

2017

First Quarter Report

CIRT Sentiment Index

EXECUTIVE SUMMARY

What a difference a quarter and a new, more positive, upbeat business friendly environment in Washington, D.C., can make! Almost every component of the CIRT Sentiment Index moved in a positive direction in the first quarter of 2017. This is a welcome and not entirely anticipated result, as many have been expecting a slower, more sluggish economy to begin the year. That expectation seemed to be based only on the idea that it has been good for so long, it must go down (i.e., markets move in “cycles”). However, the fact that material and labor costs continue to rise is a positive sign of a growing economy. And it appears we may be able to sustain the growth cycle for some time longer, in part because it has been slow growth, not a meteoric burn and decay. Slow growth or not, CIRT members participating in our survey this quarter indicate that finding enough talented people to do the work and somehow improving productivity are among their chief concerns as we enter 2017.

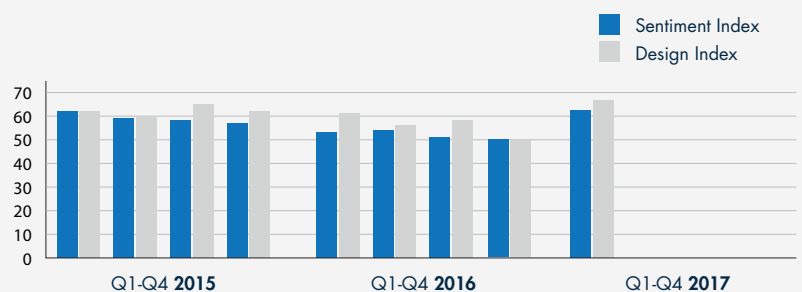
continued ...

CURRENT SUMMARY

Overall economy	UP
Overall economy where we do business	UP
Our construction business	UP
Nonresidential building construction market where we do business	UP
Our expected backlog	UP
Cost of construction materials	HIGHER
Cost of labor	HIGHER
Productivity	HIGHER

EXHIBIT 1

CIRT Sentiment Index Scores from Q1 2015 to Q1 2017



Current CIRT Sentiment Index Reading | Q1 2017

62.7

Current CIRT Design Index Reading | Q1 2017

66.8

(Scores above 50 indicate expansion, below 50 indicate contraction.)

ABOUT THE CONSTRUCTION INDUSTRY ROUND TABLE (CIRT)

The Construction Industry Round Table (CIRT) is composed exclusively of approximately 115 CEOs from the leading architectural, engineering and construction firms doing business in the United States.

CIRT is the only organization that is uniquely situated as a single voice representing the richly diverse and dynamic design/construction community. First organized in 1987 as the Construction Industry Presidents' Forum, the Forum has since been incorporated as a not-for-profit association with the mission "to be a leading force for positive change in the design/construction industry while helping members improve the overall performance of their individual companies."

The Round Table strives to create one voice to meet the interests and needs of the design/construction community. CIRT supports its members by actively representing the industry on public policy issues, by improving the image and presence of its leading members, and by providing a forum for enhancing and developing strong management approaches through networking and peer interaction.

The Round Table's member CEOs serve as prime sources of information, news and background on the design/construction industry and its activities. If you are interested in obtaining more information about the Construction Industry Round Table, please call 202-466-6777 or contact us by email at cirt@cirt.org.

CIRT SENTIMENT INDEX

The CIRT Sentiment Index is a survey of members of the Construction Industry Round Table conducted quarterly by FMI Research, Raleigh, North Carolina. For press contact or questions about the CIRT Sentiment Index, contact Mark Casso at mcasso@cirt.org and/or Phil Warner, research consultant with FMI Corporation, at pwarnar@fminet.com or call 919-785-9357.

CONFIDENTIALITY

All individual responses to this survey will be confidential and shared outside of FMI only in the aggregate.
All names of individuals responding to this survey will remain confidential to FMI.

Executive Summary *continued ...*

More specifically, identifying and retaining qualified superintendents and project managers are likely among the toughest human resource challenges. These difficulties are reflected in the answers to a few questions about ownership transfer and management succession. For example, 62% of the CIRT members indicate they need to replace these critical positions within the next five years, so it is good to see that 82% of them have management and leadership succession plans in place. Creating continuity of leadership is critical for future growth as well as for ownership transfer plans. However, only 46% have ownership transfer plans in place at this time. Of those that do have ownership transfer plans, 41% expect to sell to employees—a process we have found can take at least five years, depending on how the buyout is structured. The challenge is to coordinate management succession and leadership transition with ownership transfer plans to match the planned timing for ownership transfer, whichever method is preferred.

With productivity improvement still in the doldrums for most companies reporting, we looked at two newer approaches to construction that may help improve productivity as well as reduce project turnaround times and waste, namely, “Lean Construction” and “Integrated Productivity (IPD).” Both practices have been employed in the construction industry for some time now; however, the number of projects and companies involved has been limited. For instance, IPD has been mostly associated with large, complex projects like hospitals or high-tech industry buildings, although this delivery method has been used on smaller projects as well. We found that the majority of participants had some experience in Lean Construction and IPD, and that there does appear to be some success with these processes. According to the response, however, those who are making progress in these areas are the early adopters, and greater use is still more than three years out. This is not much different than other early trends, such as BIM, prefabrication and modularization, which are now largely accepted. The need to get more work done with fewer resources and more sophisticated owners may drive these trends a bit faster in the coming years.

CIRT Sentiment Index, First Quarter 2017 Highlights

Overall Economy:

The first quarter 2017 index component for the overall economy leapt from 51.2 in the second quarter to 74.2. While most economic trends have been good in the past quarter, this result must also be attributed to expectations that the new administration and Republican majority in Congress will be favorable to business.

Overall Economy Where Respondents

Do Business:

The index component measuring sentiments in the overall economy where CIRT members do business parallels the overall economy this quarter, with an 18.8-point jump to 71.1.

CIRT Design Index Components

Consulting Planning:

The CIRT Sentiment Design Index component for consulting planning bounced up to 73.3, after falling 8.3 points from Q3 2016 to the fourth quarter.

Pre-design work:

One of the most positive signs for future design and construction gained 24.3 points in the first quarter of 2017.

Residential:

Long one of the weakest components of the Design Index, residential design moved up to a neutral score of 50.0; while still not very bullish, it is perhaps a positive sign for 2017.

Commercial:

Design work for commercial markets improved from a low mark of 45.5 to 64.8 in the first quarter.

Education:

The expectations for education construction moved to growth mode from just 50.0 last quarter to 69.6.

Health Care:

The health care design outlook turned positive with a gain of 22.4 points to reach 67.4.

Industrial:

Design work expectations for industrial facilities made the largest move of all design components from a low 39.3 to a solid 65.2.

Transportation:

The outlook for transportation design skyrocketed from 58.3 to 78.0 in the first quarter.

Heavy/Civil:

Although it gained only 2.8 points in the first quarter, the outlook for heavy/civil design remains in solid growth territory at 69.6.

International:

Although the gain was 6.9 points in the first quarter, the index component for international design registered only 52.4 in the first quarter.



