2022 FACILITIES & CONSTRUCTION BRIEF

An Overview of the Education Construction Scene

2021 WAS A YEAR OF RECKONING FOR EDUCATION FACILITIES CONSTRUCTION. Last year at this time, data showed minimal impact on education construction from policies related to the COVID-19 pandemic. In fact, in 2020, construction spending in public education had actually increased by nearly $2 billion, though it had declined in private education. That's not the case for this latest year, as public education construction spending saw its first decline since 2013 — and a substantial decline it was, at nearly $7 billion, or around 7.6%.

Construction spending in the private education sector slid for the second year in a row, losing 13.6%, or nearly $2.5 billion — that following a decline of 15.2%, or $3.3 billion, the year prior.

Overall, education construction spending saw a decline of 8.6%, or $9.25 billion, in the most recent calendar year for which we have data (2021).

The biggest issues impacting construction in the last year? Workforce shortages and turnover, supply chain problems, inflation, and ongoing COVID restrictions.

Said one participant in this year's Spaces4Learning Construction Brief survey: "Now it is long lead times due to logistic issues. Getting materials is getting harder to complete jobs on tight schedules that are common in K-12. Strategies and planning is not needed more than ever to open schools whenever you are able to get them open."

Of course, funding continued to be a major hurdle, as well.

"In general, cost and complexity have continued to increase. As an example, the advent of flexible/active learning spaces means that the cost of the technology has gone up considerably, especially when multiple presentation walls and/or displays are part of the scope," said another respondent. "While the project budgets can usually be adjusted to accommodate this, the future refresh commitments also have to be considered."

By David Nagel

CHANGES IN POPULATION AFFECT ENROLLMENT

POPULATION CHANGE

Near-zero population growth occurred in the United States between 2020 and 2021. The total U.S. population increased just 0.12%. More than a third of states in the United States, plus the District of Columbia, saw declines in population, led by New York (–319,020), California (–261,902), and Illinois (–113,776). And 25 states saw more deaths than births in that period.

According to the U.S. Census Bureau, for the first time in history, the natural increase in population (births minus deaths) fell below increases in population owing to international immigration. In other words, there were more net immigrants adding to the U.S. population than net gains through childbirth.

"Slower population growth has been a trend in the United States for several years, the result of decreasing fertility and net international migration, combined with increasing mortality due to an aging population," the Census Bureau noted. "In other words, since the mid-2010s, births and net international migration have been declining at the same time deaths have been increasing. The collective impact of these trends is slower population growth. This trend has been amplified by the COVID-19 pandemic, resulting in a historically slow population increase in 2021...." (See census.gov/library/stories/2021/12/us-population-grew-in-2021-slowest-rate-since-founding-of-the-nation.html.)

Immigration, despite being higher than births, was also at historic lows: "Immigration levels plummeted as well, exacerbating the impacts of earlier policy restrictions. The new estimates showed a net international migration of just 256,000 in 2020-21 — down from an already low 477,000 in 2019-20 and from over 1 million per year in the middle of the 2010s decade," Brookings Institute reported. (See brookings.edu/research/u-s-population-growth-has-nearly-flatlined-new-census-data-shows.)

Some stats for the year based on current estimates (as of April 2022) include:

- The total population of the United States at the end of 2021 was 331.9 million, according to the U.S. Census Bureau. The total population of the United States at the end of 2020 was 330.03 million. The population at the end of 2019 was 329.16 million.
- The was roughly one death every 10 seconds and 3,383,729 total deaths in 2021,
- As of currently available data from the CDC (which is not final), at the end of 2021, 824,951 total deaths were ascribed to COVID-19 since the start of the pandemic — 361,021 in 2020 and 463,930 in 2021. (As of the end of the first quarter of 2022, there have been 978,581 total deaths, an additional 153,630.)
- 2021 saw the highest number of deaths in U.S. history. The highest percentage increase in deaths ever witnessed in the United States occurred in 2020, up 18.75% from 2019, and the number of deaths in 2021 increased a further 0.82%. There were 19.7% more total deaths in 2021 than in 2019. (See census.gov/library/stories/2022/03/united-states-deaths-spiked-as-covid-19-continued.html)

Seventeen states plus the District of Columbia saw population declines from 2020 to 2021. Including the most populous state in the nation, California, which declined by 261,000 this year, following a decline of 69,000 last year. But New York saw the largest numeric decrease, losing 319,000 inhabitants in 2021.

