

ACEC Private Industry Brief

K-12 & Higher Education

Summer 2023

Market Scope

In 2022, the education market ranked fifth among non-residential design & construction spending at \$99 billion, accounting for 11% of total spending for the year, according to the U.S. Census Bureau, see chart in next column. The education market plays a critical role in educating the next generation and remains one of the largest markets by investment dollars. Project delivery types for K-12 and higher education sectors are expansive and could include classrooms, laboratories, campuses, student unions, dining centers, stadiums and arenas, mixed-use facilities, utility plants and related energy projects like EV infrastructure, parking facilities, student and faculty housing and affiliated healthcare institutions.

Top Clients

Key clients for engineering firms include private developers and concessionaires that enter into public-private-partnership (P3) contracts with colleges and universities. Other clients could include teaming opportunities with architecture led firms. Often architects prime or sign the contract for Design-Bid-Build (DBB) contracts, a "traditional" project delivery type. Below is a list of the top AE firms by sector that could be potential contract primes.

Rank	K-12 AE Firms	University AE Firms
1	PBK	Gensler
2	DLR Group	CannonDesign
3	Huckabee	SmithGroup
4	Stantec	Perkins and Will
5	VLK Architects	Ayers Saint Gross
6	World Architects & Engineers	Skidmore, Owings & Merrill
7	LPA	Kohn Pederson Fox Associates
8	Perkins and Will	Perkins Eastman
9	Perkins Eastman	DLR Group
10	Corgan	Shepley Bulfinch

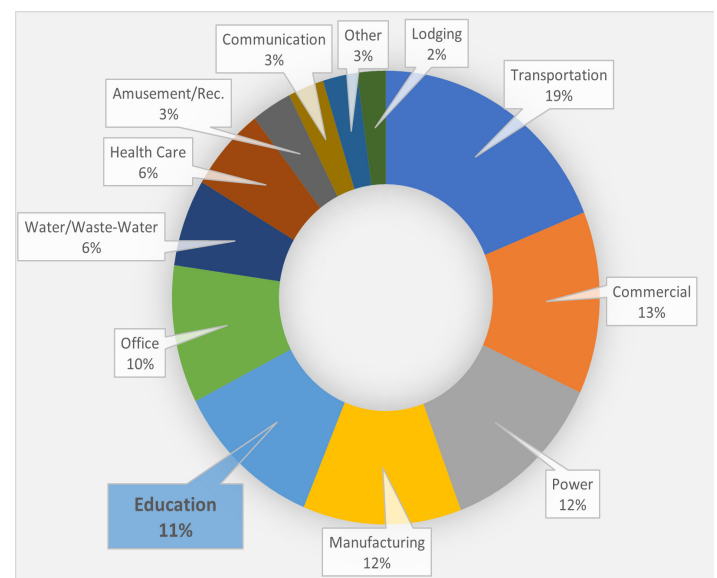
Source: BD+C Giants 2022 Report

5 Current Market Trends

- **1. Stable Growth Through 2027:** Industry reports are all pointing to stable growth over the next five years for K-12 and higher education market sectors. FMI's Q2 2023 Outlook projects a 4% increase for construction put-in-place, making the education market worth \$104 billion. After five years of stable year-over-year increases of 2-4%, the market is expected to be valued at \$117 billion. According to the ACEC Research Institute's Q2 2023 Sentiment Survey, which measures the performance in the engineering and design services industry, 67% of respondents had a positive sentiment for the education market, 57% expect the education market to remain stable for the next 12 months and 27% expect it to improve.

Continued on next page.

2022 Non-Residential Design & Construction Spending



Source: U.S. Census Bureau

Current Market Trends, *continued*

► **2. Declining Birthrates Impact Enrollment:** Annual birth rates declined 20% from 2007 to 2020, continuing a downward trend as seen during The Great Recession, see chart below. This reporting period is significant because children born during this period should be entering their school age years. A drop in birthrates reflects a decline in population growth, confirmed by a drop in preschool enrollment that has not returned to its pre-pandemic levels. NYU Grossman School of Medicine also reported that there were 18 fewer births per 100,000 women per month than pre-pandemic months. Gen Z fertility rates have also dropped 10% from 2009 to 2013 due to mental health, financial stability, and personal goals. (Source: DC, Econfact, U.S. Census Bureau, and Brookings Institution, Annie E. Casey Foundation)