Construction

Construction Business:

While CIRT participants in the Sentiment Index often see their own businesses as stronger than the overall economic outlook, the improvement of 8.8 points to 69.5 was not as bullish as the expectations for the overall economy.

Private Sector Construction Business:

After a sluggish outlook for the last three quarters of 2016, the component for commercial construction made an optimistic move to a score of 73 for the next year expectations. The education construction outlook improved solidly, moving up 9.5 points to 63.9. The near-term expectations for health care construction weakened somewhat, but the one-year score is a solid 67.2. Lodging is still on the slow side, but improved 7.1 points looking out one year. Expectations for office construction improved somewhat, but they are still in slow-growth mode at 58.1.

Costs of Construction Materials and Labor:

The component for the cost of construction materials dropped 9.0 points, indicating continued higher prices. Labor costs also increased, dropping the index component to 20.0. Higher costs for materials and labor act to lower the overall CIRT Sentiment Index score. However, they also indicate that the economy is strong enough where materials manufacturers and labor can demand higher prices.

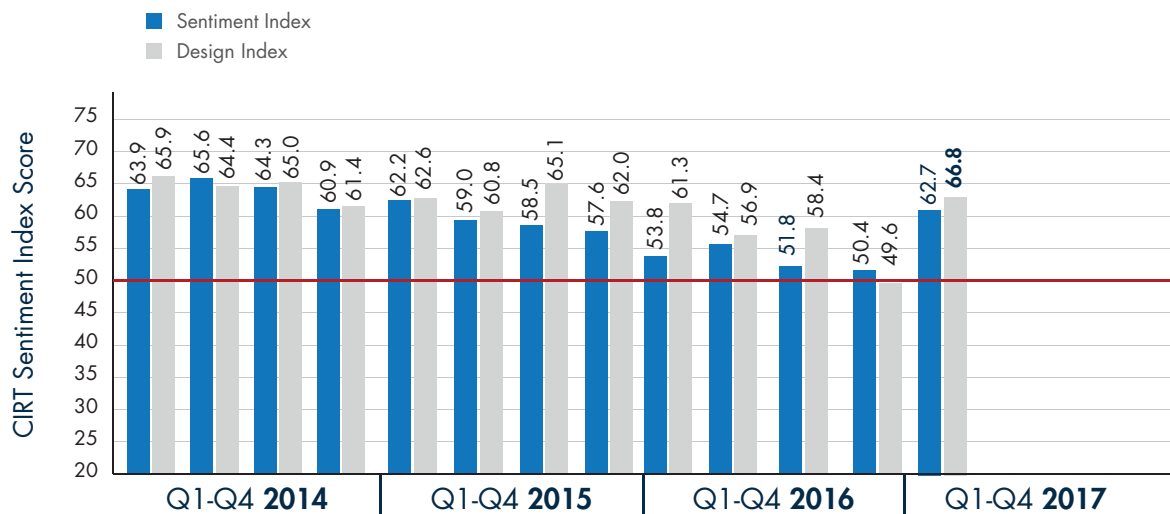
Productivity:

Productivity changed the downward trend to a slightly positive score of 51.9. Improving productivity is second only to hiring talented people as the top challenges for 2017, according to results published below.

Results of the First Quarter 2017 CIRT Sentiment Index

EXHIBIT 2

CIRT Sentiment Index Scores:
Q1 2014 to Q1 2017



(Scores based on a 100-point scale, above 50 indicate expansion, below 50 indicate contraction.)

Current Issues:

With the first CIRT Sentiment Index report for 2017, we asked a number of questions about several current issues and trends, including hiring plans, challenges for 2017, growth expectations, trends for Lean Construction and IPD, and a few questions about ownership transfer and management succession plans (OTMS). We have now built up a nine-year history of data for hiring plans. That history graphically shows the volatility in hiring plans that mirrors the top challenge for most construction companies in the past few years, finding and hiring talented people.

More companies will be hiring due to the need to address growing workloads for current employees, and there is always room for exceptional individuals. Hiring to have the right people on board for management succession plans is also a continuing challenge, as our questions about ownership and management succession show. In the next one to five years, 62% of responding executives say they need to have successors in place for the firm's most critical positions. At this point, 82% of CIRT executives answering our survey

report they at least have formal management and leadership succession plans in place. Creating continuity of leadership is critical for future growth as well as for ownership transfer plans. However, only 46% have ownership transfer plans in place. Of those who have ownership transfer plans in place, 41% of those plans involve selling the company to employees. Only 12% expect to sell to a third party, and no one reported an intention to liquidate the assets of the company. Our experience is that management succession and ownership transfer plans take around five years to complete. That includes finding and developing the right people and setting up plans to allow employees to buy shares within a reasonable amount of time, if selling to employees is part of the plan.

Looking at employment plans and hiring concerns, it is no surprise that hiring talented people is once again the biggest challenge CIRT executives expect for 2017. Likely, that challenge will be even more difficult as it has been a major mounting concern for several years now. Increasing productivity is the next largest challenge for 2017. This is directly related to finding talented people. Improving productivity takes planning and training. These things are more difficult to do when the workforce is busy and less skilled, coupled with higher turnover, which of course is the most important time to work on improving productivity. Even though backlogs continue at solid levels, it is still a “trial” to find new, profitable work, especially in the public markets, as federal and local budget increases are slowed. Nonetheless, the A/E/C market outlook for growth is modest for 2017, but slightly higher than for 2016 at around 2.5% to 5%, with only 2% expecting over 5% growth. This estimation is slightly lower than FMI’s outlook for nonresidential construction at 7% for 2017.

EXHIBIT 3

What changes do you foresee in the number of salaried employees in your organization for 2017? (Excluding natural attrition, retirements, etc.)

