AGC San Antonio Chapter, January 15, 2020

U.S., Texas & San Antonio Construction Outlook

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Construction spending, 1/06-11/19

trillion $, seasonally adjusted annual rate; not inflation-adjusted

11/19 Change from

<table>
<thead>
<tr>
<th></th>
<th>11/18</th>
<th>Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>4.1%</td>
<td>-0.8%</td>
</tr>
<tr>
<td>Private</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential</td>
<td>2.7%</td>
<td>-20.9%</td>
</tr>
<tr>
<td>Private</td>
<td>0.2%</td>
<td>-2%</td>
</tr>
<tr>
<td>Nonresidential</td>
<td>12.4%</td>
<td>-0.2%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau

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AGC members’ expectations for 2020
(956 US total /84 TX-based respondents)

<table>
<thead>
<tr>
<th>Net % who expect dollar value of projects to be higher (US total/TX-based respondents)</th>
<th>Water/Sewer</th>
<th>Higher Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>25%/42%</td>
<td>16%/34%</td>
<td></td>
</tr>
<tr>
<td>Bridge/Highway</td>
<td>11%/26%</td>
<td>Multifamily Residential</td>
</tr>
<tr>
<td>K-12 school</td>
<td>11%/29%</td>
<td>Manufacturing</td>
</tr>
<tr>
<td>Hospital</td>
<td>10%/18%</td>
<td>Public Building</td>
</tr>
<tr>
<td>Transportation (e.g., transit, rail, airport)</td>
<td>10%/21%</td>
<td>Retail, Warehouse, Lodging</td>
</tr>
<tr>
<td>Power</td>
<td>8%/18%</td>
<td>Private Office</td>
</tr>
<tr>
<td>Federal (e.g., VA, GSA, USACE, NAVFAC)</td>
<td>17%/32%</td>
<td>Note: Net = % who expect dollar value to increase - % who expect decrease in 2020</td>
</tr>
</tbody>
</table>

Source: AGC 2020 Outlook Survey, Dec 2019
### Nonresidential spending by segment
#### 2018 & 2019 year-to-date change; 2020 forecast

<table>
<thead>
<tr>
<th>Segment</th>
<th>2018 vs. 2017</th>
<th>Jan-Nov 2019 vs. Jan-Nov 2018</th>
<th>2020 forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonresidential total (public+private)</td>
<td>3.7%</td>
<td>2.5%</td>
<td>0-4%</td>
</tr>
<tr>
<td>Educational</td>
<td>1</td>
<td>0.4</td>
<td>0-5%</td>
</tr>
<tr>
<td>Power (incl. oil &amp; gas field structures, pipelines)</td>
<td>-3</td>
<td>7</td>
<td>5-10%</td>
</tr>
<tr>
<td>Highway and street</td>
<td>2</td>
<td>9</td>
<td>5-10%</td>
</tr>
<tr>
<td>Office</td>
<td>8</td>
<td>6</td>
<td>near 0</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>0.1</td>
<td>3</td>
<td>near 0</td>
</tr>
<tr>
<td>Transportation (air, land, water)</td>
<td>12</td>
<td>7</td>
<td>5-10%</td>
</tr>
<tr>
<td>Retail</td>
<td>5</td>
<td>-25</td>
<td>-15 to -20%</td>
</tr>
<tr>
<td>Health care</td>
<td>-1</td>
<td>3</td>
<td>0-5%</td>
</tr>
<tr>
<td>Warehouse</td>
<td>16</td>
<td>-1</td>
<td>near 0</td>
</tr>
<tr>
<td>Lodging</td>
<td>10</td>
<td>7</td>
<td>near 0</td>
</tr>
<tr>
<td>Sewage &amp; waste disposal</td>
<td>4</td>
<td>10</td>
<td>0-5</td>
</tr>
<tr>
<td>Other* (13% of 2018 total)</td>
<td>6</td>
<td>1</td>
<td>0-5</td>
</tr>
</tbody>
</table>

*Amusement, communication, water supply, public safety, conservation, farm and religious

Source: U.S. Census Bureau construction spending report; Author’s forecast
Construction spending: public works
Annual total, 2008-17; monthly, Jan. ‘18-Nov. '19 (seasonally adjusted annual rate); billion $

