FMI's Construction Outlook

4th Quarter 2013 Report

Q: What is the definition of a pier? A: "A disappointed bridge."

James Joyce's definition of a pier provides an apt metaphor for our economic outlook. As we are beginning to see more good news for the economy than bad, with the Great Recession not far behind us, we might not be blamed too much if we ask if the economy has begun to build a bridge for sustainable recovery, or are we building a pier? Shifting the metaphorical pier to the real world of infrastructure, the Map-21 bill was really just a pier; necessary as it was at the time, it will be disappointing if it, or a replacement bill, is not passed before the deadline this year and that bill extends funding beyond the next two years. We would all be disappointed if we asked our architects and engineers to design a bridge, and they came back to us with drawings for a pier. We should be no less disappointed if our national economic architects and lawmakers keep giving us piers when we need bridges.

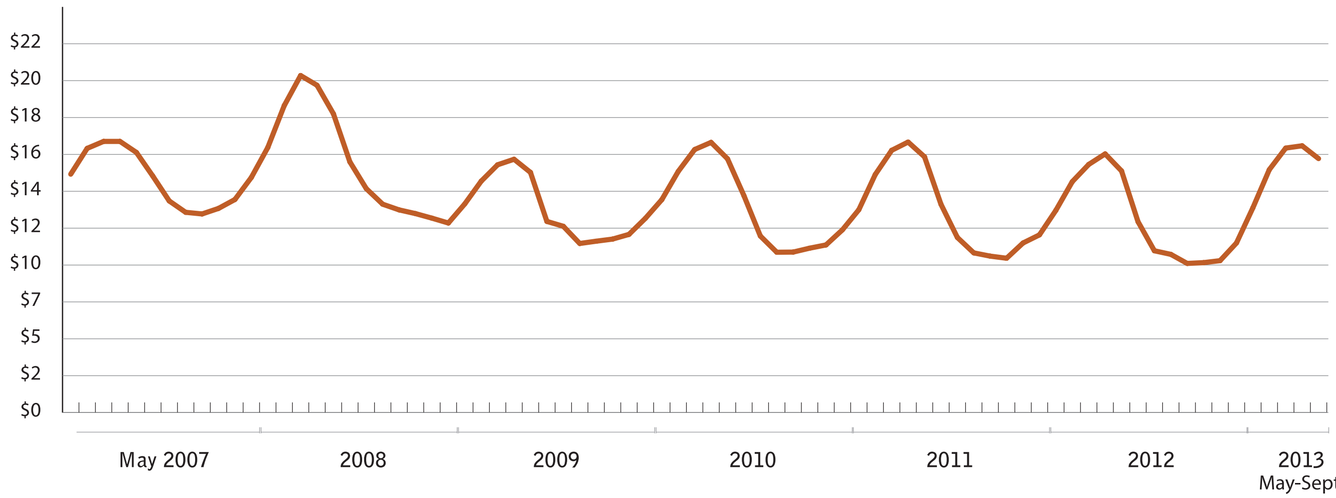
We are seeing good economic reports from almost every corner of the economy. We expect construction put in place to end up 7% higher than last year. Unemployment is below 7%. Signs of inflation are few. Interest rates are still low, but showing signs of increasing. Private investment in capital goods is improving. Consumers are spending more, especially for automobiles. Oil and gas prices are relatively stable, and imports are decreasing due to higher domestic production. And, believe it or not, a $1.1 trillion dollar spending bill was passed in the House without much ado and should get through the Senate as well. If there is any bad news right now, we really don't want to hear it. However, that seemed to be the head-in-the-sand attitude prevalent before the recession. Therefore, we have to add some asterisks after most of the good news headlines. For instance, although the latest spending bill passed with an unusual air of compromise in Washington, there is still a looming debt ceiling problem just around the corner. The latest unemployment report is a bit suspect—payrolls rose by only 74,000 jobs—and will likely be revised, as more people have stopped looking for work, and there have been a number of weather events due to the dreaded Polar Vortex. However, as long as oil and gas companies keep drilling in rich shale deposits, it looks like energy prices will remain in check.

What may be the best news in the economic outlook is that the growth is happening mostly in foundational sectors. This sets the stage for greater growth to come in the next five years. Residential construction appears to be alive and well again after being down so long we thought it might not get back up. Power, transportation and manufacturing, for instance, are improving solidly right now. Nonetheless, these sectors take time to grow. Manufacturing doesn't turn around on a dime; it takes billions of dollars and a number of years to build, relocate, hire and get up to speed. Building new power generation facilities takes long-range planning. Recently, many of those plans have changed as nuclear power looks too costly and coal too dirty compared to natural gas-generated power now that we have found the mother lode in shale deposits. Nevertheless, these sectors are improving. Maybe the biggest question now is how much are companies that haven't been spending on capital expansion going to start spending now that the economy is taking off? It is time to make those investments, but stock market investors have been buying on announcements of layoffs and downsizing. Will the market be able to understand the long-range point of view that capital investment is needed to sustain market growth? Business leaders must be able to sell these concepts and not just the soup du jour to their shareholders.

If we want to build bridges that cover the whole economy, there is still much work to do. We have gotten where we are today in the economy in spite of many political differences and economic challenges. An air of greater compromise from our political leaders will decrease uncertainty and help the country get down to solving the real problems of the nation. We must also have more strategic leadership in our companies to build new partnerships and collaborative relationships with customers. The construction industry is changing and needs to keep changing in order to find new markets and new ways of building and training people for the skills of the future. In past research, we have found that the most successful leaders don't see success as an end in itself. It is a constant struggle to succeed. If the economy is doing better, it doesn't mean that it is *all better*, as if recovering from a long illness.

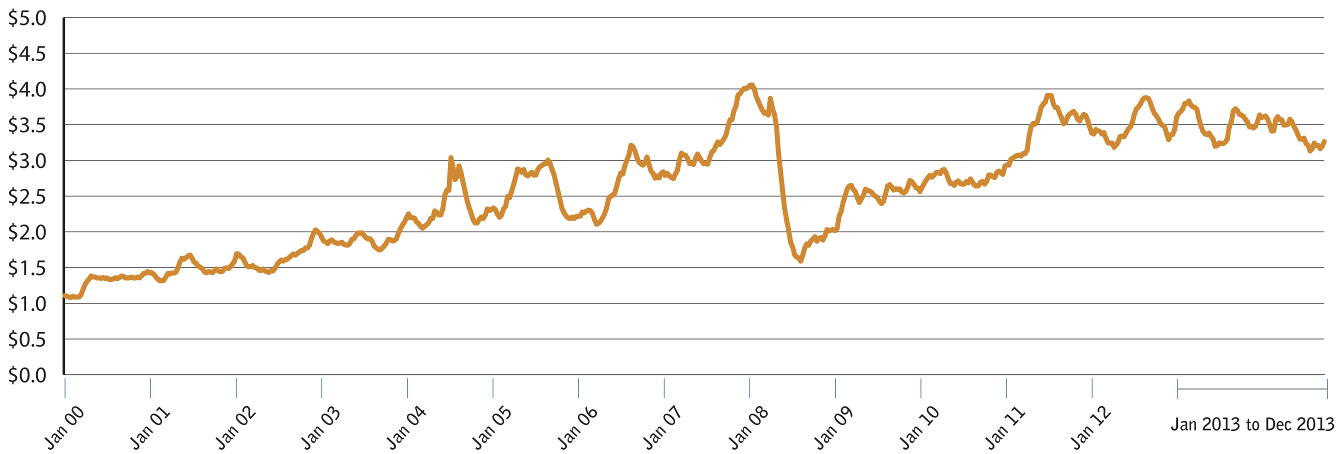
We have noted that a number of foundational sectors are showing signs of new life; however, others are still just trying to survive. Commercial construction is doing well in high-end metropolitan regions of the country, but not all across the country. We expect that growth to spread across the economy in the coming year. However, this is not a guaranteed outcome of the current recovery. The country still needs to find answers for funding replacements and repairs to real bridges, not just metaphorical structures. Highway and street construction is still at the mercy of politics. It is not that we don't care if we are driving over safe bridges or that the driver behind us looks angry about sitting in traffic. It is a matter of shoring up the foundation for growth. Other soft markets, like water/wastewater and conservation and development, also make up an important foundation of the economy, although these areas are mostly unseen until they fail—and many of the water/wastewater systems are on the brink of failure around the country. So far, there doesn't seem to be an app for these problems. Generation Y is looking for work; let's see what they can do to help solve the problems of infrastructure. We need fresh thinking and creative minds to keep build our bridge for the future while the older generation retires to find a good fishing pier.

United States Price of Natural Gas Delivered to Residential Consumers
(Dollars Per Thousand Cubic Feet)



Source: U.S. Energy Information Administration

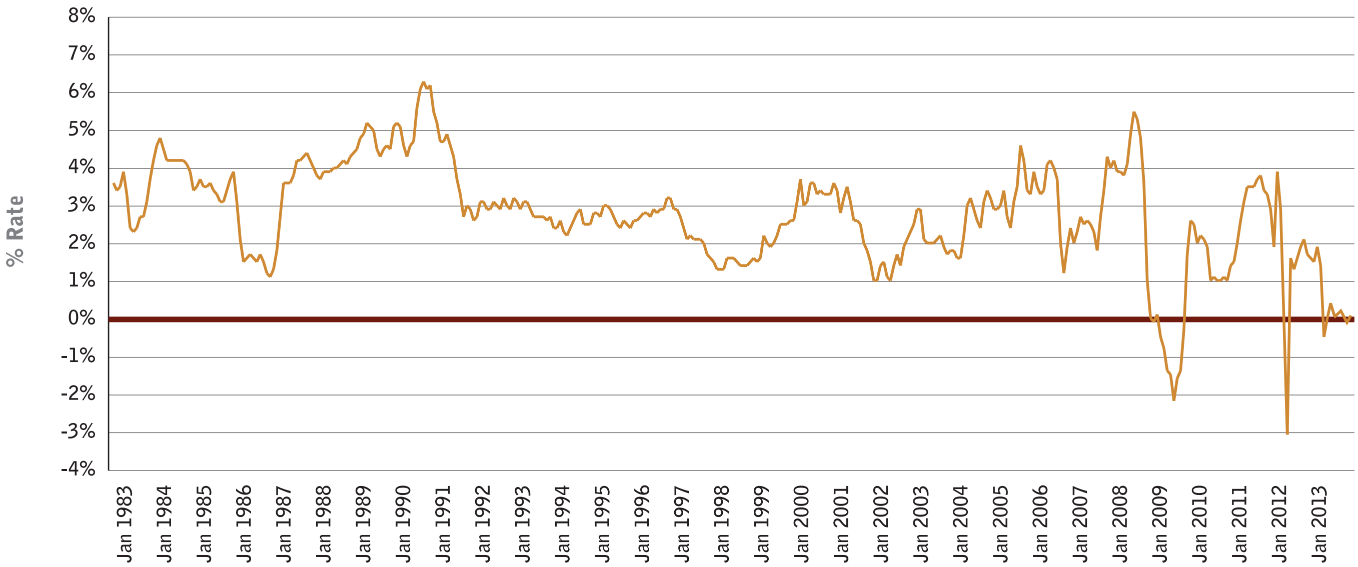
Weekly U.S. Regular Conventional Retail Gasoline Prices
(Dollars Per Gallon)