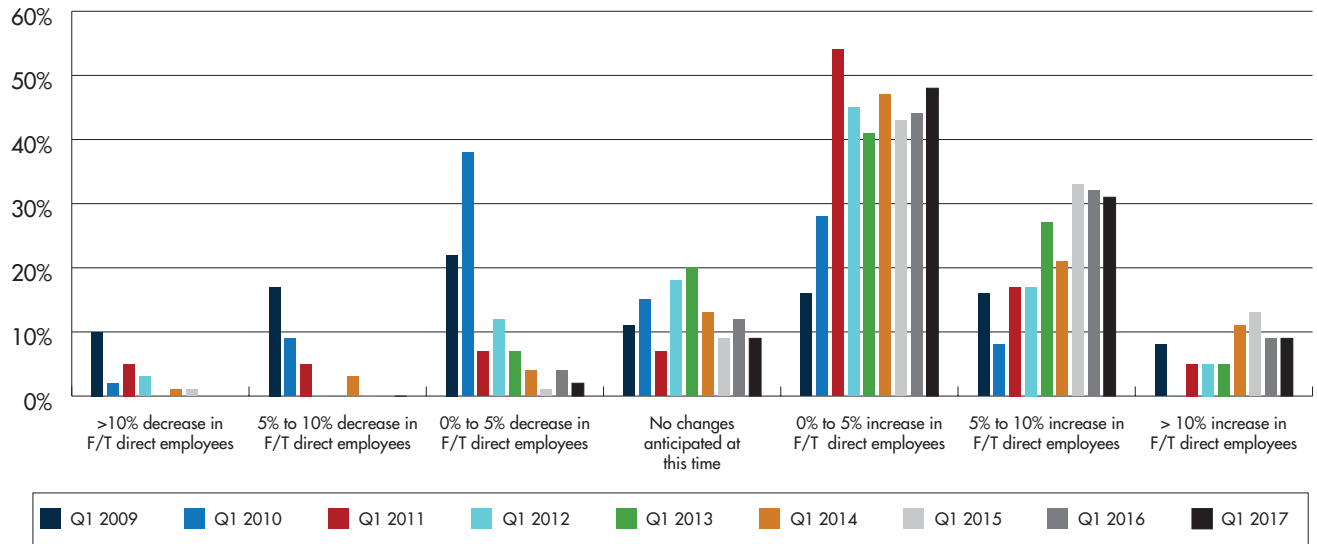
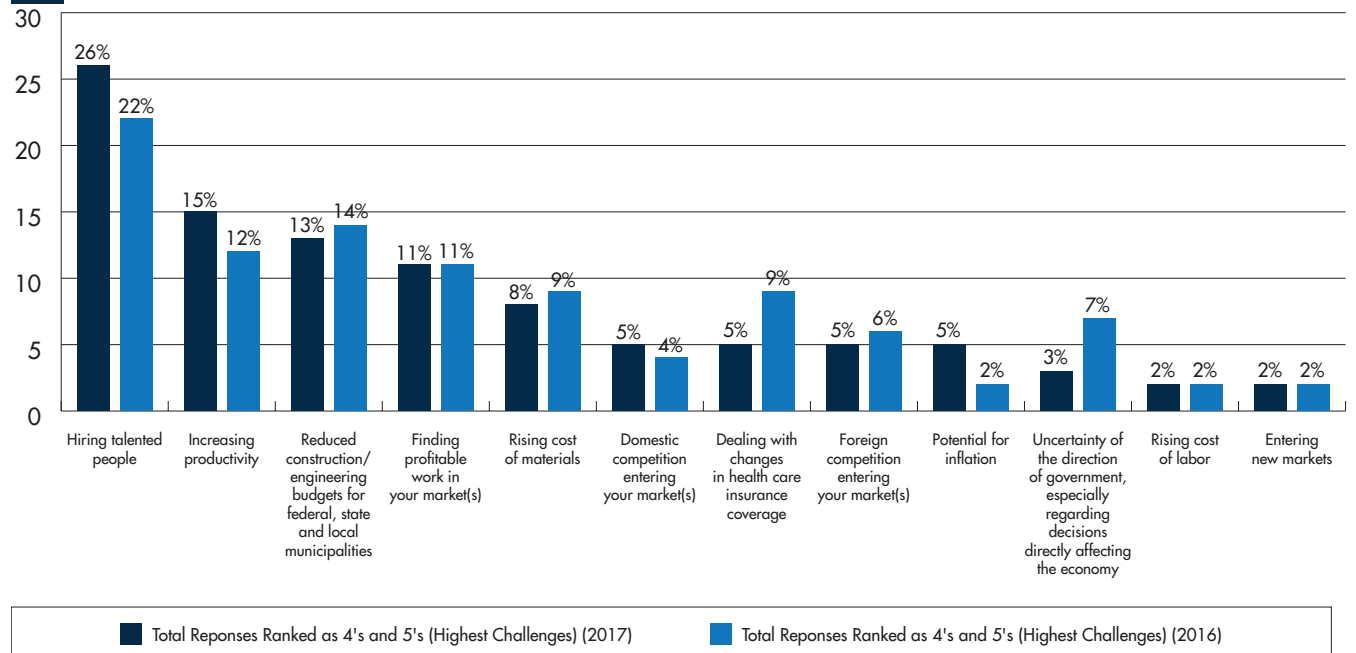


EXHIBIT 4

What do you expect to be the biggest challenges for your business in 2016? (Total Responses Ranked as 4's and 5's (Highest Challenges) for Q1 2016 and Q1 2017)



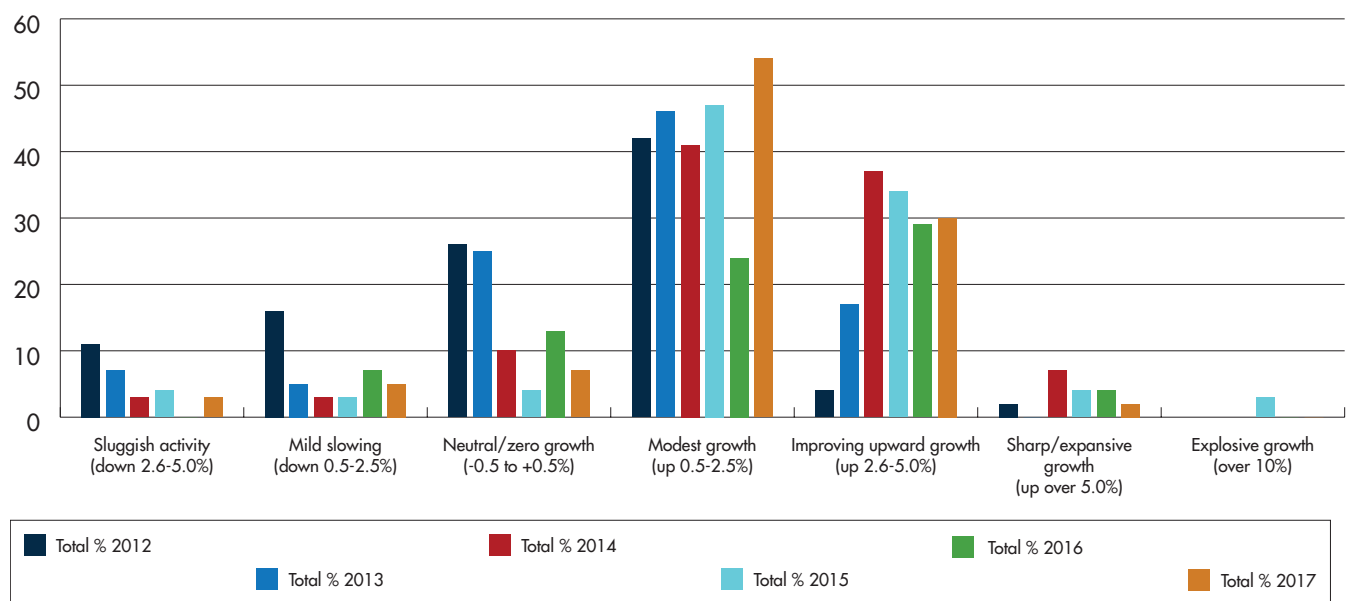


Comments on Biggest Challenges for 2017:

- Available labor for our workforce and subcontractors
- Finding the people to meet our growth goals is critical. The work will be there.
- Foreign competition.
- Waiting to see what happens with the new administration. Lots of talk, but where is the money?
- War on talent—talent wins contracts.

EXHIBIT 5

Construction activity for 2016 will finish around 5% higher than 2015. What do you predict in terms of overall construction put in place levels for 2017?



