

ACEC Private Industry Brief

Economic Outlook

Q2 2020 Review & Updated Outlook



Introduction

For the A/E industry 2020 started off very strong. Firm revenues reached nearly \$90B in the fourth quarter of 2019—an all-time high—and that pace continued into March 2020, according to U.S. Census Bureau estimates (see chart on page 3).

Few predicted a global public health crisis, caused by a new coronavirus called COVID-19, would suddenly halt the longest economic expansion on record, and that the resulting decline would be so sharp. In this issue of ACEC's *Private Industry Briefs* we look at the emerging macroeconomic trends during this unprecedented recession, document indicators most relevant to our industry, and review Q2 2020 data and revised market outlooks.

Sources for the Q2 2020 Review & Updated Outlook include:

U.S. Census Bureau, National Association of Business Economics, FMI, Board of Governors of the Federal Reserve System, U.S. Bureau of Economic Analysis, U.S. Bureau of Labor Statistics, U.S. Department of Housing and Urban Development, American Institute of Architects, Associated Builders and Contractors, University of Michigan, Husch Blackwell, *Engineering News-Record*, and the Federal Funds Information for States.

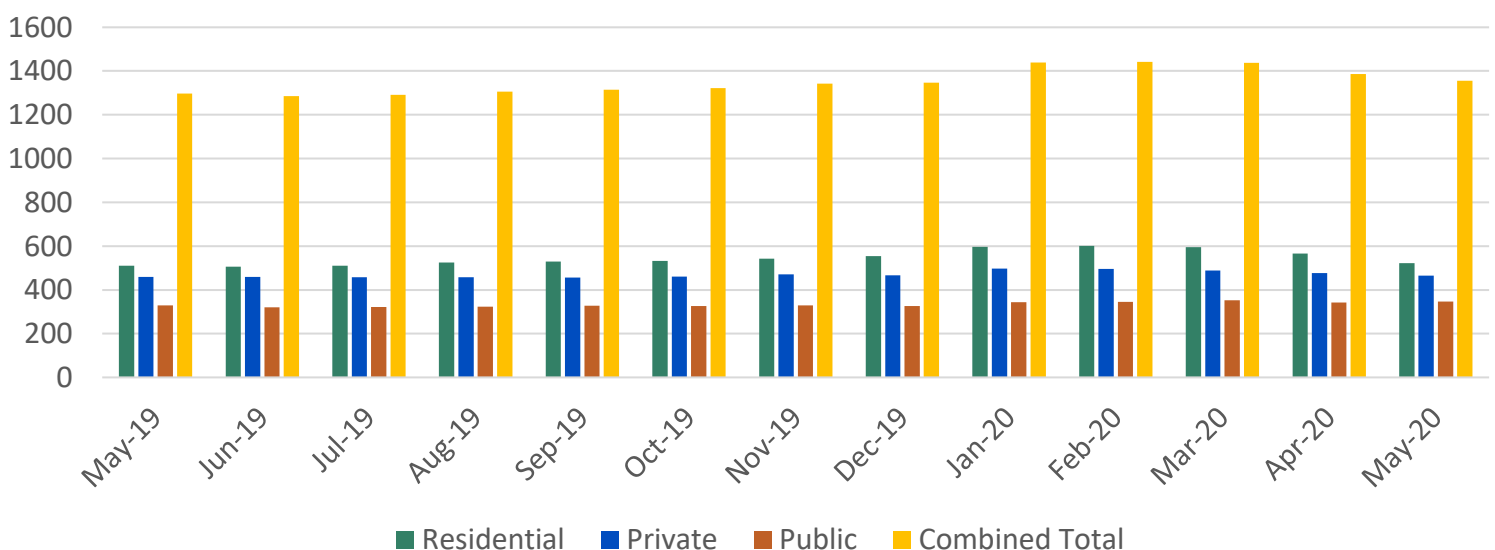
5 Macroeconomic Trends for 2020

▶ 1. A "U-Shaped" Recovery Most Likely:

As the global coronavirus pandemic continues into the third quarter of 2020, economists predict that a "V-shaped" recovery—with a quick "bounce back" to pre-pandemic levels of economic activity—is increasingly unlikely. Keeping the virus in check is still very much a challenge, and the need for social distancing—including possible stay-at-home orders—although necessary, will have an economic impact. The National Association of Business Economics (NABE) June 2020 Outlook shows 80% of economists surveyed view either a vaccine or a comprehensive testing/tracing program as the greatest upside risks to the economy (see chart on page 3). With neither of these imminent, forecasters are seeing a longer recovery. NABE Outlook panelists expect real GDP to decline 5.9% in 2020, and rising

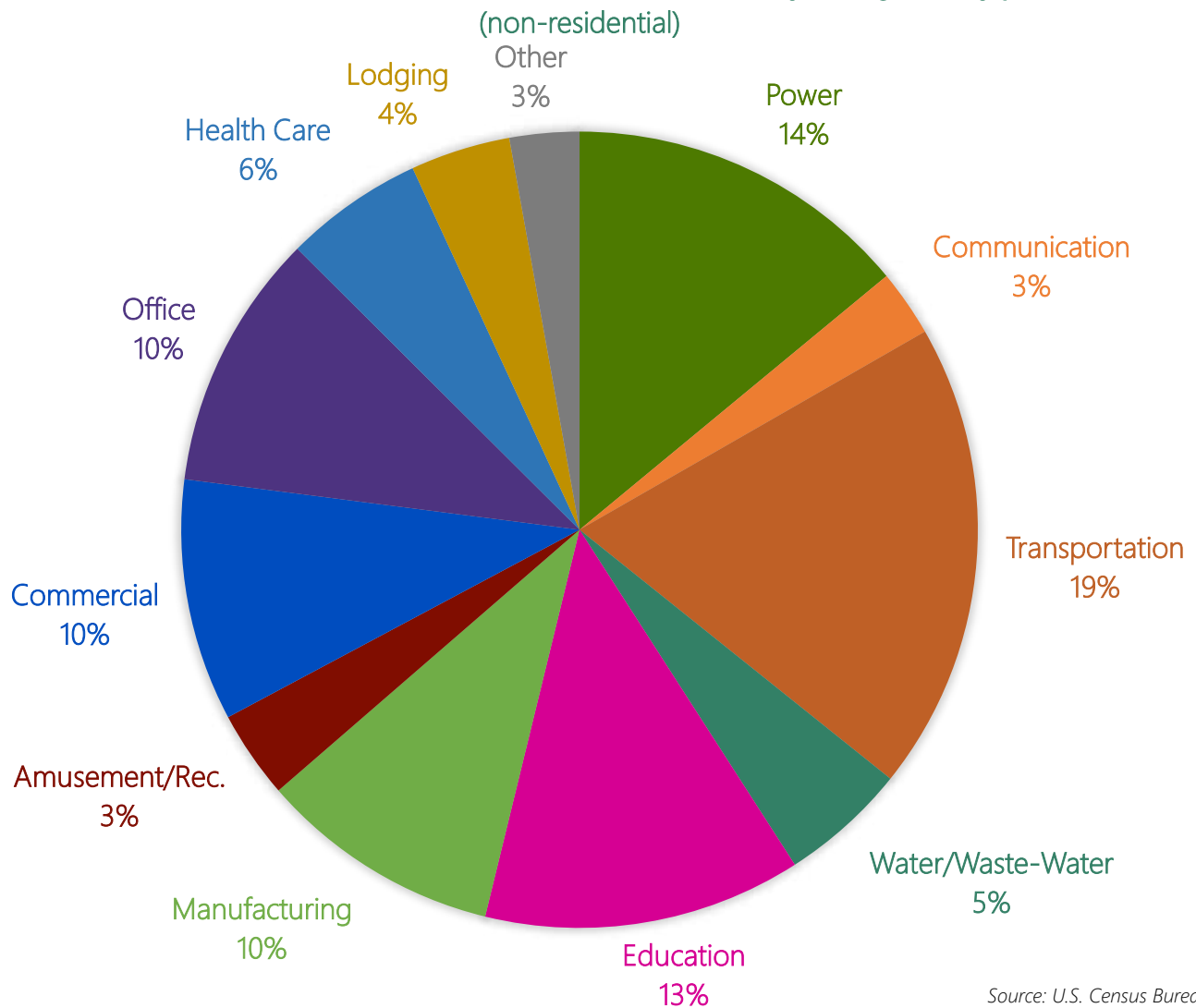
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U.S. Construction Put in Place, May 2019-May 2020
(in billions \$)



