Construction Spending, Labor & Materials Outlook

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### 2014 AGC Construction Outlook Survey Results

Compared to 2013, do you expect the available dollar volume of project you compete for in 2014 to be:

<table>
<thead>
<tr>
<th>Category</th>
<th>Net</th>
<th>Higher</th>
<th>Lower</th>
<th>Same</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>+28%</td>
<td>44%</td>
<td>16%</td>
<td>40%</td>
</tr>
<tr>
<td>Retail, warehouse, lodging</td>
<td>+28</td>
<td>43</td>
<td>16</td>
<td>41</td>
</tr>
<tr>
<td>Private office</td>
<td>+28</td>
<td>43</td>
<td>14</td>
<td>43</td>
</tr>
<tr>
<td>Hospital/higher education</td>
<td>+25</td>
<td>42</td>
<td>17</td>
<td>41</td>
</tr>
<tr>
<td>Power</td>
<td>+25</td>
<td>40</td>
<td>15</td>
<td>45</td>
</tr>
<tr>
<td>Water/sewer</td>
<td>+17</td>
<td>35</td>
<td>17</td>
<td>48</td>
</tr>
<tr>
<td>Highway</td>
<td>+10</td>
<td>31</td>
<td>21</td>
<td>49</td>
</tr>
<tr>
<td>Public buildings</td>
<td>+5</td>
<td>30</td>
<td>25</td>
<td>45</td>
</tr>
<tr>
<td>K-12 school</td>
<td>+4</td>
<td>29</td>
<td>25</td>
<td>47</td>
</tr>
<tr>
<td>Other transportation</td>
<td>+3</td>
<td>24</td>
<td>21</td>
<td>55</td>
</tr>
<tr>
<td>Marine construction</td>
<td>-2%</td>
<td>18</td>
<td>21</td>
<td>61</td>
</tr>
</tbody>
</table>

Source: AGC Outlook Survey, January 2014
Construction spending (seasonally adjusted annual rate—SAAR)

Total construction, Jan. 2006-Dec. 2013 (billion $, SAAR)

- Public: $267
- Private Nonresidential: $311
- Private Residential: $353


12-month % change, Jan. 2006-Dec. 2013

- Public: -1%
- Total: 5%
- Private Residential: 18%
- Private Nonresidential: -2%

Source: Census Bureau construction spending reports
Construction is growing, but unevenly

3 trends helping many sectors and regions:
• ‘Shale gale’
• Panama Canal expansion
• Residential revival

3 trends holding down construction growth:
• Government spends less on schools, infrastructure
• Consumers switch from stores to online buying
• Employers shrink office space per employee

Source: Author
One (or many) bright spot(s): the shale ‘gale’

Source: U.S. Energy Information Administration
Shale’s direct and indirect impacts on construction

- **Onsite:** Each well requires access road, site prep, pad, storage pond, support structures, pipes
- **Nearby:** Products, water require trucking, rail, pipeline, processing
- **Local spending** by drilling firms, workers, royalty holders
- **Upstream:** orders for fracking sand, rigs, compressors, pumps, pipe, tanks, trucks, railcars, processing facilities
- **Downstream:** Petrochemical, power, steel plants; LNG export terminals, fueling stations; LNG-powered vehicles
- **Losers:** coal; maybe wind, solar, nuclear & suppliers

Source: Author
U.S. ports affected by Panama Canal expansion

Source: U.S. Army Corps of Engineers
Panama Canal expansion’s impacts on construction

- **Ports:** investing in dredging, piers, cranes, land access
- **Nearby:** Storage, warehouse, trucking, rail facilities
- **Bridge, tunnel, highway** improvements
- **Inland:** possible changes in distribution, manufacturing
Private residential spending is still rising—for now

**Private residential spending, Jan. 2011-December 2013 (billion $, SAAR)**

- **Multi-family**
- **Single family**
- **Improvements**

**12-month % change, Jan. 2011-December 2013**

- **Multi-family**: 27%
- **Single family**: 22%
- **Total**: 18%
- **Improvements**: 12%

Source: Census Bureau construction spending reports
Housing outlook

• SF: rising for now but tight credit, fear of lock-in, demographic shifts may limit increases
• MF: Upturn should last into late 2014, perhaps 2015
  – Vacancy rates near multi-year lows in most cities
  – Preference for urban living, add to demand
  – Condos have been slower to revive than rentals
  – Government-subsidized market likely to worsen
• Improvements: should benefit from rising SF sales

Source: Author
## Nonres segments, 2013 & 2014 forecast (billion $, SAAR)

