

May 10, 2022 - Economic Webcast

State of the Construction Industry

2022 and Beyond



In Partnership with



Paul Hart

VP, Product Marketing
Building Product Manufacturers



Spring Economic Webinar

Agenda

- 1 Kermit Baker, AIA
- 2 Ken Simonson, AGC
- 3 Fonda Rosenfeldt, ConstructConnect
- 4 Alex Carrick, ConstructConnect
- 5 Michael Guckes, ConstructConnect

Before we get started

- Interact with the presenters anytime! Submit questions throughout today's webcast through the question feature available in the on-screen panel.
- An on-demand version will be provided via email within 72-hours of the event.
- The recording of this webcast will also be posted on our Economic Resources page.
- Quarterly Construction Starts and Put in Place Forecasts available:
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Course number: **CCAIAEW052022**

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LEARNING OBJECTIVES

Learn details of economic impact on construction projects and labor, AEC firms, and manufacturers, as well as supply chains.

Assess impacts of construction inputs, focusing on potential labor implications and on material cost pressures that may arise from the current economic situation.

Understand risks and opportunities based on forecasts for all segments of U.S. construction activity.

Determine, based on economists' discussions, industry sectors anticipating economic growth, as well as sectors anticipating decline.

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Kermit Baker

Ph.D., Hon. AIA
Chief Economist,
American Institute of Architects



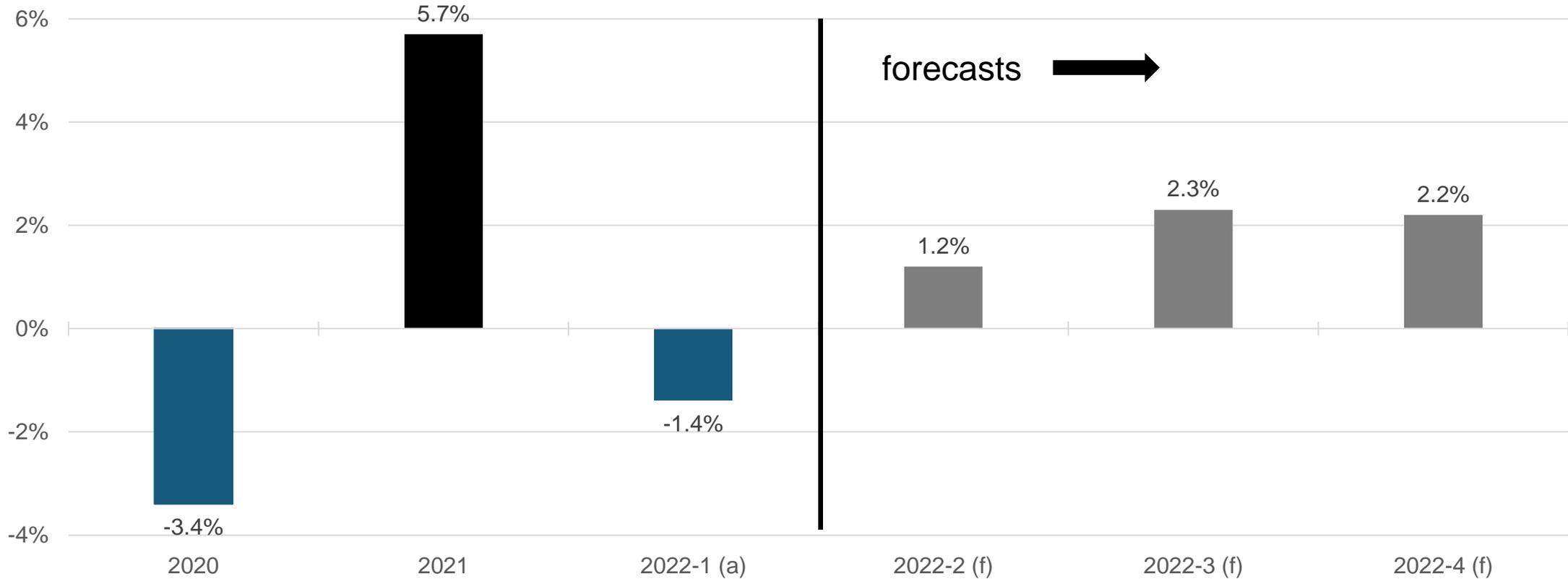
Issues affecting the outlook for the economy and building sector

- Economic expansion hitting some headwinds.
- Pandemic has changed consumer behavior.
- ABI strength anticipates healthy growth in construction this year as it emerges from two-year downturn.



U.S. GDP has fully recovered from pandemic recession, but forecasts for growth this year have been scaled back

Quarterly GDP growth



Are we headed for a recession?

Recessionary Indicators

- Spike in oil prices
- Entering interest rate tightening cycle
- Weak stock market
- Inverted interest rate yield curve
- High inflation

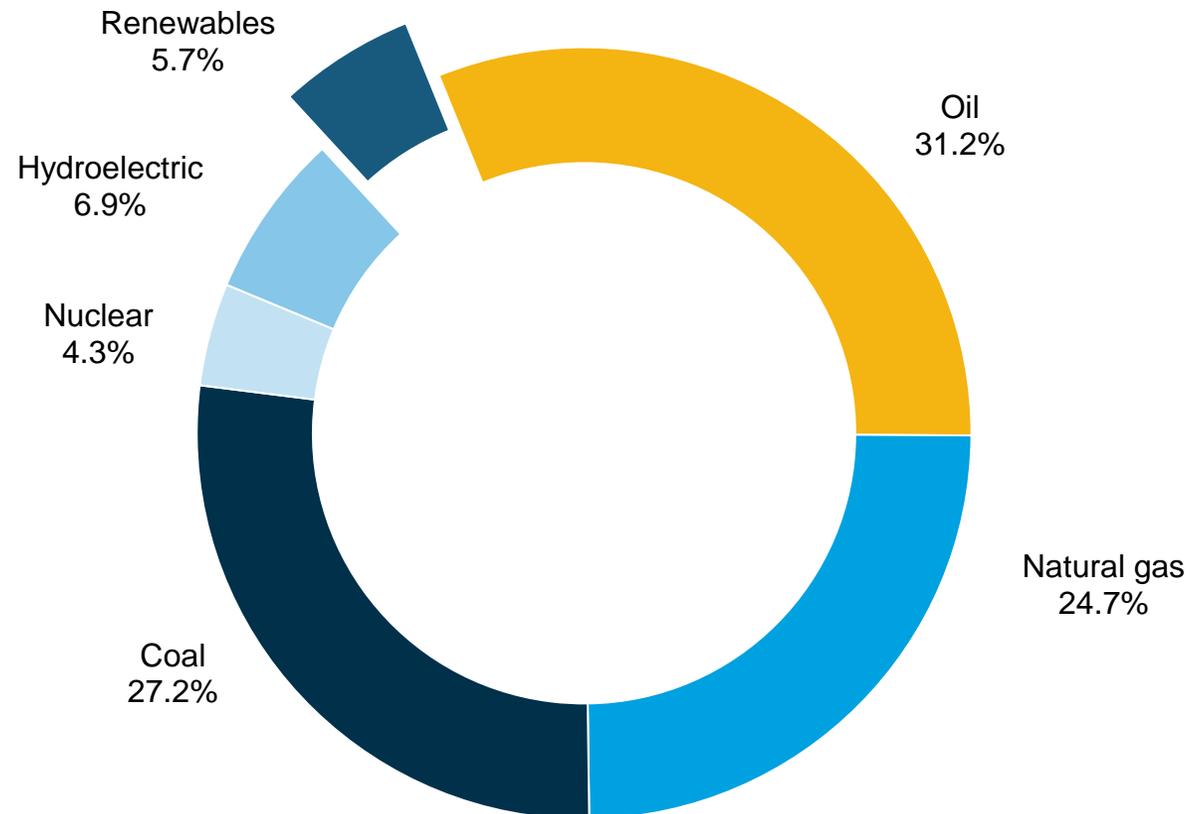


Expansionary Indicators

- Strong job growth
- Record corporate profits
- Consumer spending and business investment
- Healthy household balance sheet from aggressive government stimulus
- High levels of home equity

In spite of gains, renewables still account for a small share of global energy consumption

Primary energy consumption by fuel, 2020, % of total



During the pandemic, domestic migration accelerated from Northeast, Midwest, and West to the South

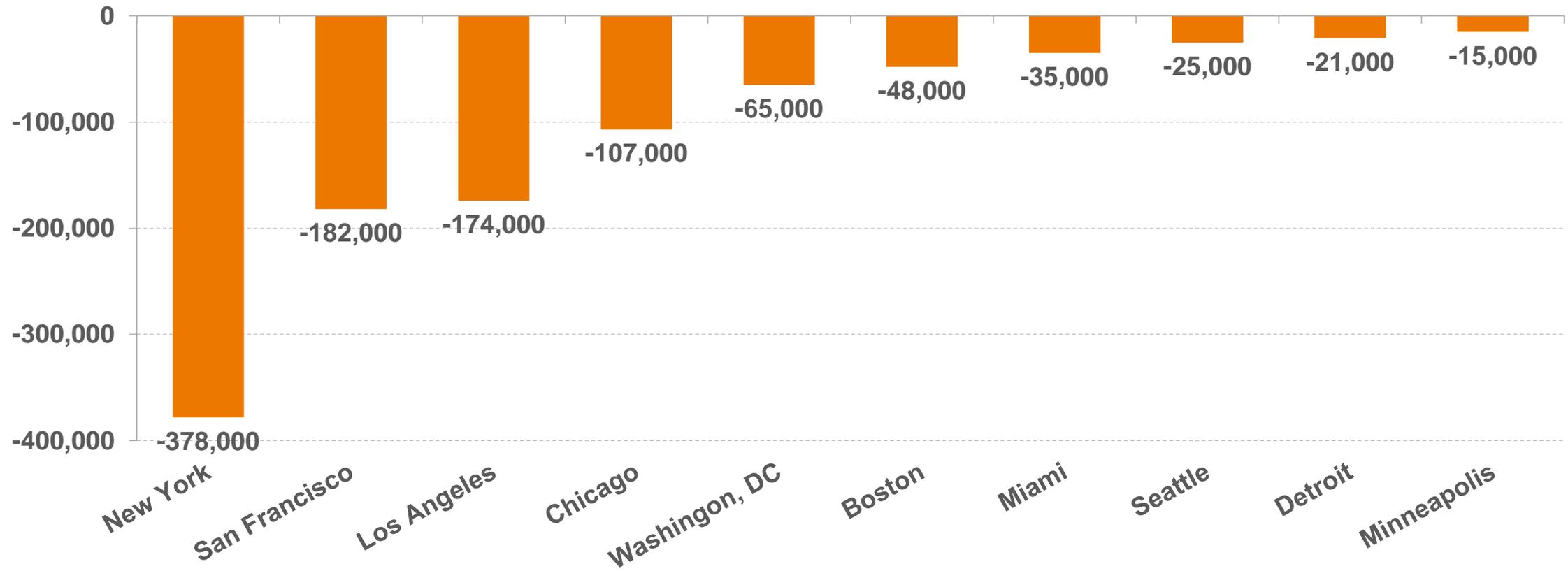
- Net domestic migration

	2019-2020	2020-2021	Migration trends
Northeast	-315,000	-390,000	Net <u>losses accelerating</u>
Midwest	-208,000	-123,000	Net <u>losses moderating</u>
South	504,000	658,000	Net <u>gains accelerating</u>
West	19,000	-145,000	Net <u>gains switching to losses</u>

Note: migration periods represent July 1 to June 30
 Source: U.S. Census Bureau

Major coastal metros topped the list of metros with highest levels of net domestic migration losses last year

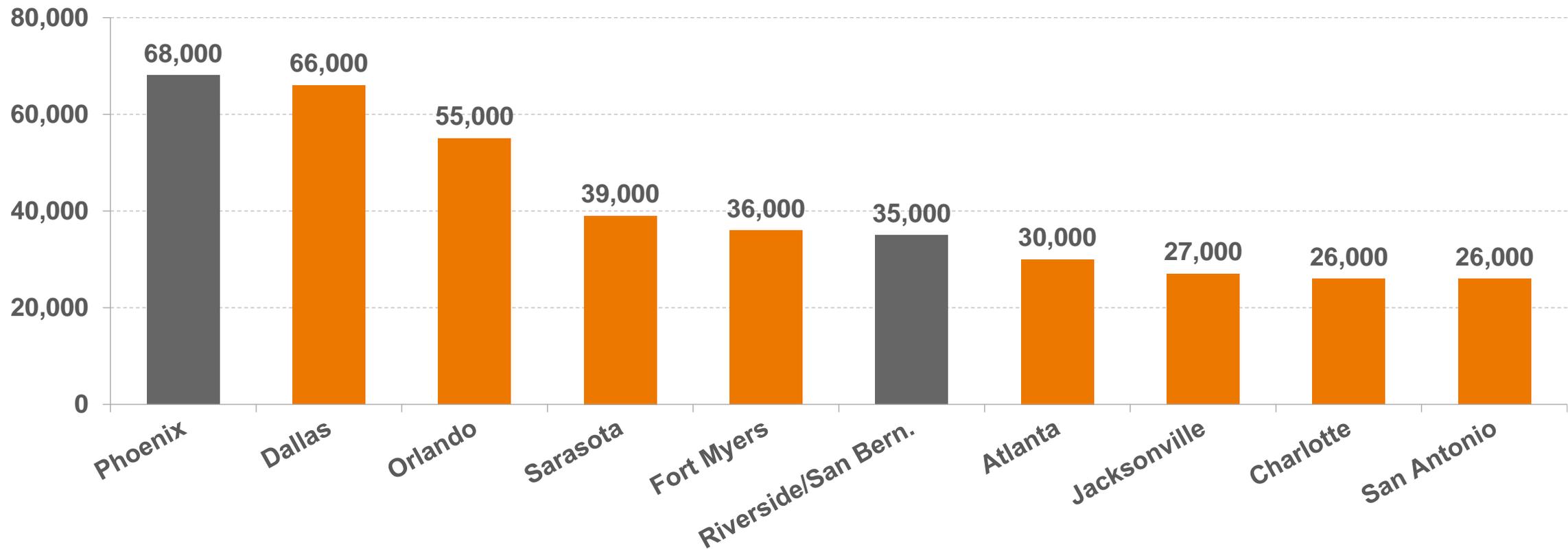
Top 10 metro areas for losses in net domestic migration from July 2020 to July 2021



Note: migration periods represent July 1 to June 30
Source: U.S. Census Bureau

South region accounted for 8 of top 10 metros with highest levels

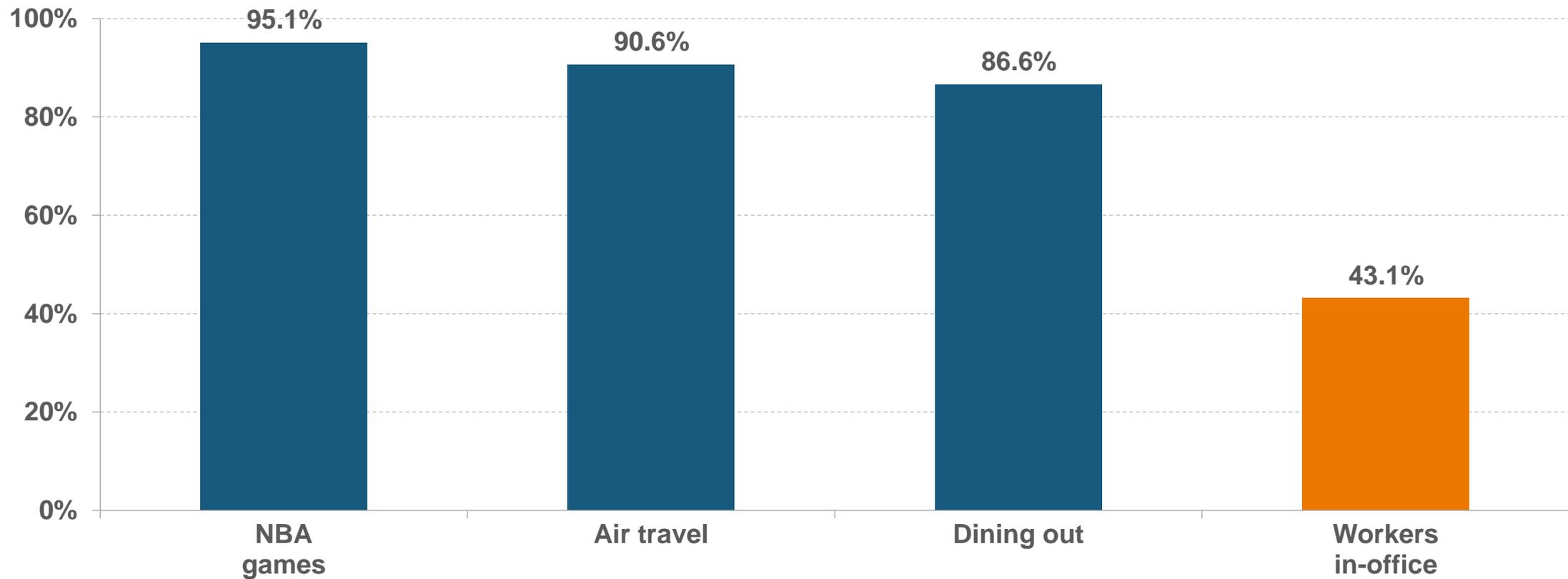
Top 10 metro areas for gains in net domestic migration from July 2020 to July 2021



Note: migration periods represent July 1 to June 30
Source: U.S. Census Bureau

Return to office lagging other measures of pre-pandemic levels of social interaction

In-person activities in April, 2022 as % of activities in 2019



Sources: Kastle back to work barometer; ESPN; TSA; Open Table.

