# SPECIAL REPORT

# 2016 ANNUAL REPORT & FORECAST

- Construction Overview
- Equipment Fleets
- Transportation
- Water Infrastructure
- Home Building
- Nonresidential

CONSTRUCTION EQUIPMENT

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Provided as a service to the industry through the partnership of *Construction Equipment* and Case Construction Equipment.

# Another Step Forward In Business Confidence

By **ROD SUTTON**, Editorial Director

As 2015 ended, indications from all construction sectors were that the year was better than expected. Initial forecasts predict ongoing growth, at least those from two major construction data firms.

The 2016 Dodge Construction Outlook suggests that overall construction starts will grow in the range of 6 percent following estimated growth of 13 percent in 2015. CMD Group says starts will grow 8.4 percent in 2016.

Several factors contribute to the rosy outlook, spearheaded by the five-year, $305 billion federal highway funding program signed into law as the year wrapped up.

The residential housing market has rebounded strongly. Although it remains cautious, the outlook for new-home construction is fueling overall construction optimism. Water infrastructure funding was included in federal legislation in 2014, and those dollars are reaching the sector.

The thorn on the rose, however, is construction labor. Some observers speculate that finding qualified skilled labor may even delay projects. Nearly every respondent in this year's Annual Report & Forecast consider it a challenge for 2016.

Respondents are managers in the various construction markets. *Construction Equipment* has surveyed equipment users and construction managers about business and fleet performance for more than 30 years in order to present an annual business review and outlook for the industry.

Once again, we have partnered with several sister publications in specific construction vocations to obtain a broad view of the construction industry overall. Our Scranton Gillette/SGC Horizon partners include *Building Design+Construction*, representing the nonresidential market; *Professional Builder*, representing the home building industry; *Roads & Bridges*, reporting on the transportation industry; and *Water & Wastes Digest*, which covers the country's water infrastructure issues.

Inside our 2016 Annual Report & Forecast, we report on the industry as a whole, then each magazine's editor analyzes the individual market for a more detailed look at the upcoming year.

We express our appreciation and thanks to Case Construction Equipment for its continuing partnership with us in presenting this analysis of the construction industry. Case is a full-line manufacturer of earthmoving equipment, and its support of this project allows us to publish substantial amounts of data and analysis for the industry's use.

**Economists and survey respondents in all sectors forecast another year of construction growth to follow up a strong 2015. On the horizon, however, looms growing concern about labor to do the work.**

# Markets Rebound, Continue Upward

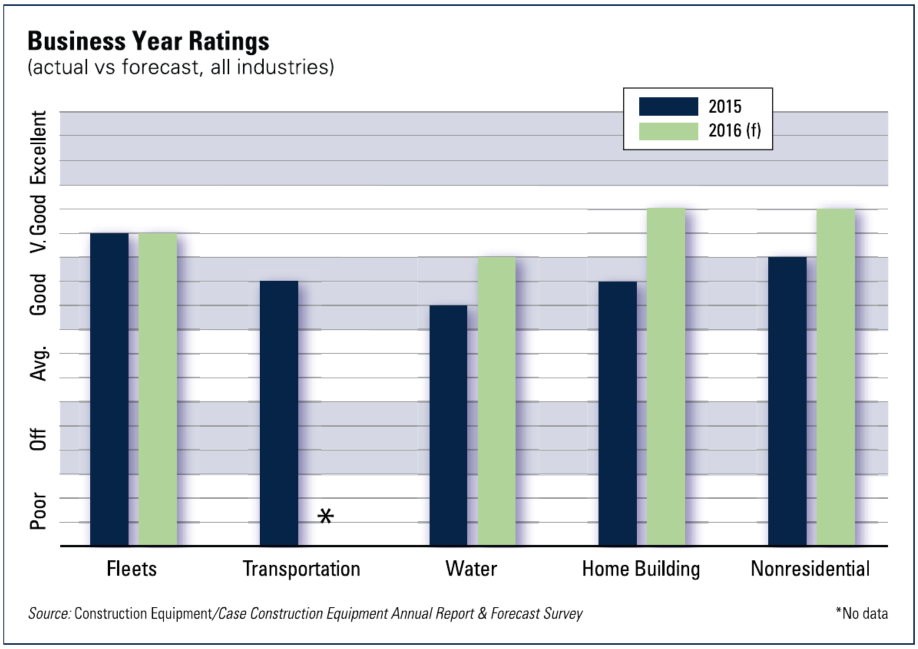
By **ROD SUTTON**, Editorial Director

Expectations for 2015 included pockets of confidence across the country and within the construction industry. The year turned out "good" in every region except the booming Southern Plains, which was "very good." Last year also was "good" for each of the markets covered by the Scranton Gillette/SGC Horizon publications. Fleet managers, which work within all construction markets and have a more nuanced view of business conditions, said 2015 was a "very good" year.

Forecasts for this year are even better as confidence appears to be solidifying.

Home building and nonresidential markets have a marked change in the way they view 2016 compared to 2015. Both expect this year to be a "very good" business year after 2015, which both rated as "good." The water infrastructure market expects 2016 to mirror last year for business, forecasting another "good" year. Overall, expect 2016 to be a "very good" year for construction.

This positive outlook also transcends region. Whereas the Southern Plains was the only region reporting a "very good" year for 2015, all regions have similar expectations for 2016.




**Nonresidential reported the most positive business year, aside from fleet managers. For 2016, home building shows renewed confidence and co-leads expectations along with nonresidential.**

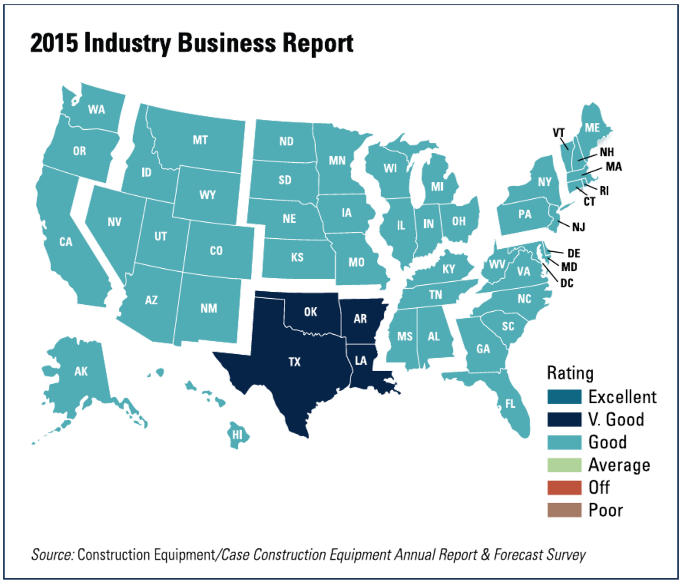
Revenue within the industry should be on the uptick, based on respondents' expectations for contract volume. As an industry, 53.7 percent expect volume to increase and 11.4 expect it to decrease, resulting in a positive net of 42.3 percent across all vocations. Home builders, not surprising given the length of that industry's downturn, have the strongest net at 55.5 percent (60.8 percent expecting contract volume increases minus 5.3

## Annual Report & Forecast Methodology

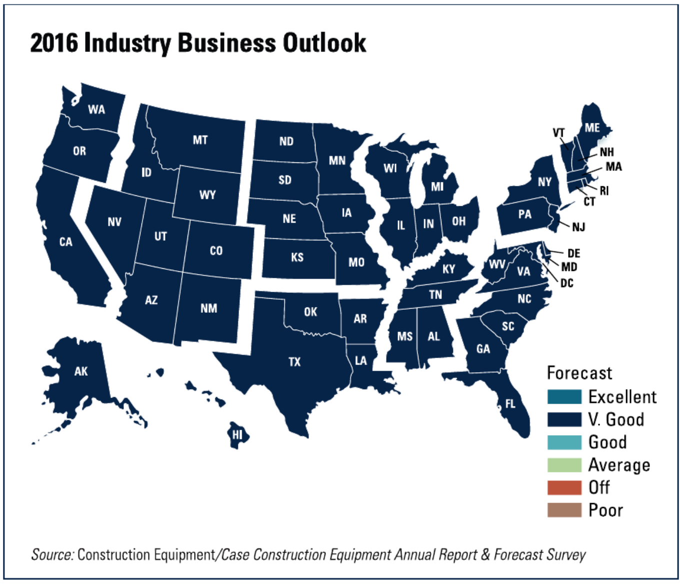
*Scranton Gillette Communications and SGC Horizon publish several magazines in the construction sector. Participants in the 2016 Annual Report & Forecast asked their subscriber base about not only overall construction trends, but also trends specific to the construction sector in which they work. Each publication sent email invitations to its subscribers, inviting participation in an online survey.*

*More than 1,200 responded.*

*Respondents by market include nonresidential, 332; fleet managers, 276; home builders, 209; transportation, 198; water infrastructure, 221.*




**Business was uniformly "good" last year, with New England, Mid-Atlantic, Great Lakes, Southern Plains and Pacific States beating expectations.**




**This year has high expectations written all over it, as every region is forecasting a "very good" business year for 2016.**

percent expecting decreases). Transportation reported a net of 21.4 percent (38.2 expected increases minus 16.8 expecting decreases).