GROWTH BY NUMBER (2020 to 2021)

State	2021 Population	Growth
Texas	29,527,941	310,288
Florida	21,781,128	211,196
Arizona	7,276,316	98,330
North Carolina	10,551,162	93,985
Georgia	10,799,566	73,766
Louisiana	4,624,047	–27,156
Massachusetts	6,984,723	–37,497
Illinois	12,671,469	–113,776
California	39,237,836	–261,902
New York	19,835,913	–319,020

Source: U.S. Census Bureau, Annual Estimates of the Resident Population for the United States, Regions, States, and the District of Columbia: April 1, 2020 to July 1, 2021 See census.gov/newsroom/press-releases/2021/2021-population-estimates.html and census.gov/data/tables/time-series/demo/popest/2020s-state-total.html

ENROLLMENT ESTIMATES

PREK-12

While final data are not yet available for enrollment in 2021, the National Center for Education Statistics (NCES) projected that 50.072 million students would attend public preK–12 schools in fall 2021. About 1.58 million of those are pre-kindergarten level; 3.7 million kindergarten; 34.6 million preK–8; 15.5 million grades 9–12. 2021's public school enrollment was up slightly from 2020. But following 2021, a slow and steady decline in prek–12 enrollment is projected from 2022 (49.935 million) to 2030 (47.253 million). (See nces.ed.gov/programs/digest/d21/tables/dt21_203.10.asp.)

Private preK–12 school data are a bit more murky. NCES has not yet updated projections for private schools since early 2020, and its estimates then were based on a pre-pandemic milieu. We will include data on private schools from the 2020 source in the table below

DEGREE-GRANTING POSTSECONDARY

In higher education, 19.78 million students were projected to attend colleges and universities. Of those:

- 16.56 million were undergraduates.
- 12.39 million were full-time.
- 14.98 million were in public schools.

ENROLLMENT PROJECTIONS (IN THOUSANDS)

Year	All	pK-12	pK-12: Public			pK-12: Private**			Degree-Granting Postsecondary		
			Total	pK-8	9-12	Total	pK-8	9-12	Total	Public	Private
2010	75,886	54,867	49,484	34,625	14,860	5,382	4,084	1,299	21,019	13,703	4,379
2017	76,184	56,406	49,484	35,496	15,190	5,720	4,252	1,468	19,788	13,113	3,660
2020*	76,112	56,368	50,654	35,293	15,361	5,714	4,183	1,531	19,744	13,118	3,575
2021*	75,550	55,772	50,072	34,614	15,458	5,700	4,161	1,539	19,778	13,142	3,578
2029*	73,488	53,095	47,357	32,494	14,863	5,738	4,281	1,457	20,393	15,038	5,355

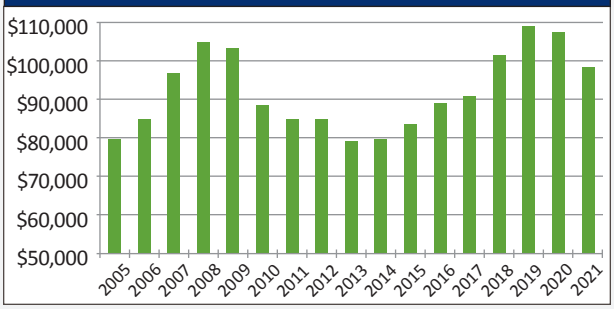
*Projected. Note that data are taken from three sources from NCES. Where data disagree, we have used the most recent source. Source for all data prior to 2021 and private preK–12 data for 2021 and 2029: National Center for Education Statistics, Enrollment in elementary, secondary, and degree-granting postsecondary institutions, by level and control of institution, enrollment level, and attendance status and sex of student: Selected years, fall 1990 through fall 2029. Source for 2021 and 2029 public preK–12 data: nces.ed.gov/programs/digest/d21/tables/dt21_203.10.asp. Source for 2021 and 2029 higher education data: nces.ed.gov/programs/digest/d21/tables/dt21_303.10.asp.