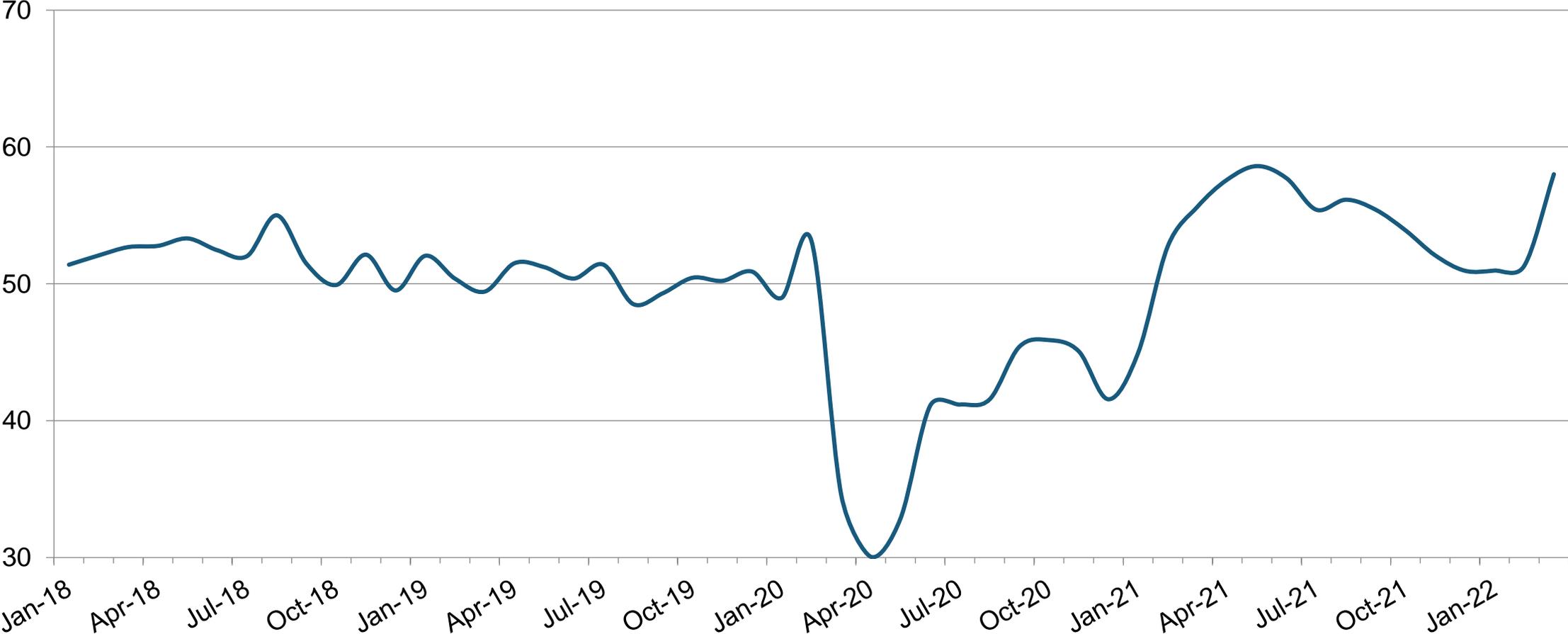
After declining in 2020 and 2021, construction spending on buildings off to a strong start this year

Billions of \$, NSA, Jan-Mar 2022 v. Jan-Mar 2021 totals

	2022	2021	% Change
Total Nonresidential Building Construction	\$128.2	\$120.5	6.3%
Commercial/Industrial	\$69.1	\$60.6	14.0%
Lodging	\$4.1	\$5.6	-27.4%
Office	\$19.6	\$18.7	4.7%
Commercial (retail & other)	\$22.9	\$19.4	17.8%
Manufacturing	\$22.5	\$16.8	33.7%
Institutional	\$59.1	\$59.9	-1.4%
Healthcare	\$11.8	\$11.1	7.0%
Education	\$21.1	\$21.7	-2.9%
Religious	\$0.6	\$0.7	-11.1%
Public Safety	\$2.4	\$3.5	-31.1%
Amusement & Recreation	\$5.8	\$5.6	3.4%
Transportation	\$12.2	\$12.2	0.0%
Communication	\$5.1	\$5.1	-0.5%

Growth in architecture firm billings had been slowing, but March saw a sudden reversal

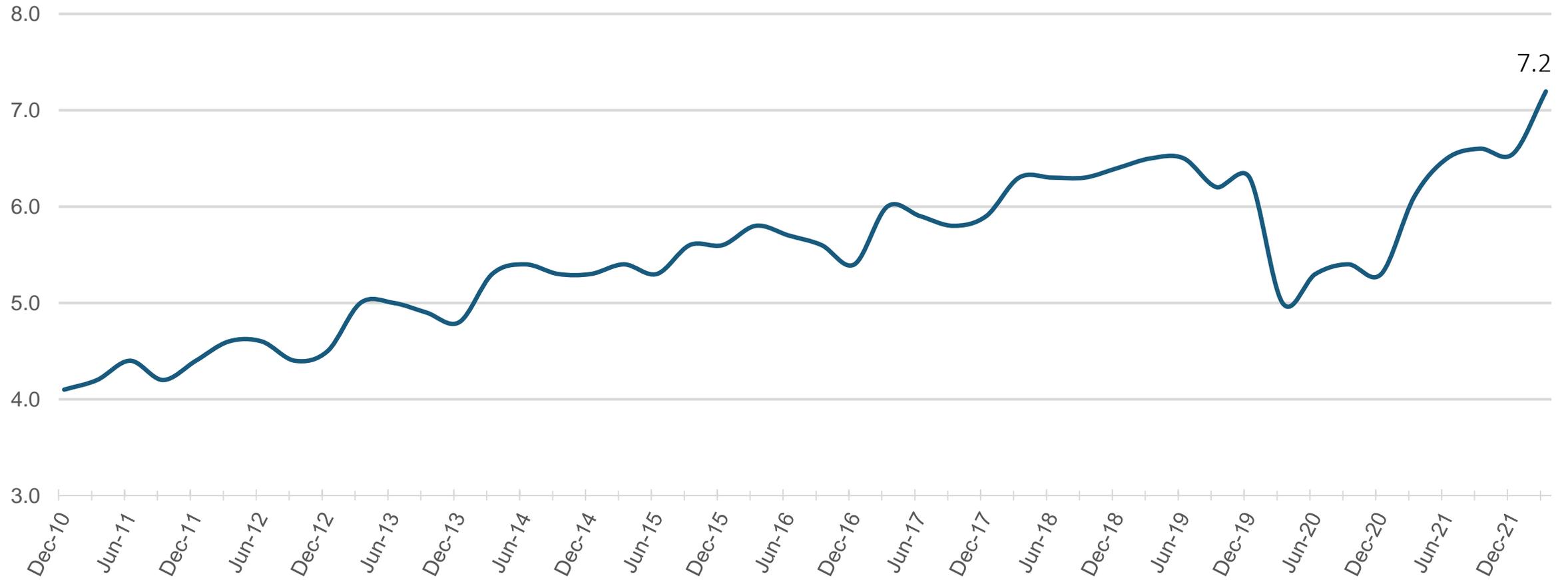
Diffusion index: 50 = no change from previous month, seasonally adjusted



Source: AIA Architecture Billings Index

...And capacity problems have produced the highest backlogs since before the Great Recession

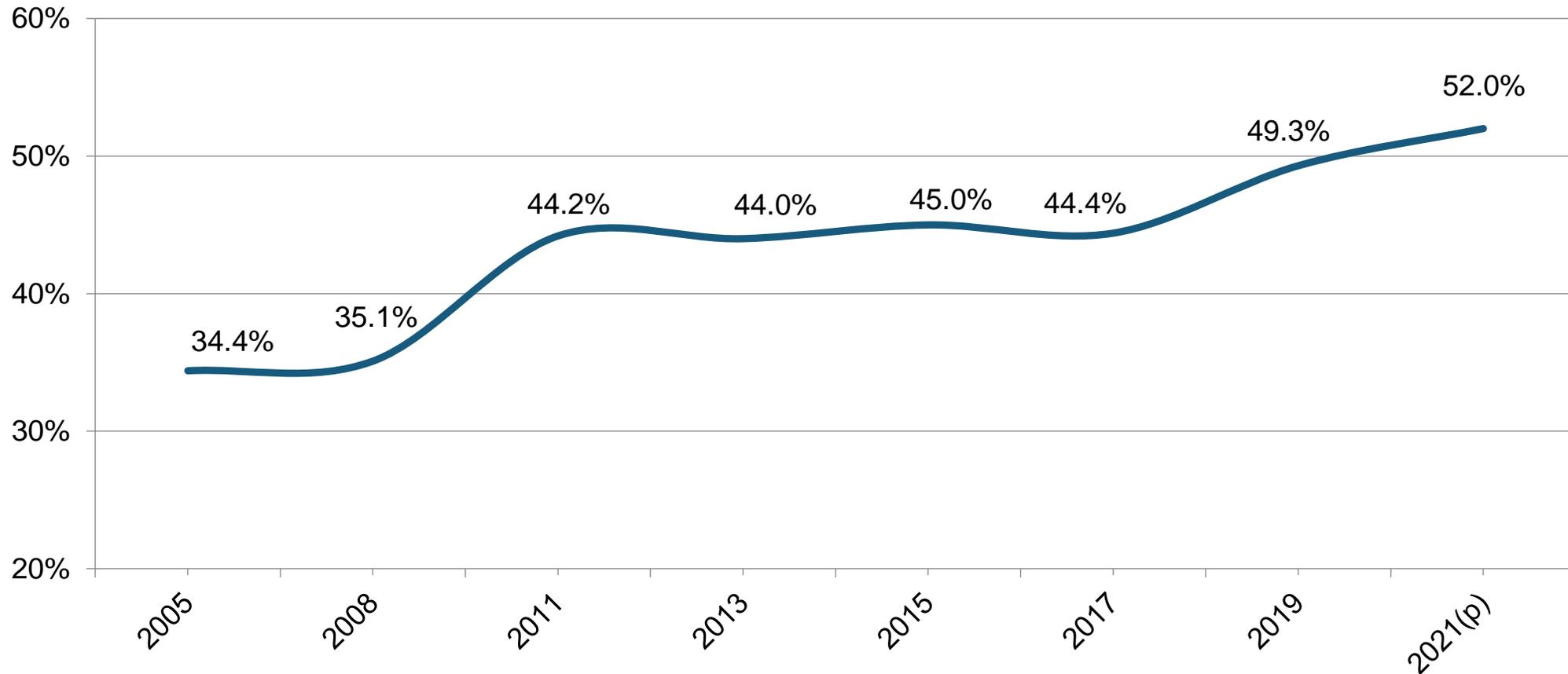
Average backlog at architecture firms (months)



Source: AIA Architecture Billings Index

Work on existing facilities has been a growing share of design activity

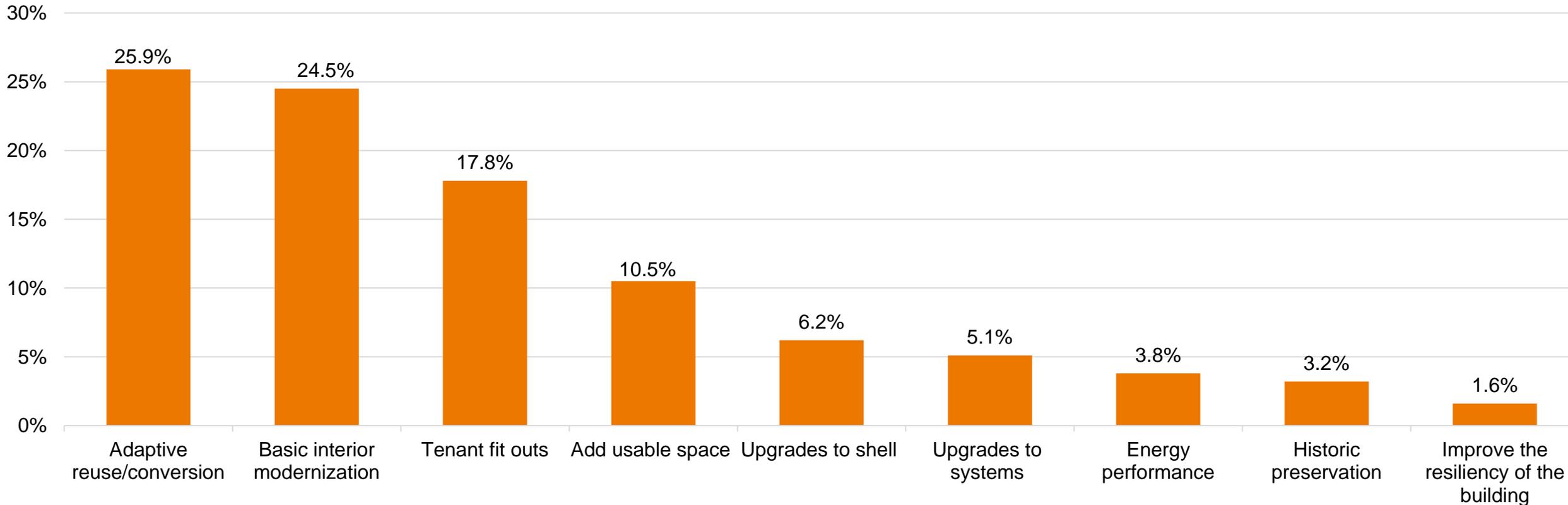
Renovations, rehabilitations, additions, and historic preservation as percent of firm building design billings



Source: AIA Firm Survey Report, various years. 2021 preliminary estimate based on April 2022 survey.

Adaptive reuse and modernization are most common goals of reconstruction projects

% of firms reporting what has been the single most important goal of reconstruction projects that their firm has worked on over the past year



Economic resources from the AIA

- AIA Architectural Billings Index (ABI): aia.org/abi
- AIA Consensus Construction Forecast: aia.org/ccf
- AIA Home Design Trend Survey (HDTS): aia.org/hdts
- Economic indicators to track leading economic Key Performance Indicators (KPIs): aia.org/indicators
- 2021 AIA Compensation Survey: www.aia.org/compensation
- 2020 AIA Business of Architecture Firm Survey Report: aia.org/firmsurvey
- AIA Guides to Equitable Practice: www.aia.org/equityguides
- AIA Best Practices: www.aia.org/bestpractices
- Architects' Guide to Business Continuity: aia.org/resources/6282340-architects-guide-to-business-continuity--
- Practice/Firm Resources: aia.org/practice

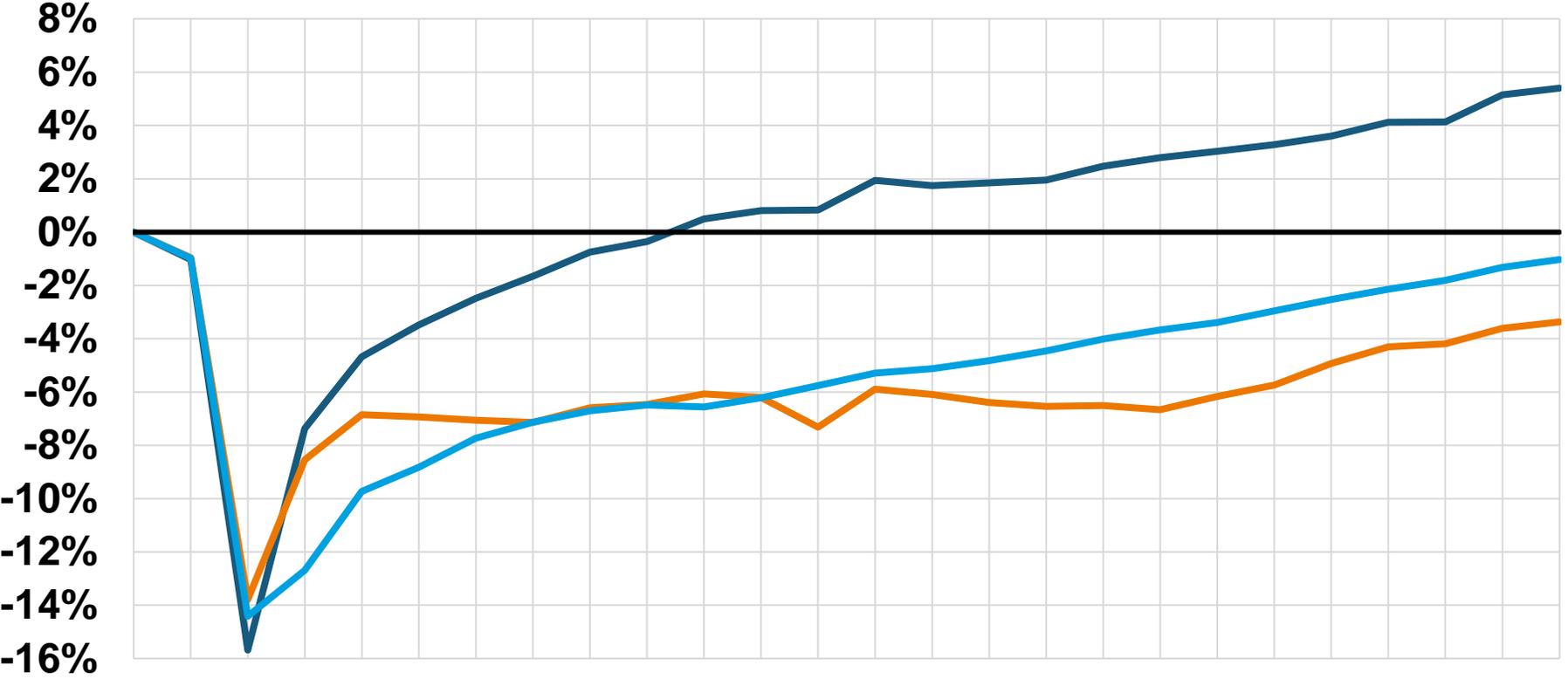
Ken Simonson

Chief Economist,
Associated General Contractors
of America



Total nonfarm & construction employment, Feb. 2020-March 2022

Cumulative change (seasonally adjusted)