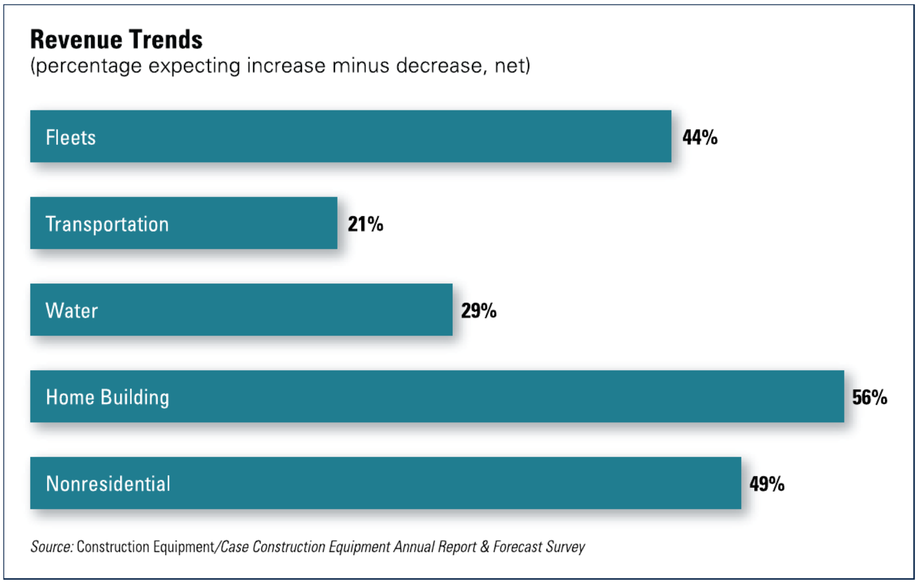
Less difference exists across regionals. The net for the South Atlantic region tops out the country at 55.5 percent (63.9 percent expecting increases minus 8.4 expecting decreases). The Great Lakes region has the lowest net, 44.3 percent, representing 56.1 percent expecting increases minus 11.8 expecting decreases.

Bid prices should also increase next year, with a net of 60.8 percent (64.6 percent of respondents expecting bid prices to increase minus only 3.8 percent expecting decreases). Nonresidential respondents are the most bullish, with 72 percent expecting bid price increases, and transportation the least, with 58 percent expecting increases.

Material prices will contribute to increases in bid pricing, with the industry reporting a net of 73.5 percent (75.5 percent expecting increases in material prices minus 2 percent expecting decreases). Among home building respondents, 83 percent expect material prices to increase in 2016; among transportation and water infrastructure respondents, 70.1 percent expect increases.

Even so, several industry reports cite labor cost as the true driver of increasing construction costs. "My No. 1 concern is the availability of labor," said Ken Simonson, economist with Associated General Contractors of America.

Competition within industries and in construction as a whole continues strong, according to respondents. In



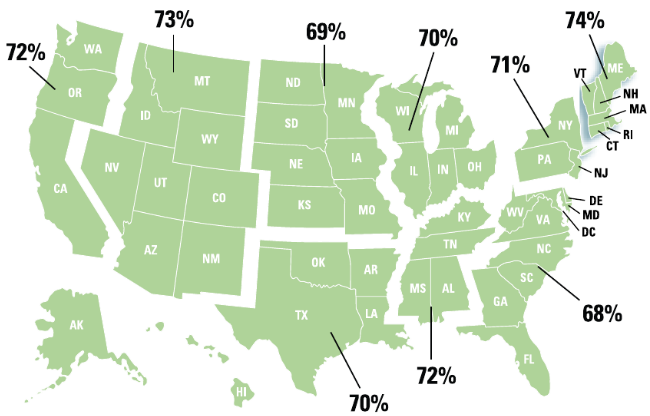

**Expectations for gains in revenue in 2016 differ by market group. The net is positive, but the range runs from 21 percent in transportation to 56 percent among home builders.**

2015, 68 percent of respondents said their markets were "intensely" or "very" competitive. This response mirrors the 2014 results.

Market competition varies, with nonresidential reporting the most competitive construction market: 84 percent said their market was "intensely" or "very" competitive. Seven of 10 transportation respondents said their market was "intensely" or "very" competitive, and 63 percent of home builders said the same. The water infrastructure market was labeled "intensely" or "very" competitive by fewer than half of respondents: 46 percent.

Overall firm health continues strong, with 67 percent of respondents describing it as "very good" or "good" in 2015. Managers of firms in the water infrastructure sector were the most positive, with 75 percent reporting that overall firm health was either "very good" or "good."

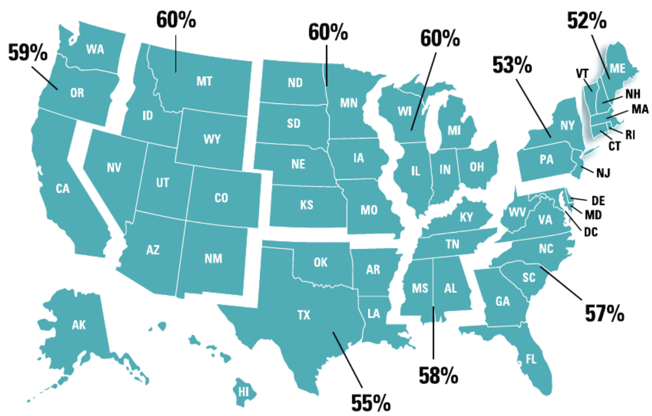
**2016 Material Prices**
(percentage expecting increase minus decrease, net)




*Source:* Construction Equipment/*Case Construction Equipment Annual Report & Forecast Survey*

**The national net for material prices is 74, with only slight variances across regions.**

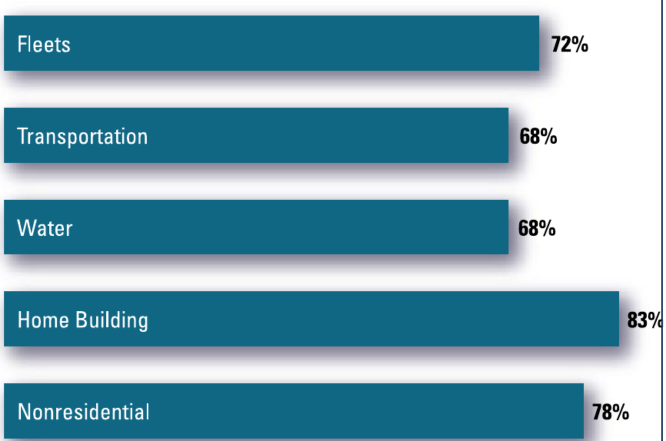
**2016 Bid Prices**
(percentage expecting increase minus decrease, net)




*Source:* Construction Equipment/*Case Construction Equipment Annual Report & Forecast Survey*

**The national net for bid prices is 61, but regional forecasts are tempered by market differences.**

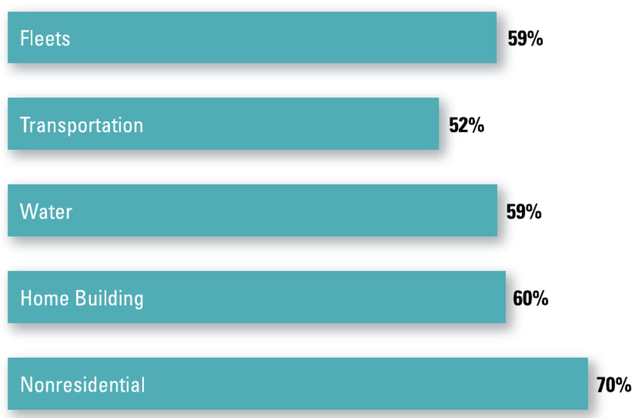
**Material Price Trends**
(percentage expecting increase minus decrease, net)




*Source:* Construction Equipment/*Case Construction Equipment Annual Report & Forecast Survey*

**Expect material prices to go up in 2016. Home building and nonresidential forecasts are the strongest.**

**Bid Price Trends**
(percentage expecting increase minus decrease, net)




*Source:* Construction Equipment/*Case Construction Equipment Annual Report & Forecast Survey*