EDUCATIONAL CONSTRUCTION SPENDING

The total dollar value of education construction work done in the U.S. (including all 50 states and the District of Columbia) is estimated to have been $98.189 billion in 2021. That was a large decline from 2020, which had seen the first decline in education construction since 2013. It should be noted that the estimates for the three previous years have been updated since our last Construction Brief. See the notes in the figure for details.

Educational construction spending includes expenditures for new buildings and structures, additions, renovations, rehabilitations, major replacements (such as the complete replacement of a roof or heating system); mechanical and electrical installations; site preparation, and outside construction of fixed structures or facilities such as sidewalks, parking lots, and utility connections. Educational facilities include preschools, primary/secondary schools, higher education facilities, trade schools, training facilities, and other educational spaces including museums and libraries.

EDUCATION CONSTRUCTION (MILLIONS OF DOLLARS)

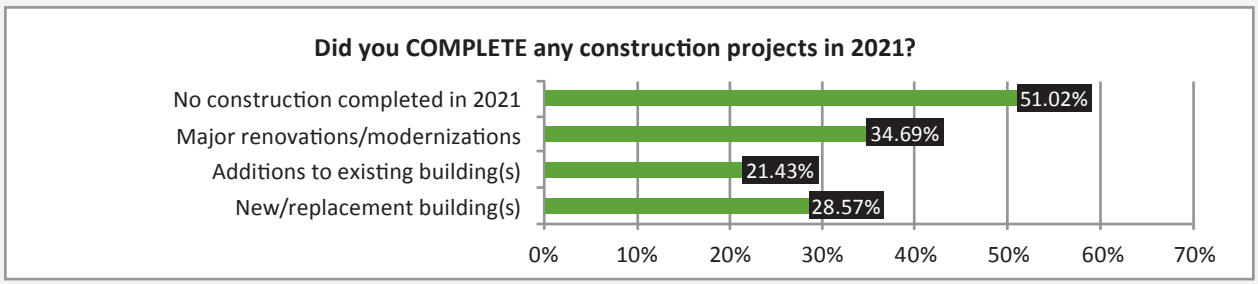


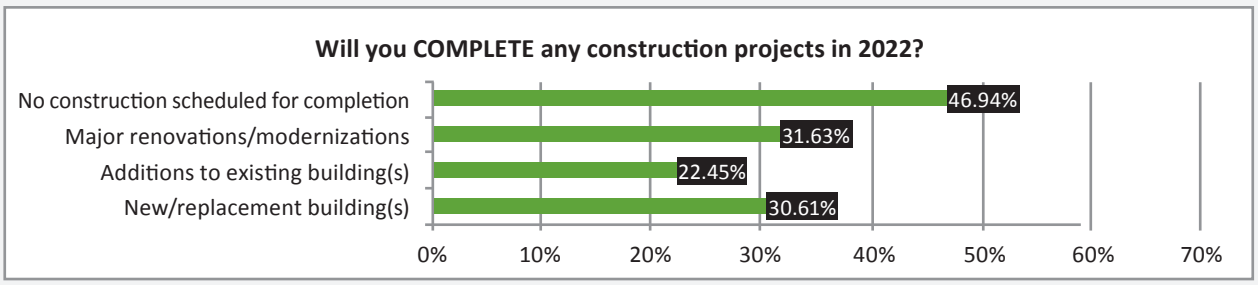
Source: U.S. Census Bureau

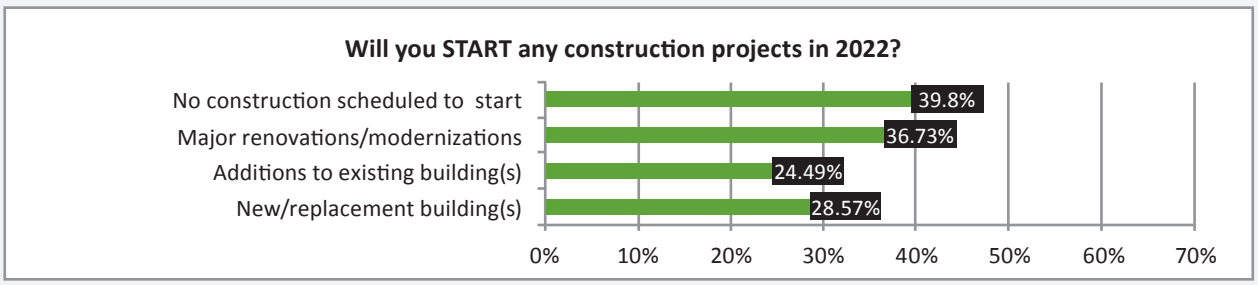
YEAR	TOTAL (Millions of Dollars)
2005	$79, 687
2006	$84,928
2007	$96,758
2008	$104,890
2009	$103,202
2010	$88,405
2011	$84,985
2012	$84,672
2013	$79,060
2014	$79,681
2015	$85,346
2016	$91,629
2017	$96,685
2018	$101,210*
2019	$108,952**
