2018 Construction Outlook Survey Results

National Results

Total Responses: 1046. Responses varied for some questions. Percentages are based on responses to each question and may not sum to 100 due to rounding.

1. What best describes your firm:

- General contractor/construction manager: 44%
- Specialty or subcontractor: 37%
- Supplier/service provider: 10%
- Architect/engineer/designer: 2%
- Owner/developer: 1%
- Other: 5%

2. Does your firm employ union workers, or is your firm primarily open shop?

- We employ union workers for all of our projects: 24%
- We employ union workers for most of our projects: 11%
- We are primarily an open shop contractor, but occasionally employ union workers: 12%
- We are exclusively open shop: 53%

3. Estimate the total dollar amount of work your firm performed in 2017.

- $10 million or less: 30%
- $10.1 million-$50 million: 33%
- $50.1 million-$100 million: 14%
- $100.1 million-$500 million: 15%
- Over $500 million: 8%

4. How many total employees does your firm employ at all of its locations?

- 1-19: 17%
- 20-99: 37%
- 100-499: 31%
- 500 or more: 16%
5. Compared to 2017, do you expect the available dollar volume of projects you compete for in 2018 to be:

<table>
<thead>
<tr>
<th>Market</th>
<th>Higher</th>
<th>Lower</th>
<th>Same</th>
<th>Net*</th>
</tr>
</thead>
<tbody>
<tr>
<td>All projects</td>
<td>53%</td>
<td>9%</td>
<td>37%</td>
<td>44%</td>
</tr>
<tr>
<td>Private Office</td>
<td>35%</td>
<td>13%</td>
<td>52%</td>
<td>22%</td>
</tr>
<tr>
<td>Transportation (e.g., transit, rail, airport)</td>
<td>33%</td>
<td>12%</td>
<td>55%</td>
<td>21%</td>
</tr>
<tr>
<td>Retail, Warehouse, Lodging</td>
<td>32%</td>
<td>11%</td>
<td>57%</td>
<td>21%</td>
</tr>
<tr>
<td>Water/Sewer</td>
<td>31%</td>
<td>11%</td>
<td>58%</td>
<td>20%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>33%</td>
<td>13%</td>
<td>54%</td>
<td>20%</td>
</tr>
<tr>
<td>K-12 School</td>
<td>34%</td>
<td>16%</td>
<td>50%</td>
<td>18%</td>
</tr>
<tr>
<td>Hospital</td>
<td>33%</td>
<td>15%</td>
<td>52%</td>
<td>17%</td>
</tr>
<tr>
<td>Highway</td>
<td>32%</td>
<td>15%</td>
<td>53%</td>
<td>17%</td>
</tr>
<tr>
<td>Multifamily Residential</td>
<td>34%</td>
<td>17%</td>
<td>49%</td>
<td>16%</td>
</tr>
<tr>
<td>Public Building</td>
<td>29%</td>
<td>14%</td>
<td>57%</td>
<td>16%</td>
</tr>
<tr>
<td>Power</td>
<td>25%</td>
<td>13%</td>
<td>62%</td>
<td>13%</td>
</tr>
<tr>
<td>Higher Education</td>
<td>27%</td>
<td>16%</td>
<td>57%</td>
<td>11%</td>
</tr>
<tr>
<td>Federal (e.g., VA, GSA, USACE, NAVFAC)</td>
<td>23%</td>
<td>15%</td>
<td>62%</td>
<td>8%</td>
</tr>
</tbody>
</table>

*Net equals difference between number of “Higher” and “Lower” responses as percent of total.

6. What numerical change do you expect in your headcount in 2018?

- More than 25: 18%
- 11-25: 17%
- 1-10: 40%
- No change: 22%
- Decrease: 3%

7. What percentage change do you expect in your headcount in 2018?

- More than 25%: 5%
- 11-25%: 21%
- 1-10%: 50%
- No change: 21%
- Decrease: 3%

8. How would you describe your firm’s current conditions for filling key salaried positions (project manager/supervisor, estimator, etc.) and hourly craft positions (carpenter, laborer, equipment operator, etc.)? My firm is:

- Having a hard time filling both salaried and craft worker positions: 50%
- Having a hard time filling some salaried positions, but no trouble filling craft worker positions: 7%
- Having a hard time filling some craft worker positions, but no trouble filling salaried positions: 21%
- Having no trouble filling any positions: 9%
- Not doing any hiring: 10%
9. Do you expect any changes in the availability of salaried/hourly craft construction professionals over the coming 12 months? Finding and hiring qualified construction professionals will:

- Continue to be easy: 2%
- Become easier: 3%
- Become harder: 29%
- Continue to be hard: 53%
- Unsure: 13%

10. Did your firm increase pay or benefits in 2017 to retain or recruit salaried/hourly craft professionals?

- Increased base pay: 60%
- Provided incentives/bonuses: 36%
- Increased contributions and/or improve employee benefits: 24%
- Paid more overtime: 18%
- No, but we are considering increases in pay and/or benefits in the near future: 9%
- No, and we are not considering increases in pay and/or benefits: 7%
- We did not seek to hire any salaried/hourly craft professionals in 2017: 3%
- Unsure: 7%

11. Compared to 2017, how will your firm’s 2018 investment in training and development change?

- Increase: 56%
- Decrease: 1%
- Stay the same: 40%
- Unsure: 3%
12. Which of the following issues is the biggest concern to your firm out of the following list?