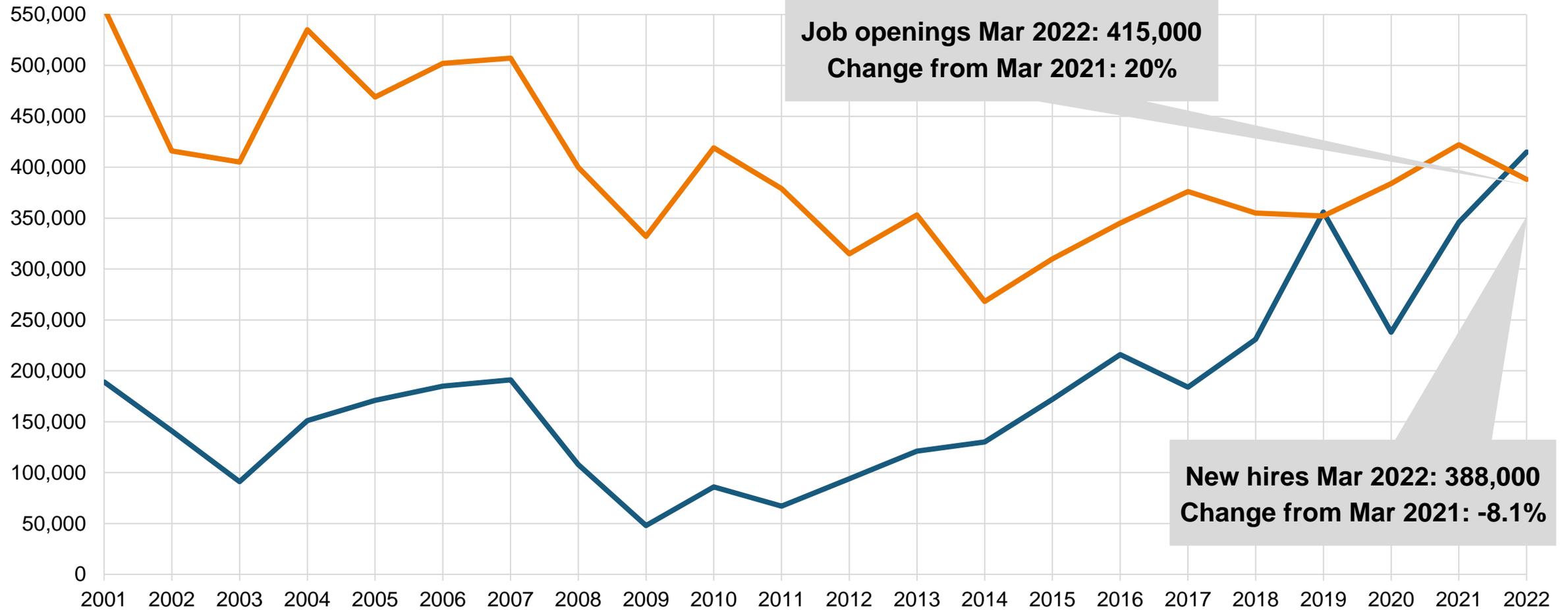
Change since Feb. 2020:

	<u>Number</u>	<u>Percent</u>
Residential Construction	161,000	5.4%
Total Nonfarm	-1,579,000	-1.0%
Nonresidential Construction	-157,000	-3.4%

Source: BLS current employment statistics, <https://www.bls.gov/ces/>

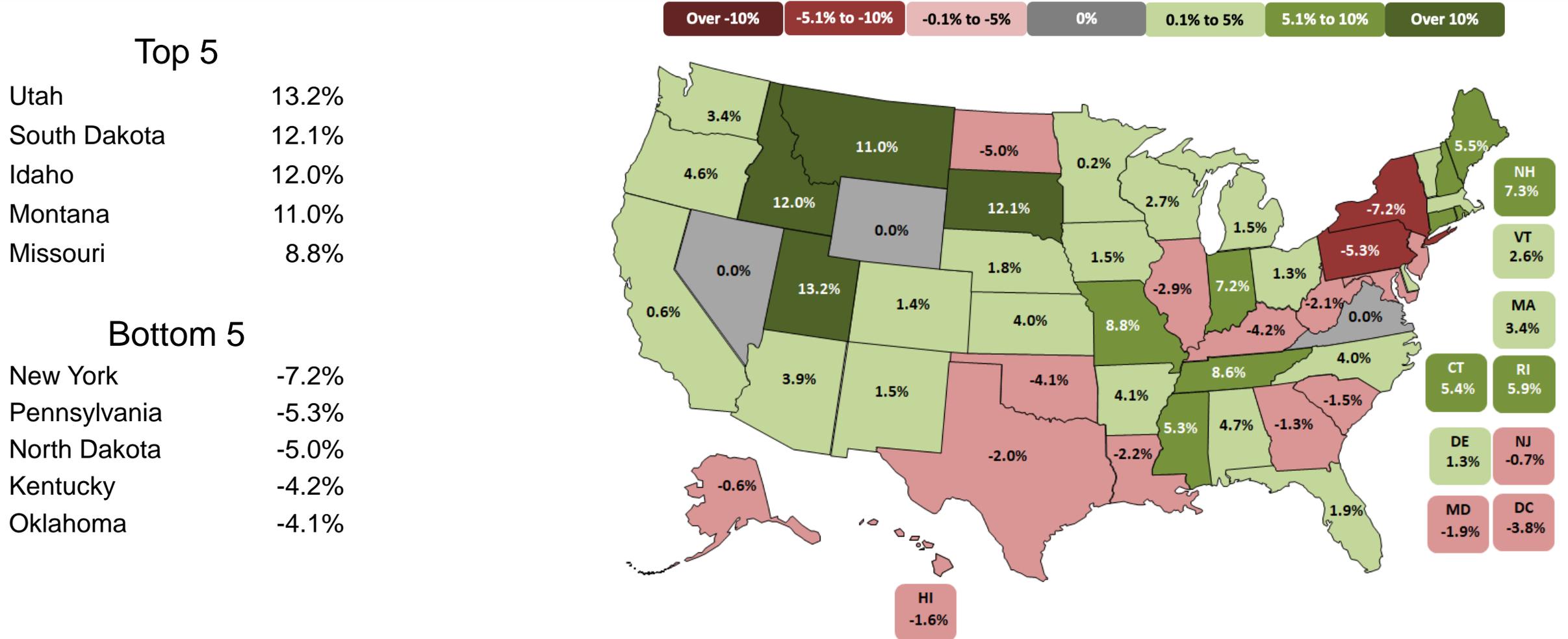
Construction job openings exceed hires, set record high for Mar.

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



State construction employment change, Feb. 2020-Mar. 2022

32 states up, 2 flat, 16 states and DC down (U.S.: 0.1%)



Top 5

Utah	13.2%
South Dakota	12.1%
Idaho	12.0%
Montana	11.0%
Missouri	8.8%

Bottom 5

New York	-7.2%
Pennsylvania	-5.3%
North Dakota	-5.0%
Kentucky	-4.2%
Oklahoma	-4.1%

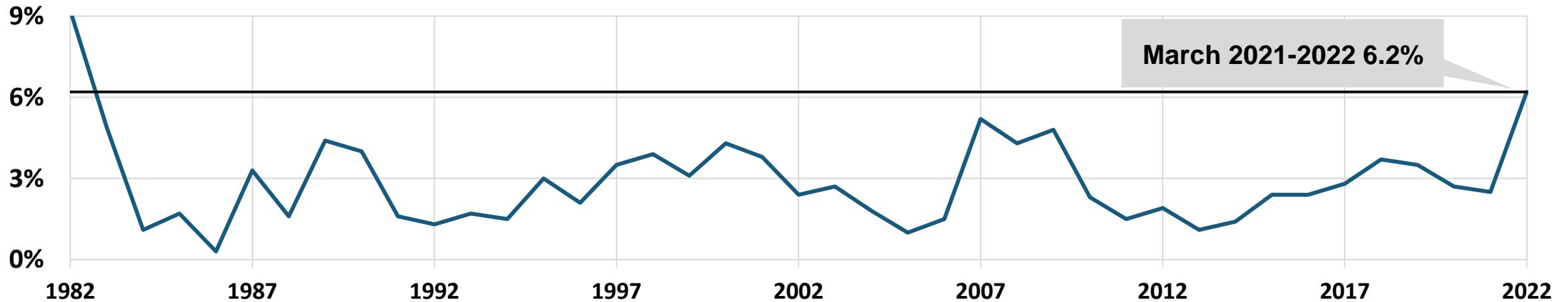
Note: Shading based on unrounded numbers

Source: BLS state and area employment, www.bls.gov/sae

Craft wages are rising at the fastest rate since 1982

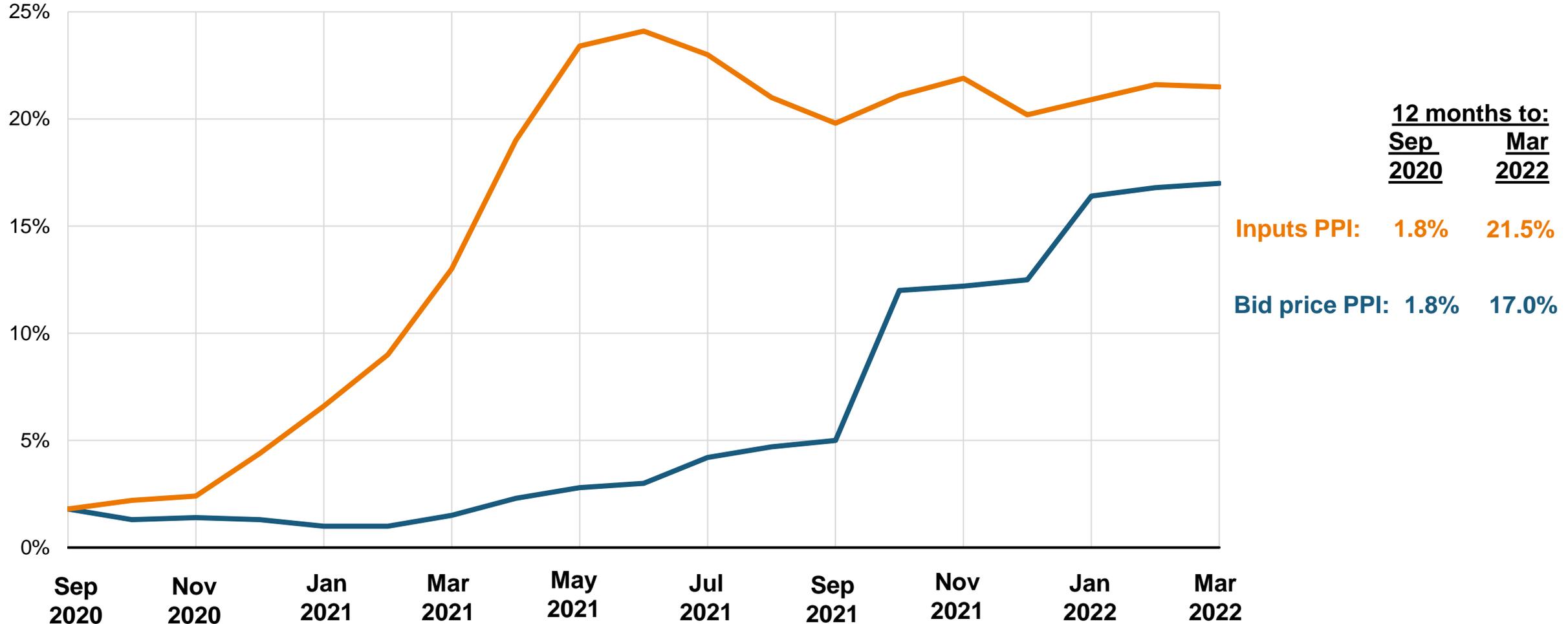
Average hourly earnings of production & nonsupervisory employees

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



Change in prices for inputs to new nonresidential construction

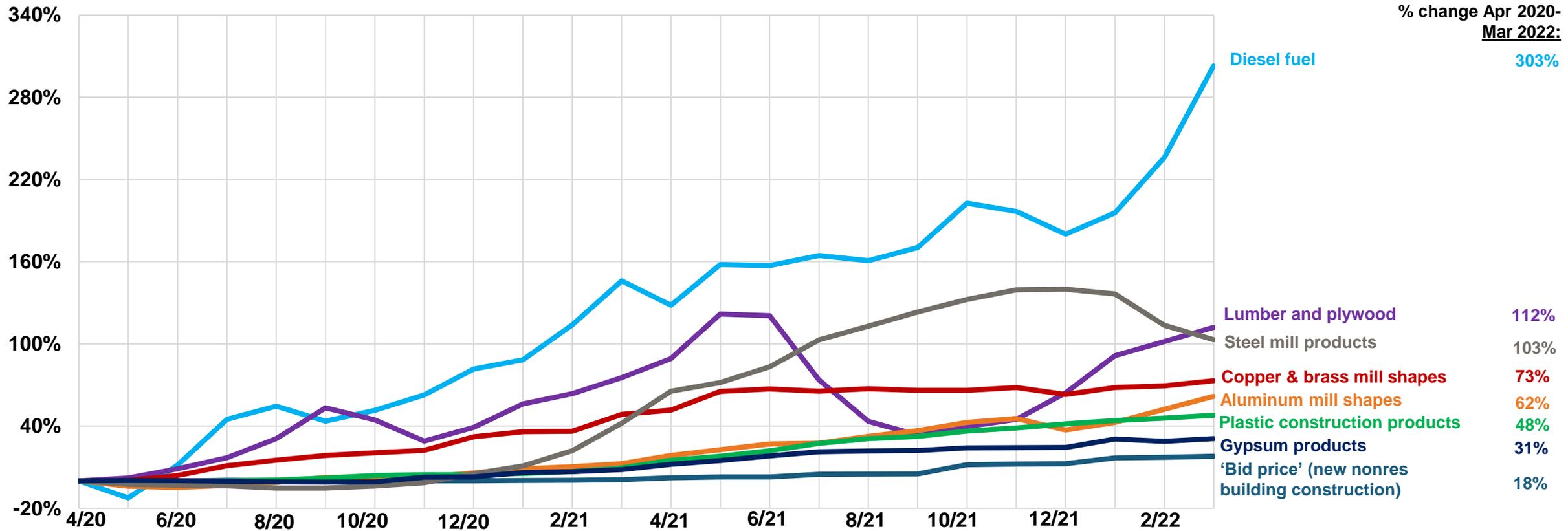
Year-over-year change in PPIs, Sep 2020-Mar 2022, not seasonally adjusted



Source: Bureau of Labor Statistics, producer price indexes, www.bls.gov/ppi

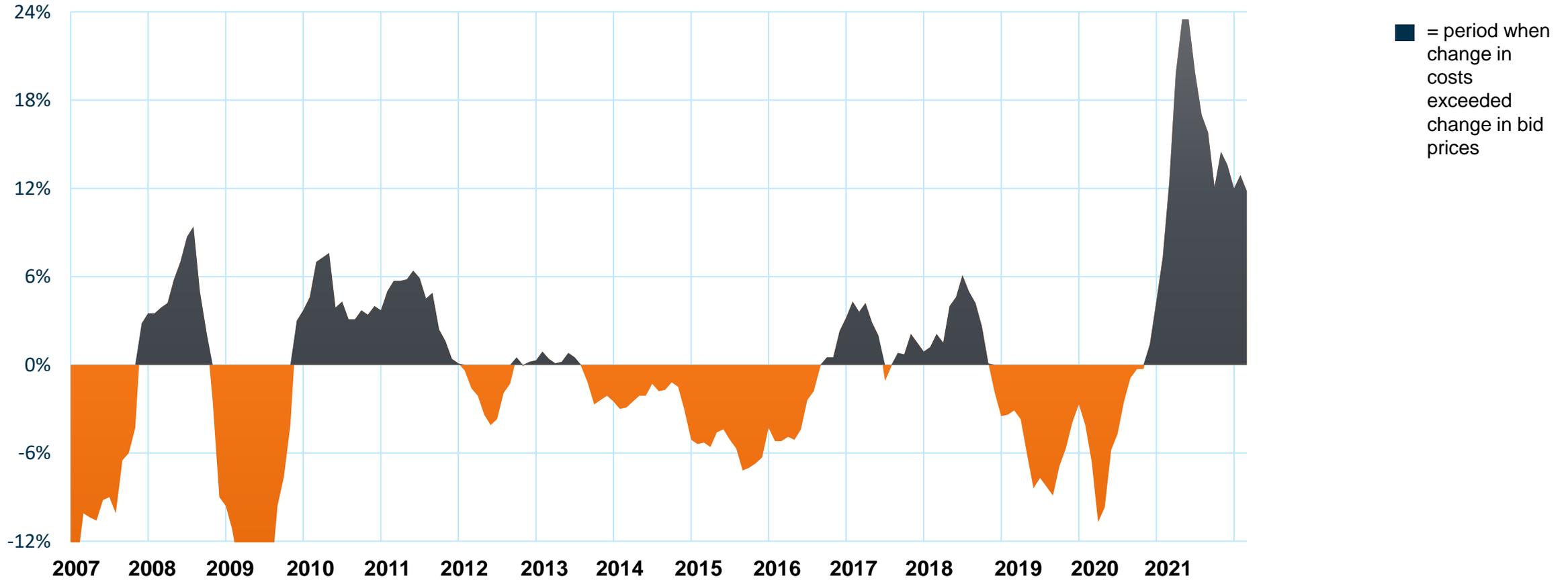
PPIs for construction bid prices and selected inputs