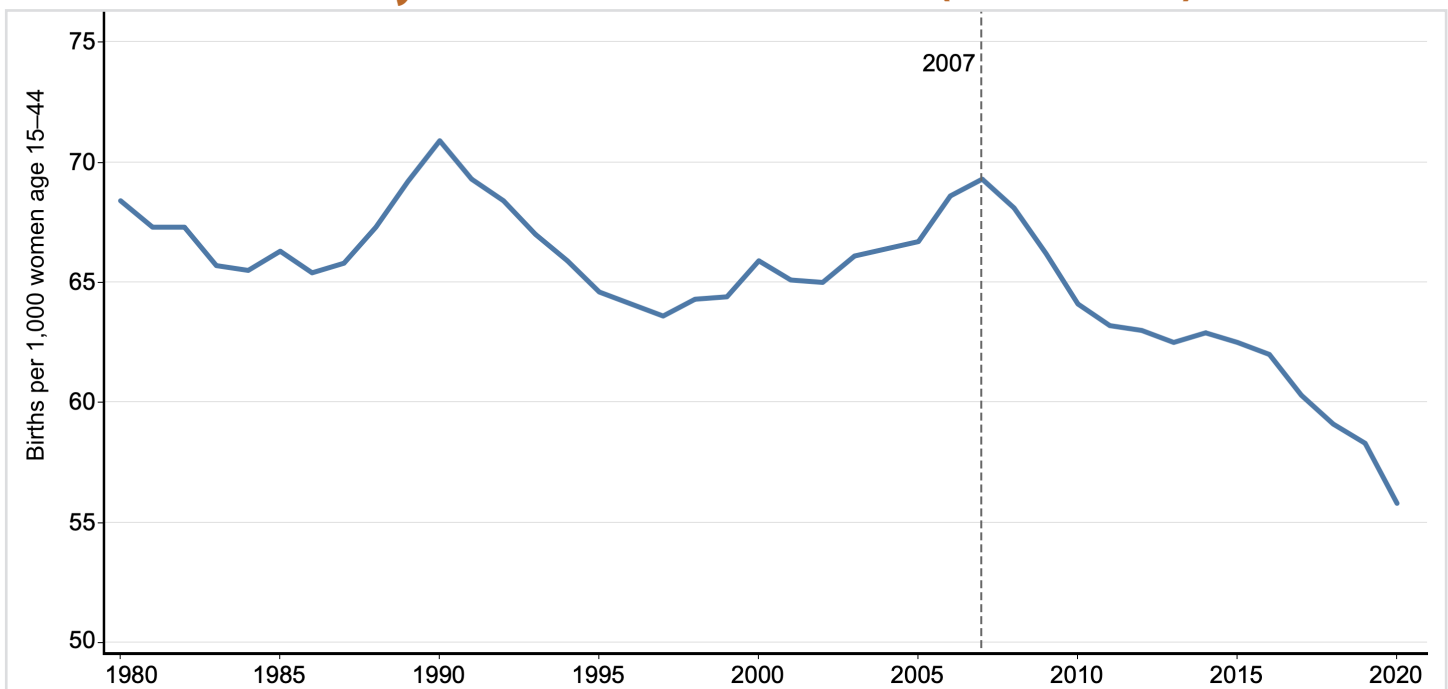
► **3. BIL Funds Climate Resilience & Broadband:** The Bipartisan Infrastructure Law (BIL) allocated approximately \$47 billion to climate-change resilience efforts for higher education facilities located in flood zones, or near storm hazards. Therefore institutions, consortiums and P3's could apply for up to \$500 million in grants for its campuses. Additional funding is allocated as follows:

- Broadband: \$65 billion for "community anchor institutions" (CAIs). Per, the [National Telecommunications and Information Administration](#), a CAI is "a school, library, medical or healthcare provider, community college or other institutions of higher education."
- Transportation: \$5 billion over 5 years to replace school buses with zero-emission models, creating EV infrastructure opportunities. (Source: The White House)

► **4. Adaptive Re-use Promotes STEM Education:** According to the Bureau of Labor Statistics, civil engineering employment is forecasted to increase 7% from 2021 to 2031 with 24,000 additional job openings projected each year during the same period. Attention is called to educating the next generation of engineers. A new trend to address this need is the adaptive re-use of space including grocery stores, industrial sites, shopping malls, churches, and office space. A few examples include the Dan and Cassidy Towriss IDEA Space, a former grocery store converted into a 60,000 SF incubation hub for K-12 students focusing on engineering, manufacturing, and computer science and the P.R. Mallory Campus. An old smokestack factory industrial site that was turned into a high school campus for technology innovation, science, and engineering. (Sources: BD+C and The New York Times)

► **5. Mass Timber Trending in Higher Ed:** Mass timber is the latest design alternative that can provide cost benefits, sustainable solutions, and shorten construction schedules. According to Mass Timber Schools 2022 Report, using mass timber can increase project delivery time by up to 25%. As of June 2023, WoodWorks reported that 1,860 projects in the U.S. used mass timber. In addition, California Energy Commission Public Interest Energy Research (PIER) reported students benefit as well. PIER reported that 20% of students had a better math learning rate and 26% improved reading rate due to increased daylighting provided by mass timber. It also provides lower vibration levels, easier installation processes, and easier access for HVAC and mechanical systems.