Worker shortages 41%
Increased competition for projects 39%
Growth in federal regulations 28%
Lack of infrastructure investments 24%
Growth in state and local regulations 23%
Safety 20%
Internal company process inefficiencies 16%
Rising direct labor costs (pay, benefits, employer taxes) 16%
Worker quality 16%
Not enough private sector work 13%
Lack of public non-infrastructure work 10%
Rising subcontractor costs 8%
Relations with external process inefficiencies (such as collaboration with owners, subs and/or vendors) 7%
Rising materials costs 6%
Subcontractor defaults 5%
Rising indirect labor costs (recruitment, training) 3%

13. What challenges, if any, do you see regarding the safety and health of your firm’s workers?

Inexperienced skilled labor/workforce shortage 56%
Major 35% Minor 9% No challenge

Lack of cooperation from federal agencies or regulators 47%
Major 23% Minor 29% No challenge

Low quality of available safety and health training 55%
Major 39% Minor 39% No challenge

Poor subcontractor safety and health performance 47%
Major 34% Minor 19% No challenge
14. What change do you expect in 2018 in the number of your firm’s projects that involve Building Information Modeling (BIM)?

- Increase: 17%
- Stay the same (+/-10%): 32%
- Decrease: 0%
- We do not expect to use BIM on any projects in 2018: 30%
- Unsure: 18%

15. What is your firm using BIM for?

- Clash detection: 46%
- Constructability input into the design process: 45%
- Visually communicate project scope to clients: 42%
- 3D model-based takeoff for cost estimating: 35%
- Design of 3D model: 35%
- Scheduling and workforce planning: 35%
- Safety (identify safety issues, safety by design, safety training, etc.): 20%

16. Does your firm utilize lean construction principles on its projects and/or in its operation?

- Yes: 44%
- No: 34%
- Unsure: 23%

17. Does your firm use any of the following collaborative project delivery methods?

- Design-assist: 39%
- Design-build: 61%
- Integrated project delivery (IPD): 16%
- Public-private partnerships: 19%
- None: 22%
- Unsure: 9%
18. Does your firm use any of the following to collaborate with project partners?

- File-sharing sites such as Dropbox: 73%
- Online project collaboration software: 46%
- BIM: 33%
- Home-grown project website: 16%
- None: 12%
- Unsure: 6%

19. What business of IT functions does your firm outsource or plan to outsource to a technology provider?

- Accounts payable automation: 6%
- Accounts receivable payment automation: 2%
- Inventory: 2%
- Lien waiver processing: 5%
- Payroll: 18%
- Prequalification: 3%
- Subcontractor insurance processing: 8%
- Backup and disaster recovery: 31%
- Desktop (light maintenance): 24%
- Network management: 43%
- Voice over IP (phone service over the internet): 27%
- Our firm doesn’t currently outsource or plan to outsource: 23%
20. Approximately what percent of your firm’s gross annual revenue is spent on IT?