Cumulative change in PPIs, April 2020-March 2022, not seasonally adjusted



Cost squeeze on contractors can last two years or more

Difference between year-over-year change in materials costs v. bid prices, Jan 2006-Mar 2022



Source: 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: Jan-March 2022 v. 2021

Current (not inflation-adjusted) dollars, not seasonally adjusted

- Total 12%; private residential 19% (single-family 20%; multi 5%); private nonres 9%; public 0.7%

Largest segments (in descending order of 2021 spending)

- Power 0.9% (electric 4%; oil/gas fields & pipelines -0.3%)
- Commercial 18% (warehouse 22%; retail 19%)
- Education -3% (primary/secondary -7%; higher ed -0.3%)
- Mfg. 34% (chemical -0.8%; computer/electronic 238%; food/beverage/tobacco 23%; transp. equip. -6%)
- Office 5%
- Highway and street 9%
- Transportation 0.0% (air -5%; freight rail/trucking 6%; mass transit -5%)
- Healthcare 7% (hospital 5%; medical building 15%; special care -14%)
- Lodging -27%

Forward-looking indicators

Indicator	Latest date	Current value	Year-ago value
Architecture Billings Index (ABI)	March	58.0	55.6
Dodge Momentum Index (DMI)	March	167	143
Multifamily permits not yet started	March	127,000	97,000

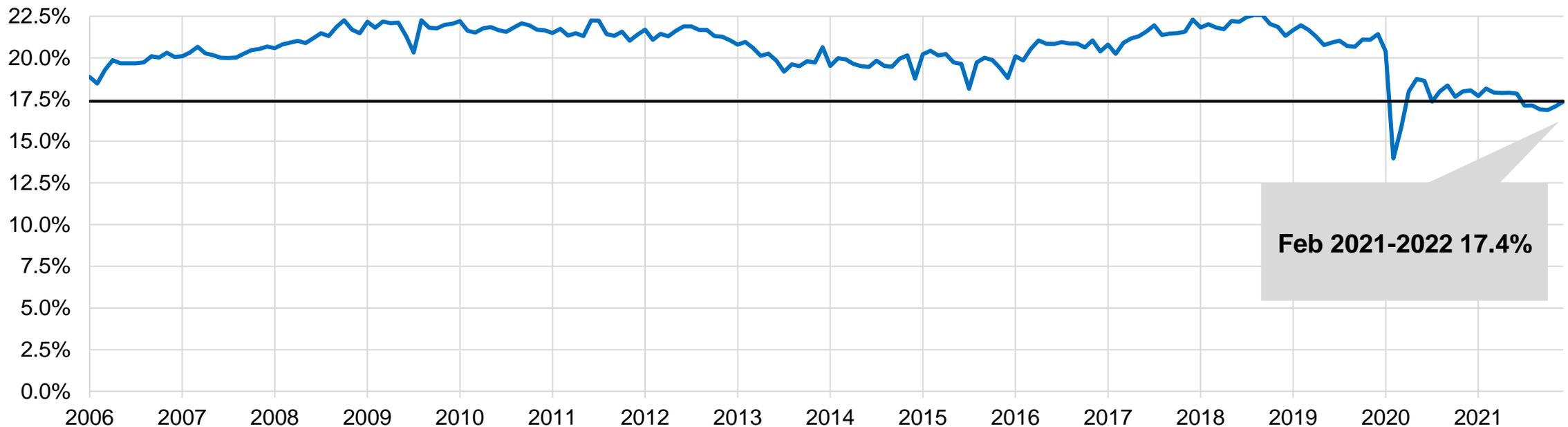
Medium-term impacts as recovery begins

- 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: 52% 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 and 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.

Average hourly earnings in excess of total private sector, Mar 2006-Feb 2022



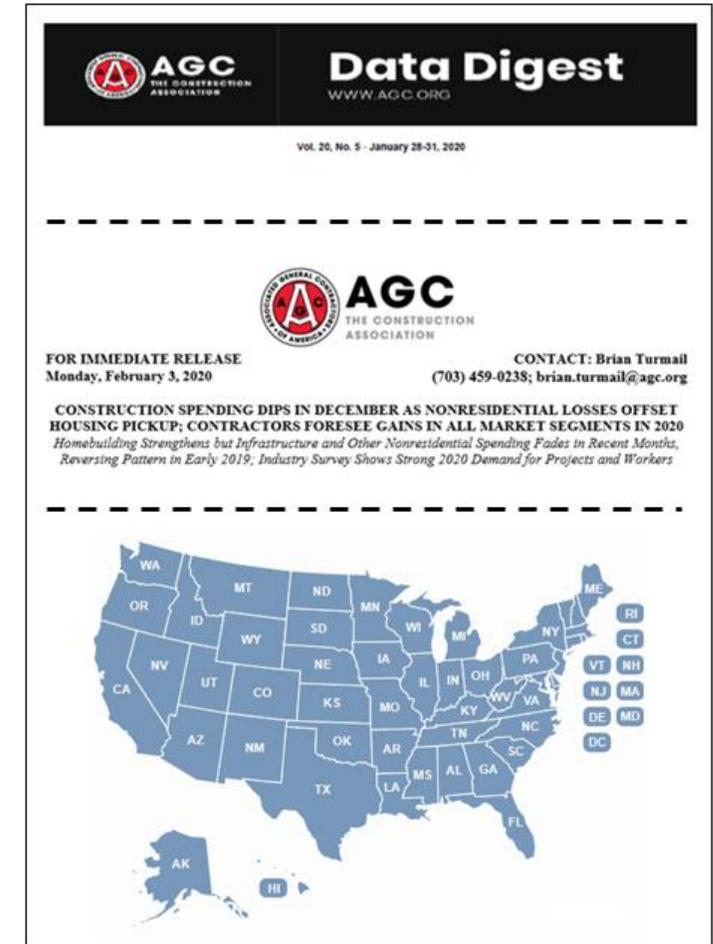
Long-run construction outlook (post-pandemic)

- Finding workers will be a challenge for much longer than materials costs or supply.
- 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.

AGC economic resources

Email: ken.simonson@agc.org

- *The Data Digest*: weekly 1-page email (subscribe at <http://store.agc.org>)
- *Construction Inflation Alert*: <https://www.agc.org/learn/construction-data/agc-construction-inflation-alert>
- ConsensusDocs Price Escalation Resource Center: <https://www.consensusdocs.org/price-escalation-clause/>
- Surveys, state and metro data, fact sheets: www.agc.org/learn/construction-data
- Monthly press releases: construction spending; producer price indexes; national, state, metro employment with rankings: <https://www.agc.org/newsroom>



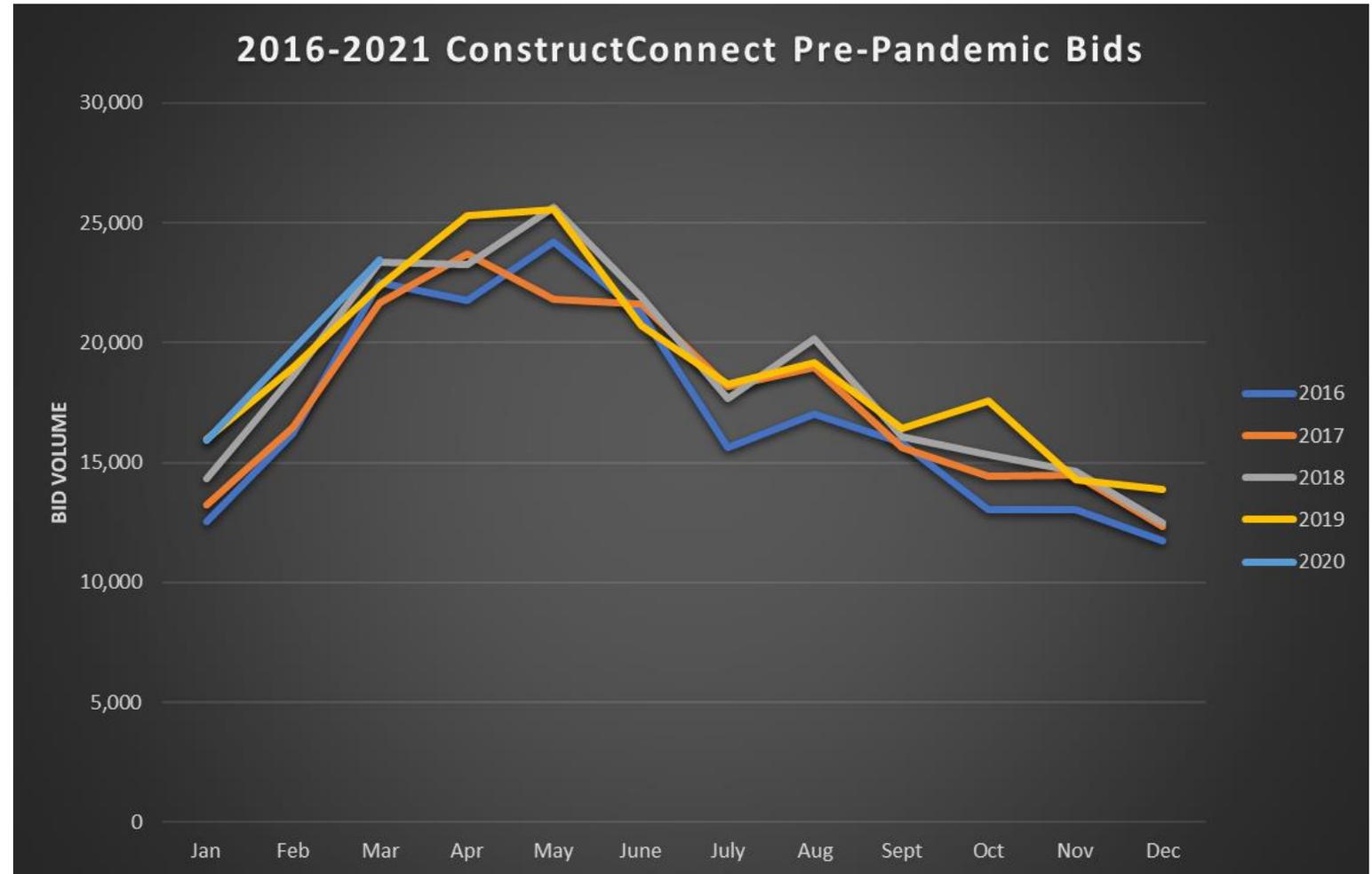
Fonda Rosenfeldt

Senior Director, Content Services,
ConstructConnect



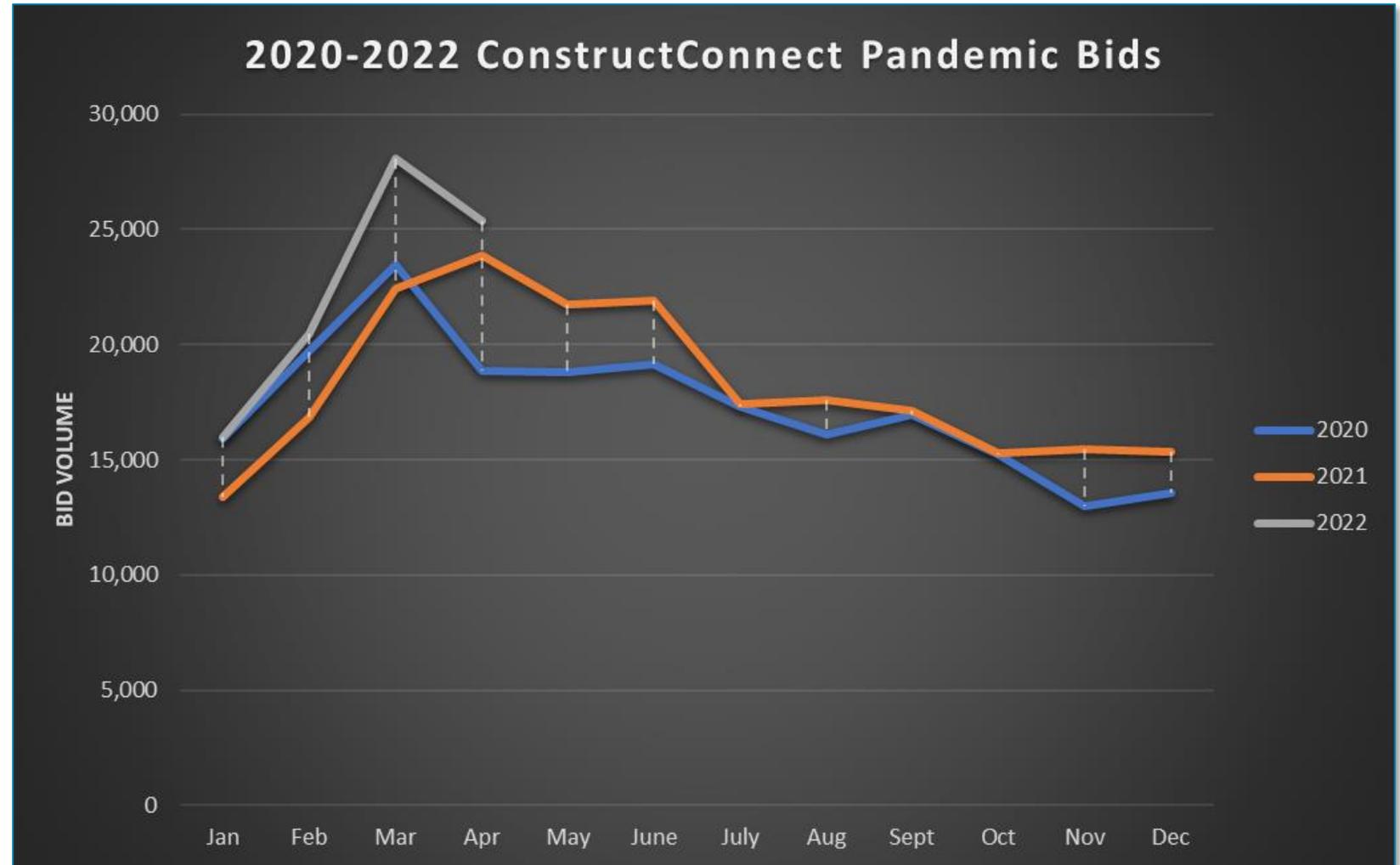
U.S. pre-pandemic bid trends

- “Normal” expected and predictable seasonal trends
- Q1 2020 +3.12% v. Q1 2019
 - Vertical Nonresidential Bid Projects +5%
 - Civil Bid Projects +2%



