2021 FACILITIES & CONSTRUCTION BRIEF

An Overview of the Education Construction Scene

Despite the upheaval that the public policy response to COVID-19 caused in 2020, education construction appears to have been largely unaffected for the year. According to the latest statistics, the value of constructions put in place for 2020 was essentially flat compared with the previous year and up compared with all prior years except 2008, which was a peak year. And the outlook remains strong for 2021.

However, COVID-19 responses are taking their toll, according to those who participated in our annual Facilities & Construction survey. COVID has impacted staff availability, deliveries, planning, time to completion, and many other aspects of education construction. One respondent said, "I'm an architect in Oklahoma, so I work for multiple K-12, Career Tech and higher education facilities across the state. Our biggest issue is education funding has decreased greatly. School bond projects that were going to happen in 2020 have totally stopped or moved to future years."

Uncertainty is also a major factor. Said one higher education respondent: "Uncertainties related to: return to full in-person instruction, new program needs, program expansions. Some uncertainty about cost of construction, but with yet-to-be-determined new projects, it will be a few years before we're ready to bid—we'll plan and budget prudently." Others mentioned the uncertainty of space utilization post-pandemic and other physical requirements that may come down the road as a result.

There is an upside in the near future, however. Said another PK–12 respondent: "The first quarter of 2021 will continue to be impacted by COVID-19 safety protocols, which reduce our overall labor productivity and timely access to materials. The remainder of the year, we expect pent-up demand for construction to increase, which will begin to strain available workforce. This trend will continue into 2022 as overall workload approaches and exceeds 2018 numbers."

The *Spaces4Learning* Editorial Team

CHANGES IN POPULATION AFFECT ENROLLMENT

POPULATION CHANGE

The Brookings Institute characterized population trends for the year as "unprecedented stagnation in population growth, a continued decrease in Americans' geographical mobility, more pronounced population aging, a first-time decline in the size of the white population, and rising racial and ethnic diversity among millennials, Gen Z, and younger groups, which now comprise a majority of the nation's residents."

Some stats for the year based on current estimates from the Census Bureau (as of April 2021) include:

- The total population of the United States at the end of 2020 was 330.03 million, according to the United States Census Bureau. The population at the end of 2019 was 329.16 million.
- There was roughly one death every 9.4 seconds.
- The death rate was 0.8287%.
- 377,883 deaths were ascribed to COVID-19.
- Total births may have dropped by as much as 300,000 in the United States in 2020, largely owing to changes brought on by the pandemic, according to some estimates based on declines reported by some states.

By region, the Northwest and Midwest saw small population declines, according to first-half data for 2020 published by the U.S. Census Bureau in December 2020 (the most recent data available as of this writing). The population of the Northeast dropped from 56 million in 2019 to 55.85 million in 2020. The population of the Midwest slid from 68.34 million to 68.31 million. The South saw the greatest growth, climbing from 125.69 million to 126.66 million. The West went up from 78.3 million to 78.65 million.

Sixteen states saw population declines—including the most populous state in the nation, California, which declined by about 69,000 to 39.37 million. New York saw the largest decrease as both a percentage and a whole number. That state lost 126,355 of its population, coming in at 19.34 million.

GROWTH BY NUMBER (2019 to 2020)

State	2020 Population	Growth
Texas	29,360.759	373,965
Florida	21,733,312	241,256
Arizona	7,421,401	129,558
North Carolina	10,600,823	99,439
Georgia	10,710,017	81,997
Pennsylvania	12,783,254	–15,629
Michigan	9,966,555	–18,240
California	39,368,078	–69,532
Illinois	12,587,530	–79,487
New York	19,336,776	–126,355

Source: U.S. Census Bureau, Annual Estimates of the Resident Population for the United States, Regions, States, and the District of Columbia: April 1, 2010 to July 1, 2020.

ENROLLMENT PROJECTIONS

While final data are not yet available for enrollment in 2020, the National Center for Education Statistics projected that 56.4 million students would attend PreK–12 schools in fall 2020, 50.7 million of those in public schools. About 1.5 million of those are pre-kindergarten level; 3.7 million kindergarten; 35.3 million PK–8; and 15.4 million grades 9–12. The public school enrollment projection was slightly higher than that for 2019 but lower than 2017. Public school enrollment is expected to grow slightly, to 51.1 million, between 2020 and 2029. There were an estimated 3.7 million teachers in preK–12 in the United States in fall 2020, 3.2 million of them in public schools. The projected expenditure per-pupil in the 2020–2021 school year was $14,000, with $709 billion in total expenditures.

DEGREE-GRANTING POSTSECONDARY

In higher education, 19.7 million students were projected to attend colleges and universities. Of those:

- 16.7 million were undergraduates.
- 12 million were full-time.
- 14.6 million were in public schools.
- 14 million were in four-year institutions.