Lean Construction and Integrated Project Delivery

The practices of Lean Construction and Integrated Project Delivery (IPD) have been employed in the construction industry for some time now; however, the number of projects and companies involved has been limited. For instance, IPD has been mostly associated with large, complex projects like hospitals or high-tech industry buildings, although this delivery method has been used on smaller projects as well. Lean and IPD are related practices or methods in construction, particularly in that both strive to reduce waste and improve delivery time. They also seek to improve the bottom-line profit. Without providing detailed definitions as to what is considered “truly” Lean Construction or IPD, we asked several questions to get an idea of how often companies have been involved in the use of both as well as work on projects where both practices are used together.

About two-thirds or fewer of all survey participants answered the questions about Lean Construction practices and the IPD delivery method. While the numbers are low, nearly 20% of reporting companies indicated they used Lean Construction for over 60% of their projects. Overall, it appears that more companies are working with Lean Construction practices than utilizing IPD at this time. Lean Construction can more readily benefit all types of project delivery and projects, even though it is not expected to achieve all the benefits of using both lean and IPD together.

Among the drivers of both Lean Construction and IPD are owner requests or requirements and/or profitability on successful projects. We asked whether there is a measurable correlation in the use of “Lean Construction” and/or IPD and the project completion schedule, and if there was a correlation, what was the average percent improvement? Significantly, 48% of those who used Lean Construction did not see any measurable improvement compared to commonly used construction methods. For IPD, that number was 37%. For those involved in using both lean and IPD together, 31% reported no measurable difference. Of those companies that did use one or both practices, the majority realized between 1 and 19% improvement on project schedules, and a small percentage of respondents saw even larger improvements. We also asked if projects were completed under the project budget using Lean Construction and/or IPD. Unfortunately, the low number of responses does not allow any conclusions, although, for those answering the questions, there does appear to be some evidence of improvement.

If Lean Construction and IPD are the “next big things” for construction, it appears that, like other revolutions in construction, it will take at least another three to five years before they could be called hot trends. Nonetheless, there are early adopters that are benefiting from these approaches to improving construction now.

EXHIBIT 6

Please enter your best estimate as it involves your company's project history with Lean Construction and Integrated Project Delivery (IPD).

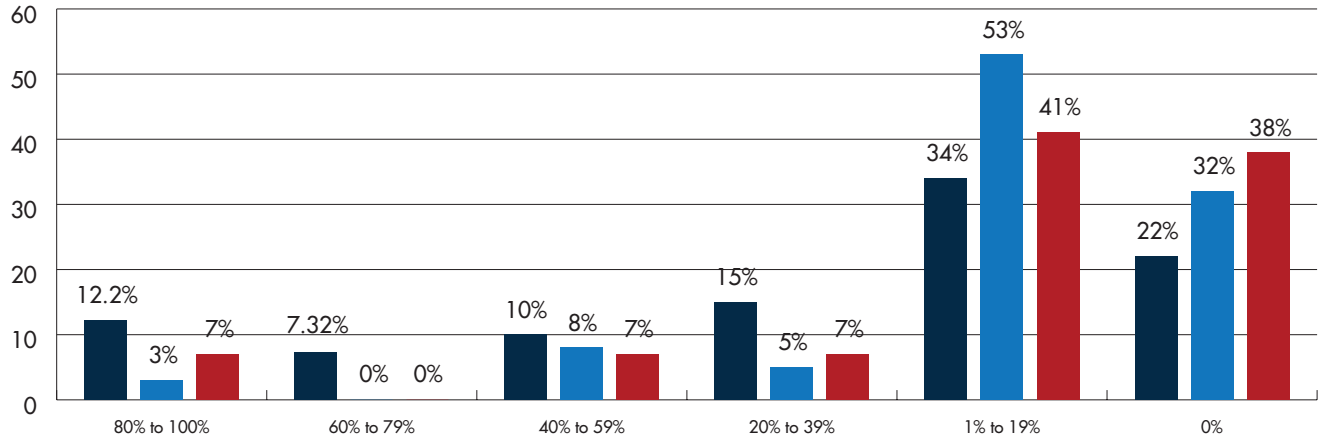


EXHIBIT 7

Lean Construction and Integrated Project Delivery
Percentage of Contractor Annual Revenue

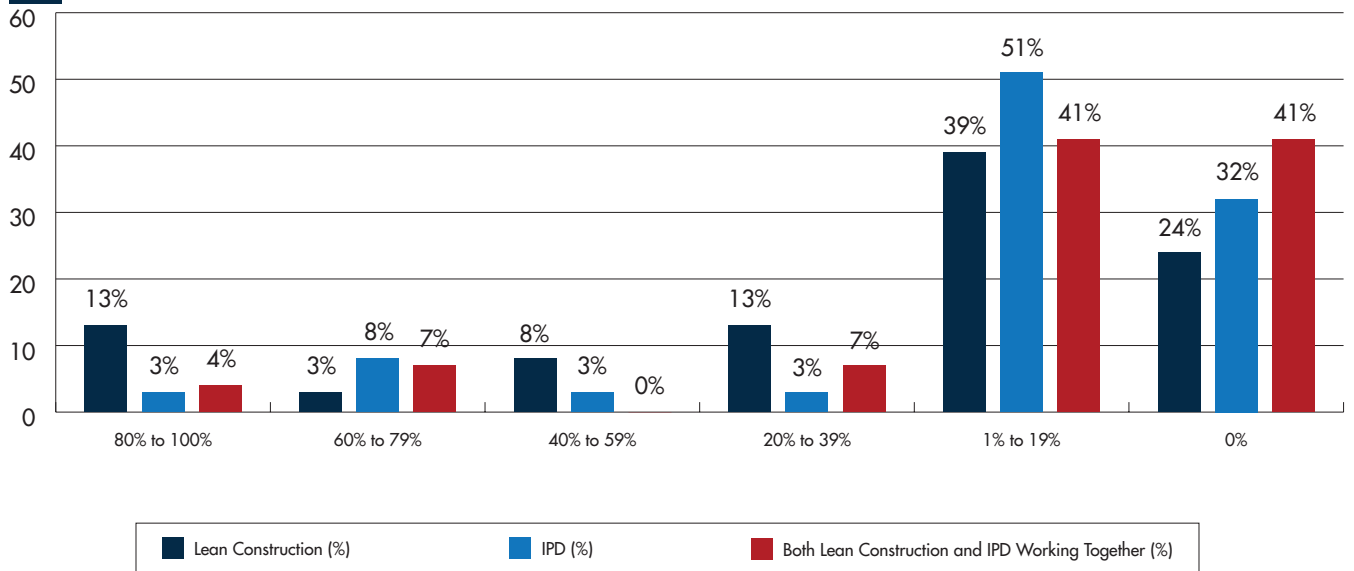


EXHIBIT 8

Was there a measurable correlation in the use of “Lean Construction” and/or IPD and the project completion schedule? (Estimate of the average percent improvement)