U.S. pandemic bid trends

- April 2020 significant decline in Bid Projects
- -25.4% from April 2019



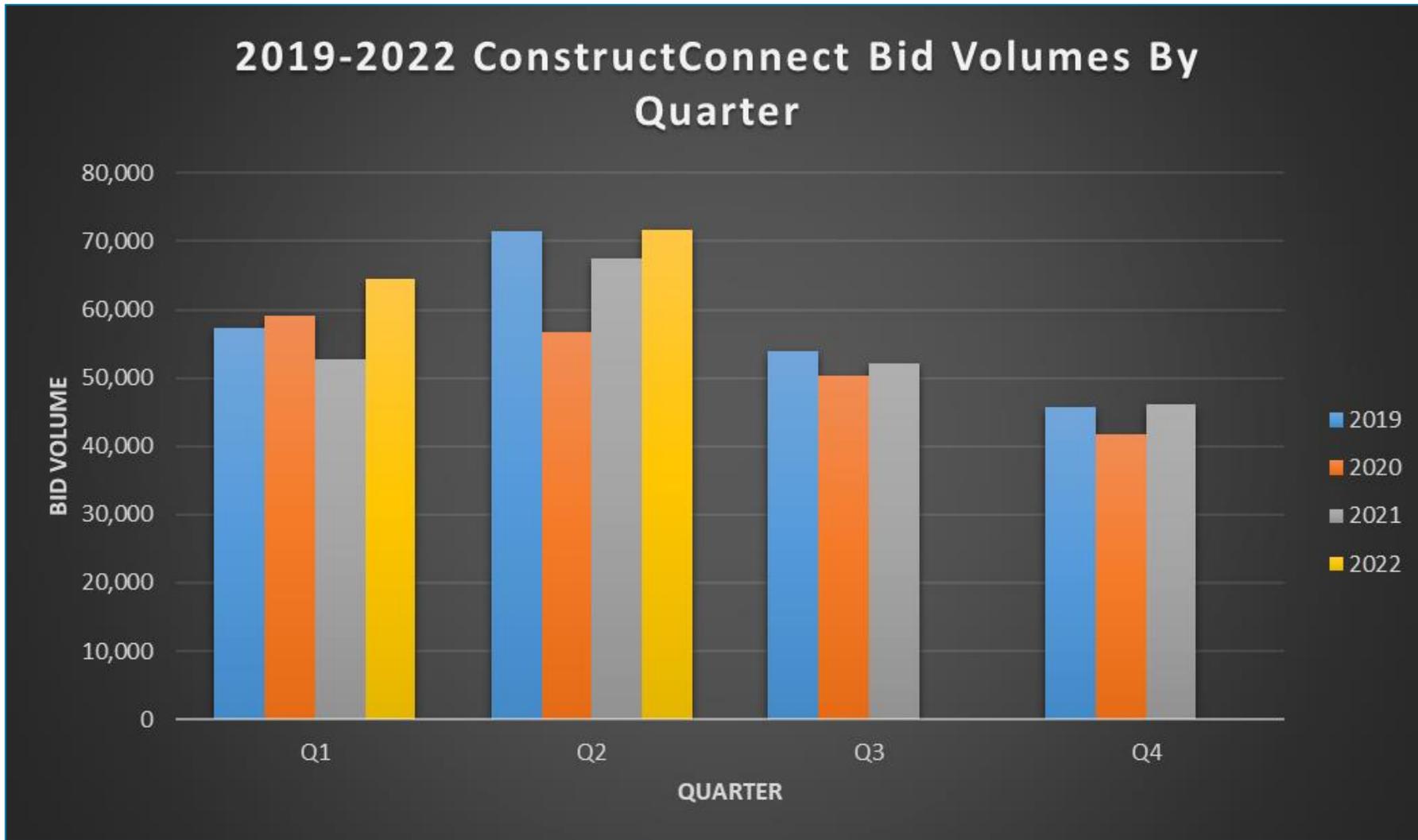
Canada pandemic bid trends

2019-2022 Canada Bid Projects by Month



- 2020 decline in April 2020, followed by recovery June 2020
- March 2021 and 2022 spike
- Trend continues in April 2021 and 2022

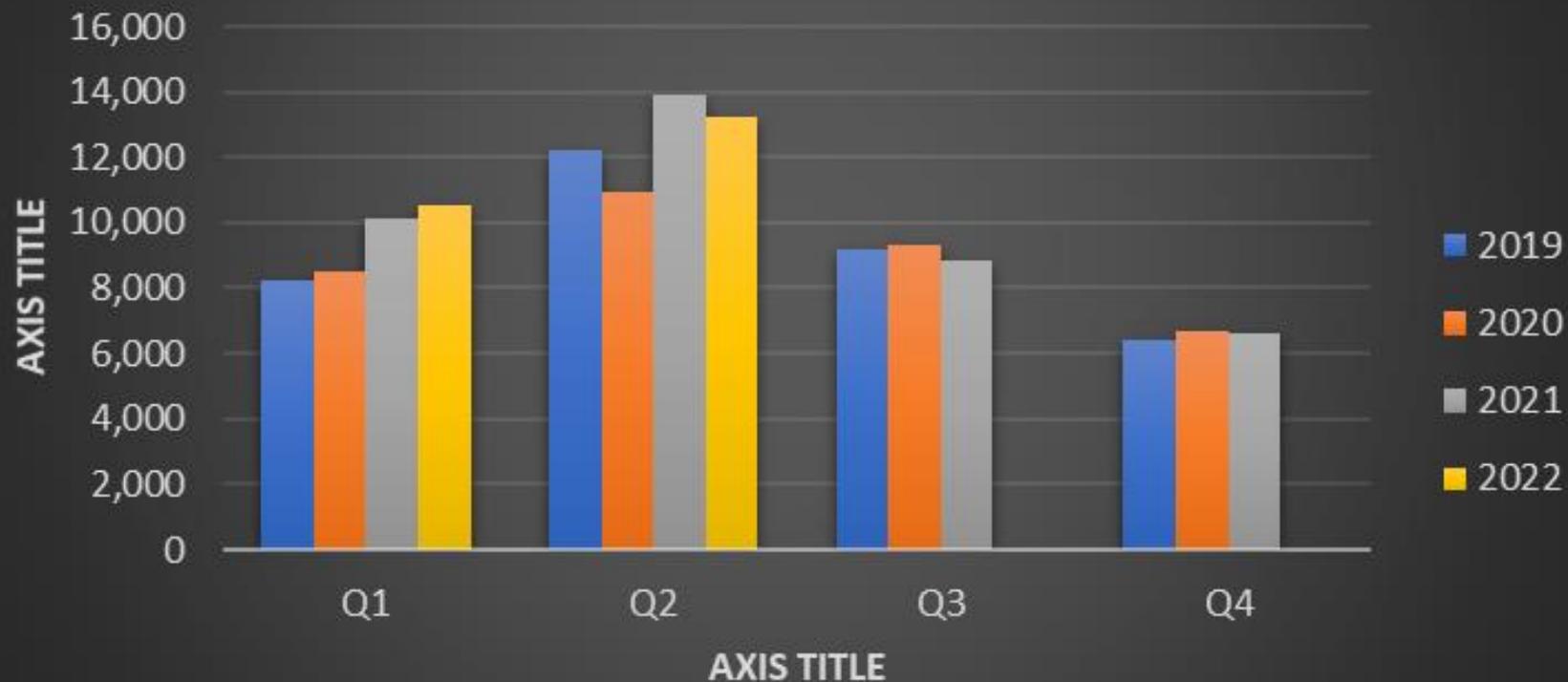
US quarterly bid volumes



- Bid volumes trending 
- *Q2 2022 forecast +7% v. 2021

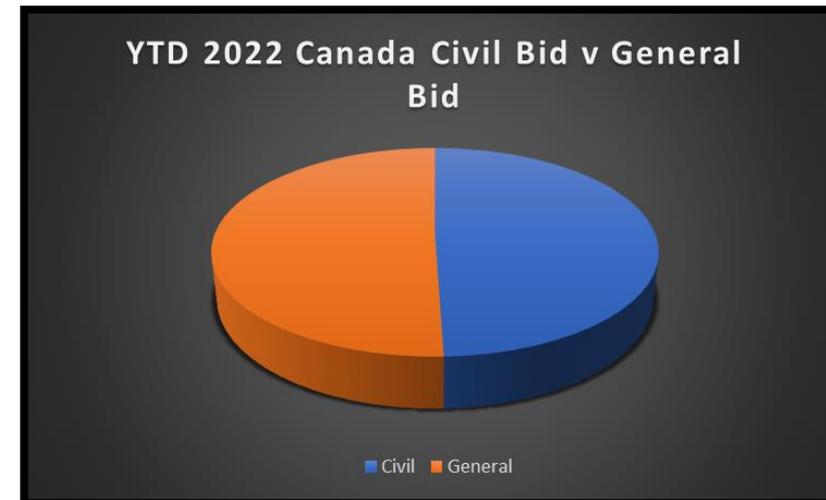
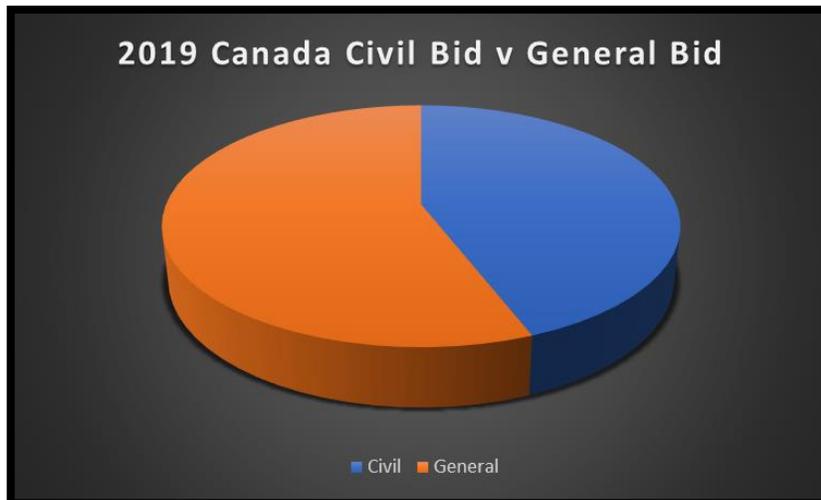
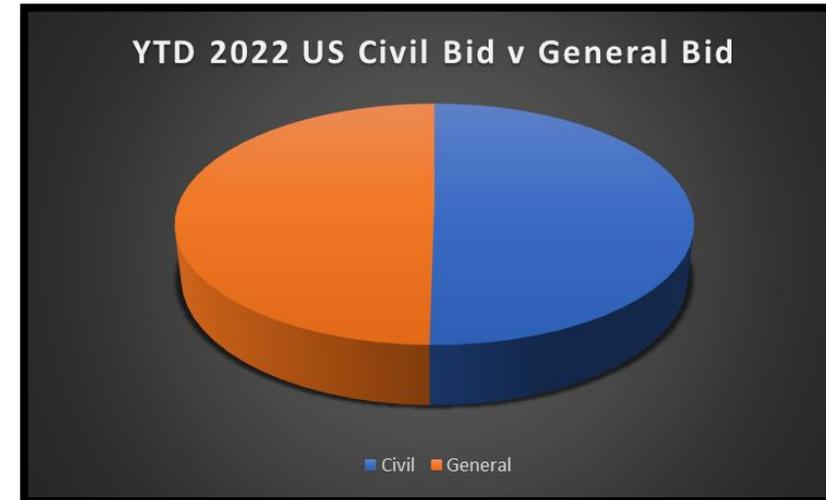
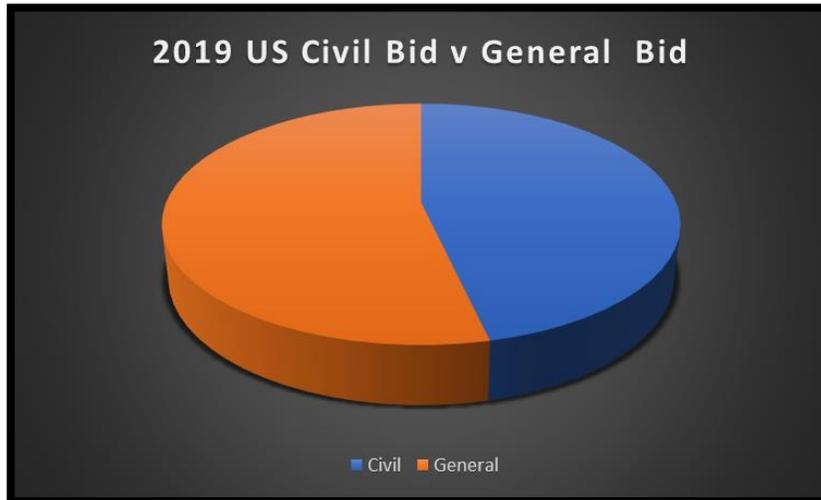
Canada quarterly bid volumes

Canada 2019-2022 Bid Volumes by Quarter

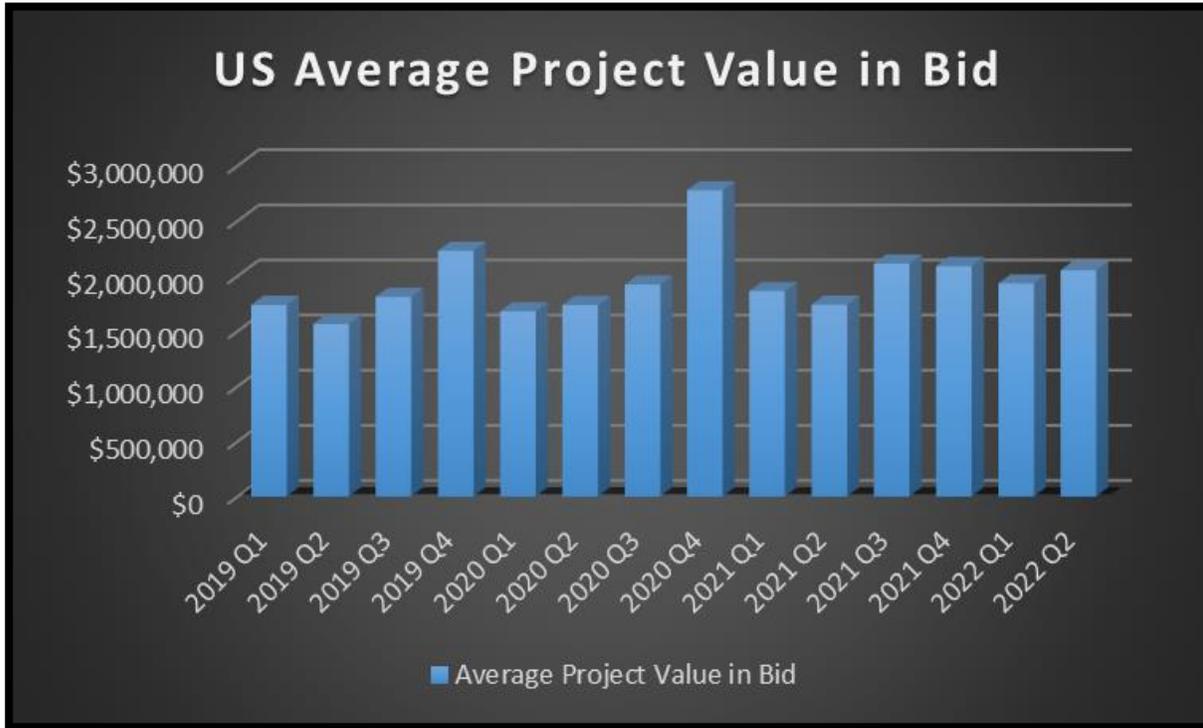


- Bid volumes stable
- *Q2 2022 forecast -1% v. Q2 2022

General bid v. civil bid projects



Average project value – bidding projects

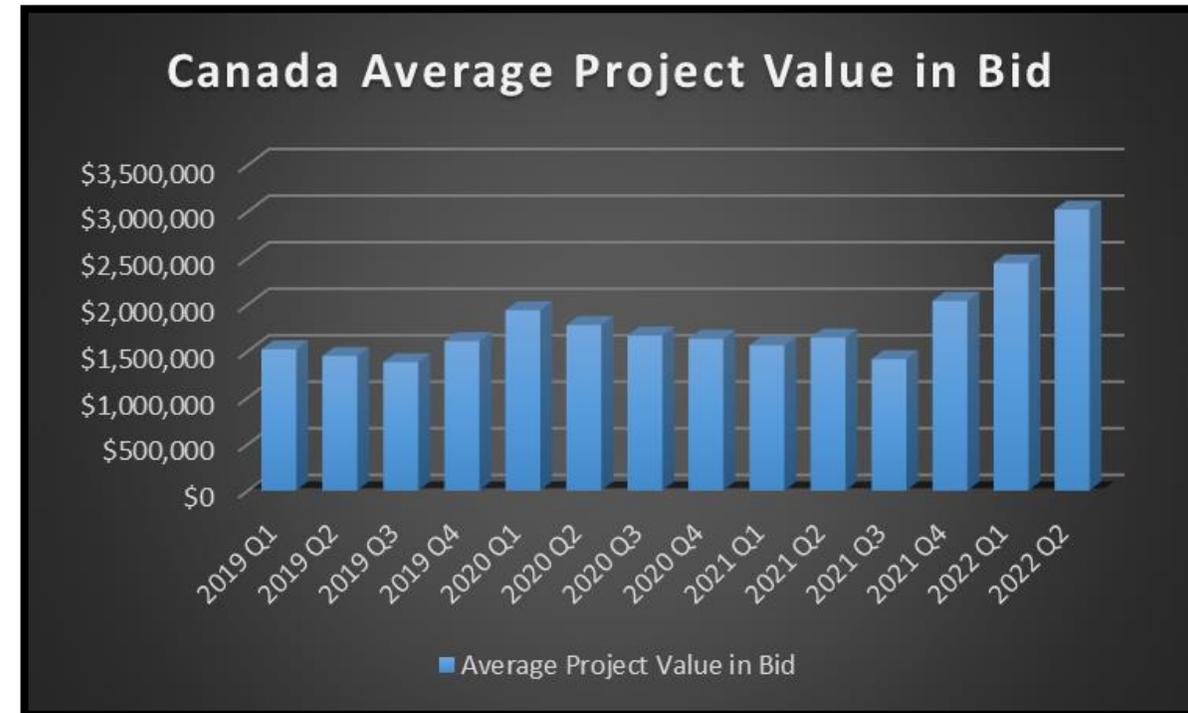


U.S. average bid +15% Q1 2020 v. Q1 2022

U.S. average bid +18% Q2 2020 v. QTD Q2 2022

Canada average bid +26% Q1 2020 v. Q1 2022

Canada average bid +70% Q2 2020 v. QTD Q2 2022



Project types

US	New	Alteration	Add/Alt
2019 Q1	7.98%	90.22%	1.80%
2019 Q2	7.48%	90.72%	1.79%
2019 Q3	8.57%	89.62%	1.81%
2019 Q4	9.11%	88.82%	2.07%
2020 Q1	7.69%	90.39%	1.92%
2020 Q2	7.50%	90.74%	1.76%
2020 Q3	8.40%	89.87%	1.73%
2020 Q4	8.78%	89.40%	1.82%
2021 Q1	8.12%	90.00%	1.88%
2021 Q2	6.73%	91.70%	1.57%
2021 Q3	7.67%	90.84%	1.48%
2021 Q4	7.88%	90.64%	1.47%
2022 Q1	7.70%	90.65%	1.65%
2022 Q2	7.16%	91.36%	1.47%