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
2029**	76,921	56,806	51,068	35,987	15,081	5,738	4,281	1,457	20,115	13,375	3,628

*Estimated. **Projected.

Source: 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.

EDUCATIONAL CONSTRUCTION SPENDING

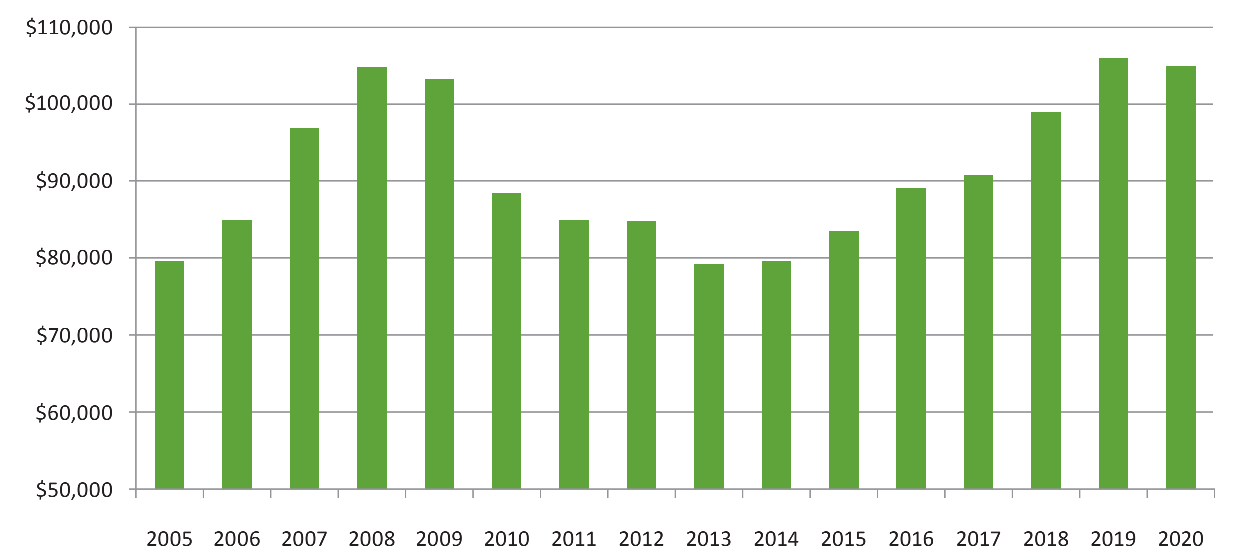
The total dollar value of education construction work done in the U.S. (including all 50 states and the District of Columbia) is estimated to be $104.5 billion in 2020. That was a small decline from 2019 (and the first decline in education construction since 2013). It should be noted that the previous estimate for 2019 had been reported at $98 billion, but that figure was revised upward by more than $7 billion in the latest set of statistics published this year.

Educational construction spending includes expenditures for new buildings and structures, additions, renovations, rehabilitations, and 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.

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	$ 97,777
2019	$105,374*
2020	$104,519

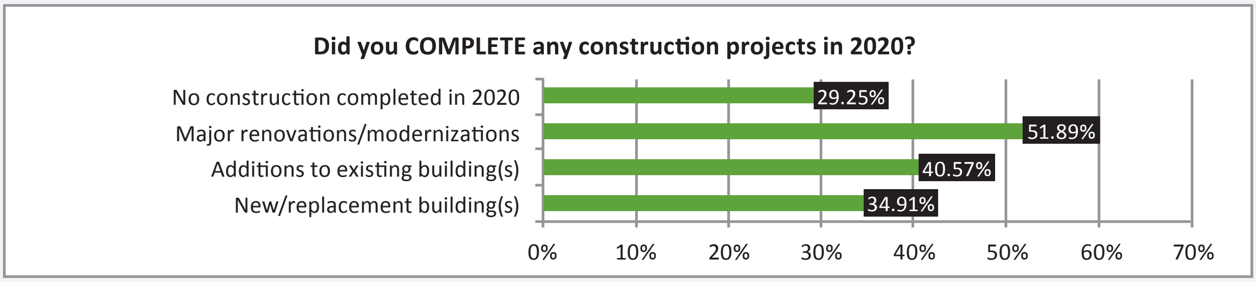
Source: U.S. Census Bureau, Annual Value of Construction Put in Place.
* Revised using the most recent statistics available, as of April 2021. Previously reported at $98 billion.