Yearly Trend in U.S. Birth Rates (1980 - 2021)



Source: CDC & Econfact.org

Government Affairs

► For FY 2021 93% or \$810 billion of elementary and secondary education was funded by a combination of state and local funds. Federal funding accounted for the other 7%. The Council supported this legislation to add public buildings to the list of facilities that qualify for private activity bonds impacting the education market:

✓ **Public Buildings Renewal Act:** \$5 billion in private activity bonds for state and local governments to support the design and construction of schools, court houses, libraries, and other public buildings, providing needed infrastructure funding and encouraging P3's.

► State funding is determined by per-pupil spending. The national average for FY 2021 was \$14,347, according to the U.S. Census Bureau. This was the largest year-over-year increase since 2008, up 6.3%. States that have higher spending per student often have access to improved infrastructure. Here are the top ten states that spend the most on their education budgets per-pupil:

Rank	State / District	Spending Per-Pupil FY 2021
1	New York	\$26,571
2	District of Columbia	\$24,535
3	Vermont	\$23,586
4	Connecticut	\$22,769
5	New Jersey	\$22,160
6	Massachusetts	\$20,376
7	Alaska	\$19,540
8	New Hampshire	\$19,443
9	Rhode Island	\$18,366
10	Illinois	\$18,316

Source: U.S. Census Bureau

► State revenue streams are the largest contributor to public education spending however they are most volatile during economic downturns. During a recession, school districts could look to federal funding. Federal education funding includes:

✓ **Every Student Succeeds Act (ESEA), Title 1:** \$27.7 billion (FY 22) in grants for districts with low-income students, textbooks and library books and special education centers and scholarships.

✓ **Disabilities Education Act (IDEA), Part B:** \$11.6 billion in grant funding for states based on a state's population living with disabilities, living in poverty and appropriations.

Business Development Insight

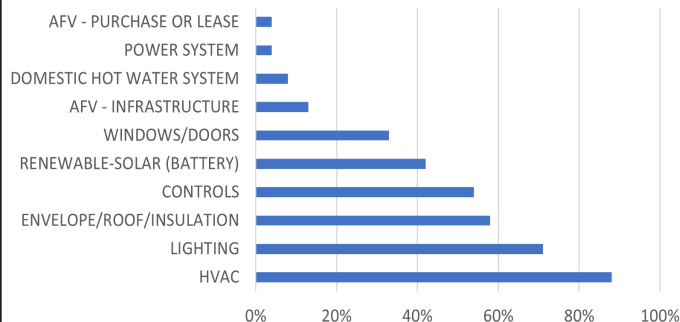
DOEs "Renew America's Schools" Funds K-12

The Renew America's Schools program is funded with \$500 million through the BIL. During the first round of funding, the U.S. Department of Energy (DOE) offered grants through a competitive award process to upgrade infrastructure at K-12 public school facilities. Due to high demand the initial \$80 million approved for grants were increased to \$178 million and was awarded to 24 states. Projects focused on:

- Energy Improvements, (see page 4)
- Improvements to Building Envelope,
- HVAC,
- Renewable Energy Technologies (solar panels and batteries) and,
- EV Related Infrastructure.

See graph below for the contents of requested improvements. According to the Office of State and Community Energy Programs, HVAC accounted for 88% of requested improvements and the "electrification transition" was present in 15 of the 24 project requests.