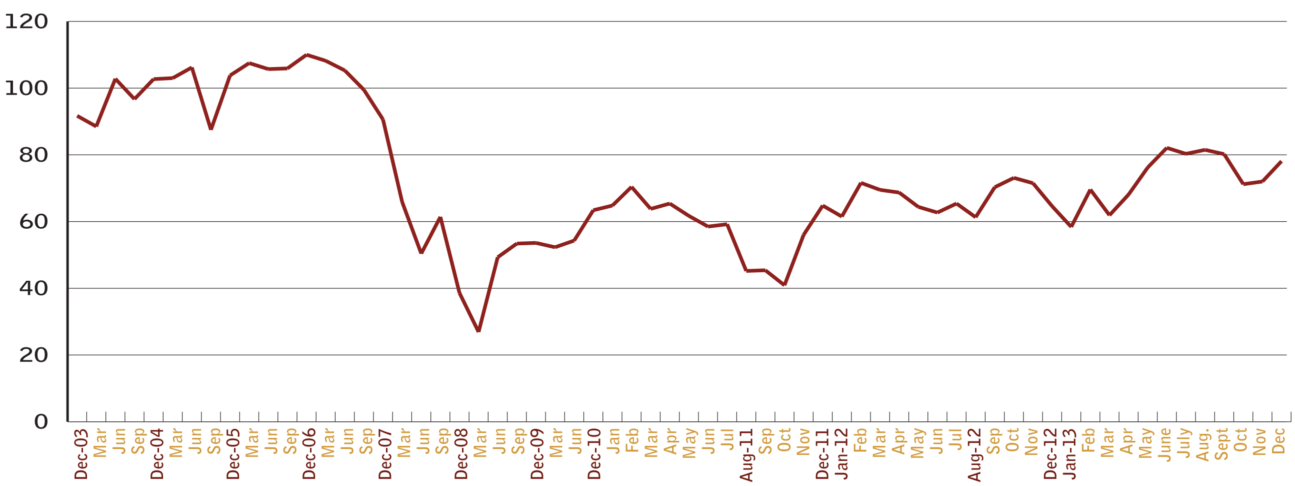
Source: hppt://www.eia.gov/petroleum/gasdiesel/

Consumer Price Index

Inflation Remains Under Control

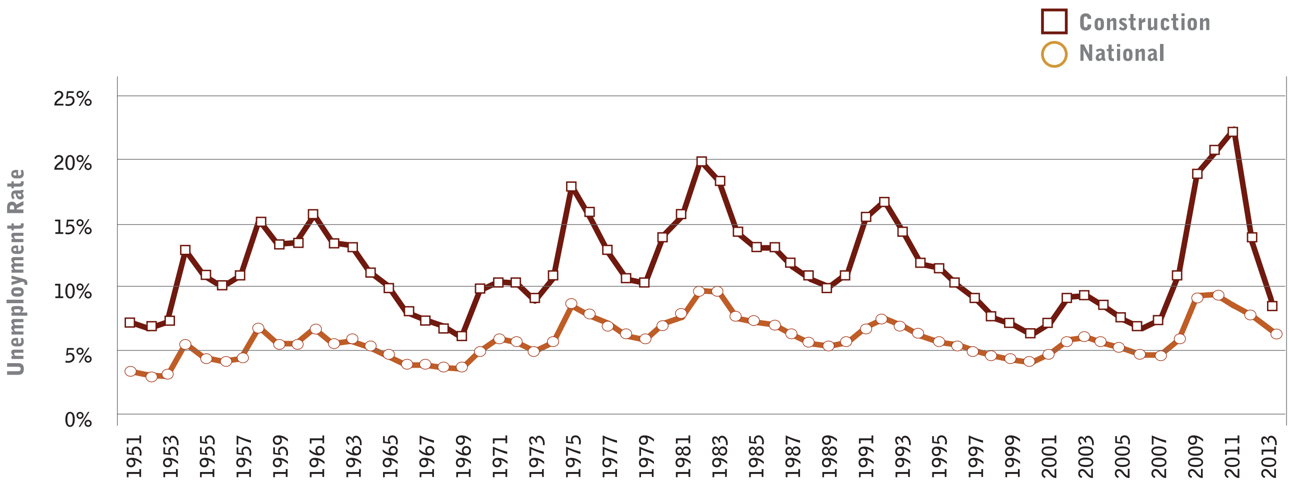


Conference Board Consumer Confidence Index



Source: The Conference Board

Construction Unemployment Rates



"Construction employment gained 7,000 jobs in May." (BLS)

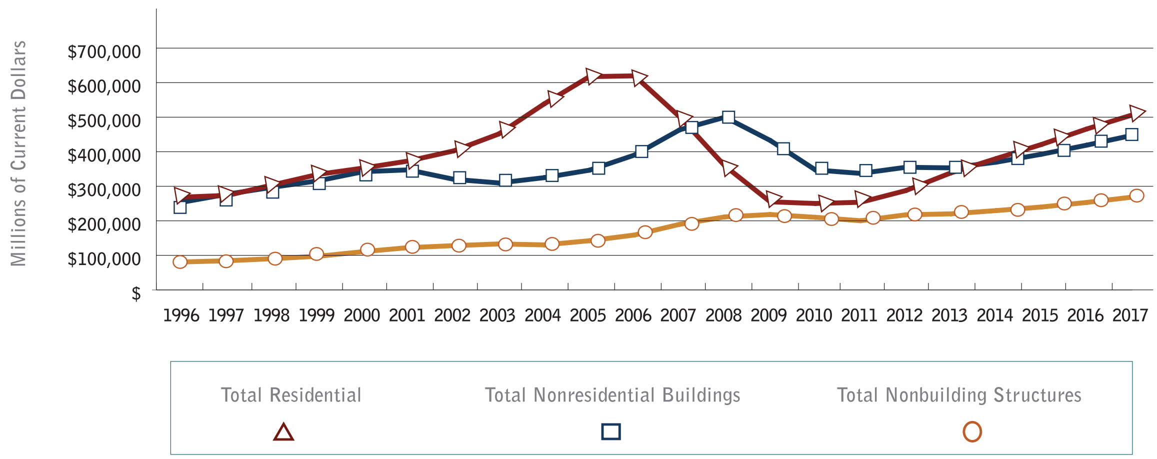
Construction Forecast

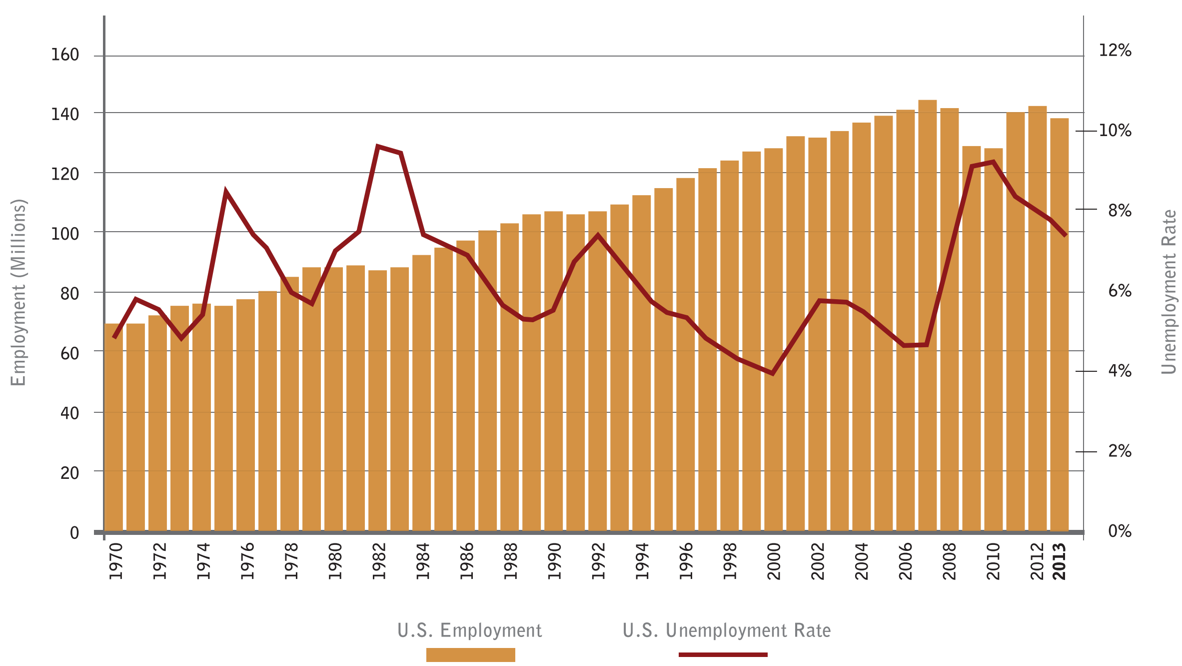
Our latest forecast for construction put in place calls for 2013 to end up 7% in 2013 and grow another 7% in 2014, with similar growth rates through 2017. Although most markets will have slower growth than the national average, all markets for construction are expected to be in a growth phase. Nonetheless, the bulk of the growth will come from a few more robust markets, including residential, power, educational and manufacturing. We expect residential growth to slow over its rapid increase of 2013 to a more sustainable level in the next few years. Other areas of growth come from foundational markets such as power, manufacturing and education. If growth in these markets can continue to strengthen, it will help other areas to grow in the future by creating lower energy costs, more jobs and better-prepared graduates to fill the employment gap, especially for well-trained workers.

Other notable areas of improvement in construction markets include lodging, commercial, health care and transportation. Although the smallest market, lodging has registered the strongest growth in the past two years, rising from the ground floor of 2011 to achieve double-digit growth rates as well as higher room rates. For lodging, as well as commercial and residential construction, most of the recent growth has come from "A" properties in upscale markets. The costs to satisfy pent-up demand are more affordable for the penthouse set. If the country can continue to add good-paying jobs, more will be able to buy the housing and storefronts they have been waiting for the last five or more years. Nonetheless, the growing bifurcation of rich and poor shows no slowing down in the near future.

Commercial construction will continue to struggle to get traction as traditional storefronts are threatened by online sales and continued cautiousness by consumers who are more likely to hold back and binge a bit during holiday seasons and major sales than be consistent with their purchases. Our forecast and comments on the current construction markets and trends in this report are national in scope. And while the overall trend for construction is good, there are some large differences in growth in different parts of the country and in different market niches. For instance, oil and gas exploration areas are growing at a pace well ahead of other parts of the country, and there are also pockets of manufacturing growth around the country. That means good news can be even better news in some markets and not so good in others. In FMI's recent nonresidential construction reports, we have seen steady backlog numbers for some time now, but the underlying numbers show some companies with strong backlogs while others are still struggling from month to month. Prices appear to be improving, but competition for available work continues to be a factor slowing profit growth.

