Construction Outlook

United States | Q3 2016

TABLE OF CONTENTS

What had the largest impact in Q3?

While many trends affect the construction industry on a daily basis, these themes had the largest impact in the third quarter and will continue to be prevalent in the months to come.

1 RISK:
What does the future hold?

The economy, now in its seventh year of expansion, is beginning to show signs of slowing growth. Financiers, developers, and contractors alike, are now starting to take a more cautious look at new projects and their risk. As a result, new construction starts are likely to slow in line with demand and projects will be focused on markets with only the strongest fundamentals.

2 LABOR:
The challenges continue

A lack of construction labor continues to be a challenge in all U.S. markets. With both construction and overall U.S. unemployment rates near record lows, and development volumes at cycle highs, labor costs will continue to rise over the next year.

3 TECH:
Making waves in construction

Construction and development are historically slower to innovate but new design, productivity, and sharing tools are revolutionizing how work is done. Early adopters are finding huge success with Building Information Modeling (BIM), the sharing economy and cutting edge hardware.

Robust activity across all regions and property types

The construction market across the United States remained stable and growing through the third quarter, with key indicators such as construction spending, construction backlog and under construction pipeline showing solid progress alongside an expected uptick in costs. Though the rate of growth in the industry is slowing, the quarter shows robust activity across all regions and property types. Construction spending across the U.S. continues to hit cyclical highs, but materials and labor costs are growing as well. We can expect to see a national slowdown in the construction industry by end-of-year 2017 and with it, a shift in how clients are using construction services.

As firms strive to shrink budgets and offer their clients seamless real estate construction solutions, many in the industry continue to consolidate business units and add services under a single brand. In this sea of increased complexity and mobility; contractors, project managers, and developers alike are turning to tech and hardware innovations that can streamline processes and offer all-in-one potential.

Uncertainty is beginning to show in the industry through declining architect and contractor workload as concerns swirl around the effects of the U.S. election, upcoming changes in the Fed's interest rate, and overall geopolitical uncertainty. The U.S. economy as a whole has maintained slow and steady growth, which has kept the Gross Domestic Product (GDP) rising in the face of stagnant business investment – benefiting the construction industry by driving demand across property types.

Continued labor crunch in the construction industry

Over the course of the next quarter, top U.S. markets can expect to see a continued labor crunch in the construction industry as the available skilled workforce remains slim. By mid-year 2017, softening construction volumes in some markets will alleviate this pressure on the widespread labor shortages.

By end-of-year 2017 expect to see a softer construction industry across the U.S. as demand and market saturations begin to level out across property types. A significant decline isn't expected, but the rate of growth in the industry will slow, spurring greater competition between firms seeking work. Construction clients and users will begin to turn their focus towards more adaptive reuse projects over new construction as market stabilization plays out.

Available jobs and work in the Northeast have already started to slow with flat growth of under construction volumes this quarter, as well as a decline in business workload for firms in the industry. Expect the volume of new billings and contracts in the Northeast to level then decline by the second quarter 2017. The Western region is near its peak with near term construction pipeline expected to remain low. The region is a projected two quarters behind the Northeast slowdowns, with some architecture and contracting firms already reporting smaller growth in business compared to prior quarters. The Midwest region maintains an upward trajectory, with architecture and contracting firm's new business growth remaining steady—expect the region's market activity to trail the west by two months. Southern construction markets remain steadily growing and will continue to maintain a solid clip for the next three quarters as demand remains steady and construction costs stay low.

Q3 2016 INDICATORS & VALUES

Construction spending

$317 billion +1.0% YOY[i]

National Building Cost Index

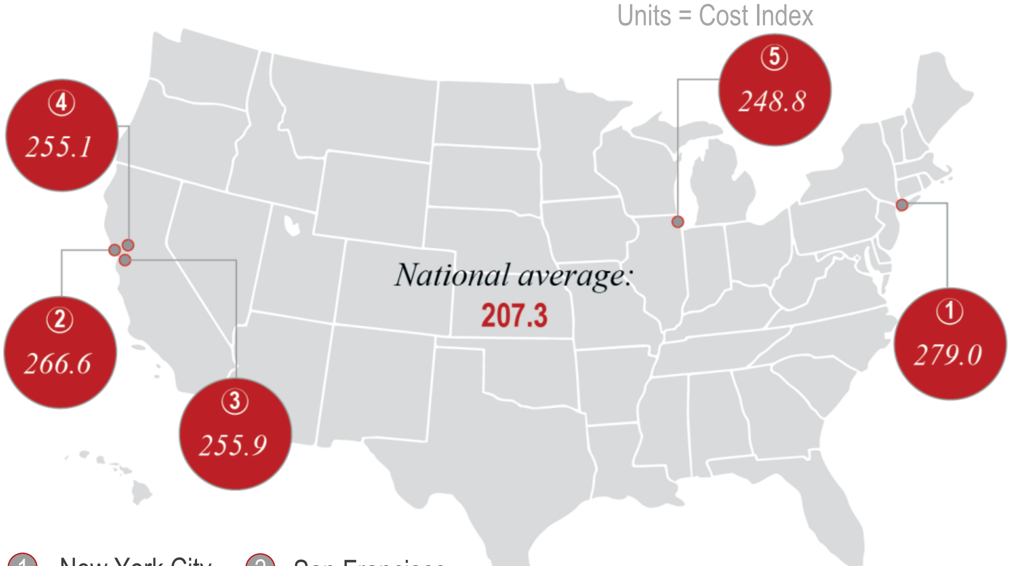
+0.5% QOQ (+2.6% YOY)[ii]

Materials Costs Index

+1.1% QOQ (+2.2% YOY)[iii]

Top 5 Most Expensive Cities to Build in the U.S.[x]

Units = Cost Index



1 New York City 2 San Francisco

3 San Jose/Silicon Valley 4 Oakland 5 Chicago

Top 3 materials – construction costs[iv]

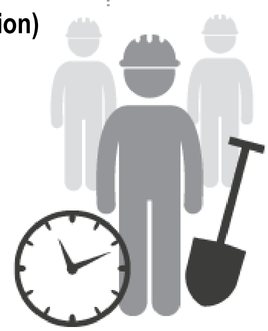
Cement
-1.1% QOQ

Steel
+0.2% QOQ

Lumber
+3.0% QOQ

Number of Construction Workers
1.46 million in Q3 '16
1.4 million in Q3 '15
(+2.8% YOY)[ix]

