2018 Construction Outlook Survey Results
Missouri Results

Total Responses: 29. 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: 41%
- Specialty or subcontractor: 34%
- Supplier/service provider: 14%
- Architect/engineer/designer: 7%
- Owner/developer: 0%
- Other: 3%

2. Does your firm employ union workers, or is your firm primarily open shop?
- We employ union workers for all of our projects: 50%
- We employ union workers for most of our projects: 11%
- We are primarily an open shop contractor, but occasionally employ union workers: 14%
- We are exclusively open shop: 25%

3. Estimate the total dollar amount of work your firm performed in 2017.
- $10 million or less: 21%
- $10.1 million-$50 million: 55%
- $50.1 million-$100 million: 14%
- $100.1 million-$500 million: 10%
- Over $500 million: 0%

4. How many total employees does your firm employ at all of its locations?
- 1-19: 10%
- 20-99: 45%
- 100-499: 45%
- 500 or more: 0%
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>50%</td>
<td>14%</td>
<td>36%</td>
<td>36%</td>
</tr>
<tr>
<td>Federal (e.g., VA, GSA, USACE, NAVFAC)</td>
<td>43%</td>
<td>10%</td>
<td>48%</td>
<td>33%</td>
</tr>
<tr>
<td>Hospital</td>
<td>46%</td>
<td>13%</td>
<td>42%</td>
<td>33%</td>
</tr>
<tr>
<td>Power</td>
<td>42%</td>
<td>11%</td>
<td>47%</td>
<td>32%</td>
</tr>
<tr>
<td>Water/Sewer</td>
<td>38%</td>
<td>19%</td>
<td>44%</td>
<td>19%</td>
</tr>
<tr>
<td>Higher Education</td>
<td>43%</td>
<td>26%</td>
<td>30%</td>
<td>17%</td>
</tr>
<tr>
<td>Multifamily Residential</td>
<td>28%</td>
<td>11%</td>
<td>61%</td>
<td>17%</td>
</tr>
<tr>
<td>K-12 School</td>
<td>39%</td>
<td>26%</td>
<td>35%</td>
<td>13%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>30%</td>
<td>17%</td>
<td>52%</td>
<td>13%</td>
</tr>
<tr>
<td>Retail, Warehouse, Lodging</td>
<td>30%</td>
<td>17%</td>
<td>52%</td>
<td>13%</td>
</tr>
<tr>
<td>Transportation (e.g., transit, rail, airport)</td>
<td>25%</td>
<td>13%</td>
<td>63%</td>
<td>13%</td>
</tr>
<tr>
<td>Public Building</td>
<td>32%</td>
<td>23%</td>
<td>45%</td>
<td>9%</td>
</tr>
<tr>
<td>Private Office</td>
<td>23%</td>
<td>19%</td>
<td>58%</td>
<td>4%</td>
</tr>
<tr>
<td>Highway</td>
<td>13%</td>
<td>33%</td>
<td>53%</td>
<td>-20%</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: 15%
- 11-25: 8%
- 1-10: 65%
- No change: 12%
- Decrease: 0%

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

- More than 25%: 4%
- 11-25%: 15%
- 1-10%: 65%
- No change: 12%
- Decrease: 4%

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: 35%
- having a hard time filling some salaried positions, but no trouble filling craft worker positions: 4%
- having a hard time filling some craft worker positions, but no trouble filling salaried positions: 38%
- having no trouble filling any positions: 19%
- not doing any hiring: 0%
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: 4%
- become easier: 4%
- become harder: 54%
- continue to be hard: 23%
- unsure: 15%

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

- Increased base pay: 65%
- Paid more overtime: 19%
- Provided incentives/bonuses: 42%
- Increased contributions and/or improve employee benefits: 42%
- No, but we are considering increases in pay and/or benefits in the near future: 8%
- No, and we are not considering increases in pay and/or benefits: 4%
- Unsure: 4%
- We did not seek to hire any salaried/hourly craft professionals in 2017: 0%

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

- Increase: 73%
- Decrease: 4%
- Stay the same: 19%
- Unsure: 4%
12. Which of the following issues is the biggest concern to your firm out of the following list?

- Lack of infrastructure investments: 50%
- Increased competition for projects: 46%
- Worker shortages: 42%
- Safety: 29%
- Lack of public non-infrastructure work: 17%
- Rising subcontractor costs: 17%
- Not enough private sector work: 9%
- Growth in federal regulations: 0%
- Growth in state and local regulations: 0%
- Internal company process inefficiencies: 0%
- Relations with external process inefficiencies (such as collaboration with owners, subs and/or vendors): 0%
- Rising direct labor costs (pay, benefits, employer taxes): 0%
- Rising indirect labor costs (recruitment, training): 0%
- Rising materials costs: 0%
- Subcontractor defaults: 0%
- Worker quality: 0%

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

- Inexperienced skilled labor/workforce shortage: 61%
- Lack of cooperation from federal agencies or regulators: 38%
- Low quality of available safety and health training: 52%
- Poor subcontractor safety and health performance: 50%
14. What change do you expect in 2018 in the number of your firm’s projects that involve Building Information Modeling (BIM)?