**Highways** (99.7% public in 2018)
- Nov '18–Nov '19: 8%

- $0 $120
- $0 $90
- $0 $60
- $0 $30
- $0 $120

**Transportation** (68% public in 2018)
- Nov ‘18–Nov ‘19: 5% (air 3%; other 6%)

- $0 $60
- $0 $40
- $0 $20
- $0 $10
- $0 $60

**Sewage/waste & water**
- (2018 public shares: sewage 98%; water 98%)
- Nov ‘18–Nov ‘19: sewage/waste 18%, water 30%

- $0 $30
- $0 $20
- $0 $10
- $0 $30

**Conservation and development**
- (99.7% public in 2018)
- Nov ‘18–Nov ‘19: 22%

- $0 $30
- $0 $20
- $0 $10
- $0 $30

Source: U.S. Census Bureau construction spending report
Key points: roads, transportation, sewer/water

- Any federal infrastructure spending increase won’t occur until 2021 or later, but state highway funding and toll projects are increasing.
- Many new and ongoing public & private airport projects; transit construction/reconstruction is at record levels.
- Water & sewer/wastewater spending are at or near record levels after large drop in 2016-17; little long-term new funding likely.
- Federal $ for conservation have increased; Corps of Engineers is struggling to award and manage additional projects.

Source: Author
Construction spending: industrial, heavy

Annual total, 2008-17; monthly, Jan. ‘18-Nov. '19
(seasonally adjusted annual rate); billion $

Power (94% private in 2018)

Nov ‘18–Nov ‘19 6% (oil & gas 12%; electric 5%)

Manufacturing (99.4% private in 2018)

Nov ‘18–Nov ‘19: 2% (chemical -3%; other 6%)

Amusement & recreation (56% private in 2018)

Nov ‘18–Nov ‘19: -3% (private -14%; public 10%)

Communication (99.3% private in 2018)

Nov ‘18–Nov ‘19: -3%
Key points: power & energy, mfg, amusement, communication

• Solar, wind power are growing; oil & natural gas pipelines have hit court & regulatory delays; new drilling is down as oil, gas prices fall

• Manufacturing construction recovery likely to stall as tariffs, foreign retaliation, sluggish global economy lead to project cancellations

• Amusement & recreation spending is very “lumpy”—a few big stadiums at irregular intervals; but funding for local, state, federal parks keeps eroding

• Communication may revive as wireless firms build out 5G networks
Construction spending: education, health
Annual total, 2008-17; monthly, 1/18-11/19 (seasonally adjusted annual rate); billion $

**Education** (78% public in 2018)

- Nov ‘18–Nov ‘19: 7% (state/local preK-12 16%; state/local higher ed 5%; private -12%)

**Health care** (78% private in 2018)

- Nov ‘18–Nov ‘19: 5% (hospital 3%; medical building -1%; special care 40%)

Source: U.S. Census Bureau construction spending report
Key points: education & health care

• Rising house & commercial property values are supporting school district tax receipts & bond issues for preK-12 projects

• More school spending is on urban/older suburban school reconstruction & expansion, less on new schools in new subdivisions

• Higher-ed enrollment is shrinking and some small colleges are closing; decrease in full-tuition foreign students will hurt budgets

• State of stock market affects college construction capital campaigns

• Health care spending is shifting from hospitals to special-care facilities (urgent care, surgery, rehab, hospices) and doctors’ offices

Source: Author
Construction spending: developer-financed

Annual total, 2008-17; monthly, Jan. ‘18-Nov. ’19
(seasonally adjusted annual rate); billion $

Retail (private)
Nov ‘18–Nov ‘19: -14%

Warehouse (private)
Nov ‘18–Nov ‘19: 4%

Office (86% private in 2018)
Nov ‘18–Nov ‘19: 8% (private 6%; public 20%)

Lodging (private)
Nov ‘18–Nov ‘19: 1%

Source: U.S. Census Bureau construction spending report
Key points: retail, warehouse, office, hotel, data centers

- Retail now tied to mixed-use buildings & renovations, not stand-alone structures; massive store closings imply downturn will continue
- Warehouse growth is still benefiting from e-commerce but trade wars are reducing inbound and outbound shipments
- Office employment is still rising but space per worker is shrinking; more urban & renovation work than new suburban office parks
- Hotel “pipeline” is still large but sector is very interest-rate sensitive
- Data centers remain a strong niche but data is not reported separately (most are included in office total)

Source: Author
Private residential spending levels and change (seasonally adjusted annual rate)

![Graph showing private residential spending levels and change](image)

- **Total Residential Peak:** 02/06
- **Multifamily Peak:** 05/19
- **Single-Family Peak:** 02/06
- **Improvements Peak:** 02/18

**Spending put in place (billion $)**

- **'06 '07 '08 '09 '10 '11 '12 '13 '14 '15 '16 '17 '18 '19**
- **'00 $0 $100 $200 $300 $400 $500 $600 $700**