Unemployment (Construction)
4.5% in July 2016
5.5% in July 2015
(-1.0% YOY)[vi]



National Construction Backlog
8.5 months
(+ 0.0% YOY)
(-1.6% QOQ)[v]

Average Hourly Rate
$29.98/hr in Q3 '16
$29.09/hr in Q3 '15
(+3.0% YOY)[viii]

Region with Highest Growth
South
+1.01 months YOY
(+10.3% QOQ)[vii]

Costs include materials and labor for installation on a city by city analysis

i U.S. Census Bureau
ii iii iv Engineering News Record
v ix Associated Builders and Contractors
vi vii viii Bureau of Labor Statistics
x R.S. Means

THE LARGEST IMPACT IN THE THIRD QUARTER?

1 RISK: *What does the future hold?*

Caution in construction is now increasing as confidence indicators in the construction and development industry start to fall. Banks are being more selective in handing out loans, pricing has increased, financing standards have tightened, and securing lending is becoming tougher. After many quarters of strong growth, investors, financiers, and contractors alike are beginning to weigh risk and opportunity carefully.

Each quarter, the Federal Reserve Board polls senior loan officers from the nation's largest banks on their opinion of the state of lending and commercial financing. This quarter's sentiment poll shows that many in the corporate financing industry believe lenders are tightening lending standards, reaching the strictest point in more than three years. ENR's third quarter 2016 Construction Industry Confidence Index (CICI), a poll of 245 executives from large construction firms, mirrors a similar sentiment. In this quarter's CICI, down 4 index points to 58, industry execs are anticipating a slowdown in construction market growth within the next 12 to 24 months.

Despite this, current U.S. construction volumes remain steady and growing. In the near term, expect to see per-project staffing and equipment rentals become more widespread in smaller firms. But for many, especially firms focused on infrastructure and government projects, the next several months carry uncertainty pending the policy decisions of the new president.

2 LABOR: *The challenges continue*

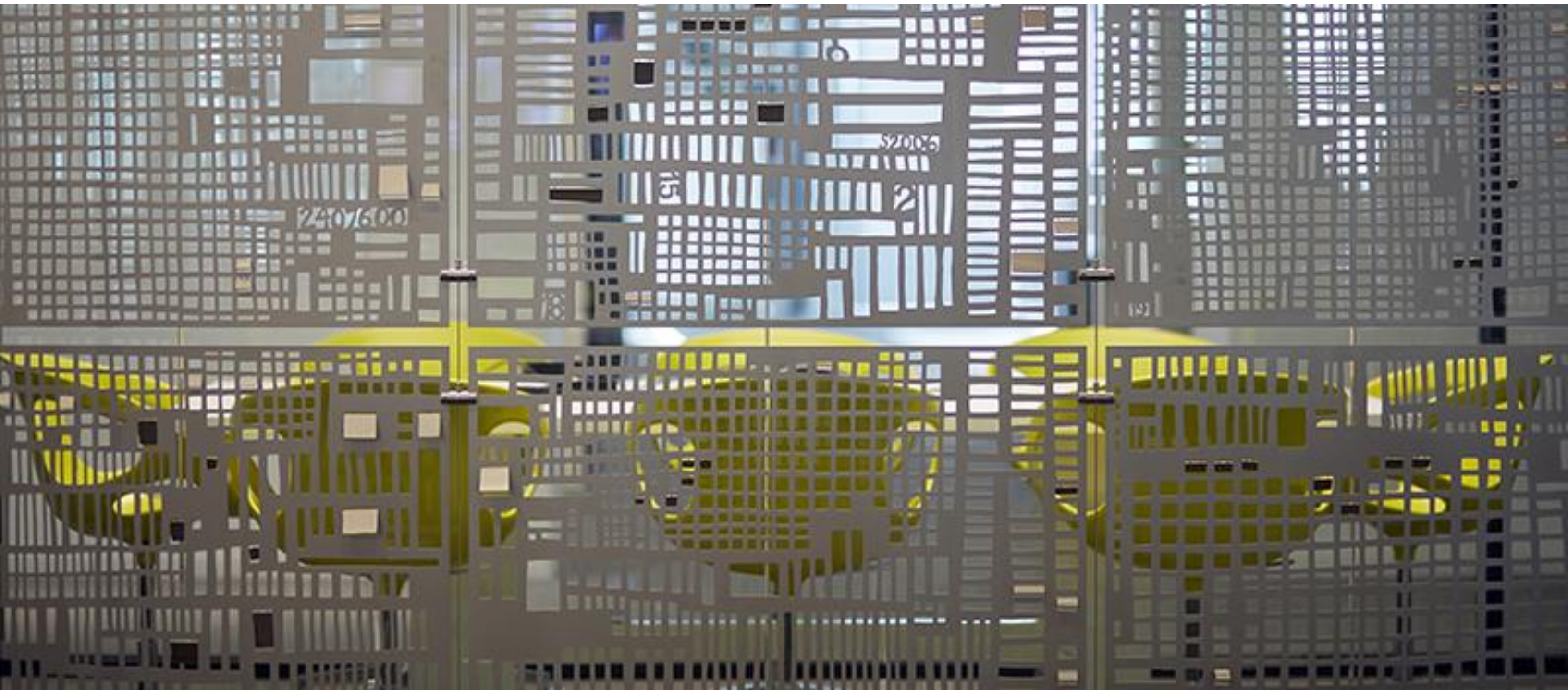
With construction and development volumes near cycle highs, a lack of skilled laborers continues to place pressure on development timelines and budgets. The volume of jobs, projects, project starts, under construction pipelines, project backlogs and construction spending for this quarter are all near cyclical highs – yet projects are stalling from the lack of labor. Two main factors are creating the scene playing out before us today: demand and cost.

DEMAND

- Skilled labor job openings have increased nationally, yet gone unfilled for longer than the U.S. average, and the resulting hiring slowdown in markets is due to a lack of labor and not a decline in jobs.
- The size of the labor pool is rebounding from the downturn, but at a much slower rate than demand – nearly flat from Q2 to Q3 2016.
- With record-breaking construction volumes across property types in Q3, expect demand to remain high for the next 12-18 months.