FMI Construction Put in Place, Estimated for the United States



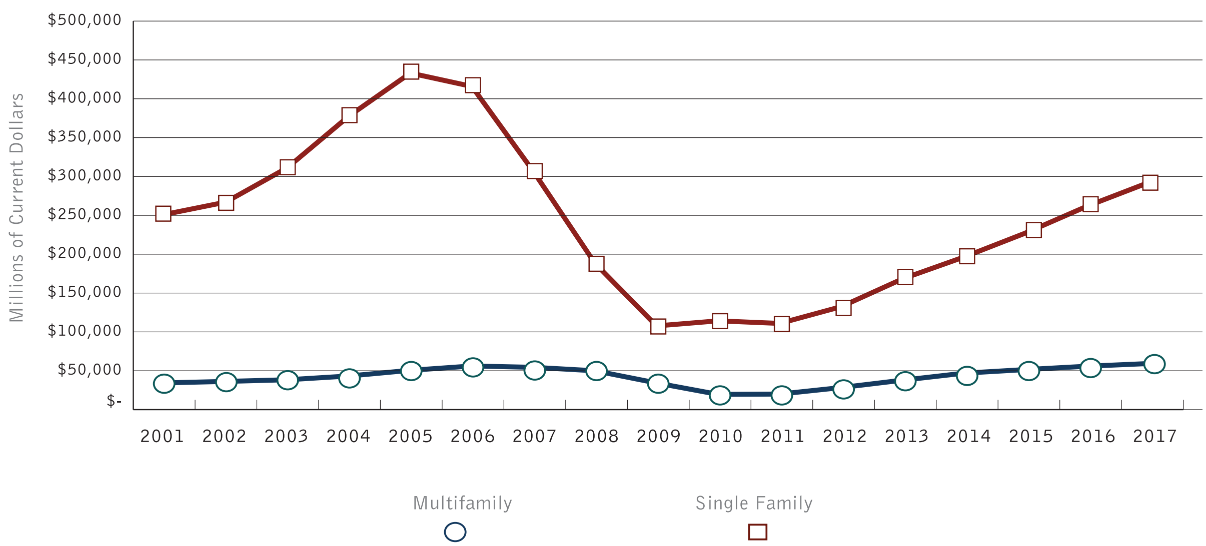


RESIDENTIAL

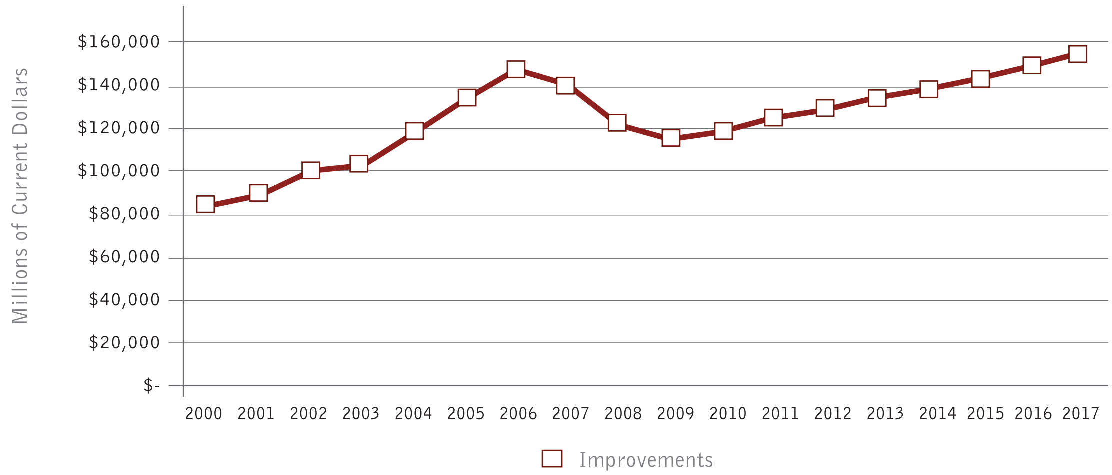
Residential construction has enjoyed a sustained resurgence for two years now, growing 13% in 2012 and another 18% in 2013. We expect growth of another 13% for 2014. Multifamily construction has been particularly strong in the past two years with growth of 48% in 2012 and 38% in 2013. With rents still high and household formations still low, we expect multifamily construction to continue its growth in 2014 but at a somewhat slower rate of 29% to $46.7 billion. Residential construction is considered a barometer for the economy and construction, because it is more sensitive to economic trends. That means it changes more rapidly when the economic weather changes. If interest rates begin to increase appreciably, residential construction could drop accordingly. On the other hand, if employment improves as the economy continues to grow, more of the rising middle class will be willing to get back into homeownership.

Currently, residential construction growth is on a trajectory that could become another boom time for new homes, although few expect to return to the peak of 2006 in the current forecast horizon. It may just be a test to see if we can remember what happened last time there was a boom. However, if we do see the current rate of growth continue, we will also see rising interest rates and inflation that will make it harder for the average family to afford a new home. So, enjoy the current growth and keep an eye on the economic skies for the next polar vortex that puts the freeze on growth.

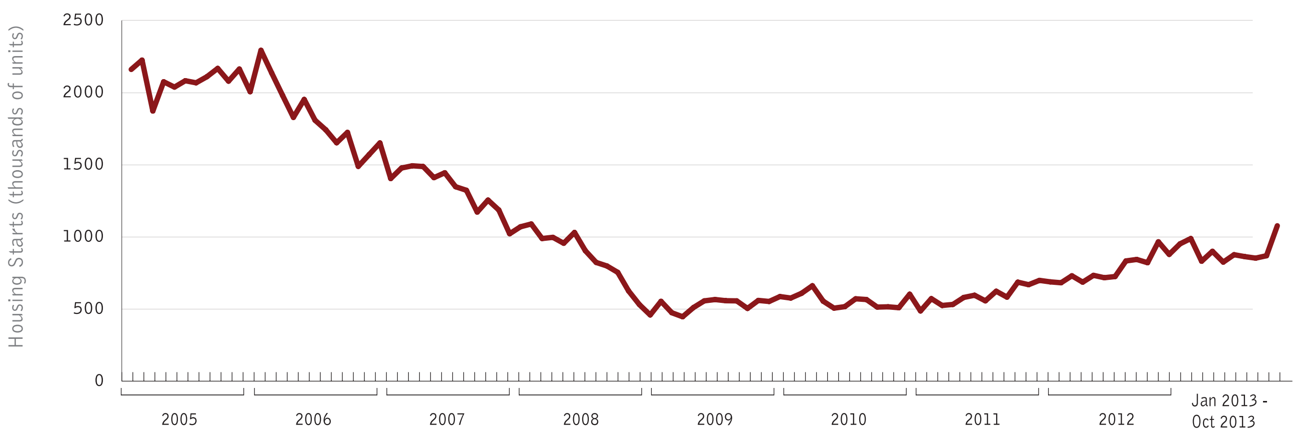
Residential Construction Put in Place



Residential Construction Improvements Put in Place
Forecast as of Q4 2013



New Privately Owned Housing Units Started
(Thousands of Units, Monthly, Seasonally Adjusted Annual Rate)



TRENDS:

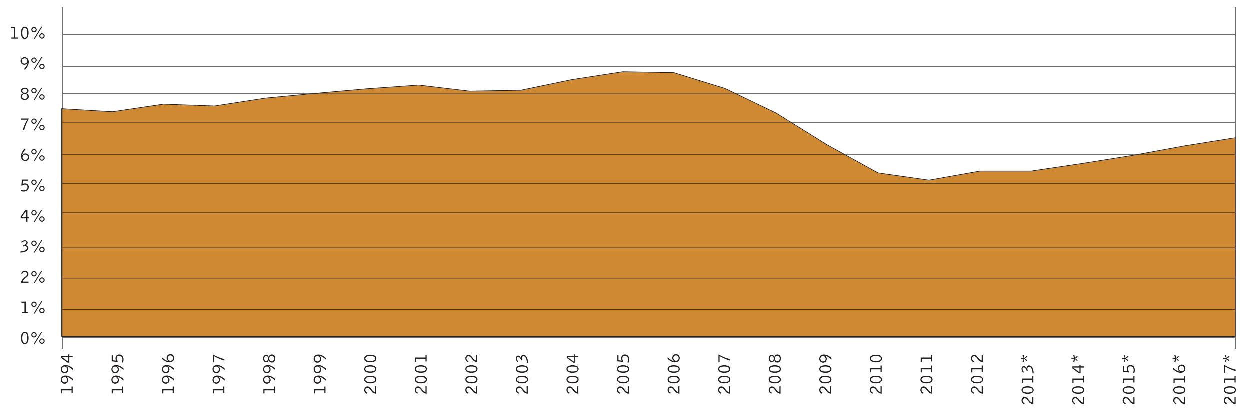
- According to CoreLogic, completed foreclosures were down 29% from November 2012 to November 2013.
- According to the December 2013 report, S&P Dow Jones Indices for its S&P/Case-Shiller Home Price Indices, "increased 13.6% year over year for 10-city and 20-city composites."
- The U.S. Census Bureau reports, "Privately owned housing units authorized by building permits in November were at a seasonally adjusted annual rate of 1,007,000. This is 3.1 percent (±1.1%) below the revised October rate of 1,039,000, but is 7.9 percent (±1.6%) above the November 2012 estimate of 933,000." (December 2013)

DRIVERS:

- Unemployment
- Core CPI
- Income
- Mortgage rates
- Home prices
- Housing starts
- Housing permits

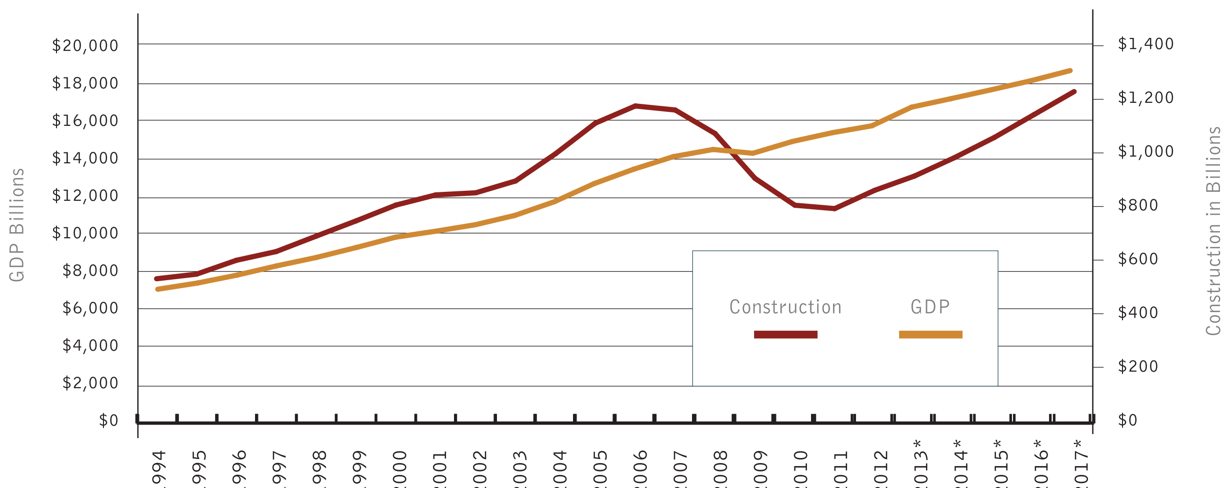
NONRESIDENTIAL BUILDINGS

Construction as a Percentage of GDP



*FMI Forecast

Construction Spending and Nominal GDP



*FMI Forecast

Value of Public Construction Put in Place (Seasonally Adjusted Annual Rate)
Millions of dollars. Details may not add up to totals due to rounding.

Value of Construction Put in Place — Seasonally Adjusted Annual Rate (Millions of Dollars) As of November 2013	Total Construction Put in Place (Nov 2012)	% of Total Construction Put in Place (Q4 2012)	Total Construction Put in Place (Nov 2013)	% of Total Construction Put in Place (Q4 2013)
*Public Construction	$275,493	32%	$275,014	30%
*State and Local	$249,044	29%	$251,905	27%
*Federal	$26,450	3%	$23,109	3%
FMI Forecast: Private Construction Put in Place	$581,460	68%	$641,840	70%
FMI Forecast: Construction Put in Place	$856,953	100%	$916,854	100%

* Source: U.S. Census Bureau Construction Spending

Lodging

After several years of sharp decline during the recession, lodging construction continued it solid comeback from 2012 to 2013, growing 18% in 2013 and is expected to grow another 10% in 2014. Growth is strongest in upscale neighborhoods of large metropolitan areas like New York City. Improvement of existing properties will continue to be a focus for the industry until rooms are nearly full and room rates show signs of continued growth.

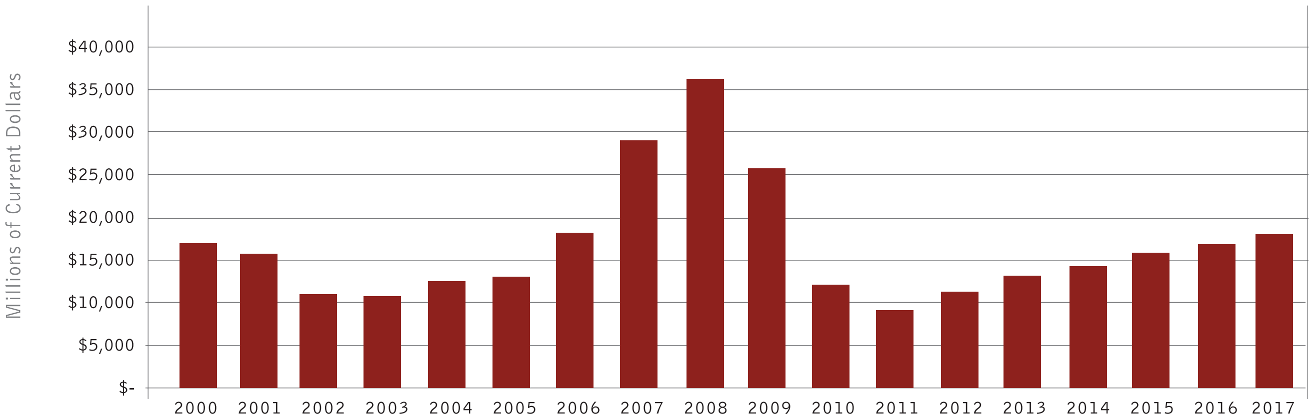
TRENDS:

- According to a report by PriceWaterhouseCoopers (PwC), RevPar growth should end up at 5.5% for 2013 with expected growth of 5.9% for 2014. (PwC "Hospitality Directions U.S.," November 2013)
- The increase in average daily rates per room will continue to be modest as business and vacation travelers shop for the best buy.
- According to Smith Travel Research, the number of rooms under construction in 2013 was up 11.6% over the previous year in May, but will amount to only 1% for the year.
- Smith Travel Research reports that 70% of the hotels under construction are upper midscale or upscale.
- Lodging Econometrics forecasts the opening of 591 hotels with 66,102 rooms in 2014.
- Green building is more commonplace in remodels and retrofits.