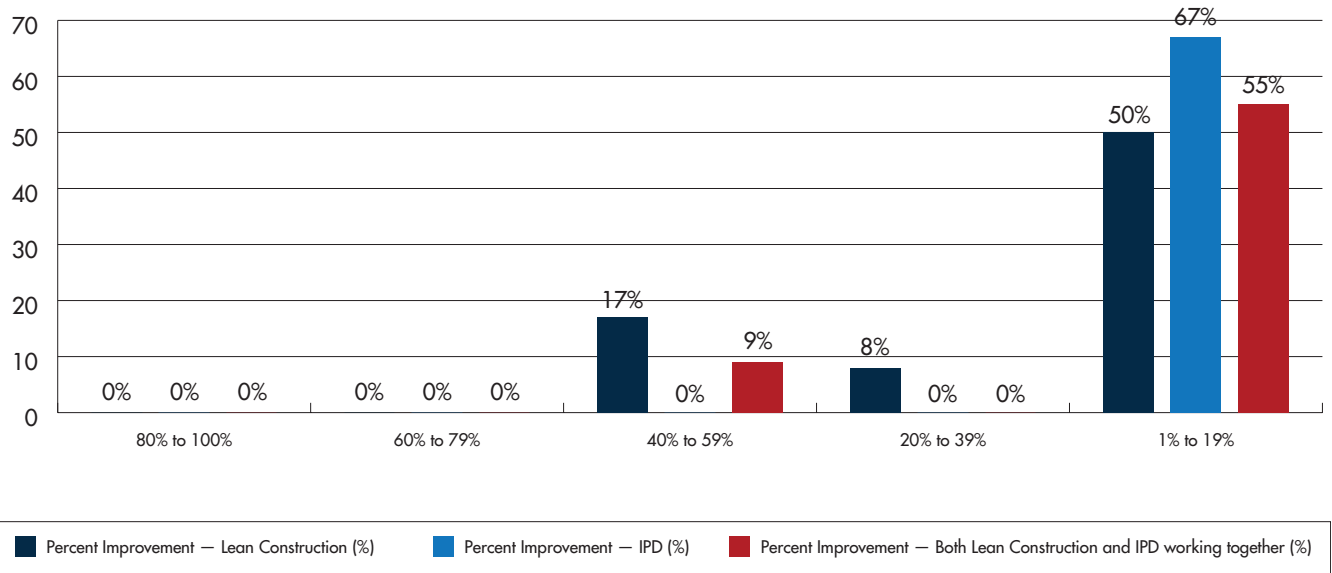


EXHIBIT 9

Was there a measurable correlation in the use of “Lean Construction” and/or IPD and the project completion schedule? (No significant difference compared to other commonly used methods)

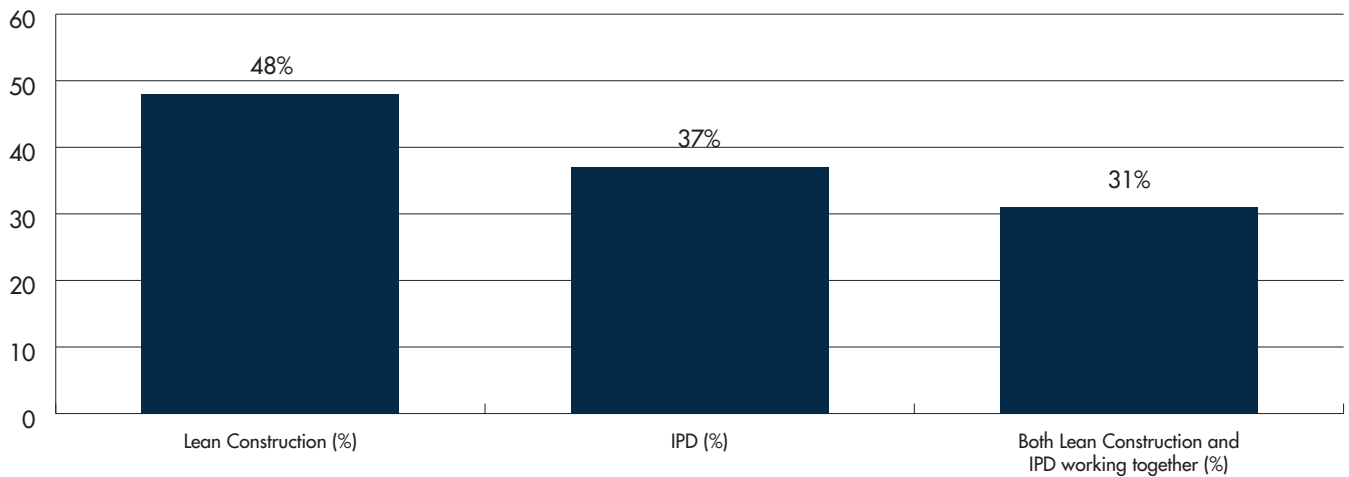


EXHIBIT 10

Based on your experience, do you expect widespread adoption of “Lean Construction/IPD” as an important/critical step in the evolution of project delivery and client relations?

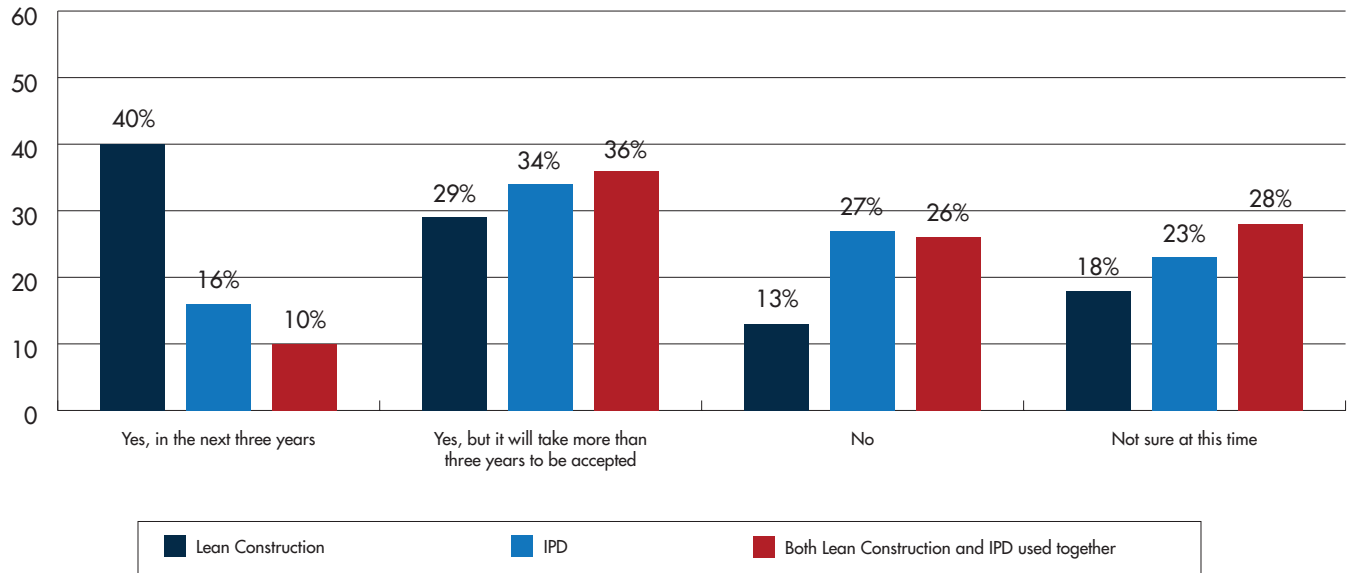


EXHIBIT 11

My organization will need successors to replace most critical positions in:

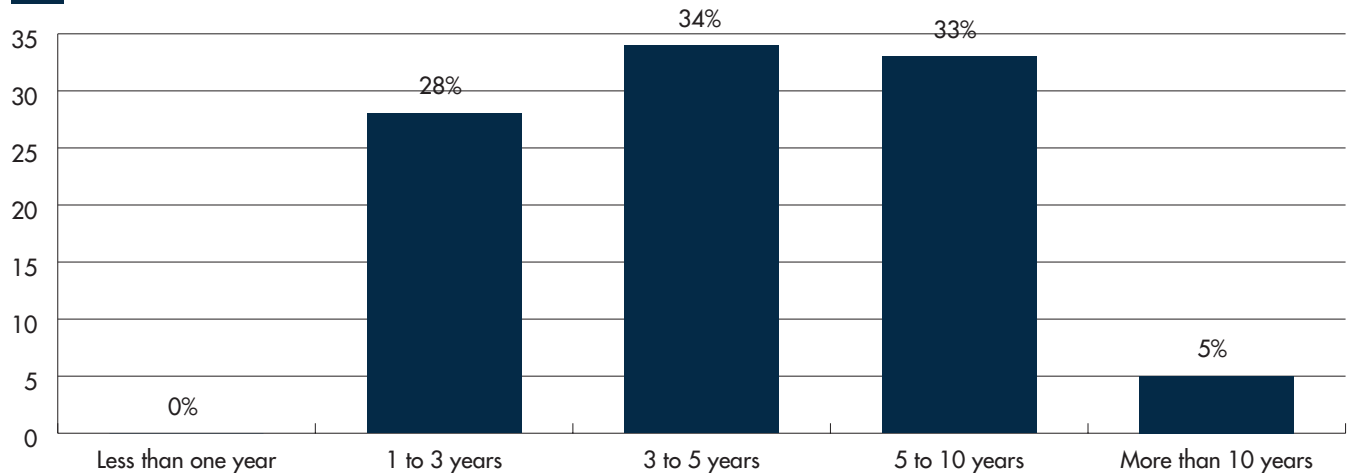


EXHIBIT 12

For continuity planning purposes, the following components are formally in place in my business: (Check all that apply)