COST

- The national average hourly construction wage will break $30 this month – the first time in history. Expect another 3.0 percent increase by March 2017.
- Poaching labor from competing contractors and bid jumping has increased in several markets as employees look for higher payouts, driving up hourly rates more quickly.



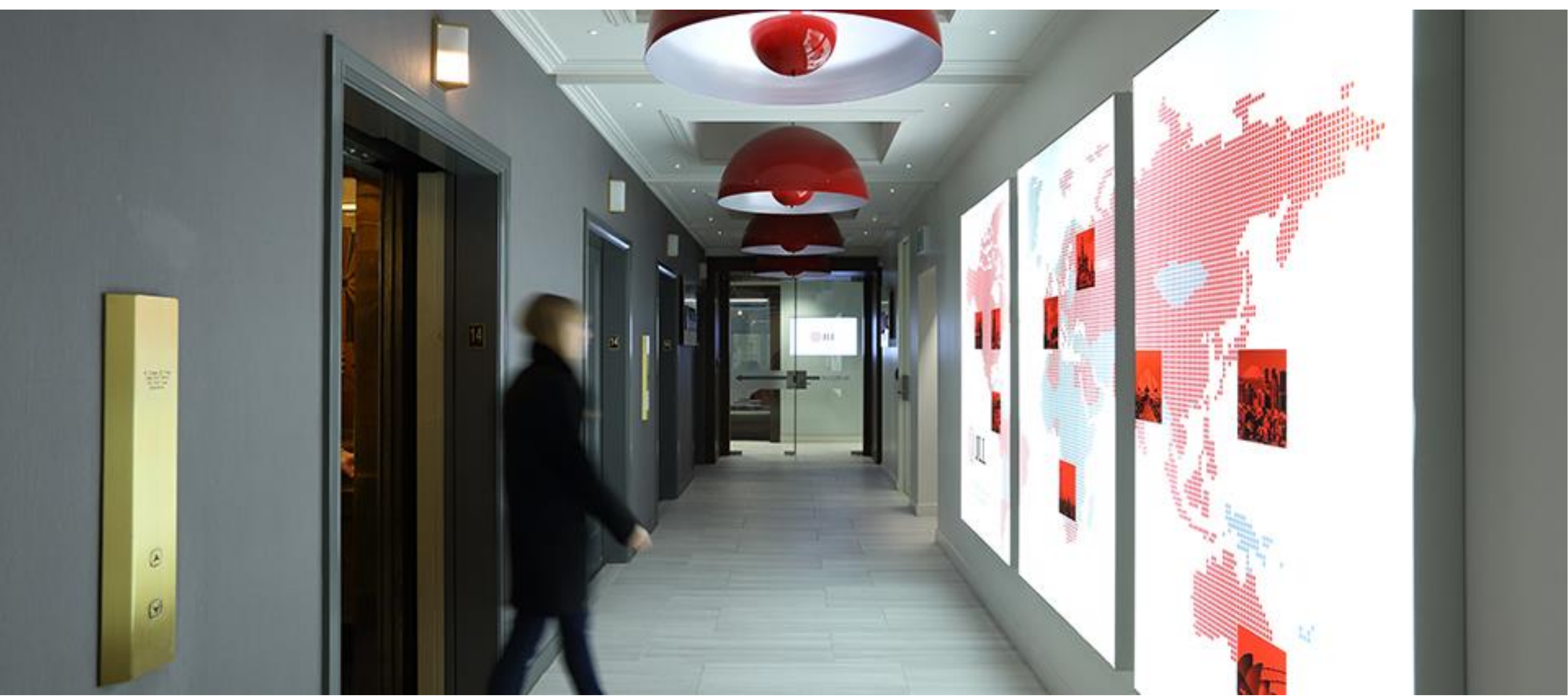
3 TECH: *Making waves in construction*

Cloud computing, virtual reality, the internet of things and business intelligence are all rapidly growing subsectors of the technology industry, impacting the economy at large and, increasingly, the construction industry. Technology is having a profound impact on how project managers, contractors and service firms do their jobs through software, hardware, and the sharing economy.

Software: Revolutionary productivity and data software is changing how many in the construction industry do their job. With apps and programs now focused on increased mobility and cloud access for teams in the field, sharing documents and solving problems on the fly has never been easier. New software solutions such as BIM, productivity apps, and full service business tech solutions are becoming all-in-one tools that seamlessly share data, inputs, and business intelligence across business lines.

Hardware: Drones have become an increasingly popular tool with contractors. Commercial grade drones equipped with 3D scanners can now survey a project within a fraction of the time traditional surveyors would take – the model can then be loaded into CAD programs and shared across teams. Virtual reality devices are also changing the way we experience spaces and buildings, as models and overlays are displayed and edited in lifelike quality.