**All markets forecast bid prices to increase this year. Nonresidential has the greatest expectations for increases.**

# Managers Stand Ready For Fleet Improvements

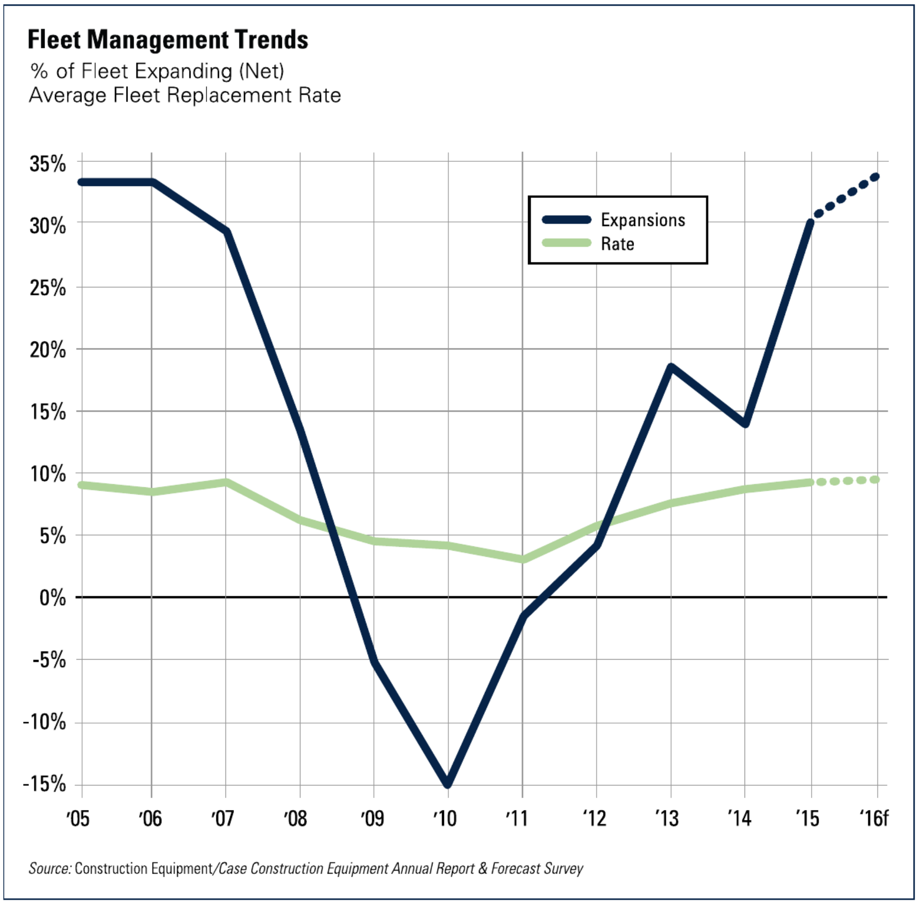
By **ROD SUTTON**, Editorial Director

As demand for construction projects builds, so does the demand for the equipment to do that work. Construction equipment-fleet managers who put in place acquisition and maintenance strategies to weather the downturn of the past several years now see opportunity to ramp up and replenish fleets.

Acquisition decisions, however, include new equipment with engine-emission technology. Fleet managers will consider the cost of Tier 4-Final machines as they adjust strategies for not only purchase and rental, but also maintenance and lifecycle management.

They will adjust, according to results from this year's survey of *Construction Equipment* subscribers. Among those who responded to our 2015-16 Annual Report and Forecast questionnaire, the outlook is positive. They expect to expand their fleets of construction equipment this year and replace machines that have expended their useful lives.

Last year's business-year rating exceeded expectations. At the end of 2014, fleet managers predicted a "good" business year for 2015; instead, 2015 turned out to be "very good." Notably, this is the highest rating for business in several years. The momentum is expected to carry into 2016, with managers forecasting it to also be "very good." Since equipment fleets represent the most capital-intensive investment a construction organization has, fleet manager sentiment reflects the industry's willingness and ability to put machines to work.

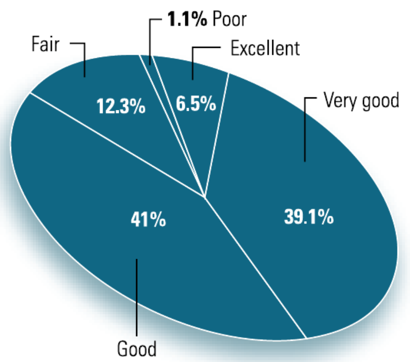



**Fleets expanded at a rate much stronger than expected. The net of 30 percent is the highest response since 2006 and well above the 20 percent net that was predicted. Replacement rates continued their rebound, too, slightly higher than expected and now in what has historically been a normal range of 9 percent to 10 percent.**

Contract volume trends support this notion. Expectations for 2015 were solid, and the year outperformed the forecast. In fact, 2015 marked the third consecutive year that the percentage of respondents reporting volume increases outweighed the percentage reporting decreases. This net percentage (increases minus decreases) was 39.6 percent for 2015, up from 31.9 in 2014 and completely reversing the net of -15.4 percent recorded in 2011.

Expectations for 2016 are even more positive, with a net of 44.2 percent (56.3 percent expecting contract volume to increase minus 12.1 percent expecting it to decrease). The 5-point increase in net compared to 2015 comes from a reduction in the percentage of managers expecting volume to decline: 18 percent in 2015 versus 12.1 percent in 2016.

**Fleet Health**
(% responding)




*Source:* Construction Equipment/*Case Construction Equipment Annual Report & Forecast Survey*

**As managers begin to replace and expand fleets, overall fleet health is improving. Forty-five percent reported that their fleets are in "excellent" or "very good" condition.**

A similar trend exists with expectations for bid prices. Last year, the net was 45.9 percent, with 55 percent of managers expecting increases minus 9.1 expecting decreases in bid prices. This year, the net is 58.9 percent. Some 62.9 percent expect their operations to increase bid prices, and only 4 percent expect those prices to go down.

## Fleet trends

In response, fleets expanded in 2015 at a pace not seen since 2007. Last year, fleet managers tempered their expectations on fleet changes for several reasons, including transportation funding uncertainties and new engine technologies on equipment. As the year progressed, however, fleet expansion opened up.

At the end of 2014, 27 percent of fleet managers expected to increase fleet size in 2015 and 10 percent expected to decrease fleet. That left a forecast net of 17 percent. Actual percentages for 2015 provide a net of 29.9 percent (38.5 percent reporting fleet expansion in 2015 minus 8.6 percent with fleet decreasing in size).

For 2016, expectations continue strong. Some 37.8 percent expect to grow fleet this year minus 4.7 who expect to decrease fleet for a net of 33.1 percent.

Machine-replacement rates are also reaching pre-recession numbers. This year, respondents forecast an average replacement rate of 9.4 percent, well within the historically healthy range of 9 percent to 10 percent. The rate in 2015 was also healthy at 9.1 percent and also beat expectations; the forecast rate was 8.8 percent.

Fleet health, directly related to replacement rates, continues to strengthen. In 2011, less than 40 percent of respondents said their fleets were in "very good" or "excellent" condition, and 15 percent reported fleet health as either "fair" or "poor." In 2015, 45.6 percent of respondents said their fleets were in "excellent" or "very good" condition. About 13 percent rated health at "fair" or "poor."

About half, 51.1 percent, of fleet managers say they purchased machines outright in 2015, and 37 percent said they purchased by financing the machine. Rental/purchase agreements were employed by 19.8 percent of managers, a strategy that continues to grow. Leasing also grew in 2015, with 22.5 percent of managers using either a lease or a lease/purchase to acquire equipment.

Short-term rental remains a strong strategy, with 32.2 percent of managers saying they increased their use in 2015, up from 29.1 percent in 2014. The American Rental Association anticipates equipment rental industry revenue growth in the United States of 6.7 percent in 2016.

As fleets expand, equipment department hiring follows. In 2015, 39.1 percent of fleet managers said they increased their department workforce. Service and maintenance hiring increased for 22.5 percent of managers, and "other hourly labor" increased for 38.3 percent. The number of equipment operators employed increased for 30.4 percent of respondents.

**Acquisition Strategies**

| | |
|---|---|
| Purchase outright | 51.1% |
| Purchase by financing | 37.0% |
| Rental/purchase | 19.8% |
| Short-term rental | 18.3% |
| Lease/purchase | 12.1% |
| Lease | 10.3% |

*Source:* Construction Equipment/*Case Construction Equipment Annual Report & Forecast Survey*

**More than half of fleet managers say they purchased equipment outright in 2015, and 37 percent used financing to purchase. Both are comparable to 2014 responses. The percentage of respondents using rental/purchase and leases has grown compared to 2014.**

**Equipment Workforce**

| | |
|---|---|
| Increased | 39% |
| Decreased | 20% |
| Stayed the same | 41% |

*Source:* Construction Equipment/*Case Construction Equipment Annual Report & Forecast Survey*

**Fleets continue to hire equipment-related personnel with the fifth consecutive year of growth in the percentage of fleets increasing their hiring. Most of the growth is coming from "other hourly labor," and "service & maintenance" workforces increased for 22 percent of fleets.**

# Tier 4 Equipment's Effect on Plans

Nearly all models in major machine categories have been updated with Tier 4-Final engines. Yet many fleet managers have hesitated to purchase the new equipment. Many fleets have Tier 3 machines with many hours of useful life available; others are cautious about investing in equipment when project backlogs are still light.