Source: U.S. Census Bureau

2019 U.S. Construction Put in Place by Project Type



Source: U.S. Census Bureau

5 Macroeconomic Trends for 2020

continued

only 3.6% in 2021—indicating more of a “claw back” than a “bounce back”. Nearly 90% of the economists surveyed believe the U.S. economy will not return to its pre-COVID-19 level until at least the second half of 2021. FMI also forecasts a “U-shaped” trend in the design and construction markets with a 9% overall decline in 2020, followed by further declines in subsequent years (see pages 4-7).

▶ 2. Federal Stimulus is Key:

Congress acted quickly at the outset of the crisis, passing the Coronavirus Aid, Relief, and Economic Security Act (CARES Act), which provided relief to individuals and companies in the form of unemployment benefits, stimulus checks, and the Paycheck Protection Program. However, many of these measures had a short-term effect—and federal policymakers are now being called upon to enact further stimulus measures, including providing extended unemployment benefits and aid to state and local governments.

▶ 3. Consumers Drive the U.S. Economy:

Nearly 70% of U.S. economic activity is dependent on consumer spending, which is why a global health crisis requiring social distancing has had such an immediate and dramatic impact. A full recovery is unlikely until people are confident they can remain healthy while engaging in a broad range of activities such as shopping, traveling and dining out.

“While the recent economic data offer some positive signs, we are keeping in mind that more than 20 million Americans have lost their jobs, and that the pain has not been evenly spread. The rise in joblessness has been especially severe for lower-wage workers, for women, and for African Americans and Hispanics. This reversal of economic fortune has caused a level of pain that is hard to capture in words as lives are upended amid great uncertainty about the future.”

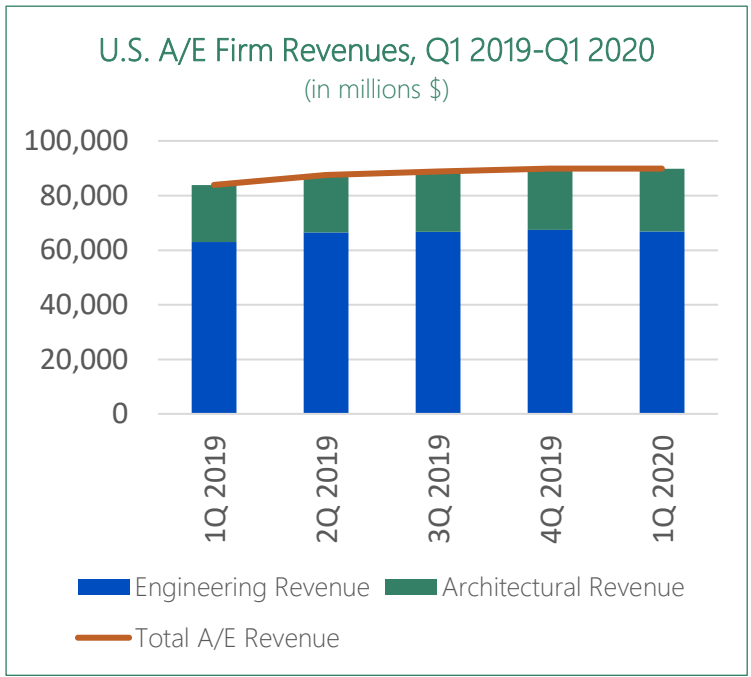
-- Federal Reserve Board Chair Jerome Powell before the Committee on Financial Services, U.S. House of Representatives, June 30, 2020