DRIVERS:

- Occupancy rate
- RevPar
- Average daily rate
- Room starts

Lodging Construction Put in Place
Forecast as of Q4 2013



Office

We continue to expect slow growth for office construction as, after a growth spurt of 7% in 2012, growth was only 1% in 2013 with 3% expected for 2014. As employment grows, there is a slow swing in favor of the owners as those seeking office space have less leverage for prime space. However, even as the economy improves, hiring for office personnel will be slow, in part due to efficiencies of technology.

TRENDS:

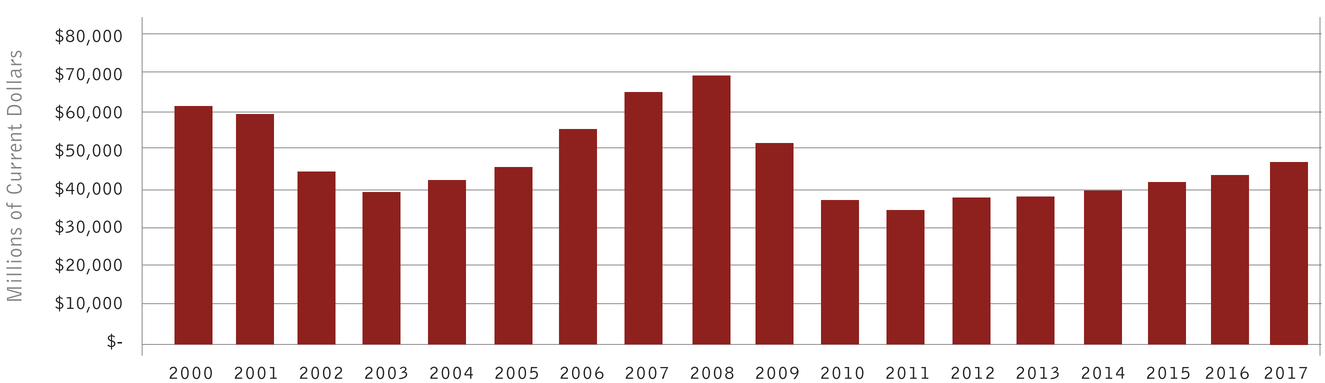
- According to the National Association of Realtors, "Vacancy rates in the office sector are expected to decline from a projected 15.6 percent in the fourth quarter to 15.4 percent in the fourth quarter of 2014."
- Net absorption of new office space should improve to 46.1 million square feet in 2014 compared with just 33.2 million in 2013. Rents are increasing in major metros like New York City and Chicago, but are flat around most of the country, according to NAR. The trend toward new construction will focus on areas of high job growth in technical fields.

DRIVERS:

- Office vacancy rate
- Unemployment rate

Office Construction Put in Place

Forecast as of Q4 2013



Commercial

Commercial construction continues to face an uphill battle, although there are signs it is starting to see a sustainable, slow-growth trend. Construction put in place is expected to reach $50.7 billion in 2014, a rise of 5% over 2013, but still only achieving levels last seen in the mid-'90s. One of the biggest challenges will continue to be how to mix new stores with Internet sales to take advantage of both sales avenues without jeopardizing one or the other. Those without online presences are losing out as nonstore sales continue to grow.

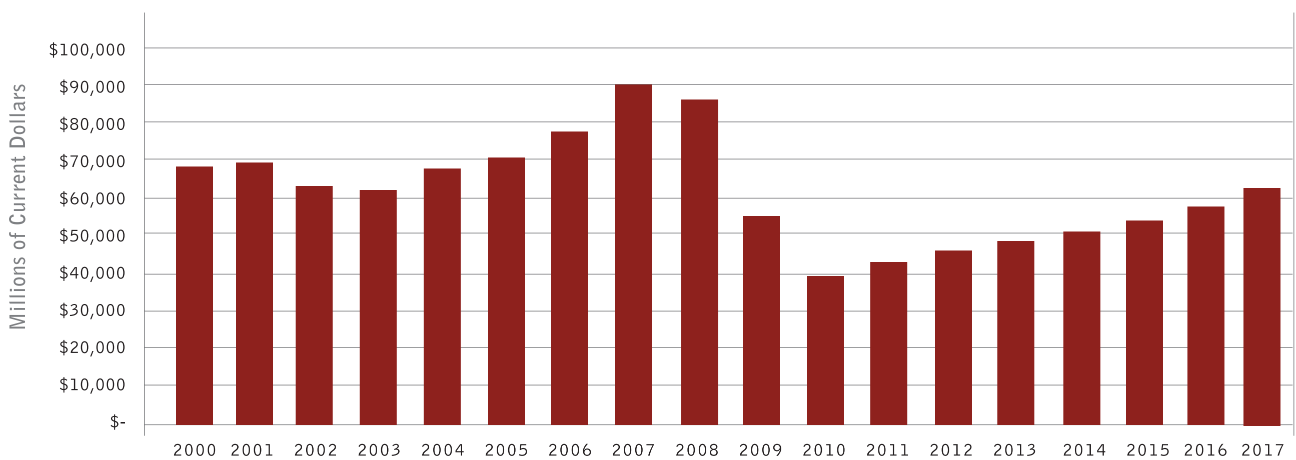
TRENDS:

- According to the Department of Commerce, "retail and food services sales for December, adjusted for seasonal variation and holiday and trading-day differences, but not for price changes, were $431.9 billion, an increase of 0.2 percent (±0.5%)* from the previous month, and 4.1 percent (±0.7%) above December 2012. Total sales for the 12 months of 2013 were up 4.2 percent (±1.7%) from 2012."
- The Department of Commerce also reported "nonstore retailers were up 9.9 percent (±2.1%)" over 2012. The rise in online shopping will continue to dampen growth of traditional storefronts.
- Consumer confidence rose to 78.1 in December, bouncing back from 72.0 in November 2013. (The Conference Board)
- Increased store remodeling could stall new construction.
- Look for increasing multiuse projects.

DRIVERS:

- ↑ Retail sales
- ↓ CPI
- ↑ Unemployment rate
- ↑ Income
- ↑ Housing starts
- ↑ Building permits

Commercial Construction Put in Place
Forecast as of Q4 2013



Health Care

After flatlining in 2013, health care construction will revive to 4% growth in 2014. Due to the much talked about aging baby-boomer phenomenon—that those of that generation don't need to be constantly reminded of—health care construction has been one of the healthier areas of construction since the recession began. However, due to the uncertainty as to the direction of new health care insurance and other new regulations, the industry has put many plans on hold and gone back to the drawing board. In 2014 the expectation is that there will be more clarity as to direction of the industry, and one direction is to build more ambulatory care centers. With new laws and scrutiny of costs, the goal is to be more efficient and less extravagant by using greater technology for record keeping and care. Hospital stays have been decreasing; so many regions require fewer beds even if more people become eligible for medical care. Excluding the posh facilities for the wealthy, new designs will be more lean, green and filled with technologies to keep the added labor requirements to a minimum.

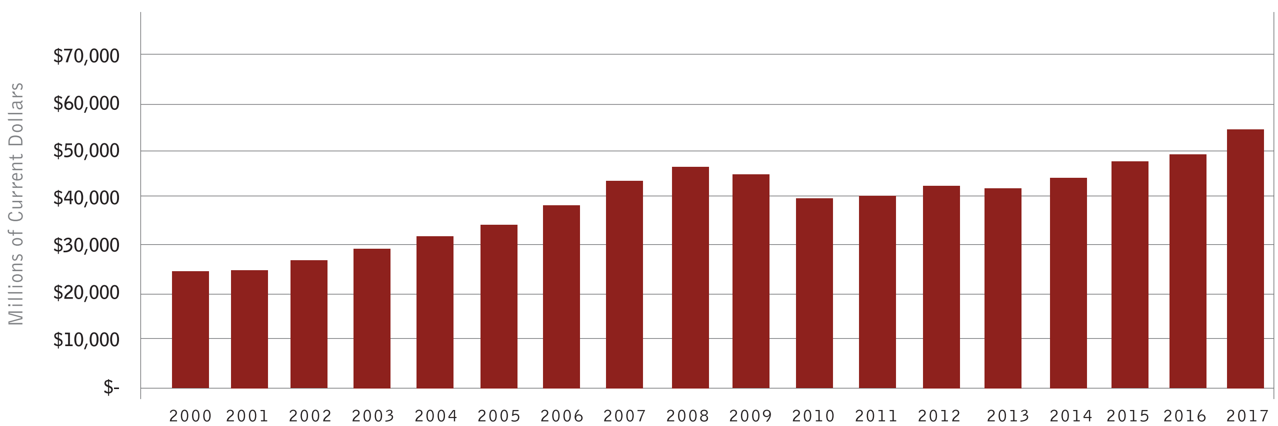
TRENDS:

- The Affordable Health Care Act (ACA) implementation is highly flawed due to poor software implementation and continued political hurdles causing uncertainty in the market for health care.
- Hospital beds per 1,000 people trending downward.
- Shorter patient stays.
- Increasing use of growing number of ambulatory-care facilities.
- Heath care industry still not prepared for increased number of insured.
- Trend toward rebuilding existing facilities to use modern hospital design and allow for greater use of technology.
- Nontraditional funding sources for private nonprofit facilities.
  - Private development and equity
  - Government or government-backed
  - Pension and life insurance companies

DRIVERS:

- ↑ Population change younger than age 18
- ↑ Population change ages 18-24
- ↑ Stock market
- ↓ Government spending
- ↑ Nonresidential structure investment

Health Care Construction Put in Place
Forecast as of Q4 2013



Educational

After five years of declining growth rates, educational construction should turn the corner in 2014 to gain 4% over a lackluster 2013. States are beginning to rebuild tax receipts, and schools need to grow, or we will once again see a preponderance of modular classrooms in the parking lots of every city. Just as importantly, schools need to be maintained and improved to keep from deteriorating. Even old school buildings need to employ newer technologies to become more efficient to operate and to maintain a clean, safe environment. Security continues to be a growing concern as the rate of terrible school shootings continues to climb and terrorize communities around the country.

TRENDS:

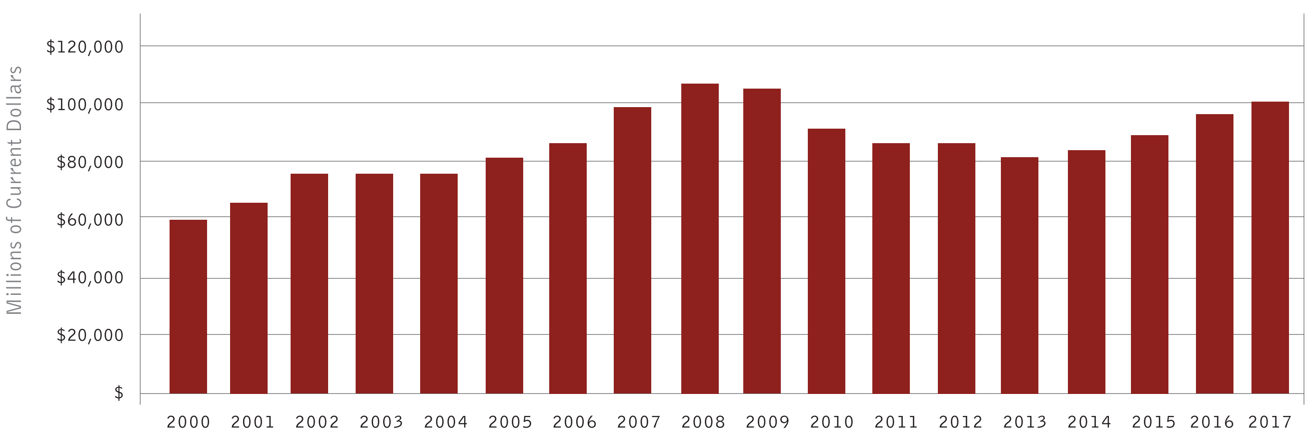
- Significantly less funding from states for K-12 schools.
- Enrollment growth 2.5 million in the next four years.
- New school designs more flexible for changing classrooms and greater use of natural light.
- Greater attention to reducing energy use and employing green building technologies.
- Renovation and additions to current school buildings will continue to grow in comparison to new school projects.
- Greater focus on safe schools as the threat for shootings on campus continues to rise.