2020	$107,435***
2021	$98,189

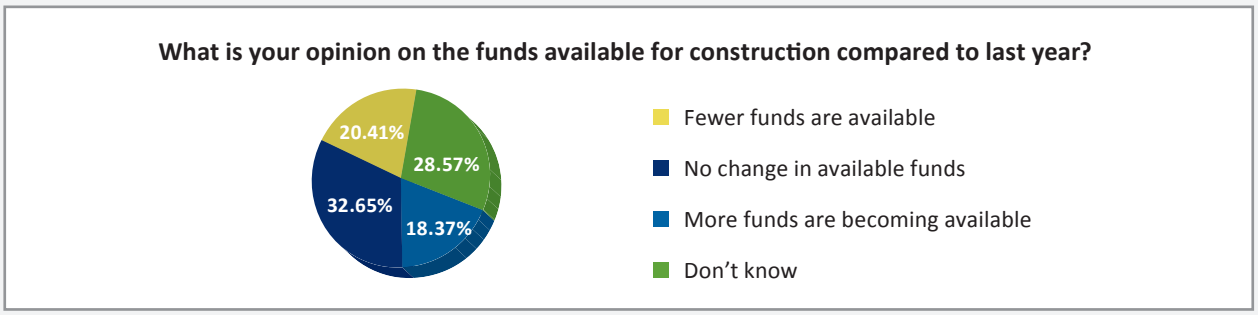
Source: U.S. Census Bureau, Annual Value of Construction Put in Place (Annual Totals).
* Revised using the most recent statistics available, as of April 2022. Previously reported at $97.777 billion.
** Revised using the most recent statistics available, as of April 2022. Previously reported at $105.374 billion.
*** Revised using the most recent statistics available, as of April 2022. Previously reported at $104.519 billion.

SURVEY ON PREK-12 SCHOOL CONSTRUCTION









Survey Respondents: 98 preK-12 school districts responded to this survey among 42 states.

KEY TAKEAWAYS

- Only 48.98% of respondents indicated they had completed construction in 2021, down from 70.75% of respondents in last year's survey. Major constructions were down from 51.9% to 34.7%.
- 53.06% of respondents indicated they will complete construction projects in 2022, about the same as last year.
- 60.2% said they will start new construction projects in 2022, down four percentage points from last year but up four points over the year before that.
- Major renovations/modernization projects and additions were the major focus of projects completed in 2021; renovations/modernization also dominate plans for 2022.
- Districts that reported that fewer funds for construction were available in 2021 versus 2020 dropped dramatically, from 41.41% in 2020 to 20.41% in 2021.
- PreK–12 respondents who said more funds are available for construction doubled from 2020.