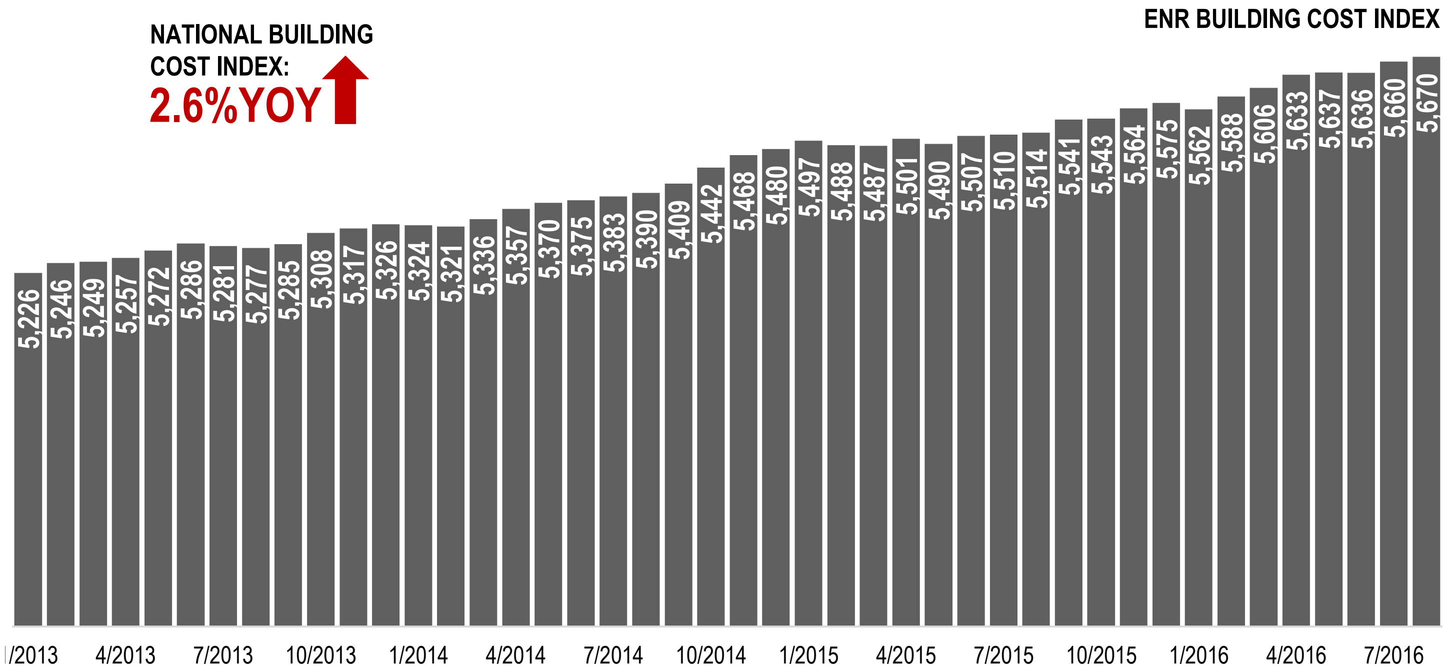
Sharing economy: We've all heard of Uber and Airbnb, but how about Yard Club or Dozr? The sharing economy has officially made its way to construction as companies like Yard Club offers contractors the ability to rent heavy construction equipment between firms when it's not in use. As the wait-and-see attitude amongst construction companies continues, these sharing alternatives allow smaller or overloaded GCs to rent on an as needed basis.



COST PROFILE

BUILDING COSTS

In the third quarter of 2016, labor continued to be the hot button topic impacting construction costs. With labor shortages reported throughout the U.S., wages continue to spike in response. Steel and cement prices held steady through the quarter, declining 50 basis points, and lumber had a slight uptick for the fourth straight quarter as residential and low-rise multifamily construction increased in demand.



Source: ENR **Units=Index Value*

BUILDING COSTS:
The bulk of third quarter's increased building costs was due to larger labor wages across the nation. Materials had a reduced impact on overall costs, maintaining a slow but steady growth rate nosing just past 2.0 percent. Expect building costs to maintain a similar trend through the next two quarters.

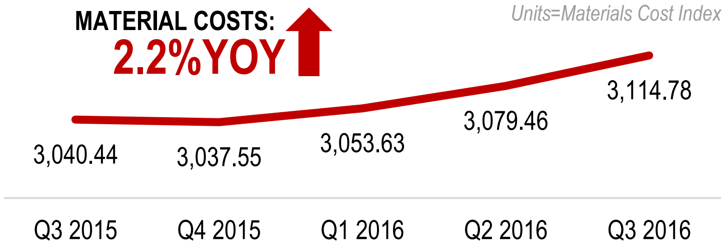
COST PROFILE

MATERIALS COSTS

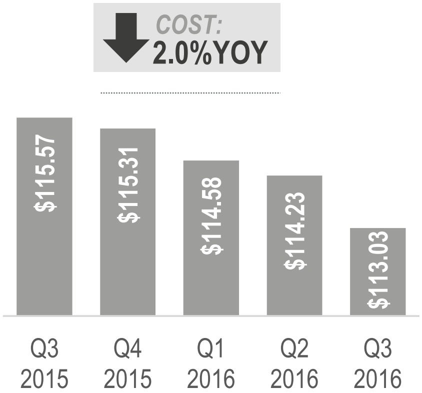
Increased lumber costs drove the third quarter's materials cost growth. U.S. lumber consumption is up more than 10.0 percent year-over-year, as are import volumes of lumber from Canada (20+ percent). Expect residential and low-rise project (office and multifamily) costs to be hit harder by increased lumber prices. Cement prices continued to fall during the quarter, down 1.0 percent from Q2 2016, while steel prices continued to remain relatively unchanged.

MATERIAL COST INDEX

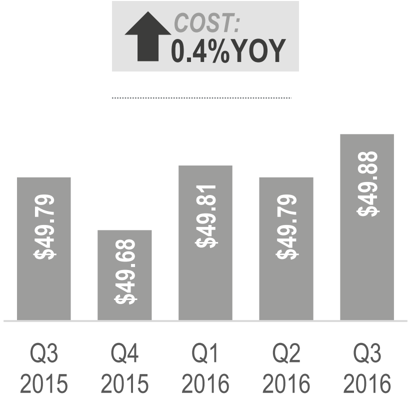
Units=Materials Cost Index



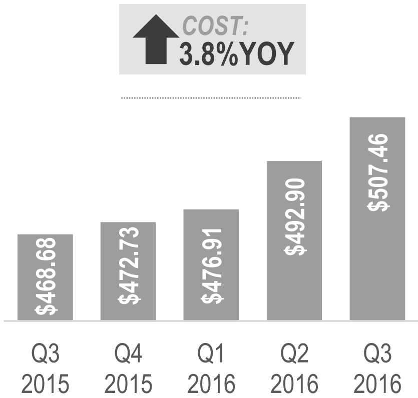
CEMENT



STEEL

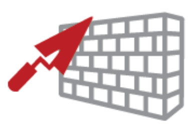


LUMBER



Source: ENR **Units=$/Unit*

MATERIALS PROJECTIONS:



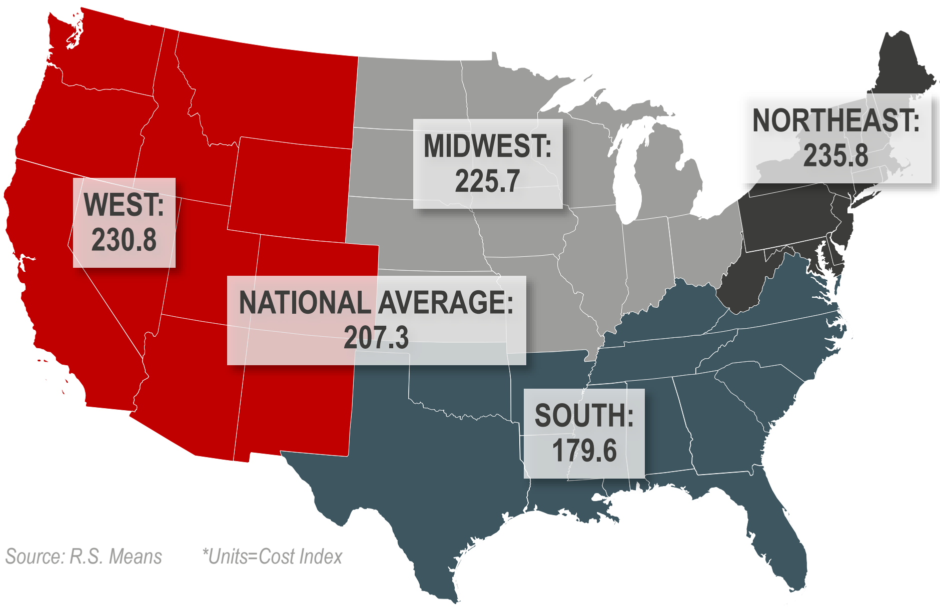
CEMENT:
We will see a gradual decline in cement unit costs through the remainder of 2016, leveling out in 2017

STEEL:
The unit price for steel will remain low, continuing a steady 1.0-1.5% decline per year through 2019

LUMBER:
Lumber increases will be prevalent through 2017, adjusting then leveling out in 2018 and 2019

CITY COST INDEX

REGIONAL CONSTRUCTION COST INDEX FOR Q3

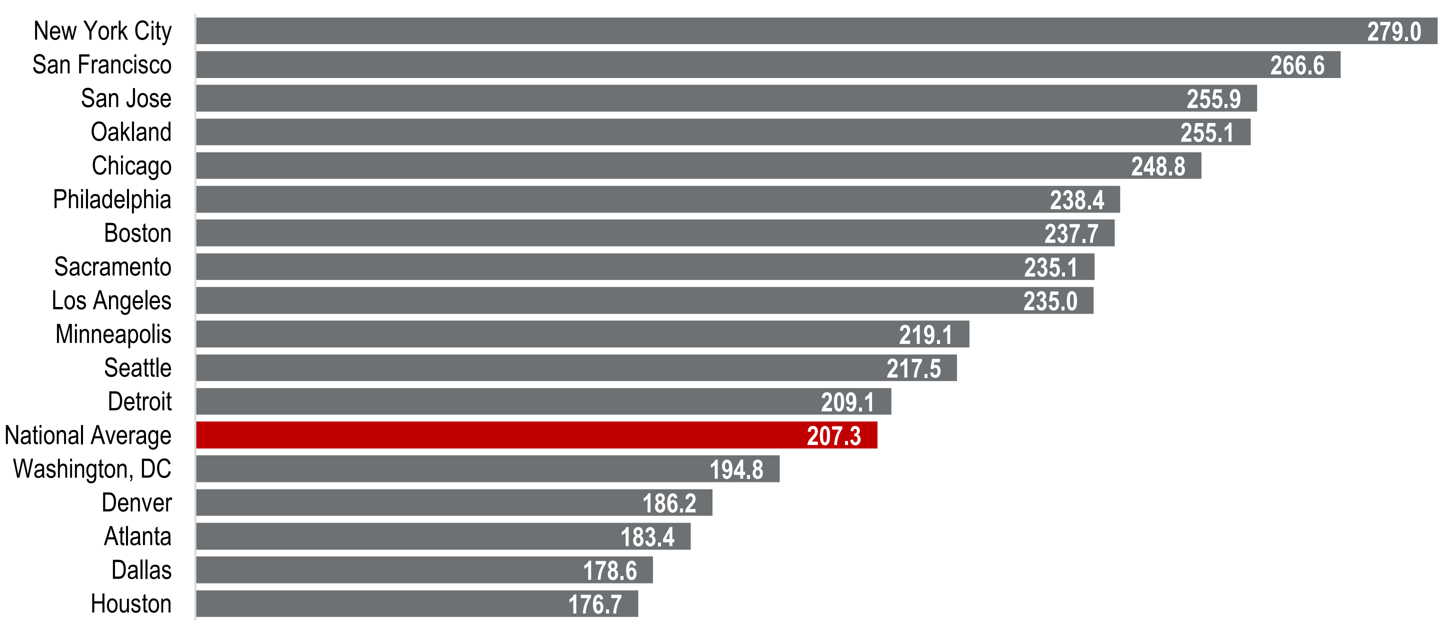


Source: R.S. Means **Units=Cost Index*

New York City, **San Francisco**, and **San Jose**, continue to be the **most expensive cities** to build in the U.S., topping the list once again (one, two, and three respectively). **Oakland** jumps up two spots to fourth place, pushing **Chicago** down to slot five on the list. The top five most expensive cities this quarter maintain a tight race – only **12.3 percent difference in cost between New York and Chicago**.

In other markets: **Minneapolis** and **Toronto** fall three places each – making way for **Los Angeles** and **Sacramento** to jump into eighth and ninth, as California markets maintain upward momentum. Significant construction pipelines, paired with labor shortages in the West will keep these metros at the top of our list for several quarters to come.