<table>
<thead>
<tr>
<th>Nonresidential</th>
<th>12/13 Total</th>
<th>2013 vs. 2012</th>
<th>2014 Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power (incl. oil &amp; gas structures, pipelines)</td>
<td>$573 billion</td>
<td>-2%</td>
<td>4-8%</td>
</tr>
<tr>
<td>Highway and street</td>
<td>86</td>
<td>-11</td>
<td>10+</td>
</tr>
<tr>
<td>Educational</td>
<td>75</td>
<td>5</td>
<td>0 to -5</td>
</tr>
<tr>
<td><strong>Commercial</strong> (retail, warehouse, farm)</td>
<td>55</td>
<td>7</td>
<td>0 to 5</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>49</td>
<td>5</td>
<td>10+</td>
</tr>
<tr>
<td>Transportation</td>
<td>43</td>
<td>9</td>
<td>2 to 5</td>
</tr>
<tr>
<td>Office</td>
<td>41</td>
<td>0</td>
<td>near 0</td>
</tr>
<tr>
<td>Health care</td>
<td>40</td>
<td>-3</td>
<td>near 0</td>
</tr>
<tr>
<td>Sewage and waste disposal</td>
<td>21</td>
<td>-2</td>
<td></td>
</tr>
<tr>
<td><strong>Lodging</strong></td>
<td>17</td>
<td>26</td>
<td>10+</td>
</tr>
<tr>
<td>Communication</td>
<td>15</td>
<td>-13</td>
<td></td>
</tr>
<tr>
<td>Other (Amusement &amp; recreation; water; public safety; conservation; religious): 8% of total</td>
<td></td>
<td>-3</td>
<td></td>
</tr>
</tbody>
</table>

Source: Census Bureau construction spending report; Author’s forecast
**Construction spending: industrial, heavy** (billion $, SAAR)

- **Power (84% private)**
  - Latest 12-mo. change: -21% (private -26%; public 25%)

- **Manufacturing (99% private)**
  - Latest 12-mo. change: -2%

- **Private transportation facilities**
  - Latest 12-mo. change: 24%

- **Public transportation facilities**
  - Latest 12-mo. change: 5%

Source: Census Bureau construction spending reports
Construction spending: institutional (private + state/local)

Total private education

State & local higher education

Hospitals (79% private)

State & local preK-12 education

Latest 12-mo. change: 2%

Latest 12-mo. change: -10%

Latest 12-mo. change: -3% (private 0%; state/local -15%)

Latest 12-mo. change: -13%

Source: Census Bureau construction spending reports
Construction spending: public works (billion $, SAAR)

Highways (99.9% public)
- Latest 12-mo. change: 11%

Sewage/waste (99% public)
- Latest 12-mo. change: -3%

Amusement & recreation (58% public)
- Latest 12-mo. change: 5% (private 16%; public -2%)

Water supply (95% public)
- Latest 12-mo. change: -5%

Source: Census Bureau construction spending reports
Construction spending: developer-financed (billion $, SAAR)

Retail (private)
Latest 12-mo. change: 24%

Office (83% private)
Latest 12-mo. change: 6% (private 15%; public -24%)

Warehouse (private)
Latest 12-mo. change: 32%

Lodging (private)
Latest 12-mo. change: 33%

Source: Census Bureau construction spending reports
State construction employment change (U.S.: 2.1%)
12/12 to 12/13: 34 states up, 15+ DC down, 1 unchanged

Source: BLS state and regional employment report
Construction Employment in United States, 1/90-12/13
(seasonally adjusted; shading = recessions)

Construction Employment in Georgia, 1/90-12/13
(seasonally adjusted; shading = recessions)

Source: BLS
Construction Employment Change from Year Ago
1/08-12/13 (seasonally adjusted)

Georgia 7.1%
5 out of 51
U.S. 2.7%

Source: BLS
## Change in construction employment, 12/12-12/13

### not seasonally adjusted (NSA)

<table>
<thead>
<tr>
<th>Metro area or division</th>
<th>12-mo. empl. change (NSA)</th>
<th>Rank (out of 339)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statewide (Construction)</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>Statewide* (Const/mining/logging)</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>Atlanta-Sandy Springs-Marietta</td>
<td>10%</td>
<td>29</td>
</tr>
<tr>
<td>Augusta-Richmond County, GA-SC*</td>
<td>0%</td>
<td>193</td>
</tr>
<tr>
<td>Savannah*</td>
<td>-7%</td>
<td>312</td>
</tr>
<tr>
<td><strong>Chattanooga, TN-GA</strong>*</td>
<td>-2%</td>
<td>265</td>
</tr>
</tbody>
</table>

*The Bureau of Labor Statistics reports employment for construction, mining and logging combined for metro areas in which mining and logging have few employers. To allow comparisons between states and their metros, the table shows combined employment change for these metros. Not seasonally adjusted statewide data is shown for both construction-only and combined employment change.
Construction employment change by GA metro, 12/12-12/13

Shading based on unrounded numbers

Source: BLS state and regional employment report
Construction employment, Dec. ’13 vs. peak

• US: construction -25% (-1.9 million) below Apr. ‘06 peak
• States: LA & ND at new peak in 2013, 45 states > 10% below
• Metros: only 21 of 339 at new Dec. peak, not seas. adjusted

Source: Author, from BLS national and state & area employment data
Construction spending, labor & prices, 1/11-12/13

Spending +23% but jobs only +7%. How do they do it?