OTHER ISSUES FACING INSTITUTIONS

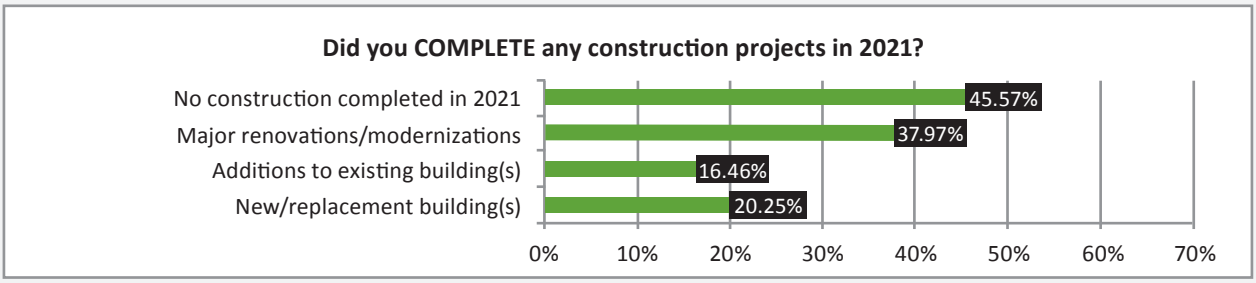
- Supply chain issues were the most frequently cited challenge for 2021.
- Labor shortages and other staffing issues, such as high turnover, were also frequently cited problems.
- Funding continues to be an issue.
- Increasing costs.
- Waning community support.
- Administration/decision-makers failing to consult stakeholders.
- Long lead times.
- LEED certification costs.
- Delivery issues.
- Deferred maintenance and temporary fixes.

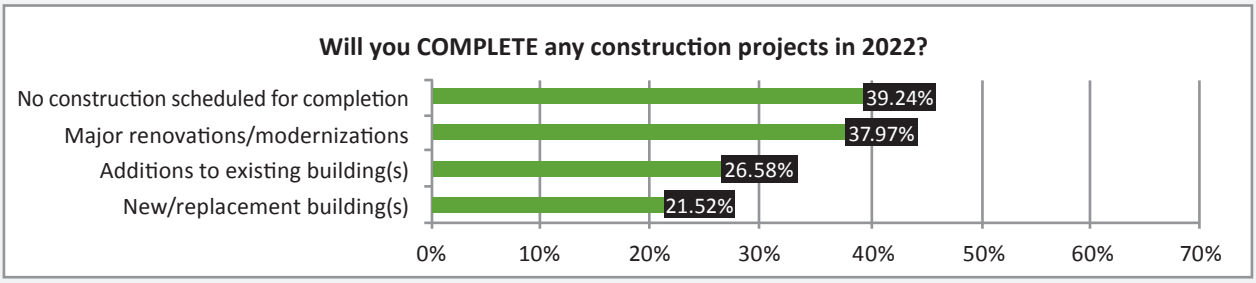
"It's almost impossible to predict construction costs today, let alone one or two years from now," said one survey participant. "Makes it very difficult to do project and construction estimates without the inclusion of huge bidding, design, and construction contingencies."

