2017 Construction Outlook Survey Results
Massachusetts Results

Total Responses: 28. Responses varied for some questions. Percentages are based on responses to each question and may not sum to 100 due to rounding.

1. Compared to 2016, do you expect the available dollar volume of projects you compete for in 2017 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>K-12 School</td>
<td>58%</td>
<td>8%</td>
<td>33%</td>
<td>50%</td>
</tr>
<tr>
<td>Higher Education</td>
<td>57%</td>
<td>7%</td>
<td>36%</td>
<td>50%</td>
</tr>
<tr>
<td>Private Office</td>
<td>64%</td>
<td>21%</td>
<td>64%</td>
<td>43%</td>
</tr>
<tr>
<td>All projects</td>
<td>46%</td>
<td>8%</td>
<td>46%</td>
<td>38%</td>
</tr>
<tr>
<td>Hospital</td>
<td>42%</td>
<td>8%</td>
<td>50%</td>
<td>33%</td>
</tr>
<tr>
<td>Retail, Warehouse, Lodging</td>
<td>50%</td>
<td>21%</td>
<td>29%</td>
<td>29%</td>
</tr>
<tr>
<td>Higher Education</td>
<td>57%</td>
<td>7%</td>
<td>36%</td>
<td>50%</td>
</tr>
<tr>
<td>Private Office</td>
<td>64%</td>
<td>21%</td>
<td>64%</td>
<td>43%</td>
</tr>
<tr>
<td>All projects</td>
<td>46%</td>
<td>8%</td>
<td>46%</td>
<td>38%</td>
</tr>
<tr>
<td>Hospital</td>
<td>42%</td>
<td>8%</td>
<td>50%</td>
<td>33%</td>
</tr>
<tr>
<td>Retail, Warehouse, Lodging</td>
<td>50%</td>
<td>21%</td>
<td>29%</td>
<td>29%</td>
</tr>
<tr>
<td>Other Transportation (e.g., transit, rail, airport)</td>
<td>33%</td>
<td>11%</td>
<td>70%</td>
<td>22%</td>
</tr>
<tr>
<td>Highway</td>
<td>29%</td>
<td>14%</td>
<td>57%</td>
<td>14%</td>
</tr>
<tr>
<td>Power</td>
<td>20%</td>
<td>10%</td>
<td>14%</td>
<td>10%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>25%</td>
<td>25%</td>
<td>56%</td>
<td>0%</td>
</tr>
<tr>
<td>Multifamily Residential</td>
<td>22%</td>
<td>22%</td>
<td>56%</td>
<td>0%</td>
</tr>
<tr>
<td>Water/Sewer</td>
<td>22%</td>
<td>22%</td>
<td>56%</td>
<td>0%</td>
</tr>
<tr>
<td>Federal (e.g., VA, GSA, USACE, NAVFAC)</td>
<td>10%</td>
<td>20%</td>
<td>70%</td>
<td>-10%</td>
</tr>
<tr>
<td>Public Building</td>
<td>9%</td>
<td>27%</td>
<td>29%</td>
<td>-18%</td>
</tr>
</tbody>
</table>

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

2. What numerical change do you expect in your headcount in 2017?

- Increase by more than 25: 12%
- Increase by 16-25: 0%
- Increase by 6-15: 24%
- Increase by 1-5: 53%
- No change: 12%
- Decrease: 0%

3. What percentage change do you expect in your headcount in 2017?

- Increase by more than 26%: 18%
- Increase by 1-25%: 76%
- No change: 6%
- Decrease: 0%
4. How would you describe your current conditions for filling key salaried positions (project manager/supervisor, estimator, etc.) and hourly craft positions (carpenter, laborer, equipment operator, etc.)?

- I am having a hard time filling both salaried and craft worker positions: 44%
- I am having a hard time filling some salaried positions, but no trouble filling craft worker positions: 13%
- I am having a hard time filling some craft worker positions, but no trouble filling salaried positions: 6%
- I am having no trouble filling any positions: 19%
- I am not doing any hiring: 19%

5. Do you expect any changes in the availability of salaried/hourly craft construction professionals over the coming 12 months?