5 Macroeconomic Trends for 2020

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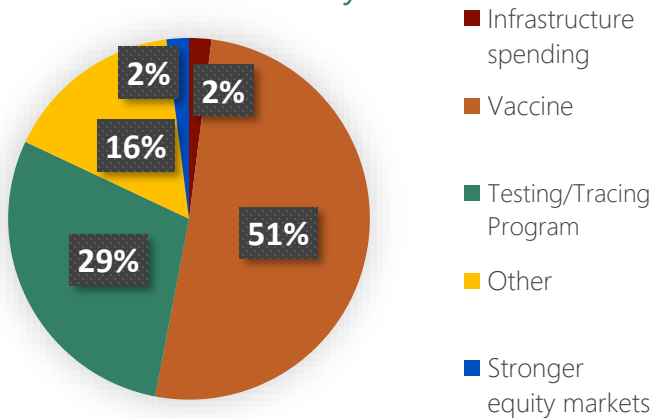
▶ **4. Private Markets First to Decline, Public Following:**
 Markets critical to consumer spending and travel were the first and hardest hit, with the sectors of commercial/retail, lodging, and amusement/recreation expected to decline most significantly this year, according to FMI. The decline of public markets is lagging, as states and municipalities are just beginning to feel the impact of declining revenues from gas, sales and income taxes.

▶ **5. Future Design Impacts Stemming from Pandemic:**
 A socioeconomic crisis such as COVID-19 is sure to have a significant impact on future urban, site and building design—and we are already theorizing what these may be, including: less office space needed as employees work from home; a desire for suburban and rural living with greenspace; a decreased emphasis on education facilities as classes move online; or even a reduced demand for public transit.



Source: U.S. Census Bureau

Macroeconomic forecasters were asked:
 What is the greatest upside risk to the economy?



Source: National Association for Business Economics, June 2020

2020 A/E Revenues Started Strong Before Recession Began

The U.S. Census Bureau's 'preliminary estimate' of total A/E revenues for Q1 2020 are \$89.86B, just a slight decline from the Q4 2019 revenues of \$89.93B, which was an all-time high and now represents the economic peak for the A/E industry.

The first quarter numbers for this year showed a 7% increase over Q1 2019, which measured \$83.92B in A/E revenues.

Although not yet released, the Q2 2020 A/E revenues are expected to show a sharp decline since the recession took hold after coronavirus-related shutdowns began in March, at the end of this year's first quarter.

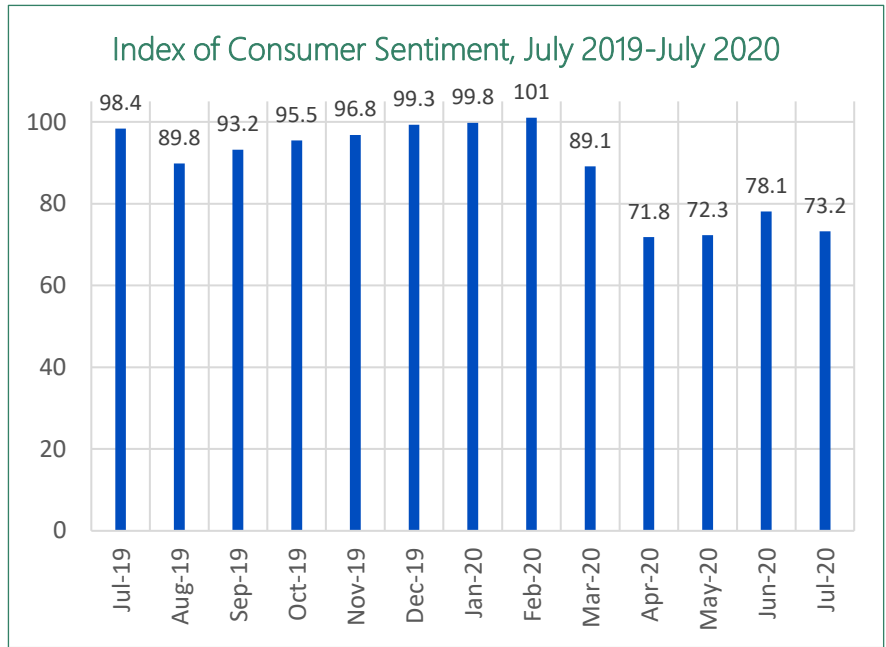
Macro & Industry Indicators	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020
Gross Domestic Product (GDP) Growth	2.0%	2.1%	2.1%	-5.0%	Not yet available
Core Inflation Rate (2% is target)	2.1%	2.3%	2.3%	2.3%	1.3%
Unemployment Rate	3.6%	3.6%	3.5%	3.8%	13.0%
New Housing Units Authorized (seasonally adjusted annual rate)	1.31M	1.43M	1.49M	1.44M	1.17M
A/E/C Industry Economic Indicators					
Architecture Billings Index (AIA)*	49.9	52.7	52.6	46.3	30.8**
ABC Construction Backlog Indicator	8.8 mos.	8.8 mos.	8.7 mos.	8.4 mos.	7.9 mos.
FMI Construction Industry Round Table (CIRT) Index*	65.0	64.9	57.6	63.6	21.6
FMI Design Index*	70.1	63.2	60.9	62.7	39.8