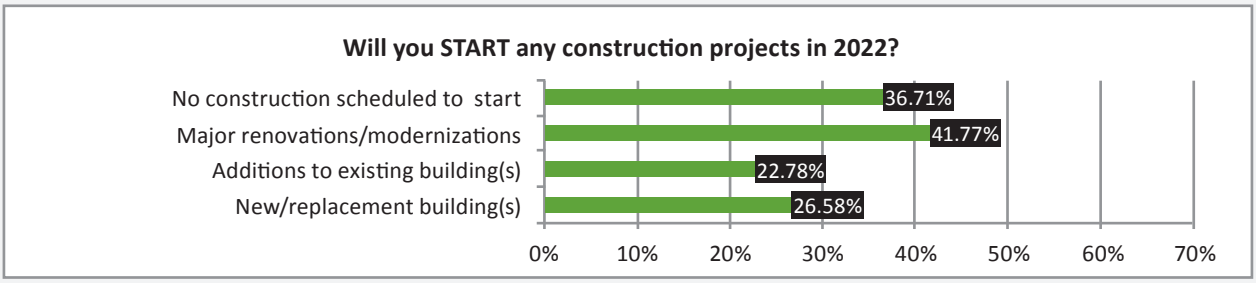
"Projects are costing 20%+ more to build today than in 2019 due to labor shortages and supply chain issues," said another K–12 participant.

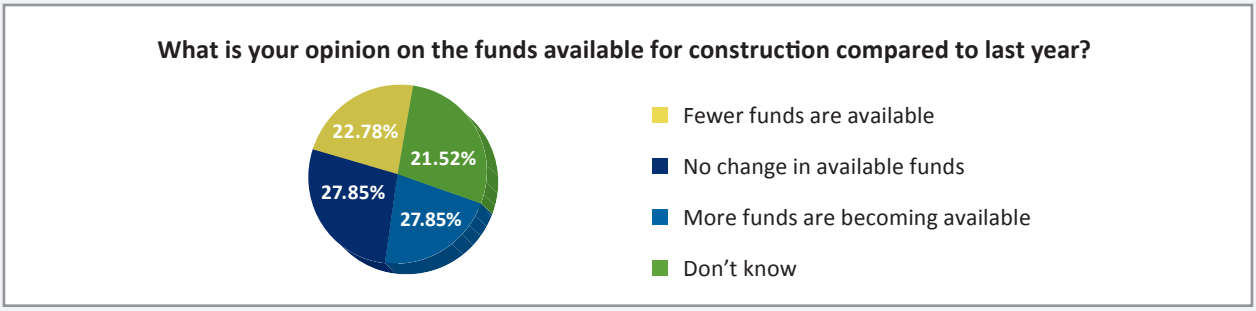
And another: "The logistical challenges of construction and basic educational operations distract from the pressing need to focus on creating the best learning opportunities and environments for students. COVID has exacerbated this challenge."

SURVEY ON COLLEGE AND UNIVERSITY CONSTRUCTION









Survey Respondents: 79 colleges and universities responded to this survey among 29 states.

KEY TAKEAWAYS

- 54.43% of higher education respondents indicated their institution had completed construction in 2021, down from 62.5% in last year's survey.
- 60.76% of higher education respondents indicated they will complete construction projects in 2022, essentially flat from last year's survey.
- 63.29% of higher education respondents reported they will start new construction projects in 2022, up two percentage points from last year's survey.
- Major renovations/modernizations were the major focus of projects completed in 2021; that will carry through in 2022.
- Institutions that reported that fewer funds for construction were available declined to 22.78% from 41.41% in 2021.
- About half (50.63%) said they expect either fewer funds or no change in funding for 2022. That's more optimistic than last year, when an overwhelming majority of higher education respondents —78.75%— said there will either be no change or fewer funds available for construction projects in 2021.
- Three times as many respondents this year said more funds are becoming available for construction.

OTHER ISSUES FACING INSTITUTIONS

- Increasing construction costs.
- Workforce and staff issues.
- Supply chain problems.
- Maintenance backlogs/ deferred maintenance.
- COVID-related restrictions and disruptions.
- Delivery issues.
- Philosophical differences on design issues related to classroom use, student success, pedagogy, and oversight.
- Digital transformation.
- Funding.

Said one respondent about the challenges of 2021: "Due to COVID, our deferred maintenance backlog has grown significantly, and our funds available have decreased. We are updating our plans — meaning more deferrals on projects over the next few years."

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