- It will continue to be easy to find and hire qualified construction professionals: 38%
- It will become easier to find and hire qualified construction professionals: 31%
- It will become harder to find and hire qualified construction professionals: 44%
- It will continue to be hard to find qualified construction professionals: 31%
- Unsure: 31%

6. Has your firm increased pay or benefits to retain or recruit salaried/hourly craft professionals?

- Higher base pay: 44%
- Pay more overtime: 13%
- Provide incentives/bonuses: 44%
- Increase contributions and/or improve employee benefits: 44%
- No, but we are considering increases in pay and/or benefits in the near future: 19%
- No, and we are not considering increases in pay and/or benefits: 0%

7. Compared to 2016, how will your 2017 investment in training and development change?

- Increase: 47%
- Decrease: 0%
- Stay the same: 41%
- Unsure: 12%
8. Which of the following issues are the biggest concerns to you and your business?

- Worker shortages: 64%
- Worker quality: 57%
- Safety: 21%
- Rising direct labor costs: 57%
- Rising subcontractor costs: 50%
- Subcontractor defaults: 21%
- Rising materials costs: 36%
- Growth in federal regulations: 36%
- Growth in state and local regulations: 36%
- External process inefficiencies (such as collaboration with owners, subs and/or vendors): 64%
- Internal company process inefficiencies: 57%
- Increased competition for projects: 57%
- Not enough private sector work: 7%
- Lack of infrastructure investments: 7%
- Lack of public non-infrastructure work: 14%

9. What challenges, if any, do you see regarding the safety and health of your workers?

- Inexperienced skilled labor/workforce shortage: 46%
- Lack of cooperation from federal agencies or regulators: 50%
- Low quality of available safety and health training: 50%
- Poor subcontractor safety and health performance: 33%
10. How would you describe credit or lending conditions for your company?

- My firm has had a harder time getting bank loans than a year ago: 17%
- My firm has had an easier time getting bank loans than a year ago: 8%
- Bank credit has not been an issue for my firm, but has caused my customers' projects to be delayed or canceled: 0%
- Easier bank credit has enabled customers to move ahead with previously delayed projects: 0%
- There has been no change in bank lending with regard to my firm or customers: 75%

11. Did the cost of providing health care insurance for your employees increase or decrease in 2016?

- Increased: 79%
- Decreased: 0%
- Stayed the same: 21%
- We did not provide health care insurance in 2016: 0%

12. Do you expect the cost of providing health care insurance for your employees to increase or decrease in 2017?

- Increase: 100%
- Decrease: 0%
- Stay the same: 0%
- We did not provide health insurance in 2016 and do not plan to do so in 2017: 0%
- We did not provide health insurance in 2016, but plan to do so in 2017: 0%
- We provided health insurance in 2016, but do not plan to do so in 2017: 0%

13. Do you expect the amount of projects involving Building Information Modeling (BIM) will increase, decrease or stay the same for you in 2017?

- Increase more than 26%: 0%
- Increase 11-25%: 36%
- Increase 10% or less: 7%
- Stay the same: 21%
- Decrease: 29%
- We do not expect to use BIM on any projects in 2017: 0%
14. Do you believe that your firm utilizes lean construction principles on its projects and/or in its operation?

- Yes: 67%
- No: 25%
- Unsure: 8%

15. Do you expect your firm will work on a project using modular construction and/or off-site construction/prefabrication in 2017?

- Yes: 46%
- No: 54%
- Unsure: 0%

16. Does your company plan to purchase or lease new fleet vehicles this year?

- Yes: 43%
- No: 50%
- Unsure: 7%

17. How do you expect your geographic market area will change in 2017?

- We expect to maintain our current geographic area: 50%
- We expect to broaden our geographic area: 50%
- We expect to narrow our geographic area: 0%
- Unsure: 0%

18. What technology do you use or will you implement to see or manage projects outside your traditional market area?

- Mobile devices such as smartphones and tablets: 88%
- Cloud-based servers/storage: 57%
- Remote technology such as Citrix, Terminal Service or VPN: 57%
- Cloud-based applications: 43%
- Email: 79%
- File sharing sites such as Dropbox: 79%
- Online project collaboration software: 64%
- Building Information Modeling: 36%
- Home-grown project website: 0%
- None or do not collaborate: 0%

19. Do you use any of the following to collaborate with project partners?

- Email: 100%
- File sharing sites such as Dropbox: 79%
- Online project collaboration software: 79%
- Building Information Modeling: 64%
- Home-grown project website: 36%
- None or do not collaborate: 0%
20. What information technology (IT), if any, do you use to obtain work?

