February 2022, not seasonally adjusted

Job openings Feb 2022: 364,000
change from Feb 2021: 52%

New hires Feb 2022: 342,000
change from Feb 2021: 7.9%

State construction employment change, Feb. 2020–Feb. 2022
32 states up, 18 states and DC down (U.S.: –0.1%)

Top 5
Idaho 13.1%
Montana 12.3%
Utah 12.0%
Tennessee 8.6%
Mississippi 8.4%

Bottom 5
North Dakota -6.8%
New York -6.5%
Pennsylvania -6.0%
Oklahoma -5.5%
Louisiana -4.0%

Note: Shading based on unrounded numbers
Source: BLS state and area employment, www.bls.gov/sae
Craft wages are rising at the fastest rate since 1982

Average hourly earnings of production & nonsupervisory employees

year-over-year, March 1982–March 2022, seasonally adjusted

March 2021-2022 6.2%
Change in prices for inputs to new nonresidential construction

Year-over-year change in PPIs, Sep 2020–Feb 2022, not seasonally adjusted

Inputs PPI: 1.8% to 21%
Bid price PPI: 1.8% to 17%

PPIs for construction bid prices and selected inputs
cumulative change in PPIs, April 2020–February 2022 (not seasonally adjusted)


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Cost squeeze on contractors can last two years or more
Difference between year-over-year change in materials costs vs. bid prices, Jan 2006-Feb 2022

Source: Bureau of Labor Statistics, www.bls.gov/ppi, producer price indexes for goods inputs to nonresidential construction (material costs) and new school building construction (bid prices)
Change in construction spending: February 2022 vs. 2021
current (not inflation-adjusted) dollars, seasonally adjusted annual rate

- Total 11%; private residential 17% (single-family 20%; multi 8%); private nonres 10%; public 1%

Largest segments (in descending order of 2021 spending)
- Power -0.3% (electric 4%; oil/gas fields & pipelines -0.3%)
- Highway and street 9%
- Commercial 19% (warehouse 22%; retail 19%)
- Education -4% (primary/secondary -8%; higher ed -0.8%)
- Mfg. 35% (chemical 0.7%; computer/electronic 229%; food/beverage/tobacco 26%; transp. equip. -2%)
- Office 7%
- Transportation -0.4% (air -4%; freight rail/trucking 2%; mass transit -6%)
- Health care 11% (hospital 8%; medical building 20%; special care -11%)
- Lodging -27%

Source: Author, from U.S. Census Bureau, www.census.gov/constructionspending
## Forward-looking indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Latest date</th>
<th>Current value</th>
<th>Year-ago value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture Billings Index (ABI)</td>
<td>Feb</td>
<td>51.3</td>
<td>52.7</td>
</tr>
<tr>
<td>Dodge Momentum Index (DMI)</td>
<td>Feb</td>
<td>158</td>
<td>143</td>
</tr>
<tr>
<td>Multifamily permits not yet started</td>
<td>Feb</td>
<td>117,000</td>
<td>92,000</td>
</tr>
</tbody>
</table>

Source: American Institute of Architects (ABI), Dodge Data & Analytics (DMI), Census Bureau (New Residential Construction)
Medium-term impacts as recovery begins

• Economic recovery should continue but invasion of Ukraine adds and Western countermeasures add to cost and supply-chain pressures

• Slower rebound than for other sectors as owners, investors/lenders, institutions, and public agencies face uncertainty about future demand, costs, and completion times

• Continuing cost and supply challenges may lead to more project deferrals

• Infrastructure funds will take time to distribute and award to individual projects, muting the medium-term impact on labor and materials “shortages”

• Best current prospects: manufacturing, distribution, data centers, renewable energy
Challenges regarding construction worker supply

• Low vaccination rate: 46% for construction workers, 82% for other occupations

• “Premium” for construction wages relative to total private sector has shrunk from 20-23% pre-pandemic to 17% for production & nonsupervisory employees as other sectors boost pay, benefits and offer flexible hours and locations

• Implications: Contractors will have raise pay still more, pay more overtime, invest more in labor-saving software and equipment
Long-run construction outlook (post-pandemic)

• Slower population growth means slower demand growth for most construction
• Slowing demand for K-12, decline for higher ed construction
• Permanent shift from retail to e-commerce/distribution structures
• More specialized and online healthcare facilities; fewer hospitals, nursing homes
• More wind, solar, battery storage and charging facilities, and related manufacturing
• Not clear if offices will decentralize or remain in less demand
• Not clear if recent urban/rural or state-to-state migration will remain or reverse

Source: Author
Population change by state, July 2020–July 2021
(U.S.: 0.12%)

Top 6
ID 2.9%
UT 1.7%
MT 1.7%
AZ 1.4%
SC, DE 1.2%

Bottom 5
DC -2.9%
NY -1.6%
IL -0.9%
HI -0.7%
CA -0.7%


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