- Less than 1%: 49%
- 1 to 1.9%: 32%
- 2 to 2.9%: 11%
- 3% or more: 7%

21. Compared to 2017, how will your firm’s 2018 investment in IT change?

- Increase: 43%
- Decrease: 2%
- Stay the same: 43%
- Unsure: 12%

22. Compared to 2017, how will your firm’s 2018 investment in the following technologies change?

<table>
<thead>
<tr>
<th>Technologies</th>
<th>Increase</th>
<th>Stay the same</th>
<th>Decrease</th>
<th>Unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting software</td>
<td>21%</td>
<td>72%</td>
<td>1%</td>
<td>6%</td>
</tr>
<tr>
<td>Building Information Modeling</td>
<td>20%</td>
<td>52%</td>
<td>1%</td>
<td>27%</td>
</tr>
<tr>
<td>Client relationship management software</td>
<td>20%</td>
<td>58%</td>
<td>0%</td>
<td>22%</td>
</tr>
<tr>
<td>Document management software</td>
<td>27%</td>
<td>63%</td>
<td>0%</td>
<td>10%</td>
</tr>
<tr>
<td>Estimating software</td>
<td>27%</td>
<td>65%</td>
<td>0%</td>
<td>8%</td>
</tr>
<tr>
<td>Fleet tracking/management software</td>
<td>22%</td>
<td>60%</td>
<td>0%</td>
<td>18%</td>
</tr>
<tr>
<td>Human resources software</td>
<td>19%</td>
<td>67%</td>
<td>0%</td>
<td>14%</td>
</tr>
<tr>
<td>Payroll software</td>
<td>12%</td>
<td>80%</td>
<td>0%</td>
<td>8%</td>
</tr>
<tr>
<td>Prequalification software</td>
<td>6%</td>
<td>73%</td>
<td>0%</td>
<td>21%</td>
</tr>
<tr>
<td>Project collaboration software</td>
<td>18%</td>
<td>64%</td>
<td>0%</td>
<td>18%</td>
</tr>
<tr>
<td>Project management software</td>
<td>27%</td>
<td>62%</td>
<td>1%</td>
<td>11%</td>
</tr>
<tr>
<td>Scheduling software</td>
<td>19%</td>
<td>71%</td>
<td>1%</td>
<td>9%</td>
</tr>
<tr>
<td>Service management software</td>
<td>7%</td>
<td>70%</td>
<td>0%</td>
<td>23%</td>
</tr>
<tr>
<td>Subcontractor bid management/ITB software</td>
<td>9%</td>
<td>72%</td>
<td>0%</td>
<td>19%</td>
</tr>
</tbody>
</table>

23. How comfortable is your firm with moving its data to the cloud?

- Very comfortable: 24%
- Moderately comfortable: 45%
- Not comfortable: 20%
- No opinion: 10%
24. How does your firm plan to use mobile software technology?

<table>
<thead>
<tr>
<th>Mobile Software Technology</th>
<th>Currently Use</th>
<th>Plan to Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily field reports</td>
<td>67%</td>
<td>67%</td>
</tr>
<tr>
<td>Access to customer and job information from the field</td>
<td>63%</td>
<td>63%</td>
</tr>
<tr>
<td>Employee time tracking and approval</td>
<td>59%</td>
<td>59%</td>
</tr>
<tr>
<td>Sharing of drawings, photos, and documents</td>
<td>59%</td>
<td>59%</td>
</tr>
<tr>
<td>Access to job cost and project reports from the field</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Scheduling</td>
<td>44%</td>
<td>44%</td>
</tr>
<tr>
<td>Punch lists</td>
<td>43%</td>
<td>43%</td>
</tr>
<tr>
<td>Submittals and commitments</td>
<td>39%</td>
<td>39%</td>
</tr>
<tr>
<td>RFI/issue tracking</td>
<td>38%</td>
<td>38%</td>
</tr>
<tr>
<td>Equipment tracking</td>
<td>36%</td>
<td>36%</td>
</tr>
<tr>
<td>GPS tracking (e.g., fleet tracking)</td>
<td>34%</td>
<td>34%</td>
</tr>
<tr>
<td>Change management</td>
<td>28%</td>
<td>28%</td>
</tr>
<tr>
<td>Building Information Modeling</td>
<td>24%</td>
<td>24%</td>
</tr>
<tr>
<td>Estimating</td>
<td>21%</td>
<td>21%</td>
</tr>
<tr>
<td>Inventory tracking</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>Processing service work orders in the field</td>
<td>14%</td>
<td>14%</td>
</tr>
<tr>
<td>Material acceptance at the job site</td>
<td>13%</td>
<td>13%</td>
</tr>
<tr>
<td>Processing payments in the field</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>No plan to use mobile technology software</td>
<td>5%</td>
<td>5%</td>
</tr>
</tbody>
</table>

25. Which of the following cloud service models does your firm plan to use?

<table>
<thead>
<tr>
<th>Cloud Service Model</th>
<th>Currently Use</th>
<th>Plan to Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cloud hosting: we outsource our servers and networking components to a cloud service provider’s data center</td>
<td>38%</td>
<td>38%</td>
</tr>
<tr>
<td>Hybrid cloud: our software and data is on a private network but can be securely accessed with a web browser</td>
<td>57%</td>
<td>57%</td>
</tr>
<tr>
<td>SaaS: we use software-as-a-service (SaaS) applications that are fully cloud-based</td>
<td>15%</td>
<td>15%</td>
</tr>
</tbody>
</table>
26. Does your firm currently have a mobile security plan in place?

- Yes: 35%
- No: 41%
- Unsure: 24%

27. Does your firm currently have a formal IT plan that support your business objectives?

- Yes: 52%
- No: 32%
- No, but plan to do so in 2018: 8%
- Unsure: 8%

28. What are your firm’s biggest IT challenges?

- Time needed to implement and train on new technology: 45%
- Communication between field and office: 41%
- Employee resistance to technology: 41%
- Connectivity to remote job sites: 39%
- Keeping company data secure from hackers: 33%
- Keeping software current: 28%
- Integration between software used inside of our company: 25%
- Keeping hardware current: 23%
- Integration with software used by project partners outside our company: 17%
- Outdated company software and systems: 17%
- Management resistance to technology: 13%
- None: 5%