Still others, according to our research, are concerned about increased prices of machines equipped with the latest emission-reducing technologies.

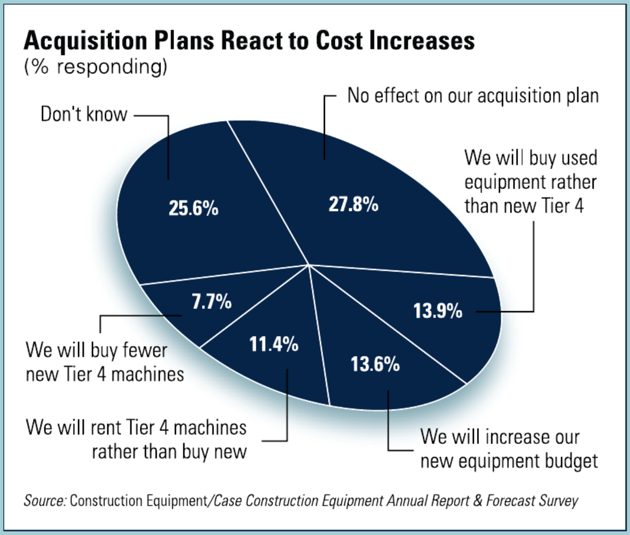
The re-engineering and research-and-development costs associated with producing machines that meet EPA-mandated emissions standards must be recouped, so manufacturers haved increased prices for equipment with Tier 4-Final engines.

Fleet managers have responded to cost increases in three ways: They have or will boost equipment-acquisition budgets, they will reduce the number of machines they replace, or they will turn to alternative acquisition strategies such as rental or used-equipment purchases.

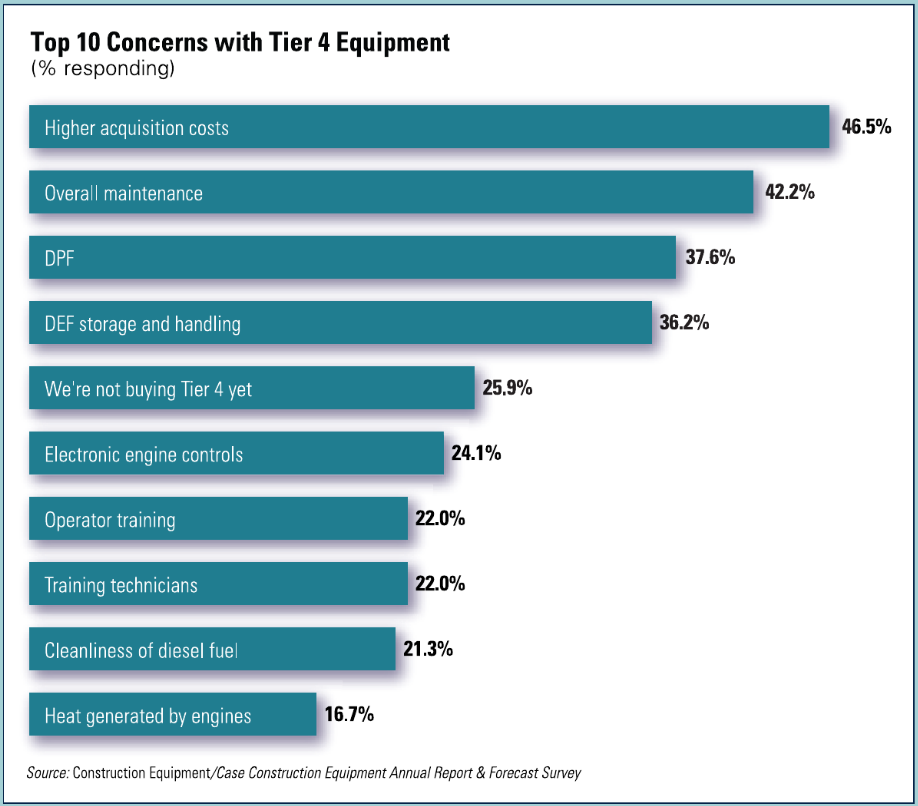
But purchase price isn't the only concern, although it is the No. 1 issue. Maintenance of machines with emissions technologies also causes heartburn.

The population of Tier 4 equipment is small, so managers do not have historical data or actual experience with maintenance to know what to expect. Diesel exhaust fluid must be managed and integrated into field-maintenance procedures. Technicians must be trained. Diesel particulate filters must be properly regenerated and cleaned.

Only 10 percent of respondents are "generally prepared" for Tier 4 equipment. The accompanying data show why the other 90 percent are not.




**Slightly more than one-fourth of respondents said cost increases will not affect acquisition plans this year, and another 14 percent said they will increase budgets for purchases. About 25 percent will rent Tier 4 equipment or buy used equipment rather than buy higher-priced Tier 4 machines.**




**Higher acquisition costs associated with Tier 4 equipment is the top concern for fleet managers, with nearly half of respondents citing it. A collection of maintenance items concern more than one-third of respondents, and 21 percent expressed concern over fuel cleanliness.**

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# Federal Highway Bill Should Boost Activity

By **BILL WILSON**, Editorial Director, *Roads & Bridges*

Tom Foss is starting to hear the threats just when the teasing appears to be coming to an end.

For years, Congress had played with the minds of those in the road and bridge industry regarding the passage of a multiyear highway bill. Hope would build and then be snuffed out in the form of another funding extension.

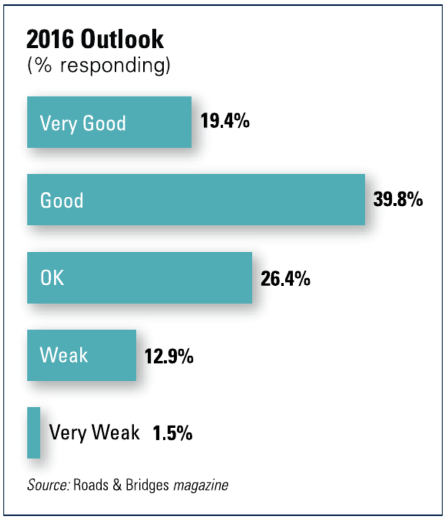
Recent developments on Capitol Hill had anticipation finally feeling like realization. After members of the House and Senate came together and agreed on a five-year, $305 billion bill, called the Fixing America's Surface Transportation (FAST) Act, both chambers quickly passed the measure. President Obama signed it into law on Dec. 4.

Back in California, Foss, who leads Griffith Co. in the city of Brea, is eager to see an influx of federal dollars funnel through, but he also is making sure his operation is running a tight ship, otherwise it could be raided by a new band of fines.

New storm-water regulations will be enforced in California, and will require transportation contractors to use silt fences, sand bags, straw wattles, and bales of hay to prevent runoff from the job site from entering the state's water system.

Two other requirements affect the labor end of the operation. One is a federal rule calling for the hiring of local workers.

Griffith Co. has projects all over southern California, and when they enter a city or town they must actively pursue the laborers in the area. When Foss has to rotate people in and out to meet local hiring regulations, it affects his production. Another rule, which requires workers to take a 10-minute break for every four hours of work, has been in play since 2002, but many contractors such as Griffith are still trying to make sure everything is properly documented. Foss could have hundreds of workers covering a 16-mile project, so the process is extremely difficult. Every week or so each crew member is required to sign a document stating that they have been receiving their breaks.




**Almost 60 percent of respondents said they feel positive about 2016, with one in five expecting a "very good" year.**

The now infamous and more stringent air-quality regulations from the California Air Resources Board (CARB) also loom on the horizon. Like most contractors, Griffith Co. is in the process of replacing or retrofitting its fleet of equipment so that all machines have Tier 4-Final engines.

## Comfortable enough

Despite the pressure of the law, Griffith Co. had a solid year in 2015. The Orange County contractor was expected to register $300 million in volume. As for 2016, Foss is expecting more of a normal construction season, which is about $200-$230 million in volume. Griffith and Co. could benefit slightly from the new federal multiyear bill, but it will not come in the form of new jobs until the tail end of the year. Currently, Griffith is handling a lot of work that was awarded over the past two years, and for most of 2015 cities and counties were slow to advertise new jobs because of the funding situation in Washington.