- Increase: 16%
- Stay the same (+/-10%): 38%
- Decrease: 0%
- We do not expect to use BIM on any projects in 2018: 25%
- Unsure: 21%

15. What is your firm using BIM for?

- 3D model-based takeoff for cost estimating: 53%
- Design of 3D model: 53%
- Visually communicate project scope to clients: 47%
- Clash detection: 40%
- Constructability input into the design process: 40%
- Safety (identify safety issues, safety by design, safety training, etc.): 40%
- Scheduling and workforce planning: 33%

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

- Yes: 54%
- No: 29%
- Unsure: 17%

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

- Design-build: 83%
- Design-assist: 46%
- Public-private partnerships: 29%
- Integrated project delivery (IPD): 21%
- None: 17%
- Unsure: 0%
18. Does your firm use any of the following to collaborate with project partners?

- File-sharing sites such as Dropbox: 67%
- Online project collaboration software: 46%
- BIM: 33%
- Home-grown project website: 29%
- None: 8%
- Unsure: 8%

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

- Accounts payable automation: 11%
- Accounts receiveable payment automation: 5%
- Inventory: 5%
- Lien waiver processing: 0%
- Payroll: 37%
- Prequalifaction: 11%
- Subcontractor insurance processing: 15%
- Backup and disaster recovery: 47%
- Desktop (light maintenance): 32%
- Network management: 47%
- Voice over IP (phone service over the internet): 32%
- Our firm doesn't currently outsource or plan to outsource: 15%

Currently outsource ■ Plan to outsource
20. Approximately what percent of your firm’s gross annual revenue is spent on IT?

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

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>32%</td>
<td>64%</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>Building Information Modeling</td>
<td>22%</td>
<td>56%</td>
<td>0%</td>
<td>22%</td>
</tr>
<tr>
<td>Client relationship management software</td>
<td>37%</td>
<td>58%</td>
<td>0%</td>
<td>5%</td>
</tr>
<tr>
<td>Document management software</td>
<td>62%</td>
<td>38%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Estimating software</td>
<td>45%</td>
<td>55%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Fleet tracking/management software</td>
<td>22%</td>
<td>61%</td>
<td>0%</td>
<td>17%</td>
</tr>
<tr>
<td>Human resources software</td>
<td>6%</td>
<td>89%</td>
<td>0%</td>
<td>6%</td>
</tr>
<tr>
<td>Payroll software</td>
<td>27%</td>
<td>68%</td>
<td>0%</td>
<td>5%</td>
</tr>
<tr>
<td>Prequalification software</td>
<td>6%</td>
<td>88%</td>
<td>0%</td>
<td>6%</td>
</tr>
<tr>
<td>Project collaboration software</td>
<td>17%</td>
<td>78%</td>
<td>0%</td>
<td>6%</td>
</tr>
<tr>
<td>Project management software</td>
<td>40%</td>
<td>55%</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>Scheduling software</td>
<td>30%</td>
<td>70%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Service management software</td>
<td>6%</td>
<td>88%</td>
<td>0%</td>
<td>6%</td>
</tr>
<tr>
<td>Subcontractor bid management/ITB software</td>
<td>5%</td>
<td>95%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Comfort Level</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very comfortable</td>
<td>27%</td>
</tr>
<tr>
<td>Moderately</td>
<td>45%</td>
</tr>
<tr>
<td>Not comfortable</td>
<td>14%</td>
</tr>
<tr>
<td>No opinion</td>
<td>14%</td>
</tr>
</tbody>
</table>
24. How does your firm plan to use mobile software technology?

- Daily field reports: 86%
- Employee time tracking and approval: 77%
- Scheduling: 73%
- Access to customer and job information from the field: 68%
- Sharing of drawings, photos, and documents: 68%
- Punch lists: 55%
- Access to job cost and project reports from the field: 50%
- Equipment tracking: 45%
- RFI/issue tracking: 45%
- Submittals and commitments: 45%
- Change management: 32%
- GPS tracking (e.g., fleet tracking): 32%
- Material acceptance at the job site: 32%
- Processing service work orders in the field: 32%
- Building Information Modeling: 27%
- Estimating: 27%
- Inventory tracking: 27%
- Processing payments in the field: 14%
- No plan to use mobile technology software: 5%

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

- Cloud hosting: we outsource our servers and networking components to a cloud service provider's data center: 32%
- Hybrid cloud: our software and data is on a private network but can be securely accessed with a web browser: 50%
- SaaS: we use software-as-a-service (SaaS) applications that are fully cloud-based: 18%

Currently use □ Plan to use □
26. Does your firm currently have a mobile security plan in place?

- Yes: 59%
- No: 18%
- Unsure: 23%

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

- Yes: 59%
- No: 23%
- No, but plan to do so in 2018: 18%
- Unsure: 0%

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

- Communication between field and office: 55%
- Employee resistance to technology: 50%
- Time needed to implement and train on new technology: 50%
- Connectivity to remote job sites: 36%
- Keeping company data secure from hackers: 36%
- Integration with software used by project partners outside our company: 32%
- Integration between software used inside of our company: 27%
- Keeping software current: 23%
- Keeping hardware current: 14%
- Management resistance to technology: 14%
- Outdated company software and systems: 14%
- None: 0%