DRIVERS:

- ↑ Population change younger than age 18
- ↑ Population change ages 18-24
- ↑ Stock market
- ↓ Government spending
- ↑ Nonresidential structure investment

Educational Construction Put in Place

Forecast as of Q4 2013



Religious

Religious construction has been a shrinking market for more than a decade. Our forecast calls for another lean year in 2014, growing just 2% after dropping 9% in 2013. What growth we see will likely be renovation, as newly formed congregations move into vacated retail space or reoccupy church buildings abandoned by other faiths. As the housing market slowly continues a growth trend in the coming years, we may also see more expendable income for contributing to new community houses of worship. However, like retail, it is possible that more religious congregations will meet online or use other forms of communication.

TRENDS:

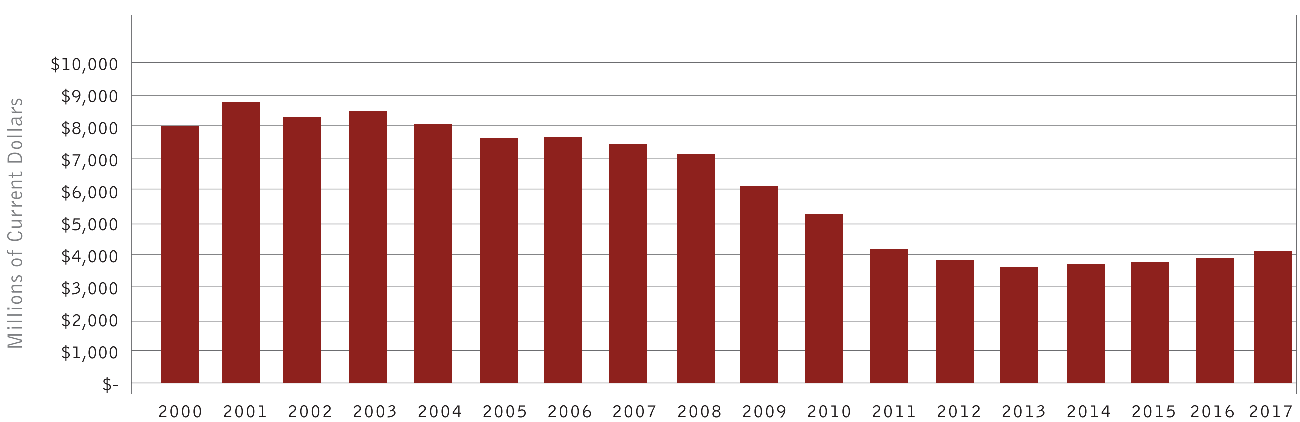
- The lending environment continues to be a challenge for many congregations.
- Establishing a capital campaign is becoming increasingly common.
- Many churches are seeing tremendous declines in contributions and tithes.
- More parishioners are relying on their houses of worship to provide guidance and assistance, further stretching thin resources.
- New methods for charitable giving, including online giving and donation collections, are empowering religious organizations.
- Churches are becoming smarter about attracting parishioners who are drawn in by facilities and the church building itself.
- Energy efficiency, green sustainability and long-lasting quality are becoming top features many congregations want in worship houses.

DRIVERS:

- GDP
- Population
- Income
- Personal savings rate

Religious Construction Put in Place

Forecast as of Q4 2013



Public Safety

Our forecast for public safety continues to be slow, dropping 5% in 2013 and expecting to regain just 3% in 2014. According to the U.S. Department of Justice Federal Prison System FY 2014 Congressional Budget report, "Inmate overcrowding continues to be a major concern and challenge for the BOP. Thus far in FY 2013, the federal inmate population totals 217,929, and systemwide crowding is at 37 percent over rated capacity, with 54 percent and 44 percent at high and medium security institutions respectively (data as of March 21, 2013)." Although we expect spending to increase, the rate of increase will be attenuated by the public's abhorrence of new taxes.

TRENDS:

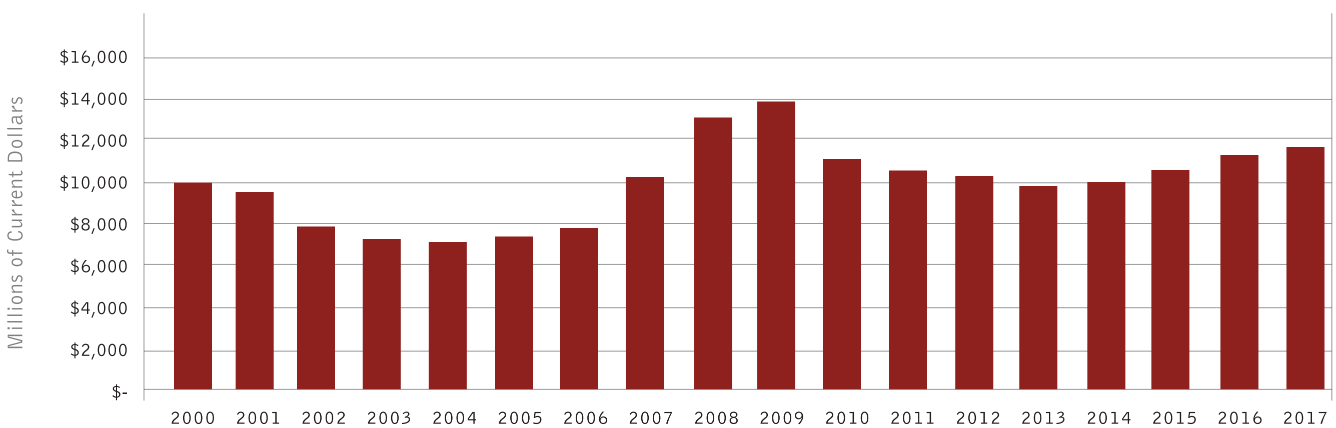
- "About 1 in every 35 adult residents in the United States was under some form of correctional supervision at year-end 2012, the lowest rate observed since 1997." (Bureau of Justice Statistics, December 2013)
- "At yearend 2012, the combined U.S. adult correctional systems supervised about 6,937,600 offenders, down by about 51,000 offenders during the year." (Ibid.)
- The president denied a request by the Pentagon seeking to overhaul the U.S. detention facility at Guantanamo Bay, Cuba.
- Privately managed secure facilities are increasing.
- Private corporations now operate 5% of the 5,000 prisons and jails in the U.S. The private prison industry is growing at a rate of 30% per year.
- CM-at-risk or design-build arrangements will increase.
- P3s overcome shortfalls in public financing.

DRIVERS:

- Population
- Government spending
- Incarceration rate
- Nonresidential structure investment

Public Safety Construction Put in Place

Forecast as of Q4 2013



Amusement and Recreation

The recent announcement of approval for a new stadium for the Atlanta Braves with a price tag of $672 million gives amusement and recreation construction a boost going into 2014. Our forecast calls for a 3% increase in construction put in place to $15.7 billion in 2014 and solid growth through 2017. New stadiums are increasingly more like new towns as the development includes mixed-use venues in addition to baseball or football or whatever the anchor sport is in the stadium. This approach can often revitalize a decaying part of town, but also offers more ongoing work and growth. That is the approach that is required these days to get the public to support the new arena both with their allegiance to the team and with its tax dollars. In the case of the Braves, there will be a significant input of funds from the team, which helps demonstrate its long-term commitment as well.

TRENDS:

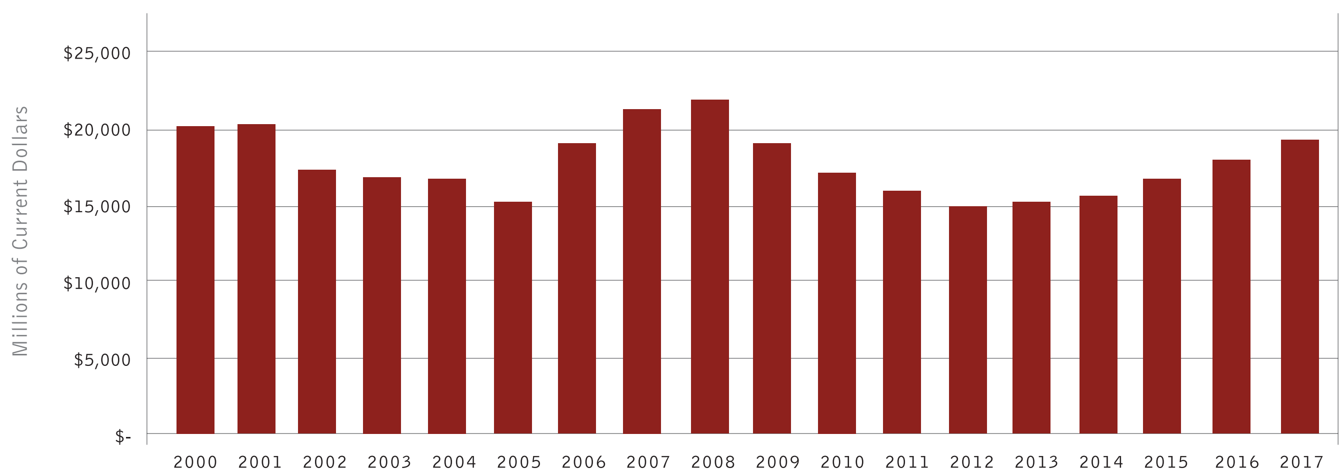
- The Atlanta Braves have announced they will build a new stadium using a public private partnership.
- The San Francisco 49ers have recently broken ground on their new $850 million stadium.
- The Minnesota Vikings' $1.1 billion project has been approved by the state senate.
- Casino plans are underway in a number of states, including New York, Pennsylvania, Maryland, Florida and Ohio, with some investors coming from offshore.
- Public/private venture planned for the campus of UNLV includes a 50,000-seat domed stadium but still waiting approvals and taxpayer votes on plan to allow the project to be tax-free.
- Competition in the gaming sector will draw business away from some existing gambling centers, such as Atlantic City, as well as other public arenas.

DRIVERS:

- Income
- Personal savings rate
- Unemployment rate

Amusement and Recreation Construction Put in Place

Forecast as of Q4 2013



Transportation

According to a recent FAA report, "The 2013 FAA forecast calls for U.S. carrier passenger growth over the next 20 years to average 2.2 percent per year, compared to last year's forecast growth of 2.6 percent per year." While growth in the airline industry has been slow during the recession, airlines are now ordering a record number of new planes to become more fuel-efficient and prepare for growth over the next decade. Passenger rail continues to struggle, but cargo rail traffic is very active, especially for petroleum products and grains. This increased activity will lead to more construction of facilities and airport improvements to support future needs. Our forecast calls for a 12% increase in construction for transportation projects in 2013 and growth of 6% in 2014.