"Getting a bill I think will allow the city and county agencies to begin to put out their projects, and that will ease up everything for a company like ours as far as competition and things like that," said Foss. "There will be more work, and the contractor pool will just get spread a little further so there will be less bidders on every job."

For bridge contractors in the state of New York, the funding pool received some needed depth in 2015. New York's Critical Bridges over Water (CBOW) initiative was fed with billions of dollars, with some coming from

Housing and Urban Development and even more from bank settlements. Gov. Andrew Cuomo also supplied New York City and its Metropolitan Transit Authority with $8.3 billion, and a group called Rebuild New York called for funding parity.

"If the MTA needs $25 billion over the next five years, we are saying the highway guys upstate need $25 billion over the next five years," Jeff DiStefano, co-owner and CEO of Harrison Burrowes Bridge Constructors, said. "Ten years ago, we had close to parity with the MTA and then through some governor and assembly leader changes it kind of fell off track."

You might say Harrison Burrowes is a VIP of New York's bridge bash. The company experienced 20 to 30 percent growth last year compared to 2014, and the backlog is full for 2016.

One of the 2016 projects is a design-build joint venture, which falls under CBOW, that involves 18 bridges, and there are two more jobs that will involve single structures.

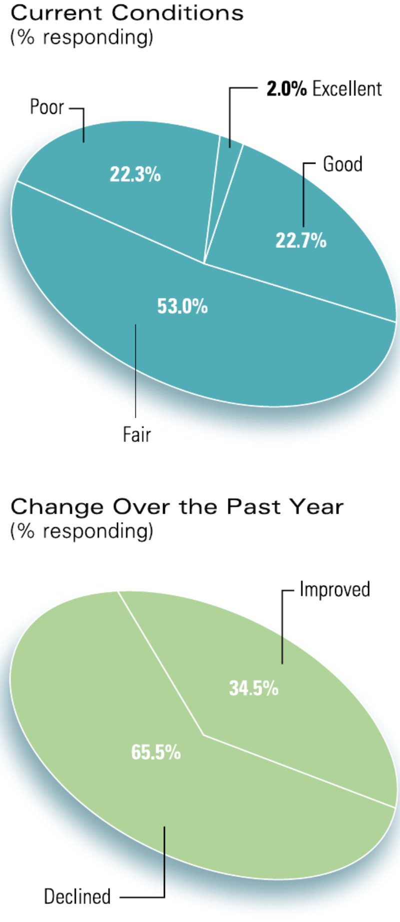
A part of Harrison Burrowes' profit will turn into investment, especially on the equipment side. DiStefano said six to eight pieces were new in 2015, and four to six pieces could be bought in 2016 if revenues continue to be on the upswing.

"We are a little bit concerned about next year with the ongoing projects in the Hudson Valley," said DiStefano. "There is...a lot of work down there in the Hudson Valley, and I'm questioning if the unions can supply the help that we need."

## Good way of looking at it

As a whole, contractors in the road and bridge industry have not been searching for many answers when it has come to generating capital. According to the most recent state of the industry survey conducted by *Roads & Bridges*, almost 70 percent of respondents rated 2015 as either a "good" or "very good" year, and almost 60 percent said 2016 will be a success as well. More money could be on the table, too. When asked if they expect bid prices to go up, down or stay the same in 2016, more than 57 percent said they believe the prices will go up.

**Urban Road Conditions**




*Source:* Roads & Bridges *magazine*

**Fifty-three percent of respondents said the urban roads in their state are "fair," and another 22.3 percent said they are "poor."**

Alison Premo Black is the chief economist for the American Road and Transportation Builders Association (ARTBA) and puts together a market report every year. Her numbers showed 7 percent growth in the road and bridge industry for 2015, and most of the contractors are feeling better about the business climate.

"They feel like things are returning to more of a normal market," Premo Black said. "After 10 years of short extensions, the industry also has adapted. This has been the new normal, so I think to a large extent that mentality has been adopted by the industry."

Breaking it down, according to ARTBA, which looks at the value of construction put in place, work in the highway sector (pavements) ended up at $55.9 billion in 2015. The average since 2000 has been about $60 billion, but it was as low as $51 billion in 2013.

On the flip side, bridge work continues to do its best work. The value of construction put in place for 2015 was $33.3 billion.

Construction activity in Florida, New York, Indiana and California was particularly high in 2015, but contract awards were up in almost half of the states. Big projects stoked the overall numbers.

Even with a long-term highway bill, ARTBA is only projecting 3.9 percent growth in the road and bridge market in 2016. Premo Black believes the recovering economy will play a larger role than will a new dose of federal funding. ARTBA is predicting $58.1 billion worth of work in the highway sector and $34.6 billion for bridges in 2016.

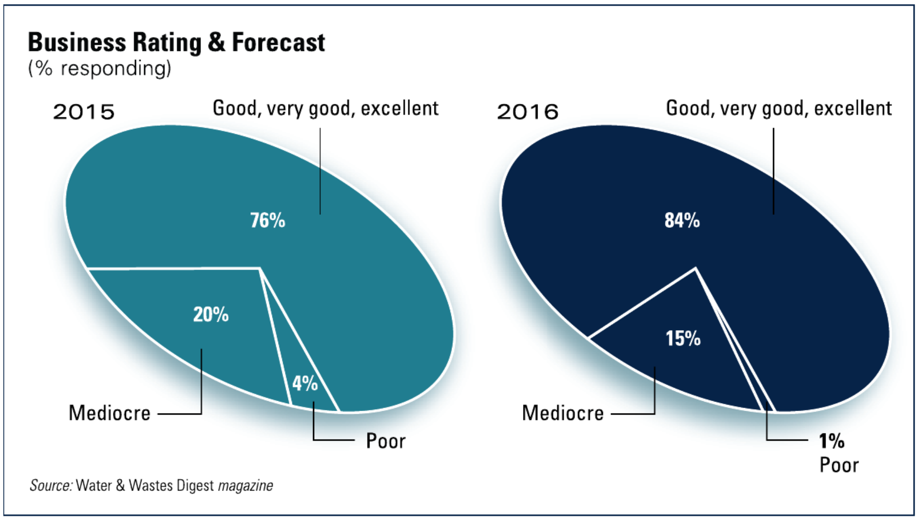
Funding is still falling far short of what is needed to address an overall network that remains in critical condition. According to the *R&B* survey, 53 percent of respondents said the urban roads in their state are "fair" and another 22.3 percent said they are "poor." Furthermore, over 65 percent said the condition has declined over the past year. The numbers are not much better for rural roads (49.8 percent in fair condition; 67.3 percent said it declined since 2014) and bridges (65.5 percent of respondents said 16 percent or more of spans are structurally deficient).

# Water Industry Poised for Growth

By **ELISABETH LISICAN**, Managing Editor, *Water & Wastes Digest*

Despite a steady decline in funding, the water industry remains positive-thinking and poised for growth. This positivity, however, is a muted shade of the assurance noted a year ago.

Last year, *Water & Wastes Digest*'s 2014 State of the Industry report showed a modest upswing in the works; however, that optimism was quieter in the 2015 State of the Industry. Seventy-six percent of respondents called 2015 good to excellent, while 80 percent stated last year that 2014 was good to excellent. It appears as though 2015 fell short of last year's expectations, too, as 86 percent of last year's respondents thought 2015 was going to be good to excellent.




**More than eight in 10 water and wastewater respondents anticipate a "good," "very good," or "excellent" business climate in 2016.**

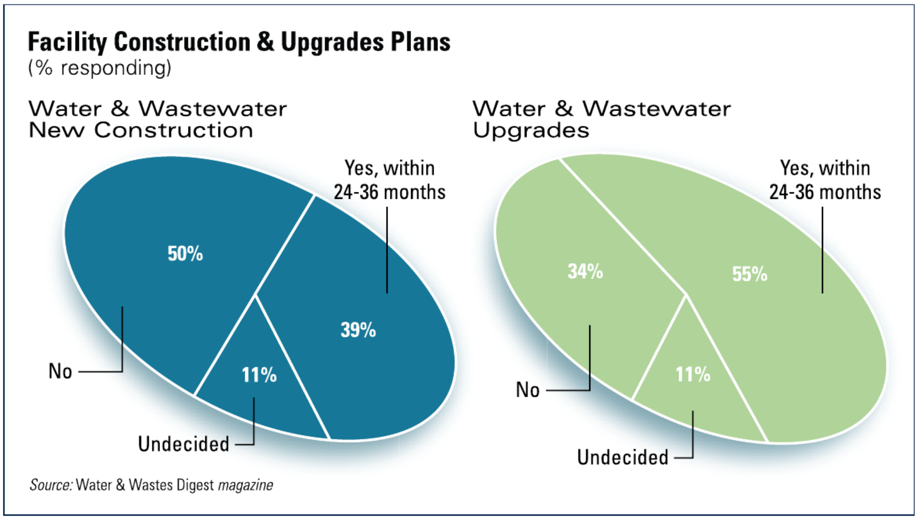
Although 2014 saw 44.1 percent of respondents' revenues increase, 2015 yielded only 31.6 percent of respondents with the same good fortune. The portion of respondents who claimed a revenue decrease remained the same between 2014 and 2015—18.9 percent. There is markedly less confidence in next year panning out to be a good year than was noted in last year's survey: In 2014, only 6.9 percent of survey respondents predicted a revenue decrease for 2015; but in this year's survey, 12.6 percent of respondents think their revenue will decrease next year. Similarly, the number of respondents reporting a good or very good overall firm health dropped about four percentage points between 2014 and 2015, with 69 percent of respondents claiming good to very good overall firm health, compared with 73 percent who claimed the same thing in 2014.