CITY CONSTRUCTION COST INDEX FOR Q3



Source: R.S. Means **Units=Cost Index*

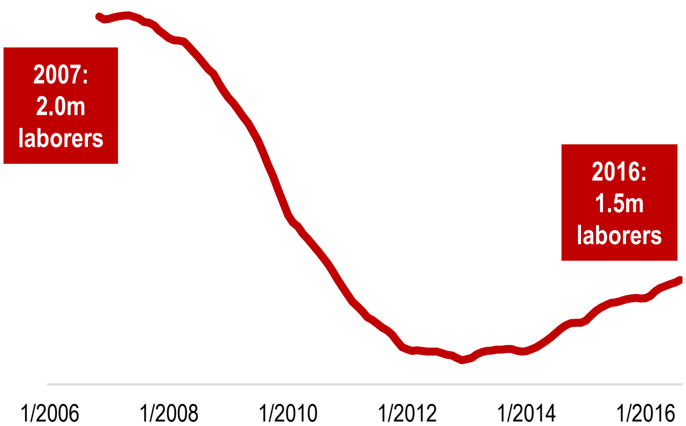
LABOR PROFILE

Where did everyone go?

The strong U.S. economy is spurring strong levels of commercial and residential construction across the country, but the available construction labor pool is dwindling. As the unemployment rate across all U.S. jobs is reaching cyclical lows, construction pools are tapping out and hourly wages continue to rise. Construction firms are struggling to find and retain qualified laborers in many cities.

Following the recession in 2008, many construction workers left the industry in search of jobs in other fields, and have chosen not to return. Today, contractors are in a booming construction period, but can't find the skilled labor to keep up. The pool of construction labor today is **23.0 percent smaller than in 2007**, and is showing signs of leveling out in terms of organic growth. With no shortage of job openings, a bidding war for workers has opened up. The smaller labor pool combined with 4.5 percent unemployment in the industry, **the lowest point in 10 years**, is turning construction labor into a driving cost in construction pricing.

LABOR POOL STILL 23% LESS THAN 2007 PEAK

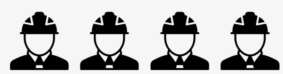


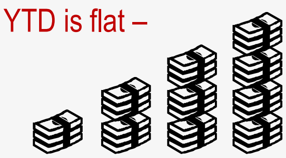
Source: U.S. Census

Supply and demand

Construction labor is currently **in a high demand, low supply scenario**, driving up costs in many of the country's major cities for several quarters (but finally letting up in some). Construction workers average hourly wage hit **$29.98 per hour in July**, more than 3.5 percent higher than July 2015 levels, outpacing the national average annual growth of 2.4 percent.

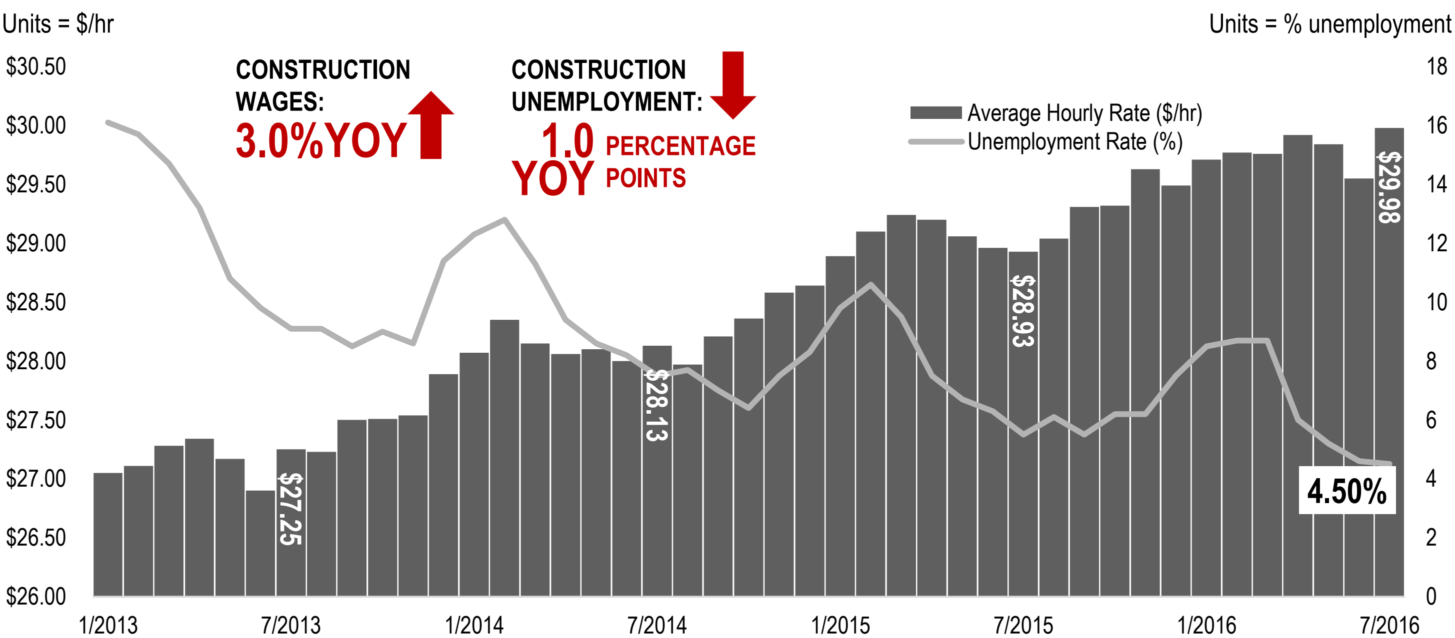
Growth of construction employees YTD is flat – but pay continues to rise **(+3%)**