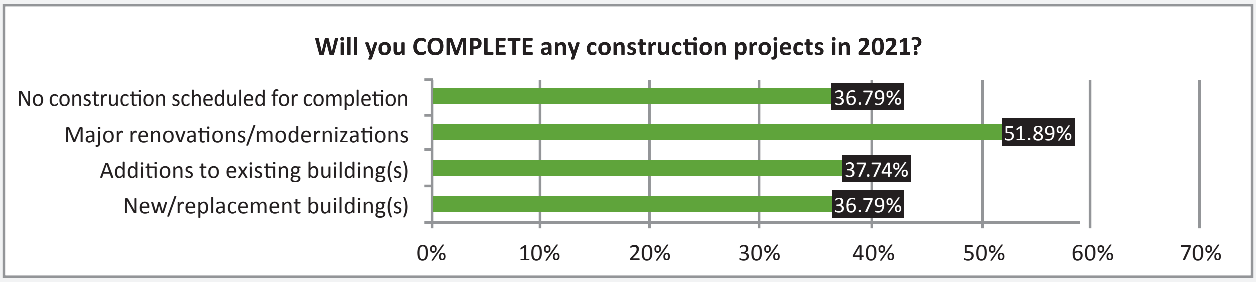
EDUCATION CONSTRUCTION (Millions of Dollars)

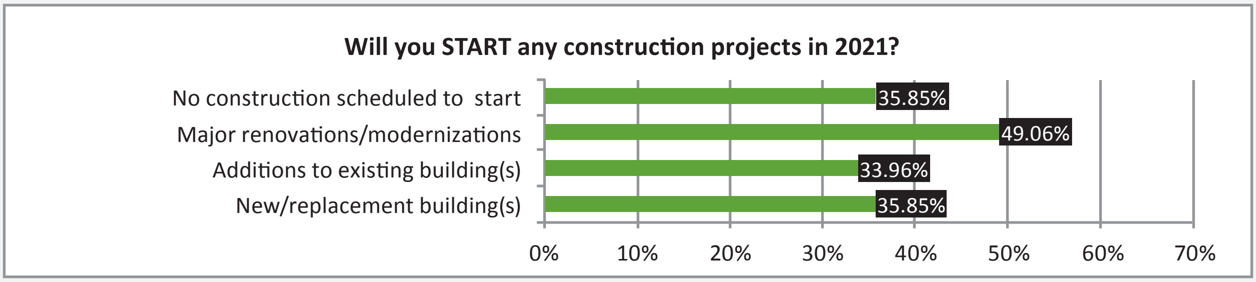


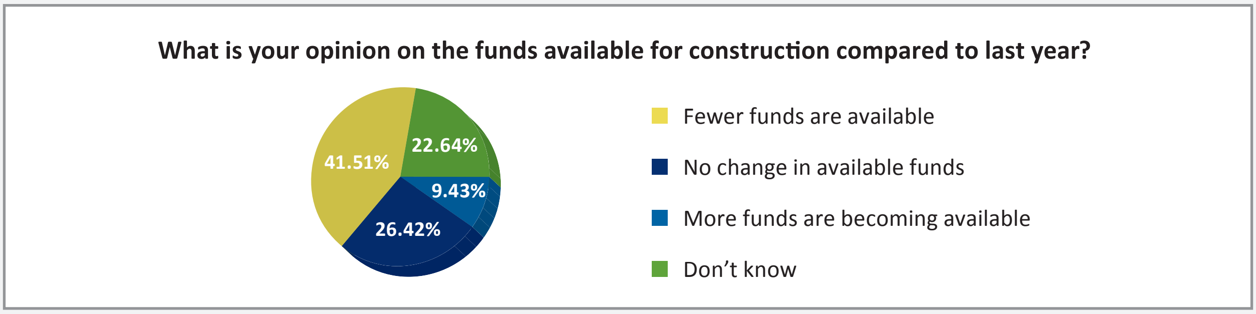
Source: U.S. Census Bureau

SURVEY ON PK-12 SCHOOL CONSTRUCTION









Survey Respondents: 106 PK-12 school districts responded to this survey among 42 states.

KEY TAKEAWAYS

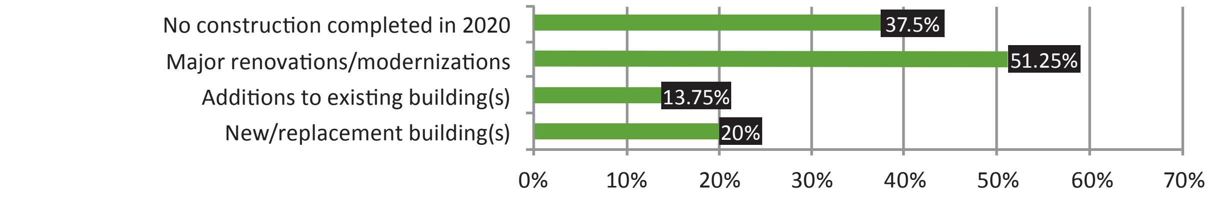
- 70.75% of respondents indicated their institution had completed construction in 2020, up from 59% in last year's survey.
- 53.2% of respondents indicated they will complete construction projects in 2021.
- 64.15% of districts reported they will start new construction projects in 2021. That's up from 56% in last year's survey.
- Major renovations/modernization projects and additions were the major focus of projects completed in 2020; renovations/modernization dominate plans for 2021.
- Districts that reported that fewer funds for construction were available jumped from 28% in 2019 to 41.41% in 2020.
- Most district-level respondents —67.93%— indicated they believe that there will either be no change or fewer funds available for construction projects in 2021.