Almost one-third (30 percent) of respondents are planning construction of new water/wastewater facilities within the next 24 months. An additional 10 percent have new construction plans within 36 months. More than half (55 percent) are planning to upgrade their facilities. This number is slightly down from last year, when it was 59 percent of respondents planning an upgrade.

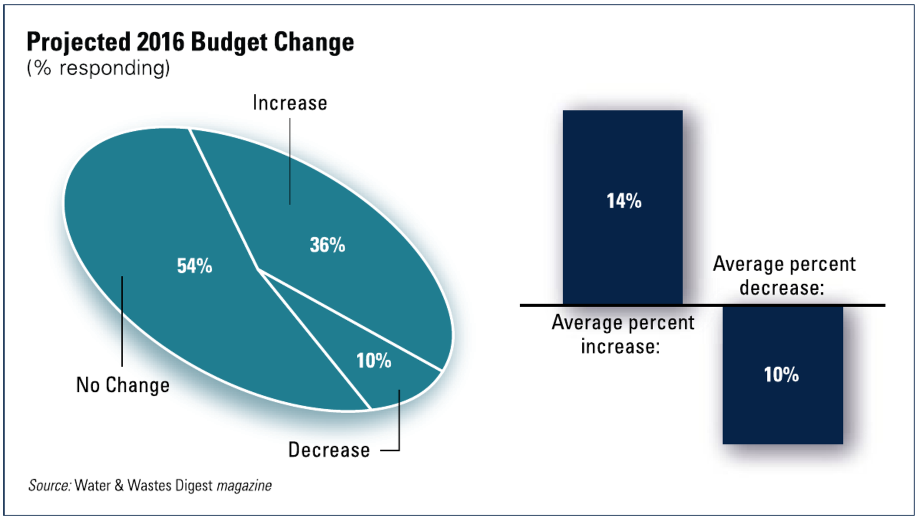
The largest percentage of respondents' budgets will be invested in pipe/distribution over the next 24 months. This will account for 12 percent of budget expenditure. Sewer/collection and pumping equipment are the next-highest expenditures, with 10 percent of budget allocated for each over the next 24 months.

Almost three-quarters (72 percent) of survey respondents are involved with determining needs, 50 percent evaluate brands, 62 percent specify products and vendors, and 39 percent have authorizing and approval responsibility. Overall, 87 percent of respondents are involved in the buying process.

What keeps the water industry up at night? According to WWEMA, it's funding—or, more accurately, the lack thereof. In June, Senate Appropriations Committees approved FY16 federal spending bills for the Department of the Interior, which includes funding for the Clean Water and Drinking Water state revolving loan funds (SRFs). Not




**Almost four in 10 municipal water and wastewater facilities are planning for new construction in the next 24 to 36 months.**




**More than three in 10 water and wastewater respondents are projecting a budget increase this year.**

surprisingly, funding levels for both were decreased as compared to their FY15 levels: at $1.853 billion for FY16, down from $2.35 billion in FY15.

The SRFs have always been important to water and wastewater projects, but as the amount of money in those programs continues to decrease each year, industry members must seek new and creative ways to support the needs of communities.

In 2014, The Water Resources and Reform Development Act (WRRDA) prompted a flourish of optimism in the industry. WRRDA established the Water Infrastructure Finance and Innovation Act to provide low-interest federal loans and loan guarantees for water infrastructure projects. The act also created the Water Infrastructure Public-Private Partnership Program for the Army Corps of Engineers to lead to increased financing of critical infrastructure projects through the use of P3s.

One year later, an American Society of Civil Engineers (ASCE) analysis concluded that much has been done since WRRDA was signed, but much work lays ahead. There is still a $60 billion backlog of projects at the Army Corps and skepticism remains that WRRDA's P3s can help reduce the backlog. ASCE reported, "President Obama's proposal for new public infrastructure financing still needs support in Congress. We hope Congress will stick to its goal of passing a WRRDA every two years. In the meantime, they should appropriate funds for the programs that were authorized in the last WRRDA."

*W&WD*'s survey indicated an average respondent age of 55, an ever-so-slight decrease from last year's average age of 56, indicating that the workforce is getting younger as professionals retire and make way for young, or younger, professionals. There will be a notable generation gap between exiting industry professionals and the new slew of their younger counterparts.

As the average respondent age declined, this year's survey also indicated a boost from 2.9 percent in 2014 to 6.7 percent of respondents in the age group of 35 to 39, as well as a slight bump in the number of respondents under the age of 30.

One of the biggest questions the water industry must ask itself is, how are they going to pass on precious industry knowledge to those much younger and less experienced? This is going to be a real and tangible issue for the water industry to grapple with as it loses more and more of its wise workforce.

The water industry also must feel as if it is competing for its chance to serve the American people. A little campaigning may be in order. In November, the House approved a bill to spend up to $325 billion on transportation projects. If there is money for roads, there is money for water, and perhaps water as an industry should do as the loudest presidential candidates do in order to make a splash: Scream, shout and make some noise in the name of water infrastructure.

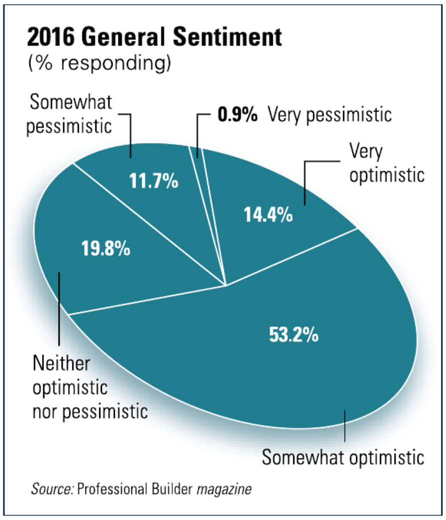
# Home Builders Bolster Outlook

By **MIKE BEIRNE, Senior Editor**, *Professional Builder*

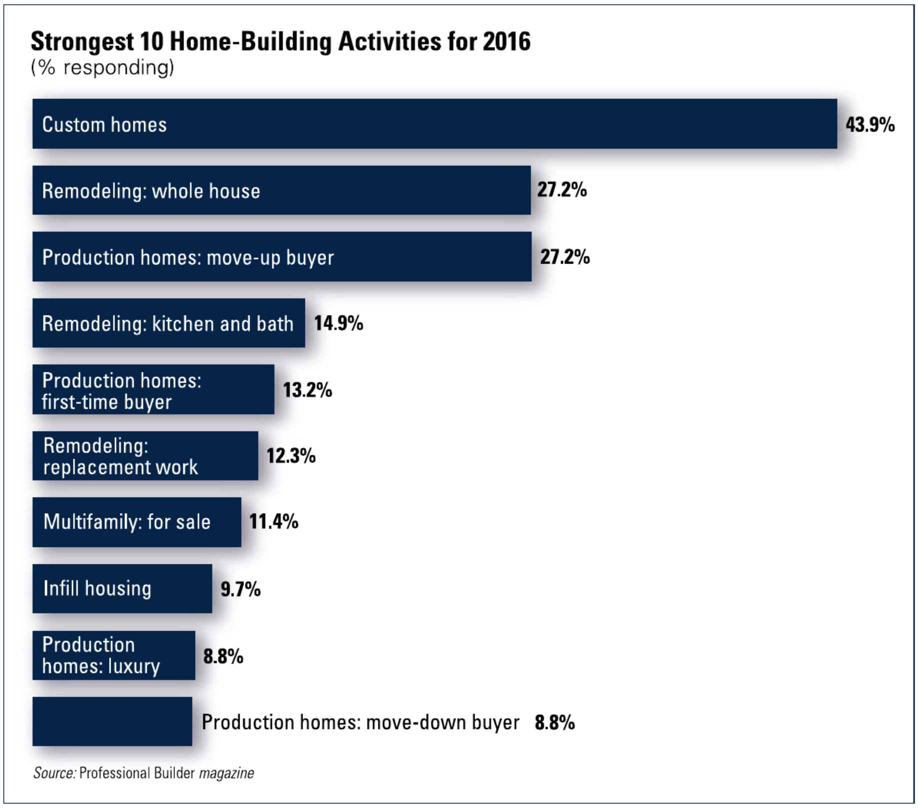
More than a quarter of builders, designers and architects responding to *Professional Builder*'s 2016 Market Forecast survey graded last year as "mediocre" or "poor," an improvement from more than a third that rated 2014 as a bad year for their companies. About 46 percent of builders said they sold more houses in 2015 versus 2014, and 40 percent indicated they sold "about the same." Less than 14 percent closed on fewer homes than they did in 2014 compared with 22.2 percent from the previous year's poll.