Canada	New	Alteration	Add/Alt
2019 Q1	3.98%	95.11%	0.91%
2019 Q2	3.59%	95.32%	1.08%
2019 Q3	4.30%	94.34%	1.36%
2019 Q4	4.40%	94.20%	1.41%
2020 Q1	4.18%	94.69%	1.14%
2020 Q2	3.32%	95.68%	1.00%
2020 Q3	3.71%	95.53%	0.75%
2020 Q4	3.73%	95.14%	1.13%
2021 Q1	3.22%	95.83%	0.95%
2021 Q2	2.93%	96.17%	0.90%
2021 Q3	3.61%	95.58%	0.81%
2021 Q4	4.03%	94.72%	1.25%
2022 Q1	3.18%	95.85%	0.98%
2022 Q2	3.51%	95.69%	0.80%

- Consistency in project types 2019 through YTD 2022 with the majority of bid projects alterations in both the U.S. and Canada

Looking ahead

Project & Document Activity

- Increase in New Projects (first reported) YTD 2021 v. 2022 – 6.7%
- +470,000 Unique Projects reported in the last 12 months
- +222,000 Unique Companies added or modified in the last 12 months
- Project Documents collected on over 160,000 projects in the last 12 months

Future Mega Projects

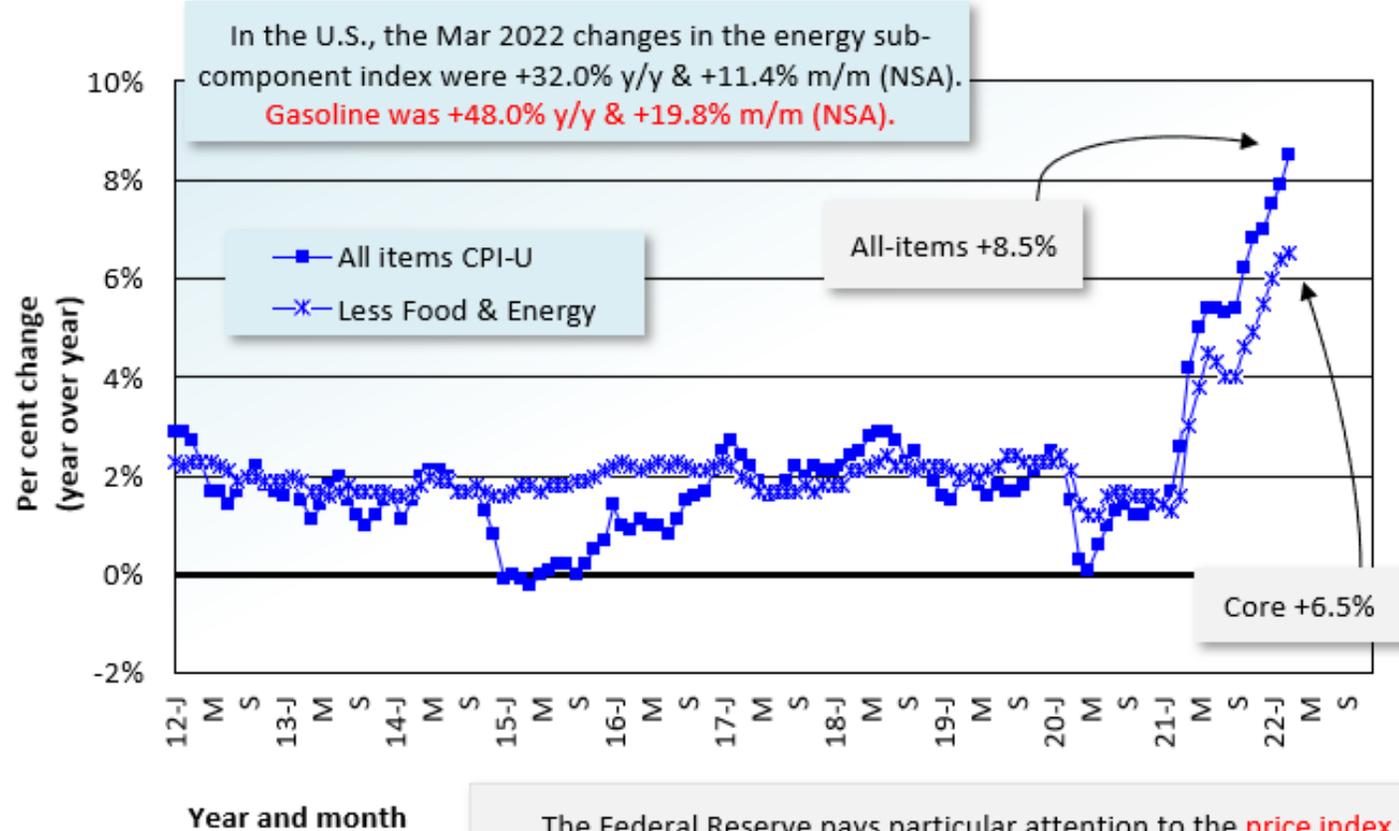
- \$1 Billion+ projects
 - Chicago, IL, Bally's Casino
 - Orlando, FL, Virgin Trains Project
 - Sulfur Springs, LA, Tellurain Liquefied Natural Gas Production & Export Facility
 - Windsor, ON, New Battery Plant
 - Montreal, QA, Blue Line Subway Extension
 - Huntington Beach, CA, Water Desalination Plant
 - Orchard Park, NY, New Era Field II

Alex Carrick

Chief Economist,
ConstructConnect



U.S. INFLATION: ALL ITEMS (CPI-U) vs ALL ITEMS LESS FOOD & ENERGY (i.e., 'CORE'*)



- Year-over-Year Changes in some Sub-Indices:
- used cars & trucks, +35.3%;
 - hotel/motel rooms, +29.0%;
 - airline fares, +23.6%;
 - car & truck rental, +23.4%;
 - citrus fruits, +19.5%;
 - window coverings, +18.4%;
 - furniture, +15.8%;
 - meats, +14.8%;
 - men's suits, +14.5%;
 - flour, +14.2%;
 - new vehicles, +12.0%.
 -
 - smartphones, -13.5%.

The Federal Reserve pays particular attention to the **price index for Personal Consumption Expenditures** (PCE in national accounts), excluding food & energy. In Feb 2022, it was +5.4% y/y.

U.S. figure (CPI-U) is All Items Consumer Price Index for All Urban Consumers.

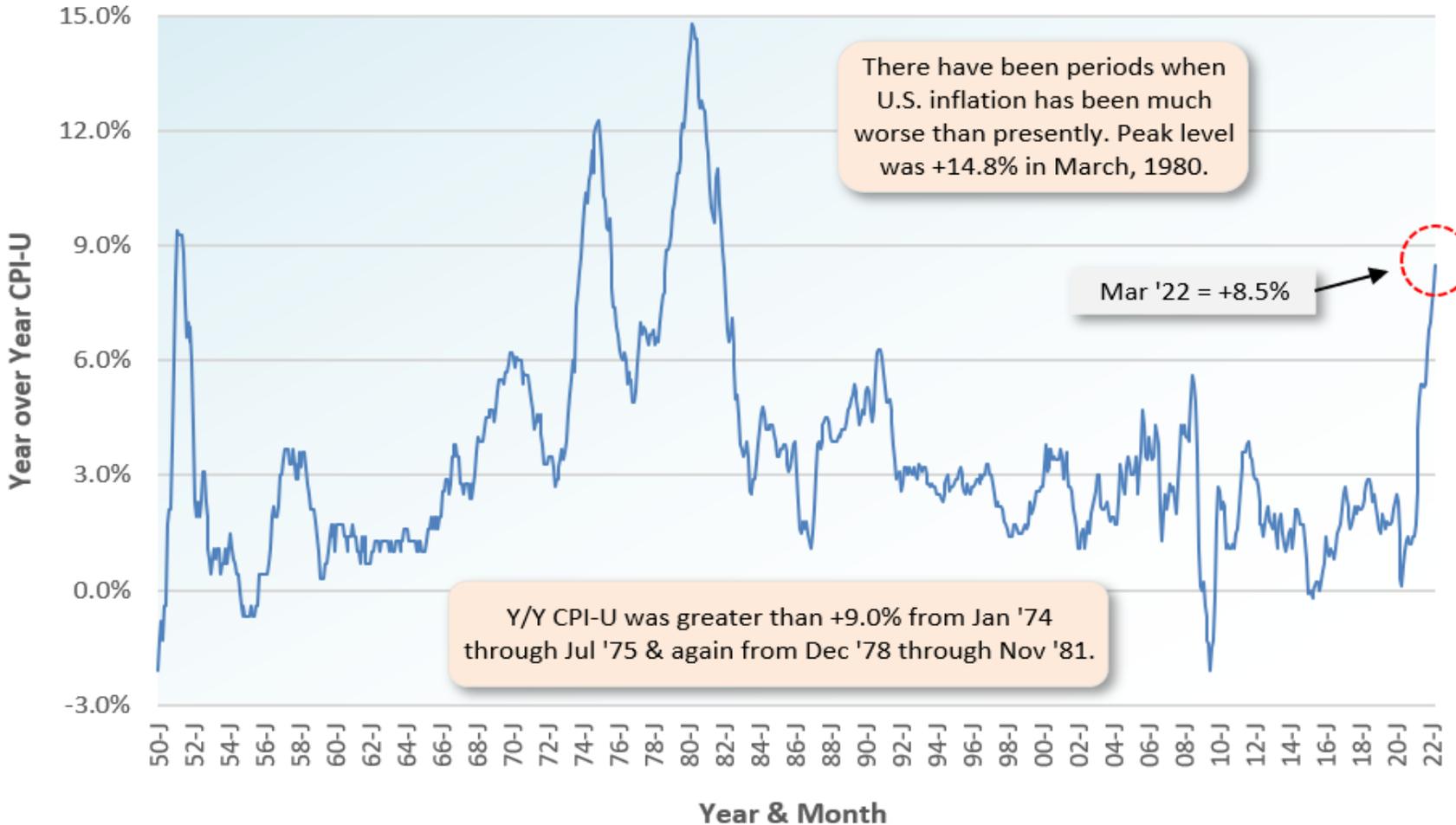
NSA is not seasonally adjusted.

*Core inflation is CPI-U less its often most volatile sub-components, food and energy.

Latest data points are for Mar, 2022

Data source: U.S. Bureau of Labor Statistics (Department of Labor) / Chart: ConstructConnect-CanaData

HISTORY OF U.S. INFLATION – Y/Y CPI-U



What's driving the price increases? Our current inflation has it all: demand-pull, cost-push, easy money and fiscal excess.

U.S. 2022 Q2 'real' GDG change was - 0.1% annualized. Inflation will delay purchases of some big-ticket items, plus there's a huge foreign trade deficit.

Re-industrializing America

- While keeping in mind ‘green’ goals and as an answer to material shortages;
- Let your North American suppliers know what you need and assure them of your long-term support;
- Implies a push for greatly expanded electric power generation capacity;
- In turn, implies more resource inputs, such as copper, nickel, lithium, cobalt, graphite;
- Implies other raw materials development in rare earth metals and alloys to make steel and aluminum stronger and lighter, plus polymers – know your chemistry.

OTHER INFLUENCES

- Money to flow from the Infrastructure Investment & Jobs (IIJA) Act;
- Military spending, not just in U.S. (e.g., Canada buying fighter jets);
- China to launch another big (questionable?) infrastructure initiative.

G – Greater
R – Recognition of
E – Earlier
E – Environmental
N – Neglect

U.S. publicized upcoming projects (1)

There's 'organic' growth due to cycles and trends and then there's 'mega' project growth.

Vehicle Assembly Plants – GM & Ford \$billions of new spending in Michigan, Kentucky, and Tennessee; VinFast (Vietnamese Vingroup) EV carmaker, North Carolina, \$2 billion.

Battery Plants – All the legacy carmakers have plans; Ford & SK Innovation (F-150 Lightning, power bi-directional); CATL, the giant Chinese company, looking for site in N.A., \$5 billion; Panasonic partnering with Tesla, but also has its own ambitions; South Korea's LG Energy battery plant expansions, Michigan, Arizona; Koch partnering with FREYR (Norwegian firm).

Computer Chip Plants – Intel in Ohio, \$20 billion; Samsung in Austin, Texas, \$15 billion.

New Steel Mills – U.S. Steel in Osceola, NE Arkansas, \$3 billion; Nucor on Ohio River, West Virginia, \$3 billion.

Electric Power – Champlain Hudson transmission line Quebec to NYC, \$3 billion; Vast expansion of BEV recharging stations; Utility-sized power storage batteries (Tesla in Austin).

U.S. publicized upcoming projects (2)

There's 'organic' growth due to cycles and trends and then there's 'mega' project growth.

Hydrogen & Ammonia Plants –	Green Hydrogen International (GHI) to build Hydrogen City near Corpus Christi, Texas (to supply rocket fuel for SpaceX).
LNG Exporting Facilities –	Sempra, Port Arthur, Texas, \$9 billion;
BDO (Butanediol) Plant –	Cargill, Eddyville, Iowa (to derive certain kinds of plastic from corn).
Railroad & Hydro-loop Services –	Amtrak with funding from the IIJA; Texas Central Railroad, America's 1 st High-Speed line, \$18 billion; Hudson River Tunnel, New York, \$10 billion; Virgin Hyperloop, active test track, Las Vegas, Nevada; California High-speed Rail, Central Valley portion, \$13 billion.
Stadiums –	Buffalo Bills Stadium, \$1.4 billion; Miami Freedom Park, Soccer (David Beckham), \$1.0 billion; L.A. Clippers, Intuit Dome, \$2 billion.
Prisons –	5 new borough prisons NYC (Rikers Island to be closed by 2027), \$6 billion.

For many of these projects, the choice to proceed isn't optional, not if their owners want to meet their stated net zero carbon emission targets by 2030-2035.

Canada publicized upcoming projects

There's 'organic' growth due to cycles and trends and then there's 'mega' project growth.

Vehicle Assembly Plants –	GM and Ford in Oakville and Oshawa, at least hundreds of millions; Honda in Alliston, to transition to EVs, \$1 billion.
Battery Plants –	Stellantis (Chrysler) & LG Energy, Windsor, \$4 billion.
Electric Power –	Ontario Power Generation (OPG) & GE Hitachi to build SMR (small modular nuclear reactor) at Darlington, Ontario site; Rattlesnake Ridge wind project, Berkshire Hathaway, SE Alberta.
Potash Plant –	Jansen Mine, Saskatchewan, BHP Billiton, \$7.5 billion (has started).
Gold Mine –	Greenstone Gold Mine, Geraldton, Ontario (Equinox Gold), \$1.5 billion.
Hydrogen Plant –	Quebec-Hydro & Thyssenkrupp, Varennes/Montreal (electrolysis); 3 in Alberta (Suncor, ATCO, and Air Products & Chemicals Inc.)
Oil & Gas Extraction –	Baie du Nord, Norwegian oil company Equinor ASA (formerly Statoil), Flemish Pass, Offshore Atlantic, east of St. John's, \$9 billion.
Petrochemical Plants –	Dow, Fort Saskatchewan, Alberta.
LNG –	Shell & partners, possible 2x capacity at their Canada LNG project, Kitimat, B.C.; Woodfibre LNG, Squamish, B.C., \$1.6 billion.