OTHER ISSUES FACING INSTITUTIONS

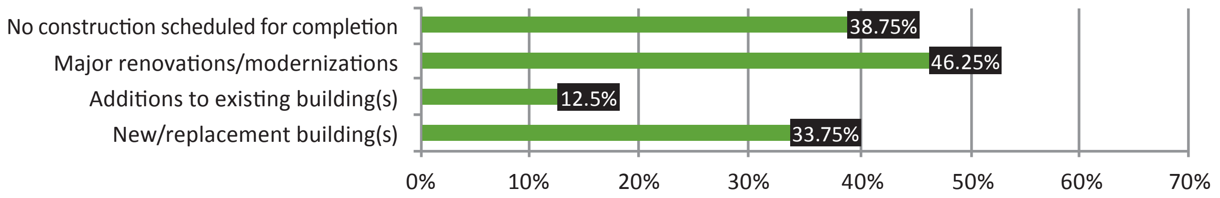
- Funding
- COVID-19-related restrictions
- Staffing issues related to COVID-19
- COVID-19-related delays in delivery of materials
- COVID-19-related interruptions of construction activities
- COVID-19-related factory shut-downs impacting the cost and availability of products
- Other slowdowns related to COVID-19
- Reluctance to issue bonds to voters
- Increased costs of supplies and goods
- Finding qualified bidders
- Finding suitable contractors
- Increased costs of construction
- Getting approvals for new construction
- Resolving purchase orders in a timely manner
- Trade shortages
- Permits and changing county requirements
- Scheduling problems
- Regulatory issues
- Too much emphasis on saving money versus building facilities that will have the greatest impact on students
- Difficulty in keeping up with rapid changes in technology
- Communication with IT departments
- Security needs
- Lack of space
- Poor prioritization

SURVEY ON COLLEGE AND UNIVERSITY CONSTRUCTION

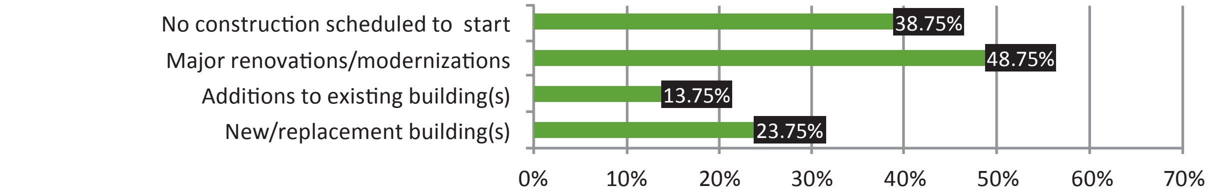
Did you COMPLETE any construction projects in 2020?



Will you COMPLETE any construction projects in 2021?



Will you START any construction projects in 2021?



What is your opinion on the funds available for construction compared to last year?

Survey Respondents: 80 colleges and universities responded to this survey among 34 states.

KEY TAKEAWAYS

- 62.5% of higher education respondents indicated their institution had completed construction in 2020, down from 71% in last year's survey.
- 61.25% of higher education respondents indicated they will complete construction projects in 2021, down from 75% in last year's survey.
- 61.25% of higher education respondents reported they will start new construction projects in 2021. That's down from 73% in last year's survey.
- Major renovations/modernizations were the major focus of projects completed in 2020; that will carry through in 2021.
- Institutions that reported that fewer funds for construction were available jumped from 28% in 2019 to 41.41% in 2020.
- 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.

OTHER ISSUES FACING INSTITUTIONS

- Project management
- Funding
- Code compliance
- Qualified technicians
- Availability of staff/staff shortages
- Material availability
- The bidding and procurement process
- COVID-19 impacting donations/giving
- COVID-19 forcing last-minute changes
- Coordinating subcontractors
- COVID-19 costs
- Unqualified bidders
- Uncertainty about physical requirements for campuses down the road/planning for space utilization post-pandemic
- Space for new constructions
- COVID-19 impacting timetables
- Escalating construction costs
- Administrative approvals
- Availability of parking
- COVID-19-related restrictions
- COVID-19-related delays in delivery of materials
- Supplier problems, in part related to COVID-19
- Communication
- The construction loan process