Annual revenue compared with 2014 increased for 51 percent of survey respondents, and more than 60 percent anticipate their sales dollars will grow in 2016. Most survey participants also see the industry continuing to benefit from the upside of the cycle as 66 percent expect next year will be "good" or "very good" for their operations.

For more survey results about 2016 expectations, see the accompanying charts.

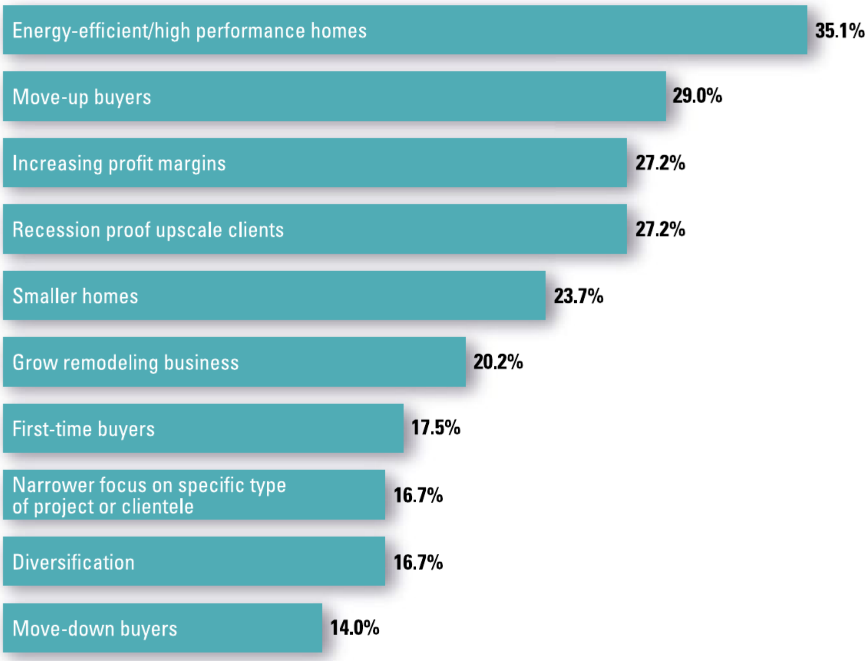



**Good feelings about the industry in 2016 pervade through the majority of builders, remodelers, architects and designers surveyed.**




**Whole house and kitchen and bathroom remodeling moved up a notch compared with last year's survey while production building for the move-down buyer slipped from the top four activities.**

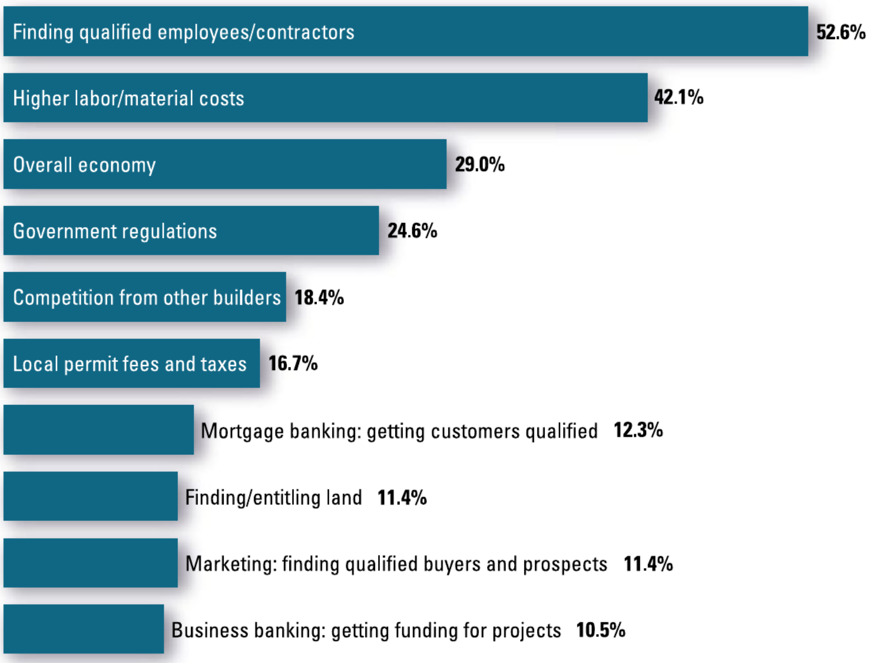
### Top 10 Opportunities
(% responding)




*Source:* Professional Builder *magazine*

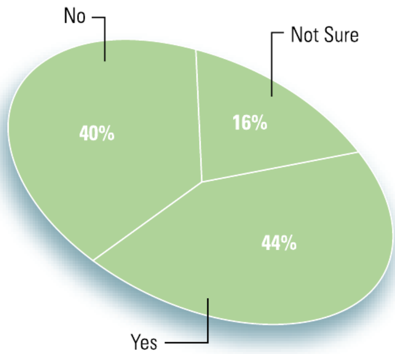
**Smaller homes moved up from No. 9 in the 2015 survey. Most of the builders who indicated smaller houses as their top opportunity also mentioned that infill will be their strongest building activity for next year.**

### Top 10 Challenges
(% responding)



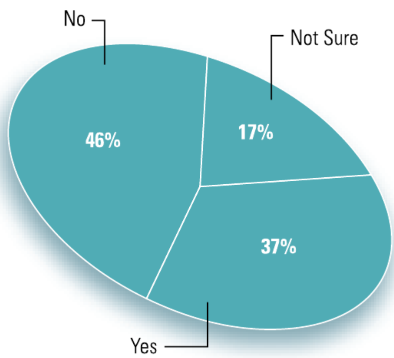

*Source:* Professional Builder *magazine*

### 2016 Plans to Purchase Land
(% responding)




*Source:* Professional Builder *magazine*

### 2016 Staff Growth Plans
(% responding)




*Source:* Professional Builder *magazine*

**Once again, most builders intend to buy land, but flip-flopped compared with last year as most respondents said they do not have plans for adding staff next year.**

**Recruiting qualified labor is a top concern for next year after being No. 2 in the poll for 2015 expectation. An Ohio builder wrote that he was anxious about house prices outpacing income gains for potential buyers.**

# Optimistic 2016 Follows Solid Growth in 2015

By DAVID BARISTA, Editorial Director, Building Design+Construction

By all indications, 2015 was another solid year for U.S. architecture, engineering and construction firms. Despite facing a litany of market impediments—the still-sluggish economy, construction labor shortages, the slow-to-recover education and healthcare markets—the majority of AEC firms saw revenues grow in 2015, and an even greater number expect earnings to rise in 2016, according to a survey of AEC professionals by *Building Design+Construction*.

Nearly six out of 10 survey respondents (56.7 percent) indicated that revenues had increased at their firms in 2015, and 59.9 percent expect income from nonresidential building work to rise this year. This represents a slight uptick from 2014's survey, when 54.4 percent reported higher revenue for the year.

About half of the respondents (45.7 percent) rated their firm's 2015 business year as either "excellent" or "very good," and just 2.1 percent said it was a "poor" year. Looking to 2016, 52.7 percent believe it will be "excellent" or "very good" from a revenue standpoint. Nearly three-quarters (71.4 percent) rated the overall health of their firm either "very good" or "good."

Asked to rate their firm's top business development tactics for 2016, respondents noted strategic hiring (56.7 percent rated it as a top tactic for growth), marketing/public relations (54.6 percent), and technology upgrades (49.3).

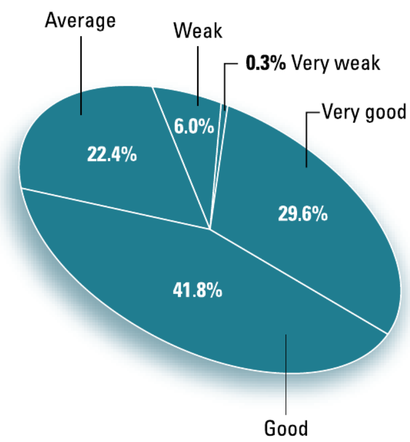
Among the top concerns for AEC firms are competition from other firms (58.2 percent ranked it as a top-three concern), general economic conditions (50.4 percent), managing cash flow (30.3 percent), and softness in fees/bids (27.6 percent).