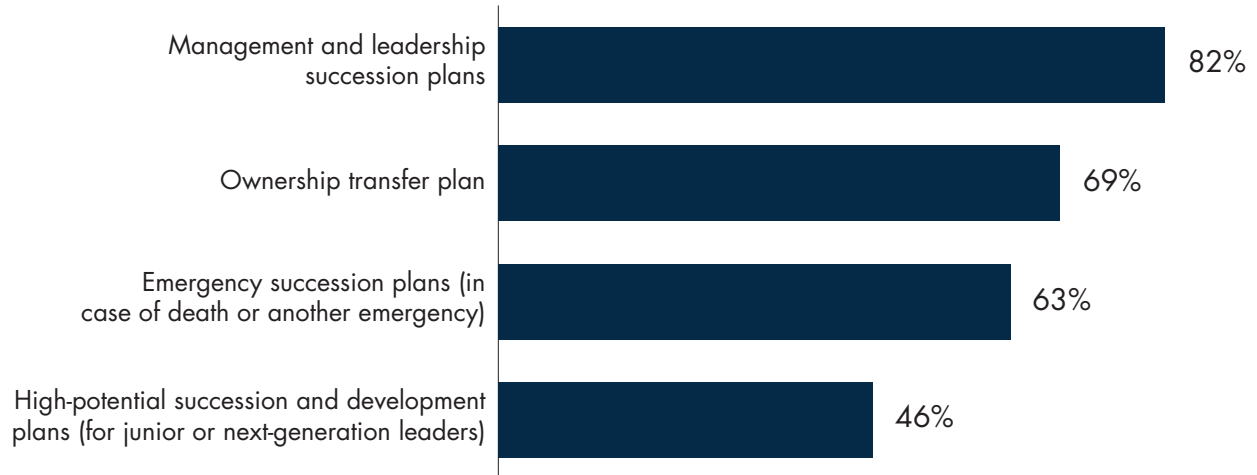


EXHIBIT 13

Ownership Transfer Plans

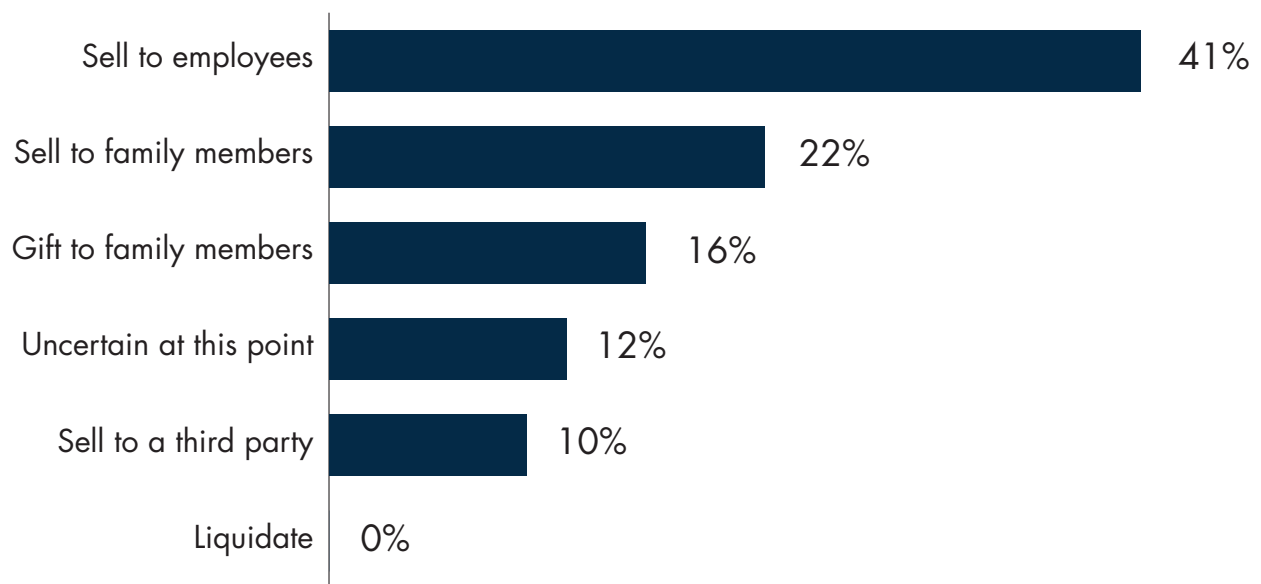


EXHIBIT 14

CIRT Sentiment Index Components Detail by Market Sector

	Components Q4 2016				Components Q1 2017			
	Business Outlook - Three Months			CIRT Sentiment Index Component Results Q4 2016	Business Outlook - Three Months			CIRT Sentiment Index Component Results Q1 2017
	Improving over last quarter	Remains the same as last quarter	Worse than last quarter		Improving over last quarter	Remains the same as last quarter	Worse than last quarter	
Commercial	6.3%	93.8%	0.0%	53.1	28.0%	72.0%	0.0%	64.0
Education	0.0%	100.0%	0.0%	50.0	22.9%	74.3%	2.9%	60.0
Health care	31.8%	68.2%	0.0%	65.9	25.8%	74.2%	0.0%	62.9
Lodging	10.0%	80.0%	10.0%	50.0	18.5%	63.0%	18.5%	50.0
Manufacturing	0.0%	92.9%	7.1%	46.4	30.4%	60.9%	8.7%	60.9
Office	4.3%	82.6%	13.0%	45.7	20.0%	70.0%	10.0%	55.0
Industrial/Petrochemical	6.3%	56.3%	37.5%	34.4	30.4%	60.9%	8.7%	60.9
Transportation-Related	12.5%	87.5%	0.0%	56.3	35.1%	62.2%	2.7%	66.2
Public Works/Heavy/Civil	23.5%	76.5%	0.0%	61.8	33.3%	60.6%	6.1%	63.6
Other	0.0%	50.0%	50.0%	25.0	33.3%	66.7%	0.0%	66.7
	Business Outlook - One Year				Business Outlook - One Year			
Commercial	11.8%	82.4%	5.9%	52.9	46.2%	53.8%	0.0%	73.1
Education	13.0%	82.6%	4.3%	54.3	38.9%	50.0%	11.1%	63.9
Health care	43.5%	52.2%	4.3%	69.6	37.5%	59.4%	3.1%	67.2
Lodging	4.8%	76.2%	19.0%	42.9	21.4%	57.1%	21.4%	50.0
Manufacturing	6.7%	80.0%	13.3%	46.7	54.2%	37.5%	8.3%	72.9
Office	16.7%	70.8%	12.5%	52.1	29.0%	58.1%	12.9%	58.1
Industrial/Petrochemical	29.4%	35.3%	35.3%	47.1	70.8%	25.0%	4.2%	83.3
Transportation-Related	58.8%	35.3%	5.9%	76.5	81.1%	18.9%	0.0%	90.5
Public Works/Heavy/Civil	52.9%	47.1%	0.0%	76.5	72.7%	27.3%	0.0%	86.4
Other	50.0%	0.0%	50.0%	50.0	66.7%	33.3%	0.0%	83.3
	Business Outlook - Three Years				Business Outlook - Three Years			
Commercial	0.0%	37.5%	62.5%	18.8	32.0%	48.0%	20.0%	56.0
Education	13.6%	59.1%	27.3%	43.2	38.2%	41.2%	20.6%	58.8
Health care	36.4%	59.1%	4.5%	65.9	43.3%	53.3%	3.3%	70.0
Lodging	0.0%	40.0%	60.0%	20.0	14.8%	55.6%	29.6%	42.6
Manufacturing	21.4%	64.3%	14.3%	53.6	43.5%	43.5%	13.0%	65.2
Office	4.3%	47.8%	47.8%	28.3	33.3%	30.0%	36.7%	48.3
Industrial/Petrochemical	62.5%	25.0%	12.5%	75.0	82.6%	13.0%	4.3%	89.1
Transportation-Related	75.0%	18.8%	6.3%	84.4	94.7%	5.3%	0.0%	97.4
Public Works/Heavy/Civil	58.8%	29.4%	11.8%	73.5	88.2%	8.8%	2.9%	92.6
Other	50.0%	50.0%	0.0%	75.0	66.7%	33.3%	0.0%	83.3

CIRT Index Scores

> 50 indicate growth (better)
< 50 indicate slowing (worse)

* A note on the use of the diffusion index: Do not interpret diffusion index values in the same manner as averages, because a simple increase or decrease in a diffusion index does not necessarily imply an improving or declining result. For example, if a diffusion index moves from 31 last quarter to 35 this quarter, it does not imply the market has improved. A reading greater than 50 indicates improving or expansion, 50 indicates remaining the same, and lower than 50 indicates worse or contracting. Therefore, if a reading goes from 31 to 35, then the result still implies a decline from the previous quarter, because 35 is lower than 50; but the decline is not as great as the previous decline, because 35 is greater than 31. As another example, if the diffusion index changes from 31 to 65, it implies improvement over the previous quarter, not because 65 is greater than 31, but because 65 is greater than 50.

EXHIBIT 15

CIRT Sentiment Design Index Components — Business Outlook Summary
Compared with last quarter, what are your expectations for projects in the following markets for design services in the next year?

Design Index Components	Q3 2016				Q4 2016				Q1 2017			
	Improving over last quarter	Remains the same as last quarter	Worse than last quarter	Overall Component Score Q3 2016	Improving over last quarter	Remains the same as last quarter	Worse than last quarter	Overall Component Score Q4 2016	Improving over last quarter	Remains the same as last quarter	Worse than last quarter	Overall Component Score Q1 2017
Consulting planning	23.8%	76.2%	0.0%	61.9	14.3%	78.6%	7.1%	53.6	50.0%	46.7%	3.3%	73.3
Pre-design work	36.4%	63.6%	0.0%	68.2	12.5%	81.3%	6.3%	53.1	57.6%	39.4%	3.0%	77.3
Commercial	20.0%	75.0%	5.0%	57.5	0.0%	90.9%	9.1%	45.5	37.0%	55.6%	7.4%	64.8
Residential	18.8%	68.8%	12.5%	53.1	0.0%	77.8%	22.2%	38.9	18.2%	63.6%	18.2%	50.0
Education	21.1%	73.7%	5.3%	57.9	0.0%	100.0%	0.0%	50.0	39.1%	60.9%	0.0%	69.6
Health care	33.3%	55.6%	11.1%	61.1	10.0%	70.0%	20.0%	45.0	34.8%	65.2%	0.0%	67.4
Industrial	13.0%	78.3%	8.7%	52.2	7.1%	64.3%	28.6%	39.3	39.1%	52.2%	8.7%	65.2
Transportation	35.0%	60.0%	5.0%	65.0	16.7%	83.3%	0.0%	58.3	60.0%	36.0%	4.0%	78.0
Heavy/Civil	33.3%	66.7%	0.0%	66.7	33.3%	66.7%	0.0%	66.7	47.8%	43.5%	8.7%	69.6
International	9.5%	61.9%	28.6%	40.5	0.0%	90.9%	9.1%	45.5	23.8%	57.1%	19.0%	52.4
Design Firms Index				58.4				49.6				66.8

EXHIBIT 16

CIRT Sentiment Index Components — Comparison of Results: Q2 of 2016 to Q1 of 2017

CIRT Scores

> 50 indicate growth (better)
< 50 indicate slowing (worse)

	CIRT Sentiment Index Components Q2 2016	CIRT Sentiment Index Components Q3 2016	CIRT Sentiment Index Components Q4 2016	CIRT Sentiment Index Components Q1 2017
The overall economy	57.8	51.7	51.2	74.2
The overall economy where we do business	58.8	53.3	52.3	71.1
Respondents' construction business	64.0	59.3	60.7	69.5
The residential building construction market where panelists do business	55.8	56.3	50.0	57.1
The nonresidential building construction market where panelists do business	77.3	56.1	56.4	71.8
Cost of construction materials	37.5	28.6	35.9	26.9
Cost of labor	19.4	20.5	21.1	20.0
Productivity	50.0	47.3	48.7	51.9
Expected change in backlog	62.1	55.9	47.6	65.6
Approximate current signed backlog in months	12.0	14.0	15.0	14.0