*Index scores over 50 indicate expansion; below 50 indicate contraction.
 **Number is an average of April and May only; June is not yet available.

Sources: U.S. Bureau of Economic Analysis, U.S. Bureau of Labor Statistics, U.S. Census Bureau, U.S. Department of Housing and Urban Development, AIA, ABC & FMI

Consumer Behavior Drives U.S. Economy, Commercial Design

The U.S. economy started becoming consumer-focused as early as the 1920s when the middle class began emerging. However the current level of consumer spending, which accounts for about 70% of U.S. economic activity, really began in the 1980s. As a result of this heavily consumer-driven economy, the service and retail sectors grew considerably, greatly impacting urban and building design, and elevating the importance of the “third space” (social spaces outside of homes or workplaces, such as a coffee shop). The importance of commercial spaces and the social experiences we have in them is significant; how the coronavirus pandemic will change consumer attitudes, and therefore design of such spaces, is largely to-be-determined. Consumer sentiment is an economic indicator to watch closely (see table to the right), as it will likely offer clues to changes in our economy, and to the public’s desire to fully interact once again in the “third space”.



Source: University of Michigan

2020 Outlook by Market Sector

Largely due to the coronavirus pandemic and the resulting recession, total engineering and construction spending is expected to be down 9% in 2020, compared to zero percent growth in 2019, according to FMI. The following table and subsequent three pages detail the expected decreases by market sector, both for this year and through 2024. Market sectors with the greatest declines include those most sensitive to consumer spending, travel, and socializing. In addition, the multi-family residential market—largely thought to be overbuilt after the last recession—is expected to drop sharply. The only two markets with expected gains in the next several years are communication and transportation, however no markets are expected to grow in 2020 (detailed in table below).

↑ Up (5% growth or more)	➡ Stable (0-4.9% growth)	↓ Down (less than 0% growth)
No markets	No markets	<ul style="list-style-type: none"> Communication (0%) Highway & Street (-3%) Public Safety (-4%) Transportation (-4%) Conservation & Development (-6%) Water/Wastewater (-6%) Educational (-7%) Health Care (-7%) Office (-7%) Power (-7%) Manufacturing (-8%) Single-family Residential (-10%) Commercial (-15%) Lodging (-15%) Amusement/Recreation (-17%) Multi-family Residential (-17%)

Source: FMI

Commercial & Residential Real Estate

Key drivers/trends:

- Growth of the industrial/distribution market due to e-commerce, often in unexpected urban locations
- 'Retail apocalypse' with stores closing and adaptive reuse of properties
- Focus on limiting buildings' energy usage and carbon emissions
- Decline of the multi-family market
- Expected growth of suburbs and second-tier cities in part due to coronavirus pandemic

Market Scope: The commercial and residential real estate market is 'vertical' in nature and contains a variety of commercial and residential real estate property types, including: office; industrial; retail; multi-family residential, including student and senior housing; and hospitality. Clients are typically developers and owner-users, such as large retailers. A wide range of engineering services are provided to these clients, including mechanical/electrical/plumbing (MEP), structural, site-civil, surveying, geotechnical, and environmental services. Land development-focused firms also include residential home builders as major clients.