TRENDS:

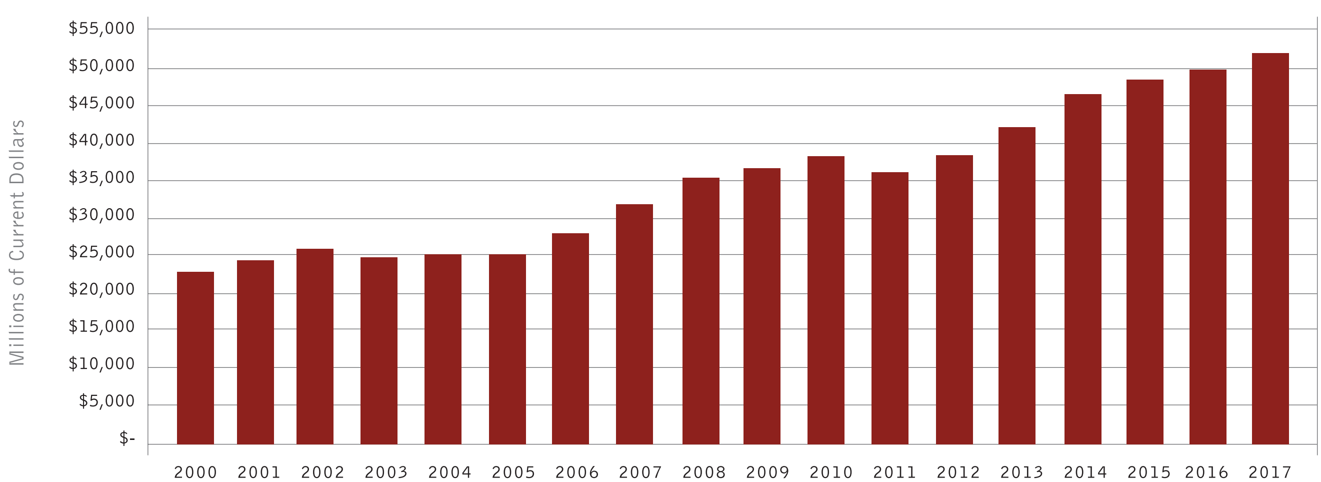
- According to the American Association of Railroads: "Total U.S. weekly intermodal volume was 172,396 units up 10.6 percent compared with the same week last year." (January 2, 2014)
- Railcar loads for petroleum and petroleum products increased 29% over December 2012 and grew 31.1% year over year.
- The FAA Modernization and Reform Act will provide $63.6 billion for the agency's programs between 2012 and 2015.
- "The 2013 FAA forecast calls for U.S. carrier passenger growth over the next 20 years to average 2.2 percent per year, compared to last year's forecast growth of 2.6 percent per year."
- High-speed rail is slow to get projects off the ground due to state funding and political resistance.
- Growth in container ports is recovering from the recession.
- Intermodal transportation will be the focus of new projects.

DRIVERS:

- ↑ Population
- ↓ Government spending
- ↓ Transportation funding

Transportation Construction Put in Place

Forecast as of Q4 2013



Communication

After rapid growth from 2004 to 2007, communications construction has slowed to a crawl with a decline of 7% in 2013 and only 2% growth expected for 2014. In part, the rapid increase of cell towers and supporting infrastructure of the last decade has resulted in much broader coverage for the growing number of wireless devices. Now that most people have at least two such devices when looking at the averages nationally, one can expect there may be a slowdown in growth, at least until we are all implanted with mobile devices or wearing them; but Google Glass isn't as hot a commodity as some had hyped. Nonetheless, technology marches on and the need for greater security tags close behind. That will keep communication construction chugging along to provide capacity for faster communications and broader bands for the use of more video and multimedia transmissions.

TRENDS:

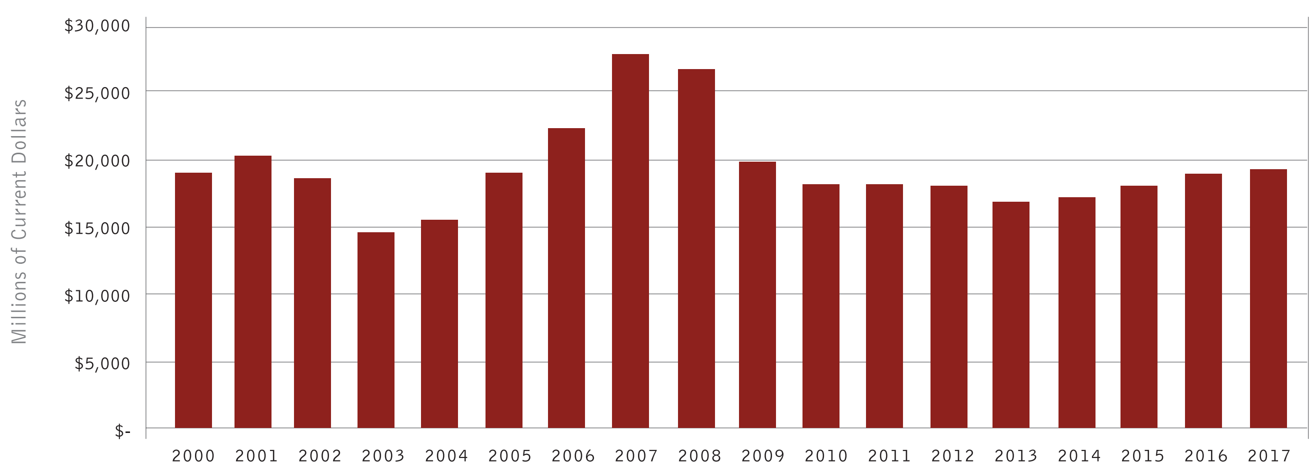
- "Mini towers" for increasing coverage and spectrum will increase rapidly in the next five years.
- Wireless technology is the fastest-growing area, as telecoms roll out more 4G technology with smartphones and tablets.
- According to research conducted by NPD Group, the rapid growth in tablets and smartphones has driven growth in the communications market to the point where, "There are now more than half a billion devices in U.S. homes that are connected to the Internet and deliver apps." (The NPD Group *Connected Intelligence Connected Home Report from global information company, March 18, 2013*)
- Data security is critical for large businesses and governments in the face of potential disasters and threats from hackers and foreign enemies.

DRIVERS:

- Innovation/technology
- Global mobility
- Population
- Security/regulatory standards
- Private investment

Communication Construction Put in Place

Forecast as of Q4 2013



Manufacturing

Increasingly, manufacturing seems to be finding its way back home, and that has started a new growth trend for construction of industrial facilities. Although no one is ready to call it a boom, growth will end up around 4% for 2013 and continue to grow at 6% or above annually starting in 2015. This isn't a patriotic move designed to make more jobs for Americans, as it is sometimes cast. Rather, it is a business decision based on the cost of production and time to market, etc. The lower prices for energy and the ability to build and staff highly automated facilities are major ingredients to locate in the U.S. Unfortunately, that doesn't mean all those who have lost manufacturing jobs in the last decade will be re-employed. The next generation of employees in manufacturing will be more like technicians than laborers. Overall, the trend is good, but it won't happen rapidly, as it takes time to start up new plants. While orders for manufactured goods have been improving, few plants are operating near full capacity yet.

TRENDS:

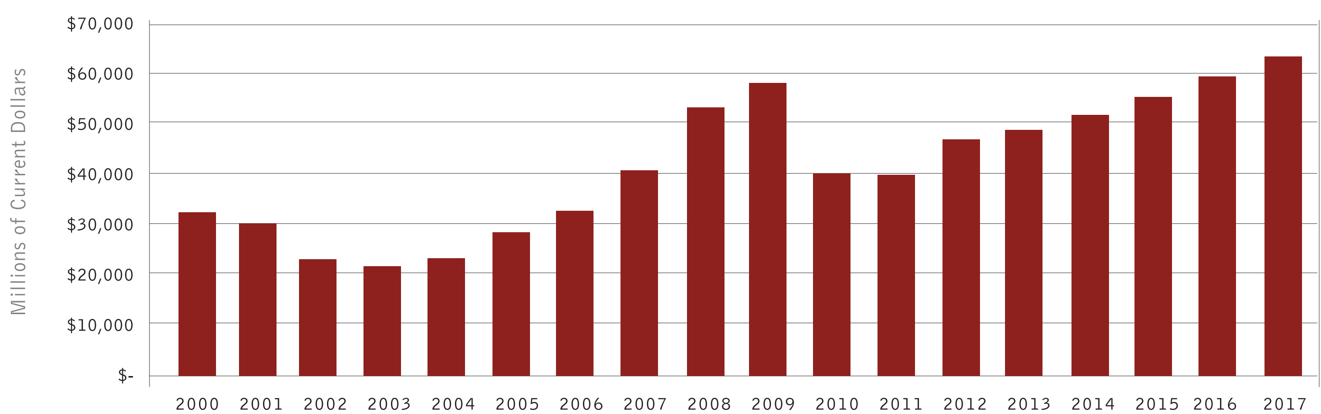
- The Federal Reserve reports," Manufacturing output increased 0.6 percent in November for its fourth consecutive monthly gain. . . . industrial production surpassed for the first time its pre-recession peak of December 2007 and was 21 percent above its trough of June 2009. Capacity utilization for the industrial sector increased 0.8 percentage point in November to 79.0 percent, a rate 1.2 percentage points below its long-run (1972–2012) average."
- "Reshoring of manufacturing" is happening slowly, in part due to availability of lower energy costs.
- The U.S. Census Bureau reports that, "New orders for manufactured durable goods in November increased $8.2 billion or 3.5 percent to $241.6 billion . . . This increase, up three of the last four months, followed a 0.7 percent October decrease. Excluding transportation, new orders increased 1.2 percent. Excluding defense, new orders increased 3.5 percent."

DRIVERS:

- ISM
- Industrial production
- Capacity utilization
- Factory orders
- Durable goods orders
- Manufacturing inventories

Manufacturing Construction Put in Place

Forecast as of Q4 2013



NONBUILDING STRUCTURES

Power

When we think of power, most of us first think about keeping homes heated and cooled, keeping the lights on and food cold. However, the bulk of the growth in power consumption comes from industrial users. As manufacturing picks up, so will the need for more power sources. Construction for power projects is also driven by the need to replace aging facilities with newer facilities that are cleaner and more efficient. After a booming return in 2012, power construction slowed in 2013 to just 2% growth levels, and we expect it to grow 5% in 2014 to $101.4 billion. As the price of natural gas goes down relative to other fuels, most new power facilities will be natural gas-based.

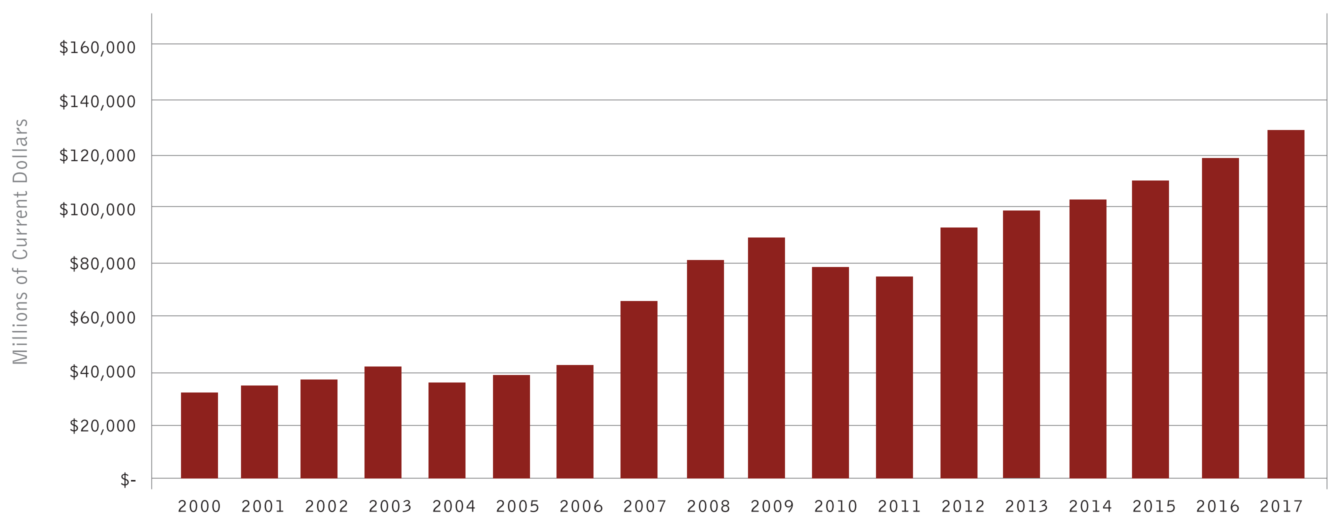
TRENDS:

- Since 2008, the refinement of hydraulic fracturing technology has allowed the United States to go from an increasingly dependent buyer of foreign oil to the second-leading producer of oil in the world." (FMI research paper, "Skills Shortages in a Booming Market: The Big Oil and Gas Challenge," 2014)
- "In 2008 just 3.8 percent of the total construction workforce was engaged in direct oil and gas construction. By 2012, 6.4 percent – nearly double 2008's number – of that workforce was engaged in direct oil and gas construction." (Ibid.)
- According to the "Annual Energy Outlook 2014," energy consumption, "including both purchases from electric power producers and on-site generation," will grow "from 3,826 billion kWh in 2012 to 4,954 billion kWh in 2040, an average annual rate of 0.9%." Due to increased manufacturing activity, most growth will come from the industrial sector.
- U.S. Army Corps of Engineers has a proposal out for $7 billion in locally generated renewable energy through power purchase agreements. The $7 billion capacity would be expended for the purchase of energy over a period of 30 years or less from renewable energy plants that are constructed and operated by contractors using private-sector financing." (Renewablesbiz.com, Bill Opalka, Aug. 15, 2012)
- Consumer electricity demand slowing due to appliances that are more efficient.
- Growth in renewable energy sources is expected to slow as Production Tax Credits may not be renewed. Also, the competitive costs will be more difficult to overcome as shale sources continue to be exploited.