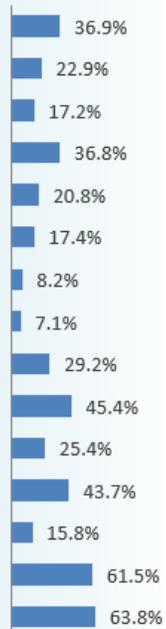
U.S. TYPE-OF-STRUCTURE CONSTRUCTION 'STARTS' FORECASTS (\$ BILLIONS USD)

Main Categories:	Actuals		Forecasts				
	2020	2021	2022	2023	2024	2025	2026
Residential	301.4	353.1	393.0	418.8	442.5	467.1	495.5
(Yr/yr % change)	1.2%	17.1%	11.3%	6.6%	5.7%	5.6%	6.1%
Commercial	102.5	103.1	107.1	128.7	141.9	152.7	161.2
(Yr/yr % change)	-29.2%	0.5%	3.9%	20.1%	10.3%	7.6%	5.6%
Industrial (Manufacturing)	21.7	32.1	34.0	39.0	42.0	43.0	44.0
(Yr/yr % change)	-61.0%	47.8%	5.9%	14.7%	7.7%	2.4%	2.3%
Institutional	119.3	111.9	119.1	134.9	147.7	156.5	162.7
(Yr/yr % change)	-11.3%	-6.2%	6.5%	13.2%	9.5%	5.9%	3.9%
TOTAL NON-RES BLDG	249.4	253.2	266.6	309.2	338.6	359.4	375.4
(Yr/yr % change)	-27.2%	1.5%	5.3%	16.0%	9.5%	6.2%	4.5%
Engineering	154.7	156.1	185.8	210.8	232.3	246.9	258.2
(Yr/yr % change)	-18.3%	0.9%	19.1%	13.5%	10.2%	6.3%	4.6%
GRAND TOTAL	705.5	762.4	845.5	938.9	1,013.3	1,073.4	1,129.2
(Yr/yr % change)	-15.0%	8.1%	10.9%	11.0%	7.9%	5.9%	5.2%
Some Important Sub-categories:							
Shopping/Retail	12.3	12.7	15.4	17.2	19.6	21.7	23.2
(Yr/yr % change)	-25.6%	3.8%	20.8%	11.9%	13.5%	11.0%	6.9%
Private Offices	25.9	19.2	19.5	24.6	27.8	30.7	32.9
(Yr/yr % change)	-29.2%	-25.9%	1.5%	26.2%	13.2%	10.6%	7.0%
Warehouses	26.2	26.9	24.0	28.0	29.0	30.0	32.0
(Yr/yr % change)	16.2%	2.6%	-10.8%	16.6%	3.6%	3.5%	6.7%
Hospitals/Clinics	13.4	17.6	18.2	20.5	22.5	24.0	25.0
(Yr/yr % change)	-38.7%	31.6%	3.6%	12.6%	9.8%	6.7%	4.2%
Educational Facilities	67.5	59.6	64.2	70.9	76.3	81.1	84.3
(Yr/yr % change)	-11.0%	-11.8%	7.8%	10.4%	7.8%	6.2%	4.0%
Roads	63.7	67.5	80.4	87.9	95.7	100.6	105.4
(Yr/yr % change)	-2.5%	6.0%	19.1%	9.4%	8.8%	5.1%	4.9%
Water & Sewage Treatment	31.2	34.0	36.8	42.0	45.9	48.2	49.4
(Yr/yr % change)	-1.2%	8.9%	8.2%	14.2%	9.2%	5.1%	2.5%
Misc Civil (Power, etc.)	22.7	22.9	29.9	37.2	43.7	48.0	51.3
(Yr/yr % change)	-50.8%	0.6%	30.8%	24.4%	17.3%	10.0%	6.8%

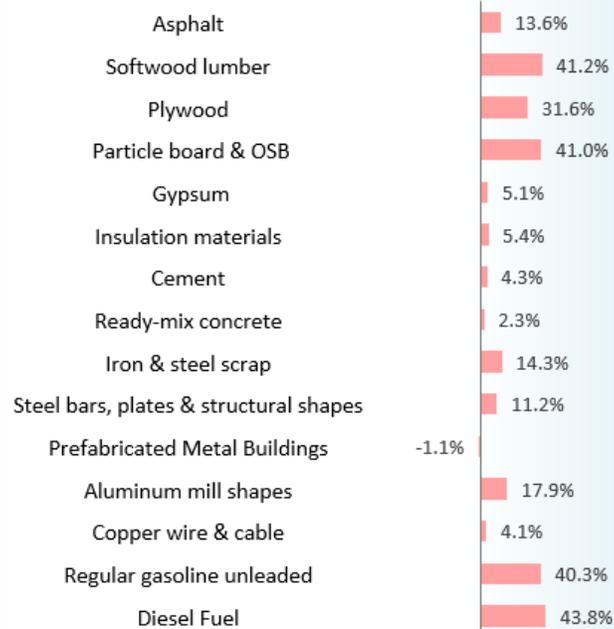
In 2021, residential was the hot growth category, with engineering and nonresidential building both flat. In 2022, it will be engineering taking over (in terms of y/y % change), with residential still exerting a strong influence and nonresidential building beginning to revive.

U.S. CONSTRUCTION MATERIAL COST CHANGES FROM PRODUCER PRICE INDEX (PPI) SERIES - MARCH 2022

Year over Year (Y/Y) % Change



Latest 3 Months % Change



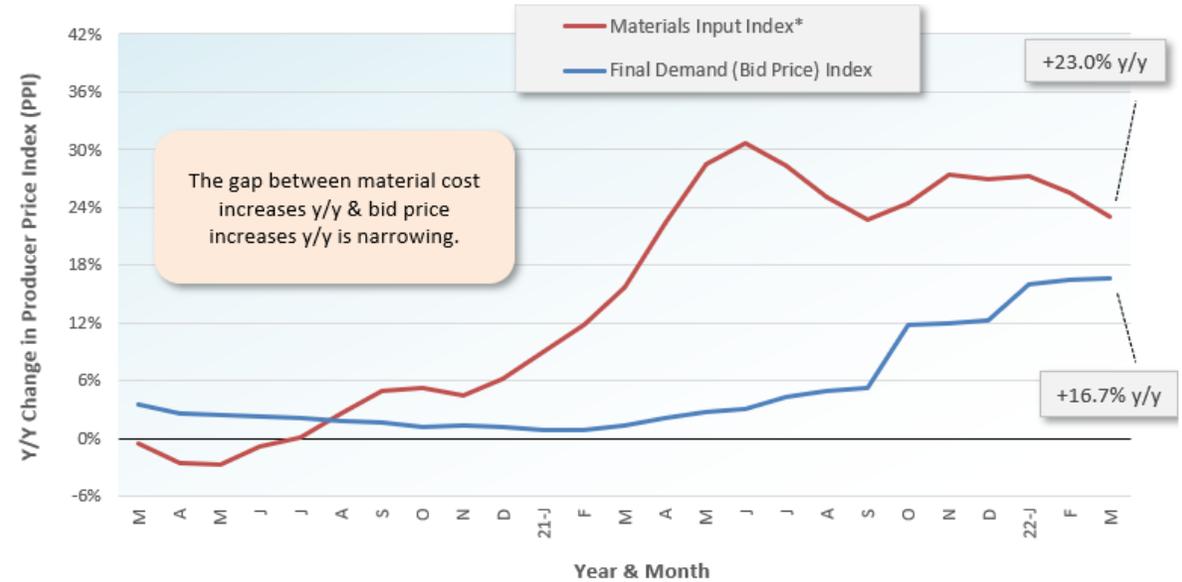
13 of the 15 input items shown in the chart have seen double-digit percentage change increases over the past year.

10 of the 15 have risen by +20% y/y or more; 6 of the 15 by +30% y/y or more.

Nor has there been moderation over the last 3 months.

Data source: Bureau of Labor Statistics (BLS) / Chart: ConstructConnect.

U.S. CONSTRUCTION BID PRICES (Y/Y) vs MATERIAL INPUT COSTS (Y/Y) – MARCH 2022



*Average of 2 PPI indices: (A) WPUSI012011 construction materials 'special' grouping index; & (B) WPUIP231000 inputs to new construction, excluding capital investment (i.e., machinery & equipment), labor & imports. (A) comes from a data series with a long history, but is confined to a limited number of major materials. (B) has a shorter history, but is more comprehensive, although it includes some items (e.g., transportation) that aren't strictly materials. (A) is presently +24.5% y/y; (B), +21.5% y/y.

Latest data points are for March 2022.

Source: Bureau of Labor Statistics, Producer Price Index data set. / Chart: ConstructConnect-CanaData.

Michael Guckes

Senior Economist,
ConstructConnect

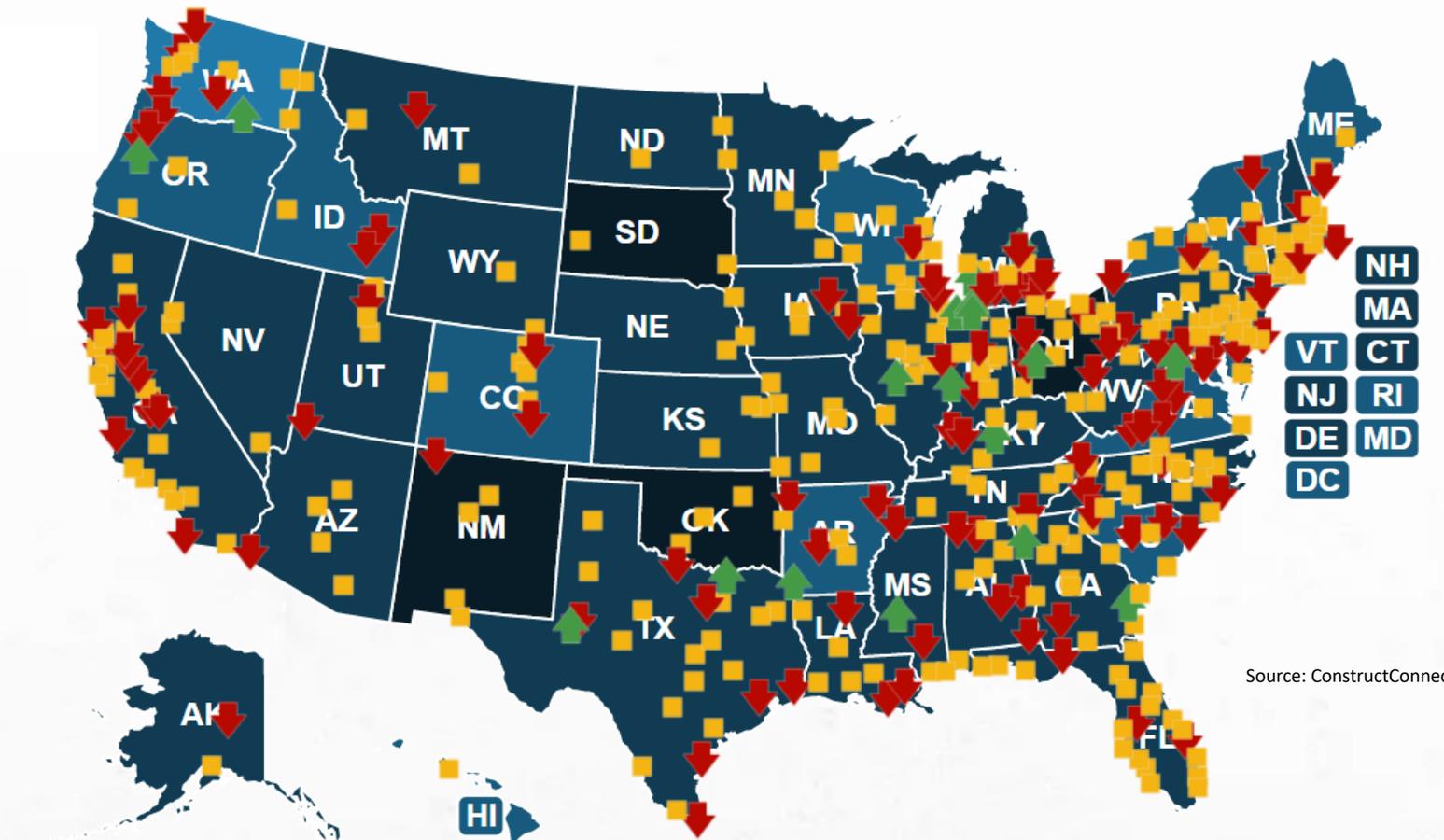


Factors affecting regional activity

USA - April Expansion Index

Click a state or for a zoomed view

≥ 2.0 | ≥ 1.0 or ≤ 1.999 | $\leq .999$



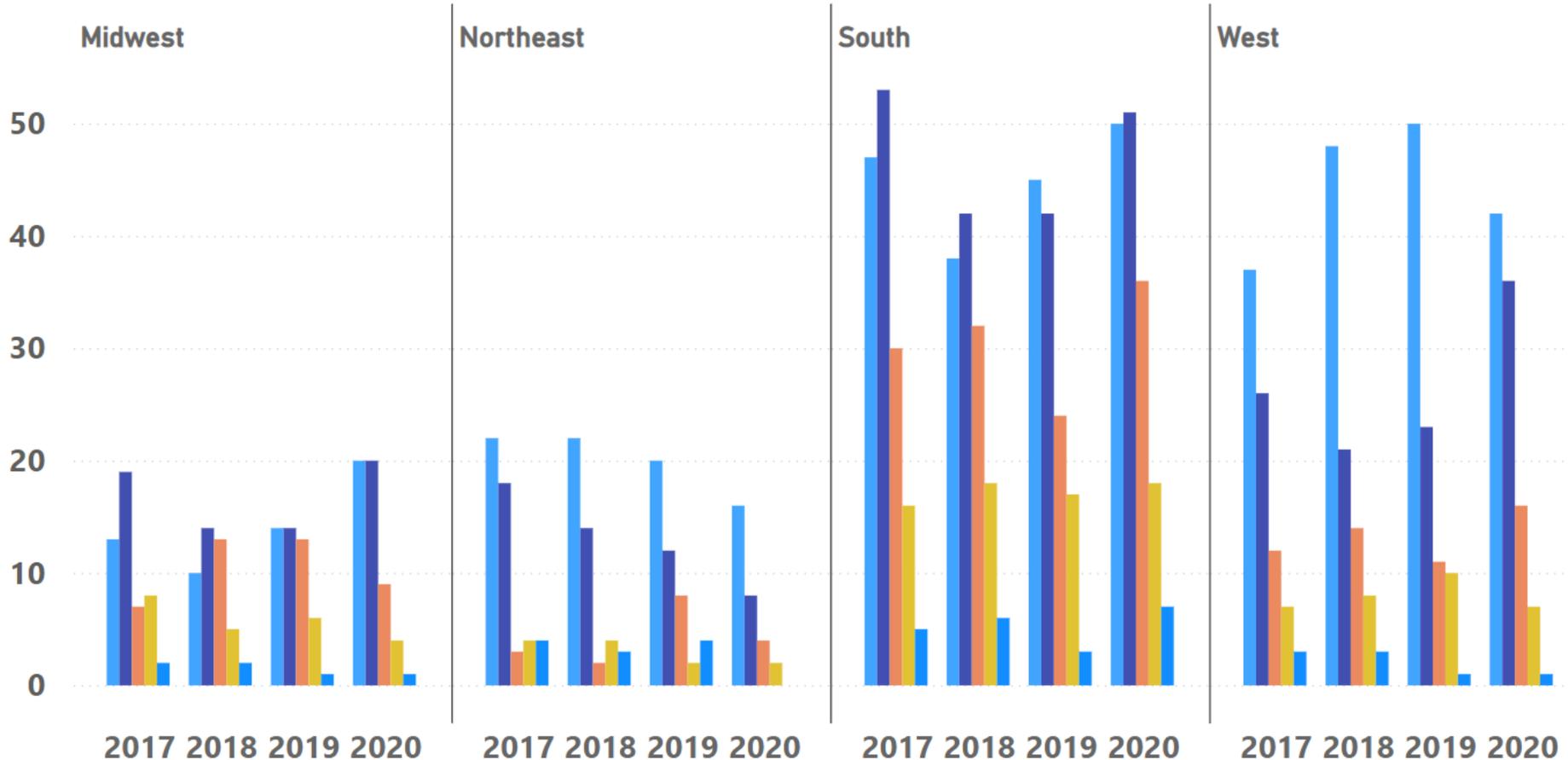
Source: ConstructConnect, <https://www.constructconnect.com/expansion-index>

Regional multifamily construction for rent trends

Unit Count of Multifamily Homes Constructed for Rent

(in 000's)