- Estimating/bidding software: 62%
- Marketing/business development software: 46%
- Social media (e.g., Facebook, Twitter): 46%
- Client relationship management software: 38%
- Sales software: 0%

21. What is the size of your in-house IT staff?

- 1 person: 14%
- 2-5 people: 27%
- 6-10 people: 7%
- More than 11 people: 14%
- No in-house staff: 36%

22. Do you use an outsourced service for IT?

- Yes: 77%
- No: 23%
- No, but plan to do so in 2017: 0%
- Unsure: 0%

23. Approximately what percent of your gross annual revenue do you spend on IT?

- Less than 1%: 14%
- 1 to 1.9%: 29%
- 2 to 2.9%: 7%
- 3% or more: 21%
- Unsure: 29%

24. Compared to 2016, how will your 2017 investment in IT change?

- Increase: 29%
- Decrease: 7%
- Stay the same: 43%
- Unsure: 21%
25. What software technology do you plan to invest in during 2017?

- Document management software: 54%
- Accounting software: 31%
- Estimating software: 23%
- Project collaboration software: 23%
- Building Information Modeling: 15%
- Human resources software: 15%
- Outsource payroll: 15%
- Project management software: 15%
- Scheduling software: 15%
- Subcontractor bid management/ITB software: 8%
- Client relationship management software: 0%
- Fleet tracking/management software: 0%
- Prequalification software: 0%
- Service management software: 0%
- None: 8%

26. How does your company plan to use mobile software technology?

- Daily field reports: 77%
- Punch lists: 69%
- Sharing of drawings, photos, and documents: 69%
- Access to customer and job information from the field: 62%
- Material acceptance at the job site: 46%
- Scheduling: 38%
- Access to job cost and project reports from the field: 31%
- Building Information Modeling: 31%
- Equipment tracking: 23%
- Time capture and approval: 23%
- GPS tracking (e.g., fleet tracking): 15%
- Inventory tracking: 15%
- Processing payments in the field: 15%
- Processing service work orders in the field: 8%
27. How do you handle the use of mobile devices (e.g., tablets, smartphones) in your company?

- Company supplies mobile devices to staff; no staff-supplied devices: 54%
- Employees use their own mobile devices; no company-supplied devices: 0%
- We do a combination of both: 46%
- Unsure: 0%

28. Do you currently have a mobile security policy in place?

- Yes: 38%
- No: 31%
- Unsure: 31%

29. Do you currently have an overall IT security plan in place to protect against hacking?

- Yes: 92%
- No: 8%
- Unsure: 0%

30. Do you have a formal IT plan that supports your business objectives?

- Yes: 38%
- No: 23%
- No, but plan to do so in 2017: 8%
- Unsure: 31%

31. What is the main reason you use or plan to adopt cloud-based software?

- Ability to access information anytime and from anywhere: 54%
- Redundancy and disaster recovery: 15%
- Built-in security: 8%
- Faster implementation: 8%
- Reduced IT cost: 0%
- We do not use or plan to adopt cloud-based software: 0%
- Other/unsure: 15%
32. What are your biggest IT challenges?

- Communication between field and office: 69%
- Employee resistance to technology: 46%
- Time to implement and train on new technology: 38%
- Integration between software used inside of our company: 23%
- Outdated company software and systems: 23%
- Connectivity to remote job sites: 15%
- Integration with software used by business partners outside our company: 15%
- Keeping company data secure from hackers: 15%
- Management resistance to technology: 8%
- None: 0%

33. Estimate the total dollar amount of work your firm performed in 2016.

- $10 million or less: 25%
- $10.1 million-$30 million: 25%
- $30.1 million-$50 million: 10%
- $50.1 million-$100 million: 15%
- $100.1 million-$500 million: 15%
- Over $500 million: 10%

34. How many total employees does your organization employ at all of its locations?

- 1-49: 30%
- 50-249: 55%
- 250-499: 5%
- 500-999: 0%
- 1,000 or more: 10%

35. Do you employ union workers, or is your firm primarily open shop?

- We employ union workers for all of our projects: 32%
- We employ union workers for most of our projects: 26%
- We are primarily an open shop contractor, but occasionally employ union workers: 21%
- We are exclusively open shop: 21%