DRIVERS:

- Industrial Production
- Population
- Nonresidential Structure Investment

Power Construction Put in Place
Forecast as of Q4 2013



Highway and Street

Construction for highways and streets will continue to try to hold on to current rates of construction, as everyone waits to see if funding from federal and state sources will be all but cut off or continue at current rates. No one expects an appreciable rise in funding. Our forecast calls for just 1% growth in 2014 and will remain around that level through 2017. The number of public-financed larger projects will be stifled, as future funding changes are highly uncertain. More private funding may become available, but will not compare with lost funding. Over time, this lack of activity could cause a critical backlog in infrastructure needs, especially when we consider ASCE already has calculated a deficit for roads and bridges of a little more than half a trillion dollars over the next five years.

TRENDS:

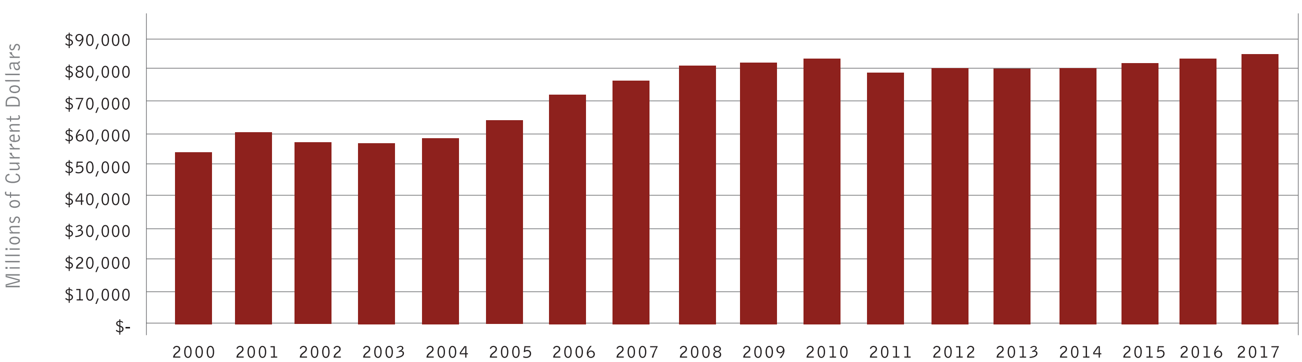
- According to ARTBA (American Road & Transportation Builders), "Taking into account changes in wages, materials and inflation, state and local governments awarded $54.3 billion in real highway and bridge contract between February 2012 and January 2013, compared to $55.8 billion in the same 2011-2012 time period."
- State budgets will continue to be strained, and it will be difficult to get larger projects off the ground due to uncertainty of long-term government funding and highway program renewal.
- The American Council of Engineering Companies (ACEC) reports that, "According to the Congressional Budget Office, the balance of the HTF will be depleted in Fiscal Year 2015, necessitating dramatic cuts in highway and transit spending unless new revenues are provided. Absent congressional action, highway program funding would fall from $40 billion to approximately $4 billion, while funding for transit projects would fall from $11 billion to $7 billion."

DRIVERS:

- ↑ Population
- ↓ Government spending
- ↑ Nonresidential structure investment

Highway and Street Construction Put in Place

Forecast as of Q4 2013



Sewage and Waste Disposal

Construction for sewage and waste disposal is forecast to be down 3% in 2013; however, we expect a 2% improvement in 2014 to around $21.9 billion. The ability to fund necessary water infrastructure improvements is central to the decline, as many municipal water systems still depend on the tax base for funding. Environmentally friendly approaches using new technologies and planning offer greener solutions that attract business and people who want to live near the city rather than dealing with constant leaks and repairs.

DRIVERS:

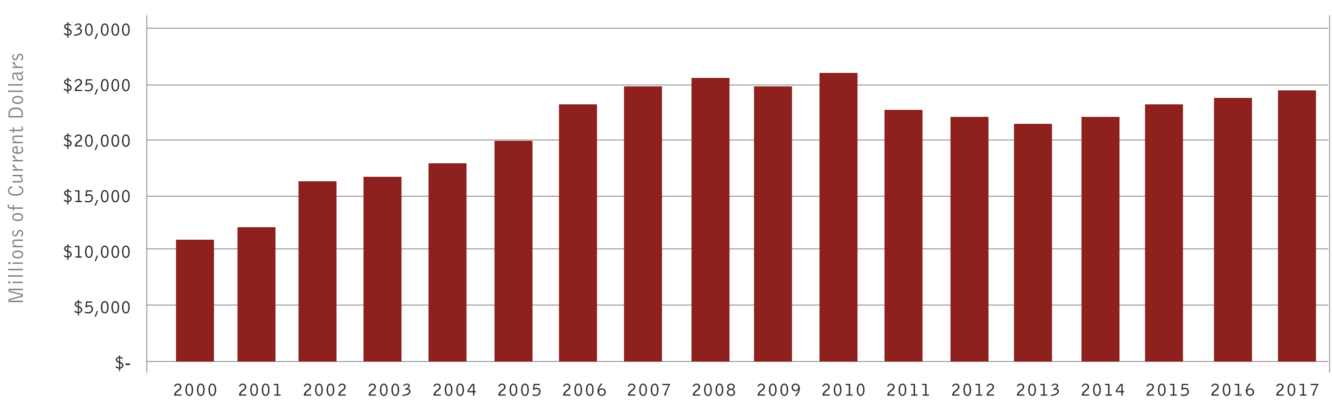
- ↑ Population
- ↑ Industrial production
- ↓ Government spending

TRENDS:

- Growth, driven by aging infrastructure and regulation, is on the horizon, but the length of the horizon is still unknown. Slow water infrastructure markets in the aftermath of the recession continue to build the backlog of necessary work as existing infrastructure ages.
- In need of replacement and upgrades, the 16,000 wastewater systems nationwide discharge more than 850 billion gallons of untreated sewage into surface waters each year.
- Combined sewer systems (stormwater and sewage) serve roughly 950 communities with about 40 million people. Most communities with CSOs are located in the Northeast and Great Lakes regions.
- The Clean Water State Revolving Fund (CWSRF) programs have provided more than $5 billion annually in recent years to fund water-quality protection projects.

Sewage and Waste Construction Put in Place

Forecast as of Q4 2013



Water Supply

Construction for water supply projects will improve 7% in 2013 and grow another 3% in 2014. Experts agree that the nation's infrastructure is not getting enough attention and, more importantly, funding. After spending years recovering from significant budget shortfalls, state governments had to look elsewhere for support in 2012 as the federal government begins to address its own fiscal woes. In 2012, $36.5 billion of tax-exempt municipal bonds were used at the state and local levels to address water infrastructure needs, which represent a 33 percent increase over 2011. In March 2013, the Senate Environmental and Public Works Committee unanimously approved a Water Resources Development Act, including a measure to create the Water Infrastructure Finance and Innovation Act (WIFIA). WIFIA would provide $50 million per year from 2014 to 2018 to help fund large-scale water infrastructure projects. However, according to a "Fact Sheet" release by the ACEC, "the Clean Water Act State Revolving Fund (SRF) program (funded at $1.45 billion in FY'13) and the Drinking Water SRF program (funded at $908 million)—have failed to keep up with system needs, putting the quality, safety and security of the nation's water resources at risk." (ACEC "Meeting America's Water Needs").

TRENDS:

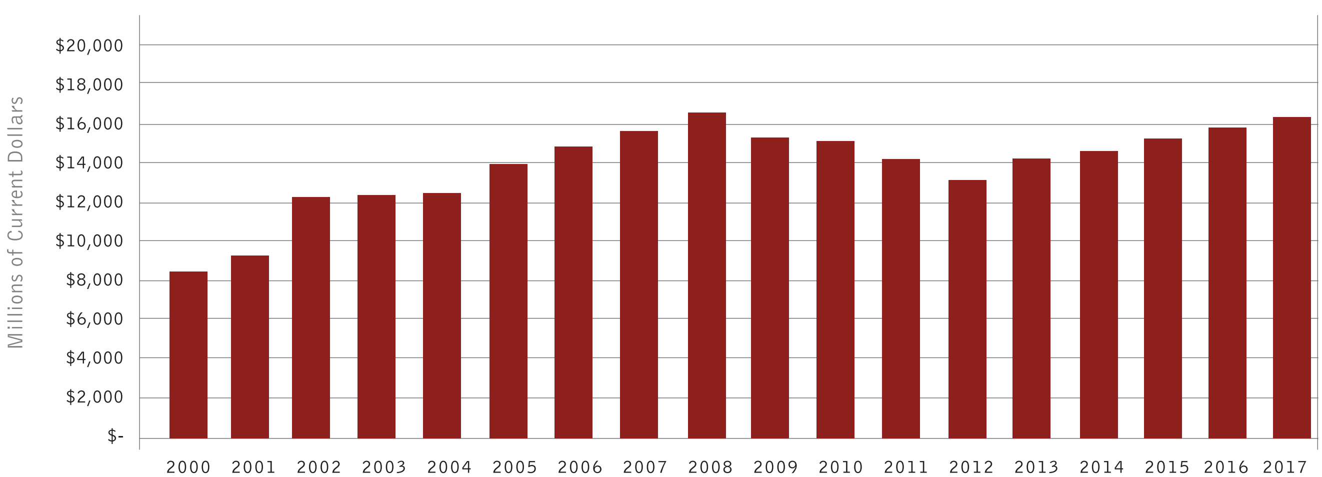
- Recent research from the EPA reports, "$72.5 billion is needed to prevent contamination of 73,400 water systems across the country, as well as water systems in American Indian, Alaska Native Village and other U.S. territories." (Wengian Zhu, CNN Money, June 5, 2013)
- Strength in the mining sector creates a tremendous amount of water infrastructure work throughout North America and abroad. Strength in commodity markets continues to drive increased levels of mining activity through the development of new mines and redevelopment of existing mining assets. Heightened mining activity leads to increased demand for related infrastructure, including water.
- Federal assistance for the safe drinking water State Revolving Fund (SRF) in the 11-year period between 1997 and 2008 totaled $9.5 billion, just slightly more than the investment gap for each of those years.
- Green construction practices, such as controlling runoff to help increase groundwater, will become the norm for improvements and new construction.
- Water for shale oil and gas mining will increase demand in selected areas of the country

DRIVERS:

- ↑ Population
- ↑ Industrial Production
- ↓ Government Spending

Water Supply Construction Put in Place

Forecast as of Q4 2013



Conservation and Development

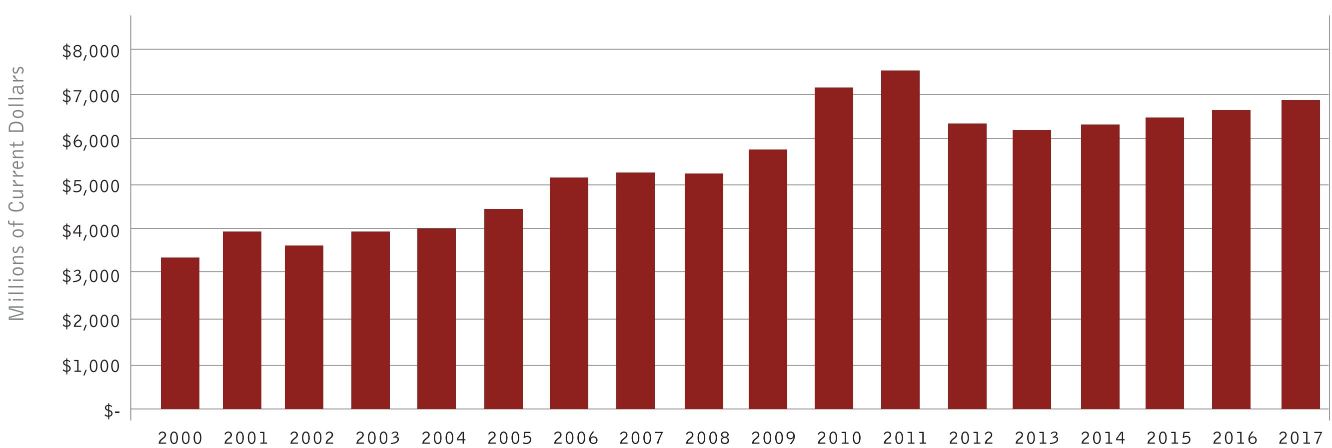
After a sharp slowdown in 2012 and a lackluster year in 2013, conservation and development construction will improve slowly from 1% to 3% over the next four years. The environmental market continues to be a tale of two markets in 2013. The industrial market continues to flourish behind the strength in the natural resource sector. In addition, the low cost of energy is driving an onshoring phenomenon in other industrial sectors, such as chemicals and automotive. Conversely, DOD and DOE markets continue to struggle against the headwinds of budget constraints. The two-speed market is expected to continue as industrial market strength should increase the size of the overall environmental market, albeit much more slowly as public markets contract.