• Contractors charging slightly more: PPI +9% (industrial buildings)
• More hours per worker: aggregate hours +11% (+3% per employee)
• Implication: further spending growth will trigger bigger pickup in hiring—but will workers be available?

Source: Author, from Census Bureau (spending), BLS (employment, hours, PPI)
Construction vs. overall (un)employment, 12/10-12/13

- Construction unemployment fell sharply in past 3 years
- But industry employment has risen modestly
- Thus, workers are leaving for other sectors, school, retiring

Source: Author, from Census Bureau (spending), BLS (employment, hours, PPI)
Hardest positions to fill
(% of respondents who are having trouble filling)

Craft

- Equipment operators 49%
- Carpenters 44
- Laborers 37

Professional

- Project managers/supervisors 49%
- Estimators 41

Source: AGC Worker Shortage Survey, Aug. 2013
Material & labor costs vs. office bid prices since 12/10

Source: Author, based on Bureau of Labor Statistics for Producer Price Indexes (PPIs) and Employment Cost Index (ECI)
Producer price indexes for key inputs, 1/11-12/13 (Jan. 2011=100)

- **Steel mill products**: Latest 1-mo. change: 0.3%, 12-mo.: -1%
- **Copper & brass mill shapes**: Latest 1-mo. change: 1.0%, 12-mo.: -6%
- **Gypsum products**: Latest 1-mo. change: 2.2%, 12-mo.: 16%
- **Lumber & plywood**: Latest 1-mo. change: -0.6%, 12-mo.: 10%

Source: Author, based on BLS producer price index reports
Producer price indexes for key inputs, 1/11-12/13 (Jan. 2011=100)

No. 2 diesel fuel

Latest 1-mo. change: 2.9%, 12-mo.: -1%

Concrete products

Latest 1-mo. change: 0.2%, 12-mo.: 2%

Plastic construction products

Latest 1-mo. change: 0.4%, 12-mo.: -1%

Asphalt paving mixtures & blocks

Latest 1-mo. change: -0.3%, 12-mo.: 1%

Source: Author, based on BLS producer price index reports
Best prospects for 2014

- Multifamily
- Manufacturing, esp. petrochemical, oil/gas supply
- Oil & gas fields
- Pipelines
- Warehouses
- Lodging (hotels & resorts)
- Rail

Source: Author

• Total construction spending: +6% to +10% per year
  – less SF housing, retail; declining public spending
  – new drivers: shale-based gas & oil; Panama Canal widening; more elderly & kids, fewer young adults

• Materials costs: +1 to +3% (similar to CPI); rare spikes

• Labor costs: +2.5% to +5%

• Labor supply: widespread shortages possible due to retirements, competition from other sectors, fewer vets

Source: Author
### Summary for 2013, 2014-17

<table>
<thead>
<tr>
<th></th>
<th>2012 actual</th>
<th>2013 actual</th>
<th>2014-17 ann. avg. forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total spending</strong></td>
<td>9%</td>
<td>5%</td>
<td>6-10%</td>
</tr>
<tr>
<td><strong>Private – residential</strong></td>
<td>15%</td>
<td>18%</td>
<td>1-10%</td>
</tr>
<tr>
<td>– nonresidential</td>
<td>16%</td>
<td>0%</td>
<td>1-10%</td>
</tr>
<tr>
<td><strong>Public</strong></td>
<td>-3%</td>
<td>-3%</td>
<td>0 or less</td>
</tr>
<tr>
<td><strong>Materials PPI</strong></td>
<td>1.4%</td>
<td>1.3%</td>
<td>1-3%; rare spikes</td>
</tr>
<tr>
<td><strong>Employment cost index</strong></td>
<td>1.6%</td>
<td>2.0%</td>
<td>2.5-5%</td>
</tr>
</tbody>
</table>

Source: 2012: Census, BLS; 2013-17: Author’s ests.
AGC economic resources  
(email simonsonk@agc.org)  
• The Data DIGest: weekly 1-page email 
 (subscribe at www.agc.org/datadigest)  
• monthly press releases: spending; PPI;  
  national, state, metro employment  
• State and metro data, fact sheets  
• Website: http://www.agc.org/Economics