Renew America's Schools Requested Improvements



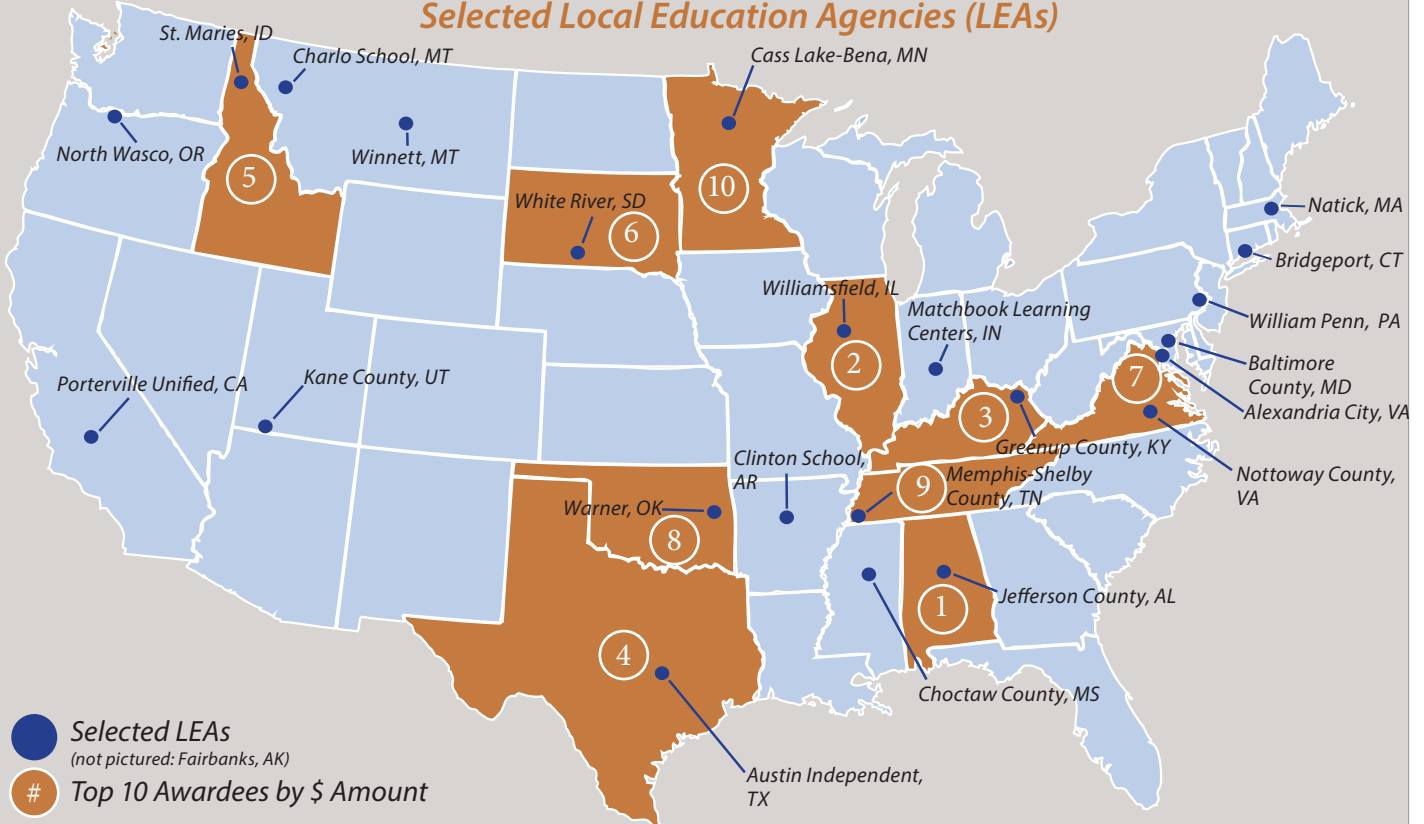
Source: U.S. DOE

Awards were selected through Local Education Agencies (LEAs). A LEA a public board of education or other public authority within a state that oversees public or secondary schools. See the map on page 4 for awardees by state and the top ten awardees by dollar amount.

A second round of funding is expected in spring 2024. For more information visit: <https://www.energy.gov/scep/renew-americas-schools>

Renew America's Schools Grant Program

Selected Local Education Agencies (LEAs)



Source: U.S. DOE

Alternative Fuel Infrastructure

The \$178 million allocated to the Renew America's Schools grant program will also include **energy improvements** for local education agencies (LEA's). According to the DOE this will include the installation of alternative fueling or charging infrastructure on school property for buses and school fleet vehicles.

Alternative fuels could include EV's, hydrogen fuel cells, natural gas, plug-in-hybrid electric vehicles (PHEV's) or propane (LPG). Here is a list of potential clients ranked by market capitalization (the value of the company per the stock market):

Rank	Company	Market Cap	Headquarters
1	Tesla	\$756.08 B	Austin, TX, USA
2	ChargePoint	\$2.75 B	Campbell, CA, USA
3	NaaS Technology	\$1.38 B	Huzhou, China
4	EVgo	\$1.29 B	Los Angeles, CA, USA
5	Allego	\$0.65 B	Arnhem, Netherlands

Source: CompaniesMarketcap.com

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