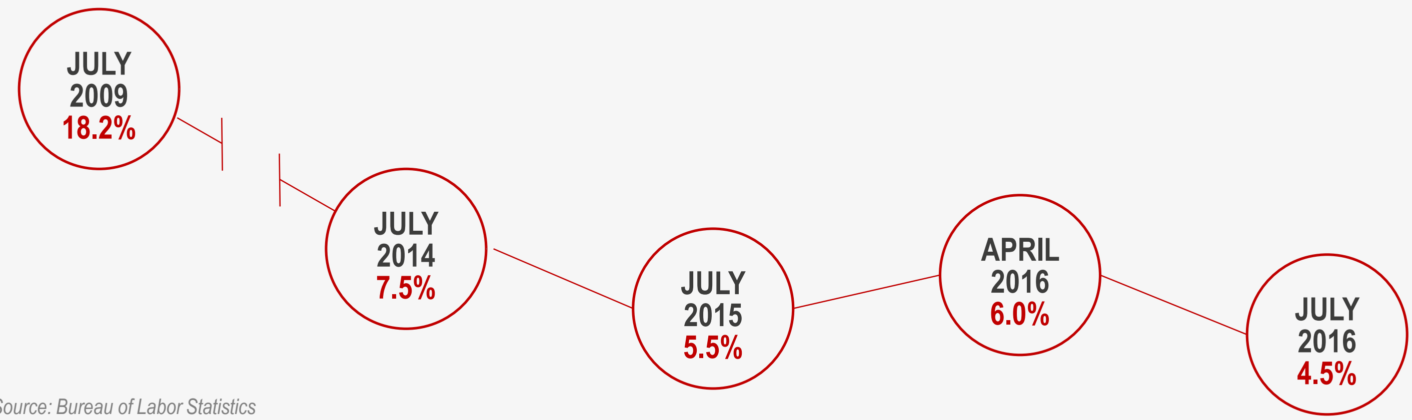
Source: Bureau of Labor Statistics

HOURLY WAGES IN CONSTRUCTION CONTINUE TO GROW AS UNEMPLOYMENT FALLS



Source: Bureau of Labor Statistics

Current construction unemployment rate: **4.5%** - lowest level in over 14 years



Source: Bureau of Labor Statistics

Cities to keep an eye on:

New York City
The office development pipeline for NYC is down 6.4 percent quarter over quarter, so expect to see labor cost growth slow. Pressure on construction costs will lighten as material cost growth is expected to remain low for the next several quarters as well.

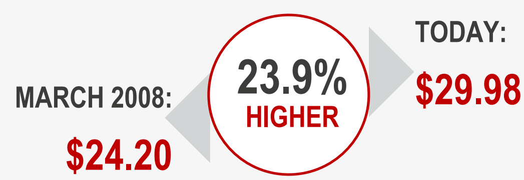
Chicago
With low labor cost growth this quarter (+1.5%), Chicago will see a stronger increase over the next three to five quarters as the city's under construction office and industrial pipelines pick up speed.

Boston, Houston, and Minneapolis
Slowing development pipelines in these cities combined with decent access to skilled labor is alleviating pressure on the labor force, freeing up skilled workers for remaining projects – expect costs to flatten soon.

Denver
With access to a strong labor pool and lack of nearby cities vying for skilled labor, expect Denver labor costs to maintain current rates as the under construction pipeline equalizes.

LA, San Francisco, Oakland, Sacramento, and Silicon Valley
California markets are still struggling to find enough workers to fill job openings for projects. Expect this trend to continue and be reflected in growing labor costs throughout the state as firms try and work through project backlogs.

Wages: Last cycle peak vs. today



Source: Bureau of Labor Statistics

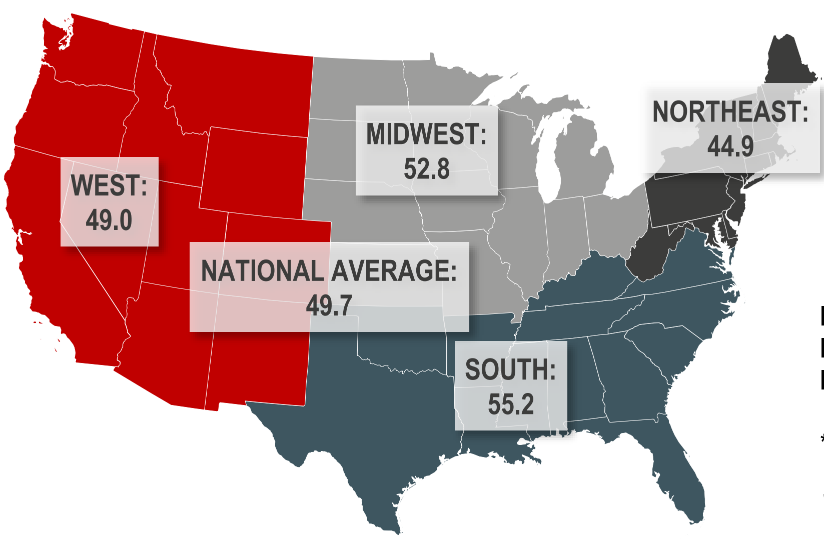
Outlook

Labor shortages resulting from low labor force participation and high construction volumes will be prevalent across many of the major markets, driving up costs for the near future. Building and holding a robust crew of laborers will be key to contractors' success and timeliness on projects. Labor intensive industries such as drywall and roofing, can expect to see continued cost growth in reaction to these shortages. Several cities, mainly in the Midwest and Northeast, will see slower cost growth as development volume and labor pools begin to equalize.

NATIONAL DEVELOPMENT PROFILE

Development and construction on a national scale remains strong as nearly all property types maintain robust under construction pipelines, although indicators show slowing growth across the nation. Construction spending for this quarter reached cyclical highs – with over **$317 billion** being spent, but up only 1.0 percent year-over-year, and this comes at a time where construction costs continue to break records alongside increased spending. As demand for new construction begins to normalize across regions and property types, we can expect to see various markets correct, similar to what we are beginning to see in the Northeast.

ARCHITECTURE BILLING INDEX – Q3 2016



The further the index is from 50, the larger the number of firms reporting the change

Index < 50 – Firms are reporting decrease in billings
Index = 50 – Firms are reporting no change in billings
Index > 50 – Firms are reporting increase in billings

*Leads nonresidential construction by approximately 11 months

*Source: AIA *Units = Billings Index*

Both the Construction Backlog Indicator (CBI) and Architecture Billings Index (ABI) are tools that can be used to anticipate strength and growth in the construction industry in coming quarters. The CBI depicts how many months of work contractors currently have on the books – higher numbers show higher demand. The ABI portrays the growth (or decline) of billings in architecture firms for the current quarter – and is an indicator leading construction activity by approximately 9-12 months.

Northeast – The Northeast region was hit hard in the third quarter, with architecture billings down more than 5 index points and construction backlogs down 19.4 percent year-over-year. Both indicators are precursors to a slowing construction industry. Expect to see decreased workload and demand across all fields by mid-year 2017, competition amongst firms will increase as a result.