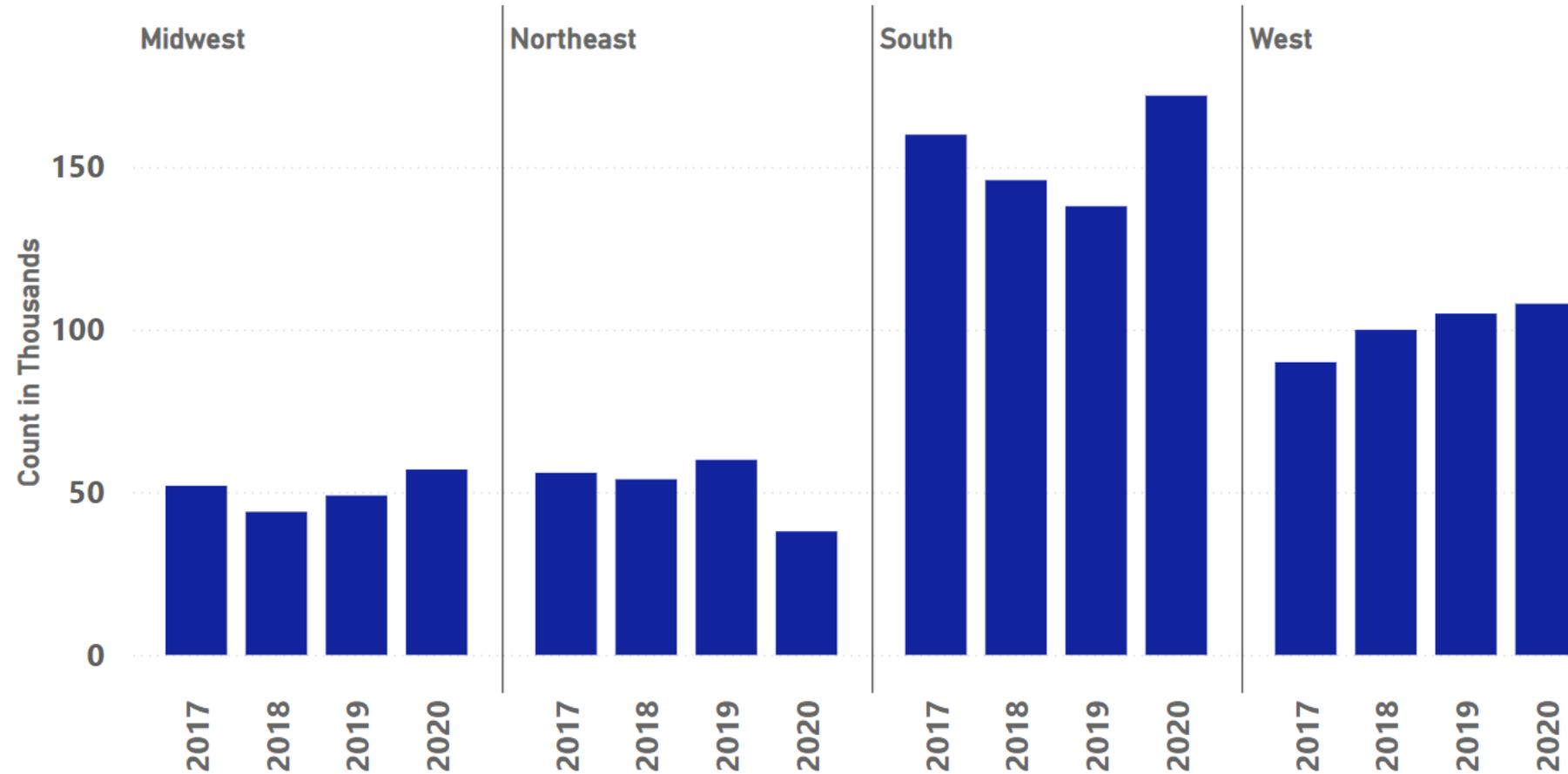
● Count 1,000 or Fewer SqFt ● Count 1,000 to 1,199 SqFt ● Count 1,200 to 1,399 SqFt ● Count 1,400 to 1,799 SqFt ● Count 1,800 SqFt or more



Regional multifamily for sale/rent trend

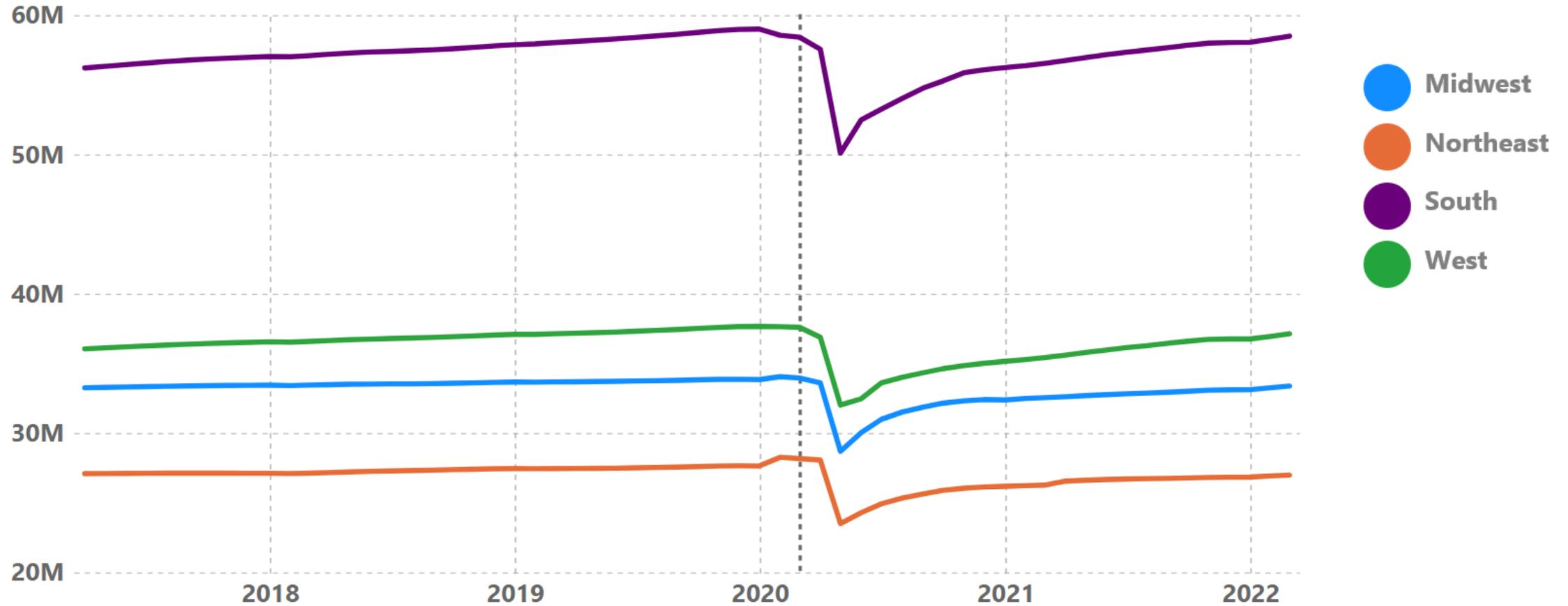
Total Unit Count of Multifamily Homes Constructed for Sale/Rent
(in 000's)

SizeClass • Count Total



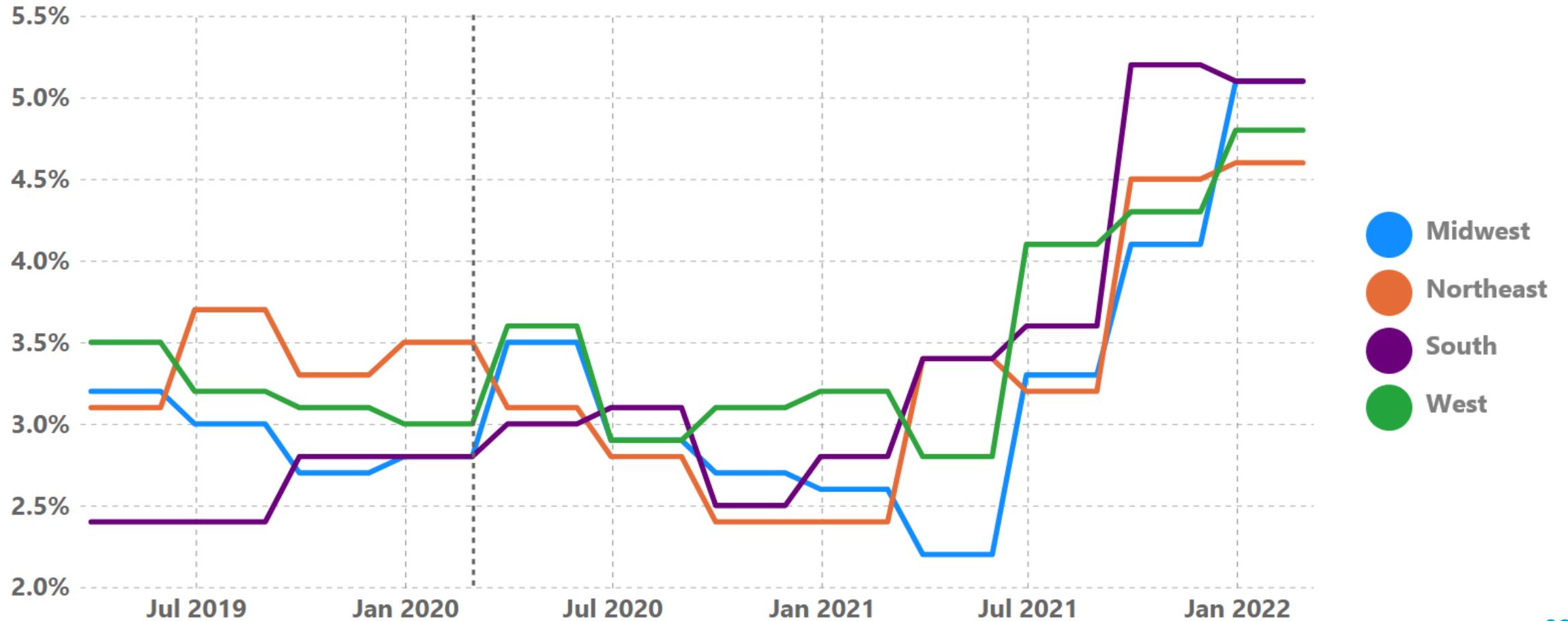
Employment by region

(# of Workers, SA)



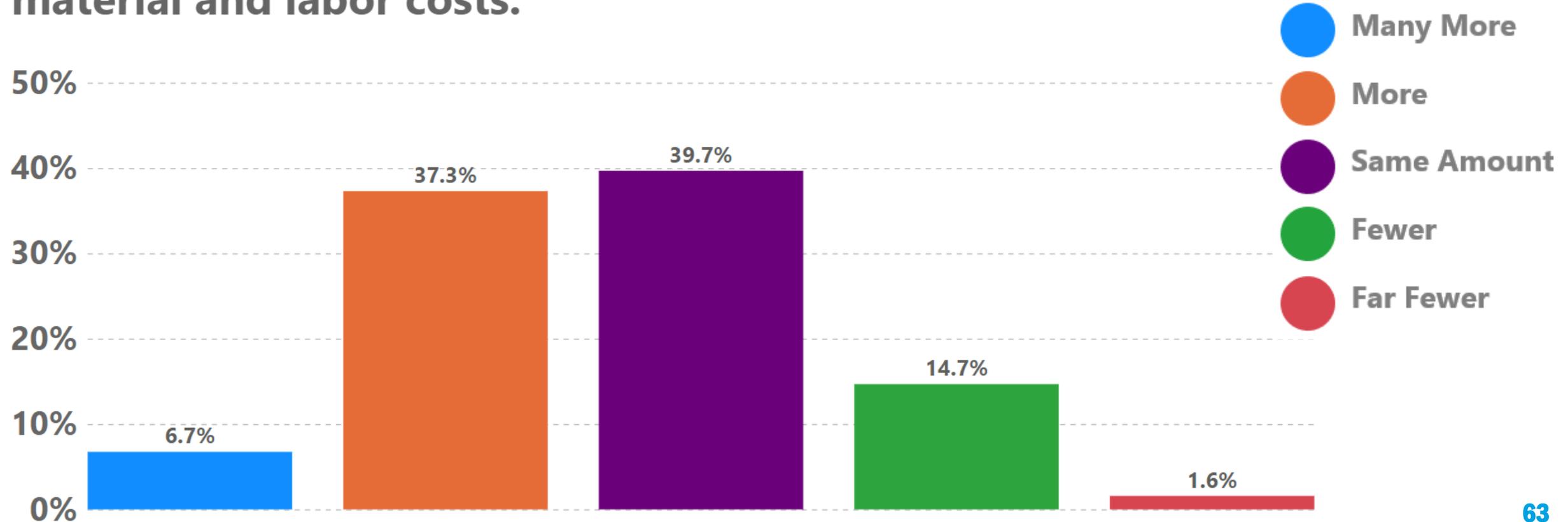
Wages and salaries for private industry workers

(Year-on-Year Percent Change)



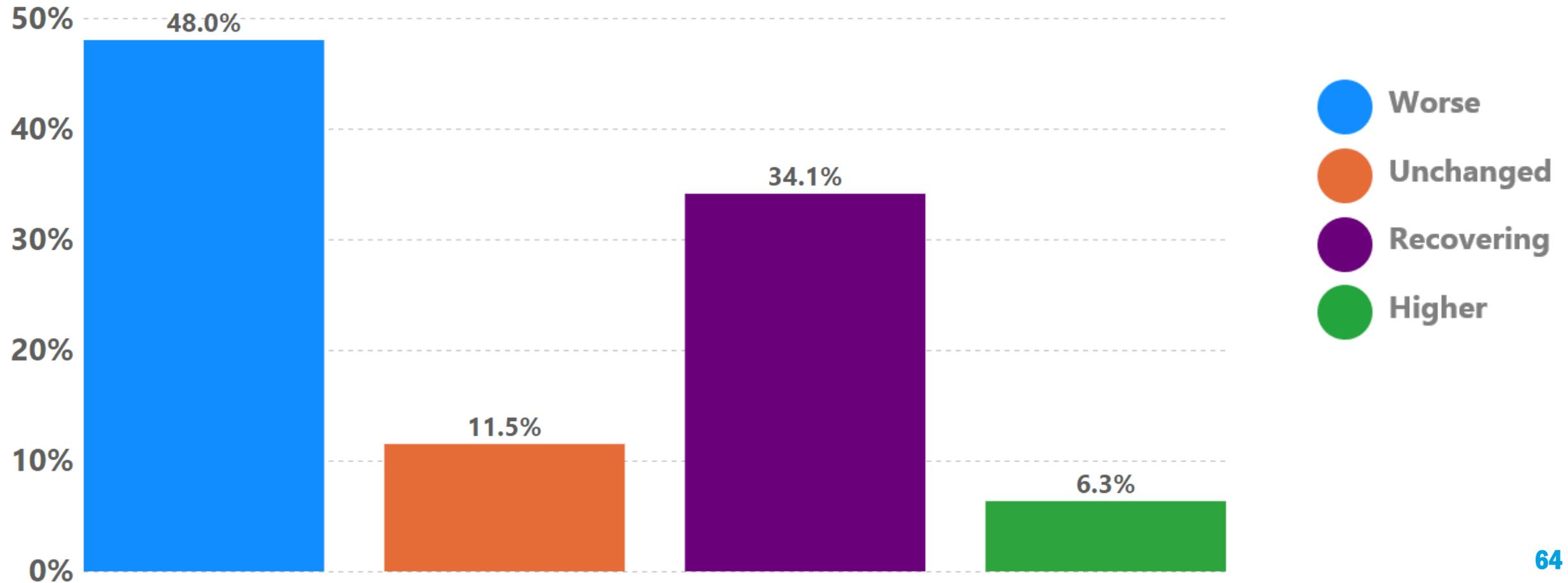
Project Risk from Labor and Demand

Compared to 6-months ago, are you encountering _____ owners who are delaying or suspending projects due to rising material and labor costs.



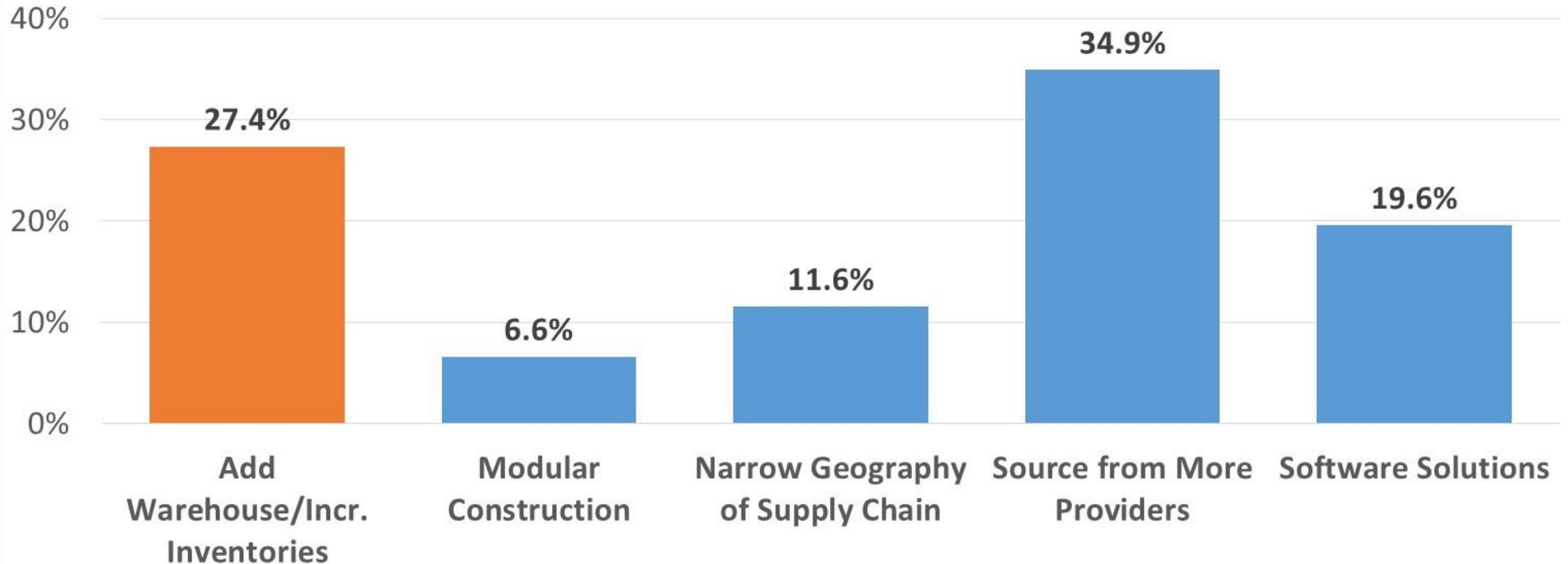
Profit impact

How has the profitability of your firm changed since the start of 2022 compared to the second half of 2021?



How are you responding to Supply chain challenges?

Actions Taken to Resolve Supply Chain Problems



Question & Answer

 **constructconnect.**



constructconnect.com/economic-resources



Thank you

 **constructconnect**