Key: a=actual, e=estimate, f=forecast



Construction Put in Place <i>Forecast by market segment</i>	2019a	2020e	2021f	2022f	2023f	2024f	Change 2019- 2024f
Commercial	\$80.44B	\$72B	\$63B	\$58B	\$61B	\$66B	-18%
Office	\$84.86B	\$74B	\$62B	\$56B	\$58B	\$61B	-28%
Lodging	\$33.07B	\$28B	\$22B	\$19B	\$20B	\$22B	-33%
Amusement & Recreation	\$28.80B	\$23B	\$18B	\$17B	\$17B	\$19B	-34%
Residential (single, multi & improvements)	\$550.94B	\$465B	\$359B	\$390B	\$412B	\$439B	-20%

Sources: U.S. Census Bureau & FMI

Intermodal & Logistics

Key drivers/trends:

- Infrastructure challenges related to urban locations and 'last mile' delivery needs
- Growth of Southeastern U.S. ports and their connections
- New inland ports emerging, along with increased investment in rail
- Trade policy issues and recession may hamper growth considerably
- E-commerce continues to be a strong driver

Market Scope: The intermodal and logistics market is a dynamic one, with various types of facilities, including marine terminals, rail terminals, depots and container yards, inland ports, freight airport terminals, and industrial real estate located adjacent to intermodal facilities. Many facilities are like mini-cities, and a wide range of engineering design services are required for their creation and expansion, including land development, transportation, mechanical/electrical/plumbing, structural, environmental, geotechnical, and water-related design. With more than 2,200 facilities, the North American intermodal market is the largest in the world.

Key: a=actual, e=estimate, f=forecast



Construction Put in Place <i>Forecast by market segment</i>	2019a	2020e	2021f	2022f	2023f	2024f	Change 2019- 2024f
Manufacturing	\$80.08B	\$68B	\$59B	\$58B	\$62B	\$66B	-18%
Transportation (buildings)	\$57.14B	\$52B	\$48B	\$47B	\$49B	\$51B	-11%

Sources: U.S. Census Bureau & FMI

Energy & Utilities

Key drivers/trends:

- Sharp decline in oil market in Spring 2020, with volatility expected to continue
- Decreasing demand for energy due to sharp drop in economic activity
- Focus on energy efficiency goals driven by 'Green New Deal'-type city and state policies; a national political change in 2020-2021 could shift priorities more broadly
- Pre-recession, both solar and wind were growing to meet electricity demand

Market Scope: The energy and utilities market was estimated to be \$29 billion, resulting in 28% of A/E revenues for *Engineering News-Record (ENR)* Top 500 firms in 2019. Many firms count oil and gas companies, as well as utilities, as major clients. Typically working under a Master Services Agreement or similar type of contract, a wide range of engineering services are provided to these clients, including: civil, mechanical/electrical, structural, environmental, geotechnical, and water-related design. Energy and utility clients are also significant buyers of surveying and mapping services because their projects often span large geographies.

Key: a=actual, e=estimate, f=forecast



Construction Put in Place <i>Forecast by market segment</i>	2019a	2020e	2021f	2022f	2023f	2024f	Change 2019- 2024f
Power	\$113.89B	\$93B	\$86B	\$85B	\$89B	\$95B	-17%
Communication	\$22.24B	\$23B	\$24B	\$25B	\$26B	\$27B	+11%
Sewage & Waste Disposal	\$26.09B	\$25B	\$22B	\$22B	\$23B	\$23B	-12%
Water Supply	\$15.88B	\$16B	\$14B	\$13B	\$14B	\$14B	-12%

Sources: U.S. Census Bureau & FMI

Health Care & Science+Technology

Key drivers/trends:

- Worldwide focus on a coronavirus vaccine shines a light on the biopharma and science and technology (S+T) industries
- Demographic drivers with growth of 65+ population due to aging baby boomers
- Increase of telehealth
- 'Retailing' of health care through CVS Minute Clinics and adaptive reuse of mall space to healthcare space
- Expected demand for changes in HVAC design due to pandemic

Market Scope: The health care (HC) and science+technology (S+T) markets are generally considered 'recession-proof' due to an aging population, and this is a theory that will be put to the test in the coming years. Health care construction grew to more than \$45B in 2019 with major clients for firms being more than 600 health care systems and 6,000 hospitals are in the United States. Besides hospitals, facility types include outpatient centers and medical office buildings (MOBs) as well as laboratory, production and administrative space for pharmaceutical, biotechnology, and university clients. A wide range of engineering services are provided to these clients, often with specialized needs related to mechanical/electrical, HVAC and commissioning.