**12-month % change, Jan. 2018-Nov. 2019**

- **Private Residential Total:**
  - Nov vs. Peak: -20% 3%
  - 11/18-11/19:
  - Single-family: -41% -0.3%
  - Improvements: -10% 10%
  - Multifamily: -7% -4%

Source: U.S. Census Bureau construction spending report

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Residential spending forecast—

2019: -5 to -6%; 2020: 2 to 7% (3% in 2018)

• Single-family--2019: -6 to -7%; 2020: 5-11% (7% in 2018); low interest rates, rising income & wealth will boost home buying, but builders face challenges getting permits and finding workers

• Multifamily--2019: 3-4%; 2020: 0-5% (-1% in 2018)
  • occupancy rates, rents have leveled off; some millennials moving to houses but some seniors moving to apartments
  • millennials are staying longer in apartments than previous generations
  • nearly all multifamily construction is rental, not condo; more high-rises

• Improvements--2019: -5 to -7%; 2020: 5-11% (-2% in 2018); additions and renovations should track homebuying closely but data is weak

Source: Author
Population change by state, July 2018–July 2019 (U.S.: 0.48%)

**Top 5**
- ID: 2.1%
- NV: 1.7%
- AZ: 1.7%
- UT: 1.7%
- TX: 1.3%

**Bottom 5**
- WV: -0.7%
- AK: -0.5%
- IL: -0.4%
- NY: -0.4%
- HI: -0.3%
### State construction employment change (U.S.: 2.0%)

11/18 to 11/19: 39 states and DC up, 12 states down, 0 unchanged

#### Top 5
- Nevada: 13.4%
- New Mexico: 11.3%
- New Hampshire: 9.3%
- Utah: 8.6%
- Texas: 7.5%

#### Bottom 5
- Louisiana: -6.2%
- Wyoming: -5.6%
- Connecticut: -4.8%
- Ohio: -3.5%
- Tennessee: -3.1%

Note: Shading based on unrounded numbers
Texas construction employment
1/90–11/19; seasonally adjusted

Peak: Nov ’19

804,000 - at peak

Source: BLS
Shading = Recessions
Construction employment change from year ago
1/15–11/19; not seasonally adjusted

Source: BLS
Change in construction employment
11/18–11/19; not seasonally adjusted

<table>
<thead>
<tr>
<th>Metro area or division</th>
<th>11/18–11/19</th>
<th>% change peak- 11/19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statewide (Construction)</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>Statewide (Mining, logging, and construction)*</td>
<td>6% (highlighting = new peak)</td>
<td></td>
</tr>
<tr>
<td>Abilene, TX</td>
<td>-2%</td>
<td>-26%</td>
</tr>
<tr>
<td>Amarillo, TX</td>
<td>3%</td>
<td>1%</td>
</tr>
<tr>
<td>Austin-Round Rock, TX</td>
<td>10%</td>
<td>9%</td>
</tr>
<tr>
<td>Beaumont-Port Arthur, TX</td>
<td>-1%</td>
<td>-8%</td>
</tr>
<tr>
<td>Brownsville-Harlingen, TX</td>
<td>-7%</td>
<td>-45%</td>
</tr>
<tr>
<td>College Station-Bryan, TX</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Corpus Christi, TX</td>
<td>2%</td>
<td>-6%</td>
</tr>
<tr>
<td>Dallas-Plano-Irving, TX Div.</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>El Paso, TX</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>Fort Worth-Arlington, TX Div.</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Houston-The Woodlands-Sugar Land, TX</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Killeen-Temple, TX</td>
<td>6%</td>
<td>4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Metro area or division</th>
<th>11/18–11/19</th>
<th>% change peak- 11/19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laredo*</td>
<td>2%</td>
<td>-25%</td>
</tr>
<tr>
<td>Longview, TX</td>
<td>-8%</td>
<td>-26%</td>
</tr>
<tr>
<td>Lubbock, TX</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>McAllen-Edinburg-Mission, TX</td>
<td>-8%</td>
<td>-32%</td>
</tr>
<tr>
<td>Midland, TX</td>
<td>-4%</td>
<td>-4%</td>
</tr>
<tr>
<td>Odessa, TX</td>
<td>-1%</td>
<td>-1%</td>
</tr>
<tr>
<td>San Angelo, TX</td>
<td>-2%</td>
<td>-13%</td>
</tr>
<tr>
<td>San Antonio-New Braunfels, TX</td>
<td>12%</td>
<td>10%</td>
</tr>
<tr>
<td>Sherman-Denison, TX</td>
<td>-3%</td>
<td>-6%</td>
</tr>
<tr>
<td>Texarkana, TX-AR</td>
<td>4%</td>
<td>-33%</td>
</tr>
<tr>
<td>Tyler, TX</td>
<td>-3%</td>
<td>-3%</td>
</tr>
<tr>
<td>Victoria, TX</td>
<td>-6%</td>
<td>-33%</td>
</tr>
<tr>
<td>Waco, TX</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Wichita Falls, TX</td>
<td>-7%</td>
<td>-37%</td>
</tr>
</tbody>
</table>

Source: AGC rankings, calculated from BLS state and area employment reports. Peak is for Oct 1990– Oct 2018; other months are not meaningful for not seasonally adjusted data.