EXHIBIT 17

Size of the Organization in Annual Revenue

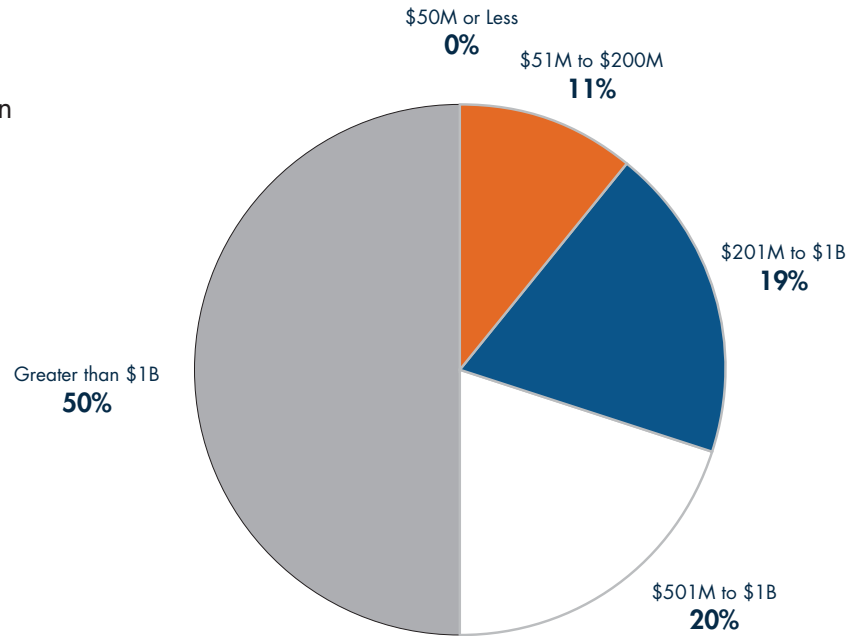


EXHIBIT 18

Type of Contracting Business

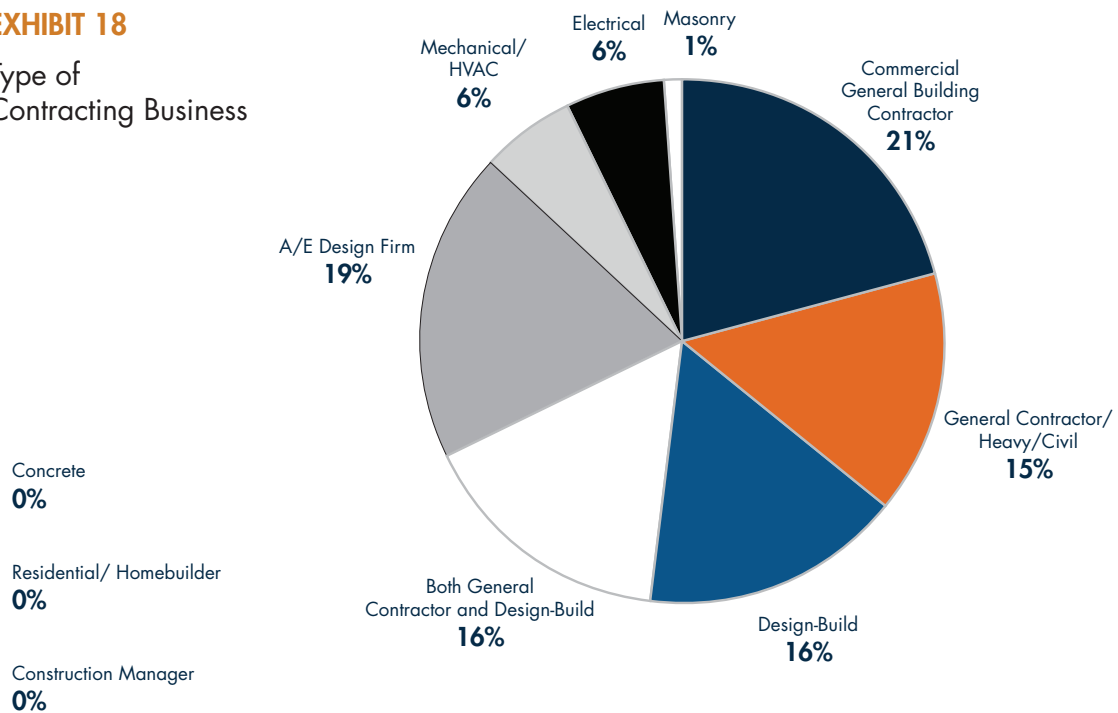
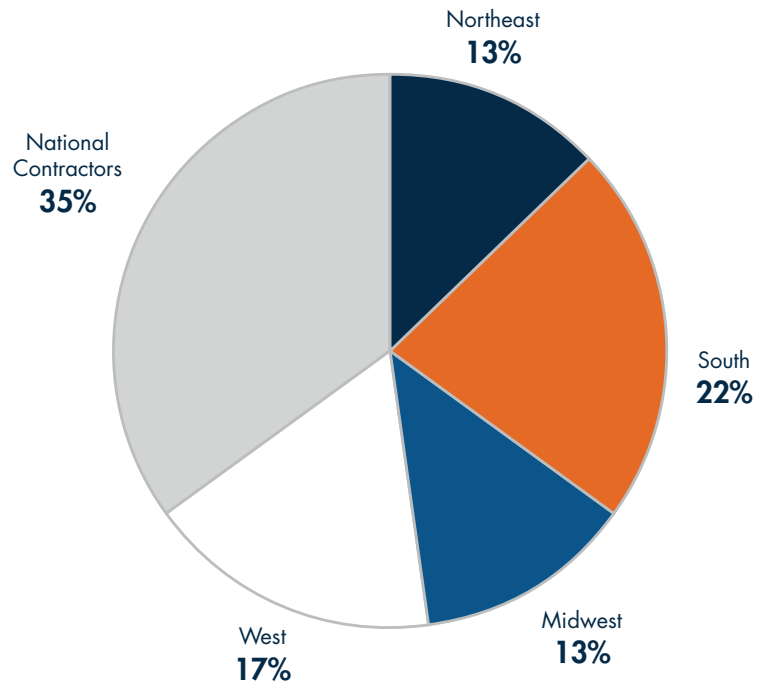


EXHIBIT 19

Primary Region in
Which Panelists Work



About FMI

For over 60 years, FMI has been the leading **management consulting and investment banking** firm dedicated exclusively to **engineering and construction, infrastructure and the built environment**.

FMI serves all sectors of the industry as a trusted advisor. More than six decades of context, connections and insights lead to transformational outcomes for clients and the industry.

Sector Expertise

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- Utility T&D
- Clean Tech and Energy Services
- Construction Materials
- Building Products
- Oil and Gas
- Private Equity
- Owners

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