Key: a=actual, e=estimate, f=forecast



Construction Put in Place <i>Forecast by market segment</i>	2019a	2020e	2021f	2022f	2023f	2024f	Change 2019- 2024f
Health Care	\$45.56B	\$41B	\$38B	\$38B	\$39B	\$40B	-12%

Sources: U.S. Census Bureau & FMI

Public Sector & P3s

Key drivers/trends:

- Tax revenues from gas, sales, and income taxes expected to drop sharply due to shutdowns and recession
- Need for federal stimulus directed strategically to state and local governments, who for the most part cannot run deficits
- Highway and street funding expected to be a bright spot in the coming years, with a once-expected decrease in car usage likely not to trend as quickly due to pandemic
- The education market (which is the second largest overall by annual construction put in place value) may transform due to financial constraints and focus on virtual classrooms

Market Scope: The public market is significant for engineering firms and involves federal, state, and municipal clients. Projects are of course both 'horizontal' and 'vertical' in nature, ranging from K-12 schools and public universities; roadways, bridges, airports and transit facilities; civic and public safety buildings, which includes police and fire stations; as well as water/wastewater facilities and dams. Environmental, stormwater management and flood mitigation services are also increasingly in-demand by public clients.

Key: a=actual, e=estimate, f=forecast



Construction Put in Place <i>Forecast by market segment</i>	2019a	2020e	2021f	2022f	2023f	2024f	Change 2019- 2024f
Educational	\$105.37B	\$91B	\$86B	\$85B	\$87B	\$90B	-15%
Highway & Street	\$97.56B	\$96B	\$97B	\$102B	\$102B	\$104B	+7%
Public Safety	\$10.53B	\$10B	\$10B	\$10B	\$9B	\$9B	-15%
Conservation & Development	\$9.13B	\$9B	\$7B	\$7B	\$8B	\$8B	-12%

Sources: U.S. Census Bureau & FMI

2019 Significant P3 Financial Closings:

1. Austin Soccer Stadium (TX)
2. Belle Chasse Bridge and Tunnel Replacement (LA)
3. Fiberight Waste Processing Plant (ME)
4. I-95 Express Lanes Fredericksburg Extension (VA)
5. Michigan State University Grand Rapids Research Center
6. Newark Liberty International Airport Consolidated Rental Car Facility (ConRAC) (NJ)
7. Port Everglades Regional Logistics Center (FL)
8. Travis County Courthouse (TX)
9. University of Texas at Dallas – Northside Phase 3
10. University of Texas at Dallas – Northside Phase 4

Source: Husch Blackwell

P3-Delivered Projects Continue Diversification, Including "Social Infrastructure"

Use of the public-private partnership (P3) delivery method for financing, designing and constructing infrastructure continued at a steady pace in 2019.

P3 project delivery continues to be a desirable option for large projects—those with total costs in excess of \$125 million—as well as a variety of project types beyond transportation, including "social infrastructure", broadband projects and water/wastewater facilities. ('Social infrastructure' is a term the P3 community generally uses for building projects, including health care, education, housing, and civic facilities.)

The third annual *Public-Private Partnership Report* (Husch Blackwell, March 2020) details major P3 projects that financially closed in 2019, with the top ten listed to the left. It is interesting to note that these projects go well-beyond toll roads, and include industrial, aviation, justice, and educational projects. Besides there not being one dominant project type in recently awarded P3s, the trend continues to diversify away from projects only having traditional "user" revenue streams, such as from tolls or student housing fees.

Index of State Economic Momentum

The Index of State Economic Momentum is a quarterly measure of economic vitality which accounts for growth of personal income, employment and population. The measures of these three components are averaged, the national average is 'zero' and each state's momentum is listed as a percentage above or below the national average (see table to right).