*The Bureau of Labor Statistics reports employment for construction, mining and logging combined for metro areas in which mining and logging have few employers. Construction-only employment change is shown for a metro if BLS posts that data.
Construction employment change by TX metro, 11/18–11/19

Source: BLS state and regional employment report
Shading based on unrounded numbers
Construction workforce indicators (not seasonally adjusted)

Source: Bureau of Labor Statistics

Construction openings: all-time high despite increased hiring (October data, 2009-19)

Pay not accelerating despite high job openings rate (October data, 2009-19)

Job openings rate in construction 3.9%

12-mo % change in construction average hourly earnings 2.4%
Outlook 2020: Firms plan to add workers but expect continued difficulty finding them (% of US/TX-based respondents)

- % of firms planning to add workers: 75%/88%
- % reporting difficulty hiring: 81%/87%
- % who expect as much or more difficulty in coming year: 65%/64%

Source: AGC 2020 Outlook Survey, Dec 2019
Outlook 2020: Firms with staffing challenges face higher costs and delays

(\% of US/TX-based respondents)

- Costs have been higher than we anticipated: 44\%
- Putting higher prices into our bids or contracts: 41\%
- Projects took longer than anticipated: 40\%

Source: AGC 2020 Outlook Survey, Dec 2019
Outlook 2020: Firms adopt labor-saving methods to replace workers or skills

(% of US/TX-based respondents)

**Labor-saving equipment** (e.g., drones, robots, 3-D printers, laser-or GPS-guided equipment)

- **Methods to reduce onsite worktime** (e.g., lean construction, virtual construction such as BIM, offsite fabrication)
- **Added specialists** (e.g., architects, BIM or lean construction personnel, drone or other equipment operators, data or IT personnel)

**Source:** AGC 2020 Outlook Survey, Dec 2019
Producer price index for key inputs
12-month % change, not seasonally adjusted

-10% 7% 18% 21%
1% -6% -16% -15%
-10% -5% -20%

Copper & brass mill shapes
Aluminum mill shapes
Diesel fuel
Steel mill products

Lumber & plywood
Gypsum products
Ready-mixed concrete
Paving Mixtures

November 2017 – November 2018
November 2018 – November 2019

Source: Bureau of Labor Statistics
Cumulative changes in bid prices vs. materials & labor costs, 1/16-11/19

Source: Bureau of Labor Statistics
### Summary: 2018 actual, 2019 year-to-date & forecast

<table>
<thead>
<tr>
<th></th>
<th>2018 actual</th>
<th>Jan-Nov 2019 vs. Jan-Nov 2018</th>
<th>2020 forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total spending</td>
<td>3%</td>
<td>-0.8%</td>
<td>1-5%</td>
</tr>
<tr>
<td>Private – residential</td>
<td>3%</td>
<td>-5.6%</td>
<td>3-7%</td>
</tr>
<tr>
<td>– nonresidential</td>
<td>4%</td>
<td>-0.4%</td>
<td>0-4%</td>
</tr>
<tr>
<td>Public</td>
<td>4%</td>
<td>6.8%</td>
<td>0-4%</td>
</tr>
<tr>
<td>Goods &amp; services inputs PPI</td>
<td>4.0%*</td>
<td>0.2%**</td>
<td>3-4%</td>
</tr>
<tr>
<td>Wages &amp; salaries (avg. hourly earnings)</td>
<td>3.8%*</td>
<td>2.7%**</td>
<td>3.5-4.5%</td>
</tr>
</tbody>
</table>

* Dec. 2017-Dec.2018

** Nov 2018- Nov 2019
AGC economic resources
(email ken.simonson@agc.org)

• The Data DIgest: weekly 1-page email
  (subscribe at http://store.agc.org)

• Monthly press releases: spending; producer price
  indexes; national, state, metro employment with
  ranking

• Yearly employment & outlooks surveys, state and
  metro data, fact sheets:
  www.agc.org/learn/construction-data