DRIVERS:

- ↑ Population
- ↓ Government spending

Conservation and Development Construction Put in Place

Forecast as of Q4 2013



Construction Put in Place

Millions of Current Dollars

4th Quarter 2013 Forecast (Based on 3rd Quarter 2013 Actuals)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
RESIDENTIAL BUILDINGS													
Single-Family	434,912	417,518	306,990	187,648	106,398	112,965	109,620	131,380	168,395	198,469	231,368	263,814	294,415
Multifamily	48,699	54,324	52,570	48,083	32,231	17,405	17,821	26,293	36,227	46,713	52,350	57,353	60,869
Improvements*	133,896	147,973	140,909	122,015	115,301	118,744	125,217	128,850	133,648	137,129	143,192	149,472	155,814
Total Residential	617,507	619,814	500,468	357,746	253,930	249,113	252,658	286,523	338,270	382,310	426,910	470,640	511,099
NONRESIDENTIAL BUILDINGS													
Lodging	12,840	18,139	28,706	35,806	25,499	11,635	9,129	11,423	13,430	14,739	16,160	17,102	17,986
Office	45,763	54,187	65,259	68,563	51,908	37,850	36,011	38,433	38,749	39,927	41,841	44,677	47,104
Commercial	70,242	76,713	89,684	86,212	54,069	39,450	43,386	46,303	48,508	50,720	54,753	58,505	62,284
Health Care	34,430	38,472	43,766	46,902	44,845	39,344	40,204	41,797	41,726	43,370	45,770	49,611	54,120
Educational	79,687	84,928	96,758	104,890	103,202	88,405	84,985	84,618	81,325	84,344	88,522	94,023	100,510
Religious	7,735	7,749	7,540	7,225	6,192	5,288	4,239	3,768	3,421	3,505	3,618	3,774	3,972
Public Safety	7,314	7,768	10,201	13,083	13,787	11,153	10,407	10,295	9,752	10,049	10,417	11,005	11,446
Amusement and Recreation	15,236	19,033	21,212	21,829	19,404	16,943	15,995	14,977	15,310	15,704	16,686	18,085	19,512
Transportation	25,052	27,964	31,877	35,471	36,701	38,340	34,737	38,210	42,791	45,556	47,866	49,809	51,755
Communication	18,906	22,219	27,580	26,487	19,753	17,730	17,685	17,528	16,305	16,553	17,434	18,256	19,069
Manufacturing	28,568	32,677	40,633	53,234	56,836	40,350	39,660	46,850	48,722	51,867	55,337	59,379	63,602
Total Nonresidential Buildings	345,773	389,849	463,216	499,702	432,196	346,488	336,438	354,202	360,038	376,335	398,405	424,225	451,360
NONBUILDING STRUCTURES													
Power	38,371	42,244	66,055	81,075	88,861	77,945	75,185	94,068	96,920	101,415	108,531	118,761	129,032
Highway and Street	64,139	72,040	76,682	81,361	82,166	82,529	79,322	80,517	79,653	80,080	81,148	83,066	84,916
Sewage and Waste Disposal	19,867	23,186	24,872	25,696	24,830	25,991	22,710	22,066	21,485	21,859	22,410	23,417	24,492
Water Supply	14,028	14,960	15,798	16,752	15,471	15,322	14,163	13,227	14,207	14,702	15,179	15,824	16,272
Conservation and Development	4,453	5,130	5,260	5,234	5,750	7,172	7,538	6,350	6,281	6,347	6,454	6,667	6,876
Total Nonbuilding Structures	140,858	157,560	188,667	210,118	217,078	208,959	198,918	216,228	218,546	224,403	233,721	247,735	261,588
Total Put in Place	1,104,138	1,167,223	1,152,351	1,067,566	903,204	804,560	788,014	856,953	916,854	983,049	1,059,037	1,142,600	1,224,047

*Improvements include additions, alterations and major replacements. It does not include maintenance and repairs.

Change From Prior Year - Current Dollar Basis

4th Quarter 2013 Forecast (Based on 3rd Quarter 2013 Actuals)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
RESIDENTIAL BUILDINGS													
Single-Family	15%	-4%	-26%	-39%	-43%	6%	-3%	20%	28%	18%	17%	14%	12%
Multifamily	18%	12%	-3%	-9%	-33%	-46%	2%	48%	38%	29%	12%	10%	6%
Improvements*	13%	11%	-5%	-13%	-6%	3%	5%	3%	4%	3%	4%	4%	4%
Total Residential	15%	0%	-19%	-29%	-29%	-2%	1%	13%	18%	13%	12%	10%	9%
NONRESIDENTIAL BUILDINGS													
Lodging	4%	41%	58%	25%	-29%	-54%	-22%	25%	18%	10%	10%	6%	5%
Office	8%	18%	20%	5%	-24%	-27%	-5%	7%	1%	3%	5%	7%	5%
Commercial	5%	9%	17%	-4%	-37%	-27%	10%	7%	5%	5%	8%	7%	6%
Health Care	7%	12%	14%	7%	-4%	-12%	2%	4%	0%	4%	6%	8%	9%
Educational	7%	7%	14%	8%	-2%	-14%	-4%	0%	-4%	4%	5%	6%	7%
Religious	-5%	0%	-3%	-4%	-14%	-15%	-20%	-11%	-9%	2%	3%	4%	5%
Public Safety	4%	6%	31%	28%	5%	-19%	-7%	-1%	-5%	3%	4%	6%	4%
Amusement and Recreation	-9%	25%	11%	3%	-11%	-13%	-6%	-6%	2%	3%	6%	8%	8%
Transportation	0%	12%	14%	11%	3%	4%	-9%	10%	12%	6%	5%	4%	4%
Communication	22%	18%	24%	-4%	-25%	-10%	0%	-1%	-7%	2%	5%	5%	4%
Manufacturing	22%	14%	24%	31%	7%	-29%	-2%	18%	4%	6%	7%	7%	7%
Total Nonresidential Buildings	7%	13%	19%	8%	-14%	-20%	-3%	5%	2%	5%	6%	6%	6%
NONBUILDING STRUCTURES													
Power	8%	10%	56%	23%	10%	-12%	-4%	25%	3%	5%	7%	9%	9%
Highway and Street	9%	12%	6%	6%	1%	0%	-4%	2%	-1%	1%	1%	2%	2%
Sewage and Waste Disposal	11%	17%	7%	3%	-3%	5%	-13%	-3%	-3%	2%	3%	4%	5%
Water Supply	11%	7%	6%	6%	-8%	-1%	-8%	-7%	7%	3%	3%	4%	3%
Conservation and Development	10%	15%	3%	0%	10%	25%	5%	-16%	-1%	1%	2%	3%	3%
Total Nonbuilding Structures	9%	12%	20%	11%	3%	-4%	-5%	9%	1%	3%	4%	6%	6%
Total Put in Place	11%	6%	-1%	-7%	-15%	-11%	-2%	9%	7%	7%	8%	8%	7%

*Improvements include additions, alterations and major replacements. It does not include maintenance and repairs.

Benefits

A Construction Market Forecast From FMI's Research Services Group Can:

- Supply the market-oriented, economy-driven dimension essential for preparing, implementing and monitoring strategic plans.
- Be a significant aid in defining, targeting, implementing and monitoring other critical corporate decisions, such as long- and short-term sales goals, or redirecting resources (i.e., on a geographic or a product-line basis).
- Provide the basis for estimating submarkets.
- Provide the basis for comparing performance among markets.
- Provide the basis for identifying activities that are beneficial or detrimental to performance.

Features

Each Standard Construction Market Forecast:

- Details construction put in place in three residential building, 11 nonresidential building and five nonbuilding structure categories. It covers the current year, eight previous years and five forecast years. It is available for any county in the U.S. or any combination of counties, metropolitan statistical areas, states, regions, etc.
- Includes both construction values and annual percentage changes. Delivery time depends on the size of the request but is usually only a few days. It can be delivered in printed or electronic form and in most major text or spreadsheet formats. Graphs can be provided at additional cost.

Basis

- Historical information in FMI's standard Construction Market Forecast is based on building permits and construction put in place data as provided by the U.S. Commerce Department. Forecasts are based on econometric and demographic relationships developed by FMI, on information from specific projects gathered from trade sources, and on FMI's analysis and interpretation of current and expected social and economic conditions.

Other Reports

- Reports on state and federally financed highway construction are available for most counties or combinations of counties.
- Custom reports on a wide variety of construction-related topics can be prepared by FMI.
- Reports are based on multiple sources and are appropriate for preliminary analytical and planning purposes but contain little or no direct observation of the area described and are not guaranteed by FMI to be accurate.

For more information, call 919.785.9268.

About FMI's Research Services Group

As the construction industry becomes increasingly competitive, market intelligence becomes an important tool for the building industry. A more complete understanding of the market, market trends, customer perceptions, buying practices, competitor profiles and other market influencers will enhance craft labor studies.

Since 1953 FMI has provided consulting and training services specialized for the construction industry. FMI's market research includes both secondary and primary research designed to meet clients' specific needs. Both types of research are used to provide accurate assessments in a timely, efficient and concise manner for clients.

Typical project work performed includes customer buying practices, competitive analyses, market-size modeling, market forecasts and trends, channel performance analyses, customer satisfaction surveys and sales performance evaluations.

J. Randall (Randy) Giggard
Managing Director
Research Services

Randy Giggard is responsible for design, management and performance of primary and secondary market research projects and related research activities, including economic analysis and modeling, construction market forecasting and database management. Randy's particular expertise is in the areas of market sizing and modeling, competitive analysis, sales and market performance evaluations, buying practices and trends analysis.

Randy holds undergraduate degrees in mechanical engineering from Southern Illinois University and English from Illinois State University and a master's of marketing and management policy master's from Northwestern University.

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About FMI

FMI is a leading provider of management consulting, investment banking† and research to the engineering and construction industry. We work in all segments of the industry providing clients with value-added business solutions, including:

- Strategic Advisory
- Market Research and Business Development
- Leadership and Talent Development
- Project and Process Improvement
- Mergers, Acquisitions and Financial Consulting†
- Compensation Benchmarking and Consulting
- Risk Management Consulting

Founded by Dr. Emol A. Fails in 1953, FMI has professionals in offices across the U.S. We deliver innovative, customized solutions to contractors, construction materials producers, manufacturers and suppliers of building materials and equipment, owners and developers, engineers and architects, utilities, and construction industry trade associations. FMI is an advisor you can count on to build and maintain a successful business, from your leadership to your site managers.

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