This Q2 2020 report is notable because it quantitatively reflects how the states that were initially impacted by COVID-19 (located mostly in the Northeast), had to resort to business shutdowns to mitigate spread of the virus, and so were negatively impacted at the time. It will be interesting to see how states fall in future quarterly reports as infection rates and public health policies rise and change in other U.S. geographies.

Source: *State Policy Reports* by the Federal Funds Information for States (FFIS)

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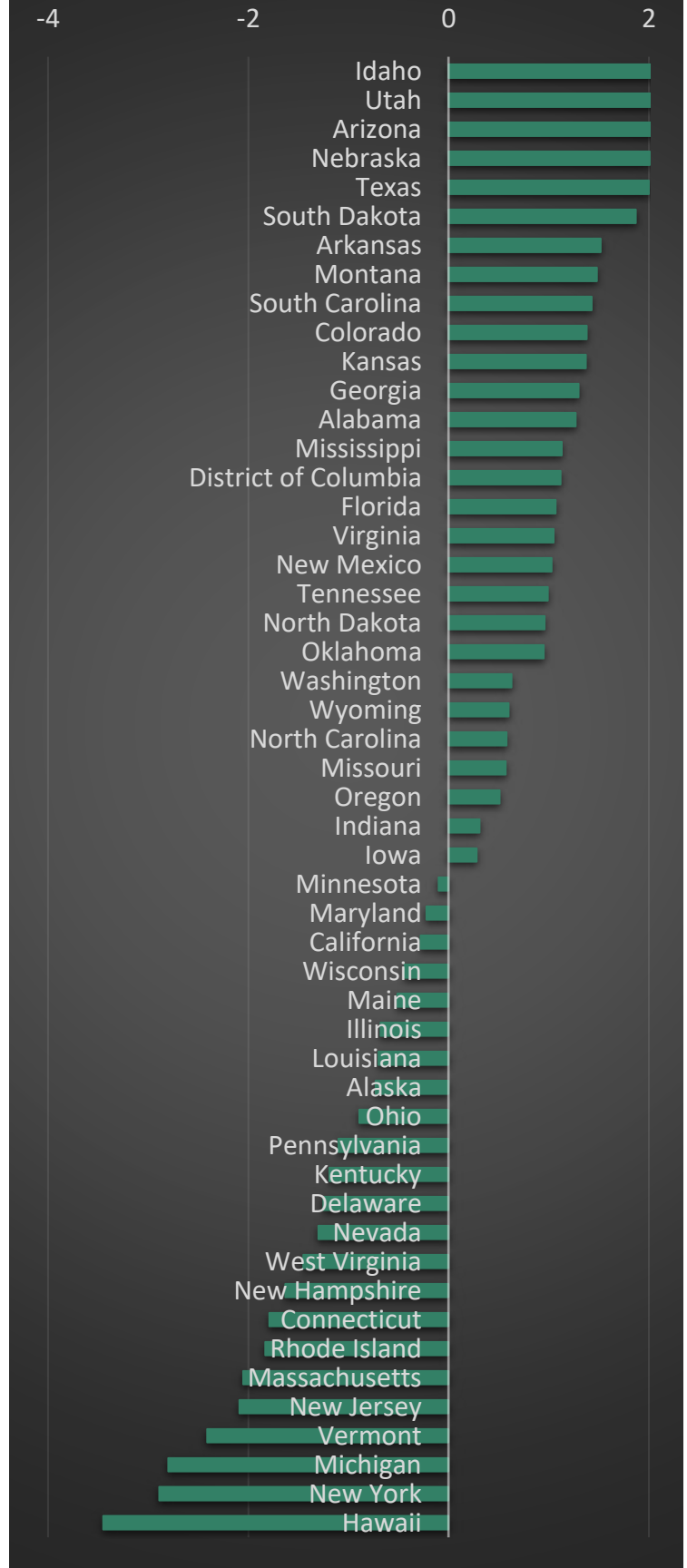
Economic Reviews & Updates

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ACEC's Private Industry Briefs include annual updates of four key markets, as well as quarterly economic reviews. Further coverage can be found in *Engineering Inc.*'s regular column 'The Private Side.'

Index of State Economic Momentum – Q2 2020



Source: FFIS