The adoption of building information modeling (BIM) and virtual design and construction (VDC) tools and processes continues to grow. More than eight in 10 respondents (82.1 percent) said their firm uses BIM/VDC tools on at least some of its projects, up from 80 percent in 2014 and 77.3 percent in 2013.

## Healthcare sector rebounds

Respondents were asked to rate their firms' prospects in specific construction sectors on a five-point scale from

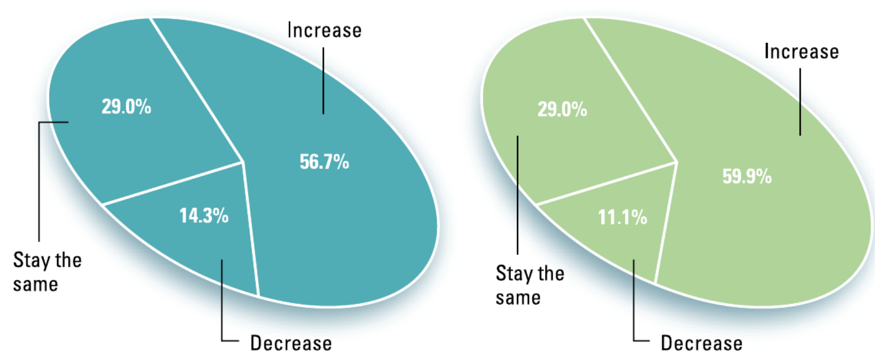
**How Would You Rate the Overall Health of Your Firm Today?**
(% responding)




*Source:* Building Design+Construction *magazine*

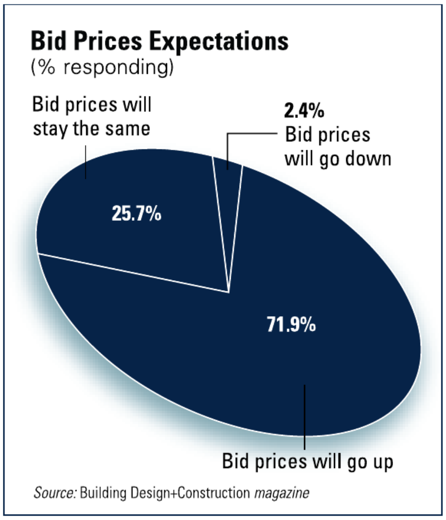
**Nearly three-quarters of respondents to the survey rated the overall health of their firm either "very good" or "good."**

**2015 Revenue Results and 2016 Financial Outlook**

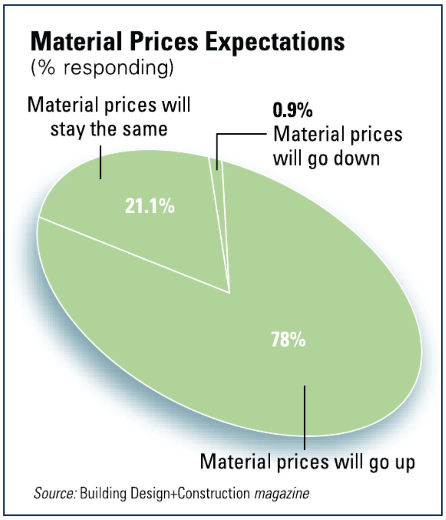



*Source:* Building Design+Construction *magazine*

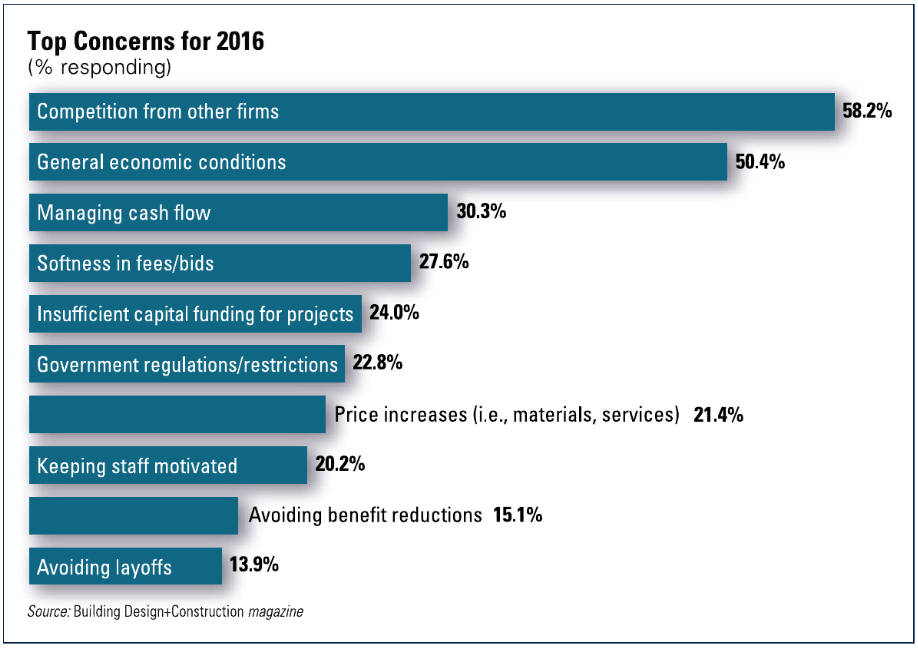
**About 60 percent of survey respondents are forecasting revenue growth for 2016, a slight uptick from the previous year. Just 11 percent are expecting lower revenue.**



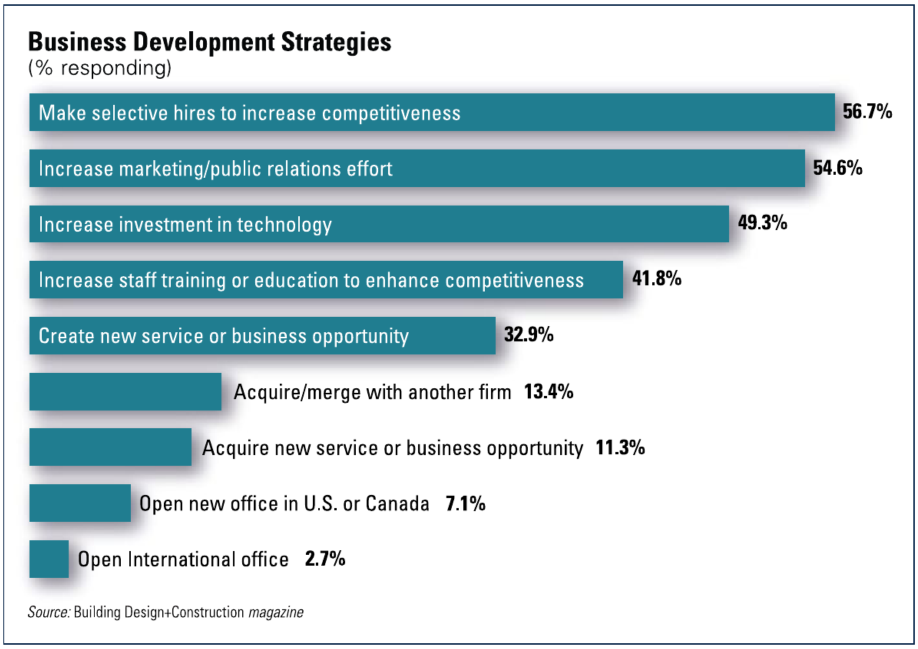

Nearly three-quarters of respondents expect bid prices to rise in 2016.




The vast majority of survey respondents said they expect prices of materials to increase in 2016.




Perhaps a sign of growing confidence in the U.S. economy, "general economic conditions" did not top the list of major concerns heading into the new year—a first for this report.




Among the top tactics for growth are strategic hires, increased PR/marketing efforts, investment in technology, and more staff training and education.

"excellent" to "very weak." (Respondents who checked "Not applicable/No opinion/Don't know" are not counted here.) Among the findings:

The multifamily boom continues, as the Millennials and Baby Boomers gravitate to rental housing and an urban lifestyle. Multifamily ranked as the most active sector, with 69.7 percent of respondents rating it in the good/excellent category, up from 62.3 percent last year and 56.1 percent in 2013.

The healthcare market is starting to stabilize and grow, as hospitals and healthcare providers adjust to the post-Affordable Care Act world. The sector ranked as the second most active; 68.0 percent gave it a good/excellent rating, up from 63.6 percent in 2014 and 62.5 percent the previous year.

Other active sectors include senior/assisted living (63.1 percent rated it in the good/excellent category), office interiors/fitouts (62.4 percent), and data centers/mission critical (59.3 percent), higher education (48.6 percent), and industrial/warehouse (46.7 percent).

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