Source: U.S. Census

NATIONAL DEVELOPMENT PROFILE

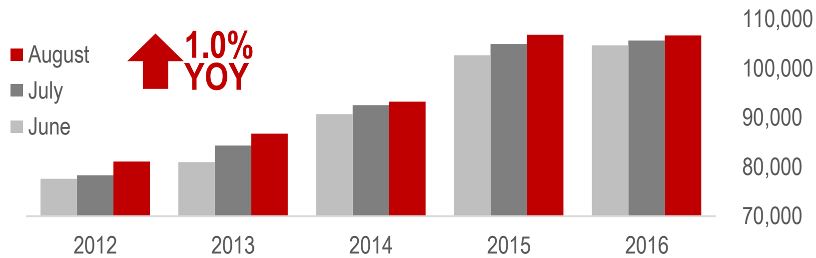
West – Indicators in the West show contained growth this quarter, with contractor workload up only 5.6 percent, and reported billings down slightly. However, the under construction pipeline in the region does remain strong and will carry the West for the next few quarters, but is not expected to grow beyond its current point.

Midwest and South – The South showed the largest gains with over 10 percent contractor workload year-over-year, but both regions had strong Q3 increases on all fronts. Higher under construction pipelines and increased volume of work for contractors and architects prove strength in the regions. Expect contractor workload to increase in both regions over the next several months, leveling out mid-to-late 2017.

Construction spending

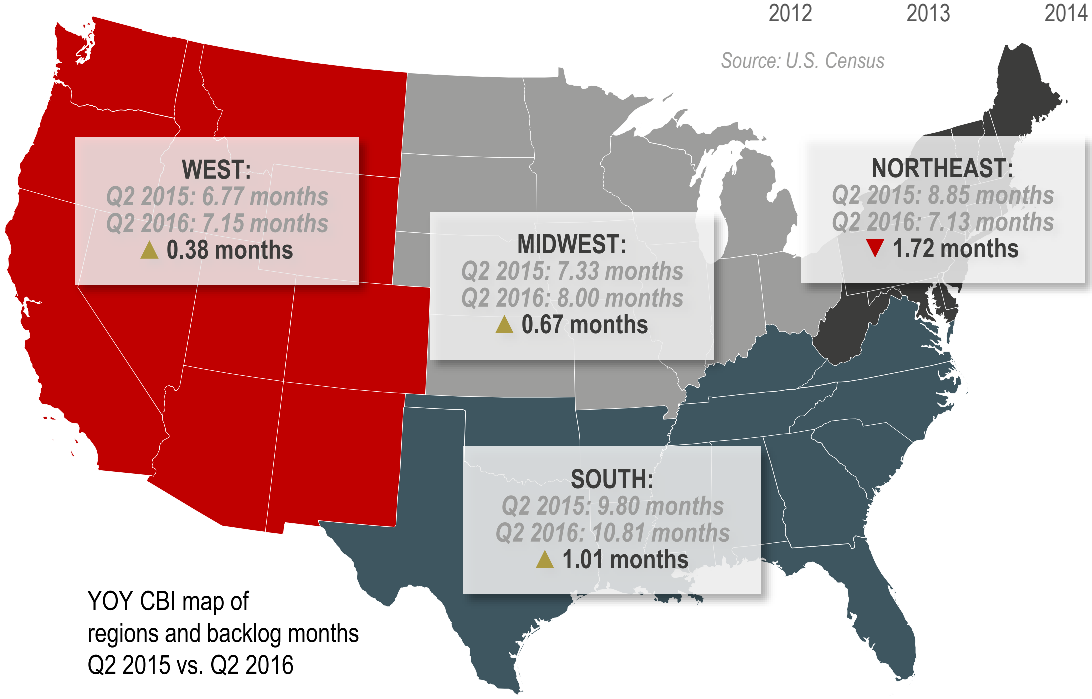
The monthly put in place value (U.S. Census), is the leading indicator on current construction and details how much money is spent in the construction industry (building materials, labor, fees, etc.) each month. Construction spending in June through August is **up 1.0 percent** this year, reaching a cyclical high, but depicts significantly less growth than in prior years. With all property type vacancies remaining low, and a large volume of projects under construction, we can expect similar spending growth leading through mid-2017.

SEASONAL CONSTRUCTION SPENDING



Source: U.S. Census

CONSTRUCTION BACKLOG INDICATOR



YOY CBI map of regions and backlog months Q2 2015 vs. Q2 2016

Source: American Builders and Contractors *includes Alaska and Hawaii

DEVELOPMENT PROFILES

OFFICE

Office markets across the United States were stable and growing in Q3, with leasing activity still primarily expansionary. Though the rate of growth is slowing, a first look at the office market in the third quarter shows strong activity across the board. Vacancy fell, quarterly net absorption outpaced new deliveries, preleasing is up and the construction pipeline is at its highest level of this cycle.

SIGNIFICANT INDICATORS | Q3 2016

Under construction pipeline: 105.4m s.f. | ▲ from 100.6m s.f.

Construction starts:
67 Starts | ▼ from 89 starts
9.8m s.f. | ▼ from 20.4m s.f.

Project completions
66 Completions | ▼ from 84 completions
11.4m s.f. | ▼ from 12.1m s.f.

Preleasing: 50.1% | ▲ 3.2 percentage points

Quarter's largest starts:
1. Wade Park | 550,000 s.f. | Mixed-use | Dallas
2. The Boro Tysons | 430,000 s.f. | Mixed-use | Northern Virginia
3. 16 Chestnut | 430,000 s.f. | Office | Denver

(QOQ change from Q2 2016)

DEVELOPMENT PROFILES
INDUSTRIAL

Industrial development in the U.S. continues to maintain steady growth, staying on pace to eclipse 2015 deliveries. Even though the rate of growth for new project deliveries continues to rise year-over-year, vacancy has steadily declined as the sector hits the lowest vacancy rate in over 16 years. Indicators point to continued business growth at home and into new markets. Nearly 18.0 percent of all signed leases during the third quarter were new-to-market transactions.

SIGNIFICANT INDICATORS | Q3 2016

Overall Industrial vacancy: 5.8% | ▼ 30 basis points

Under construction pipeline: 204.3m s.f. | ▲ from 193.1m s.f.

Quarterly deliveries: 51.3m s.f. | ▲ from 48.3m s.f.

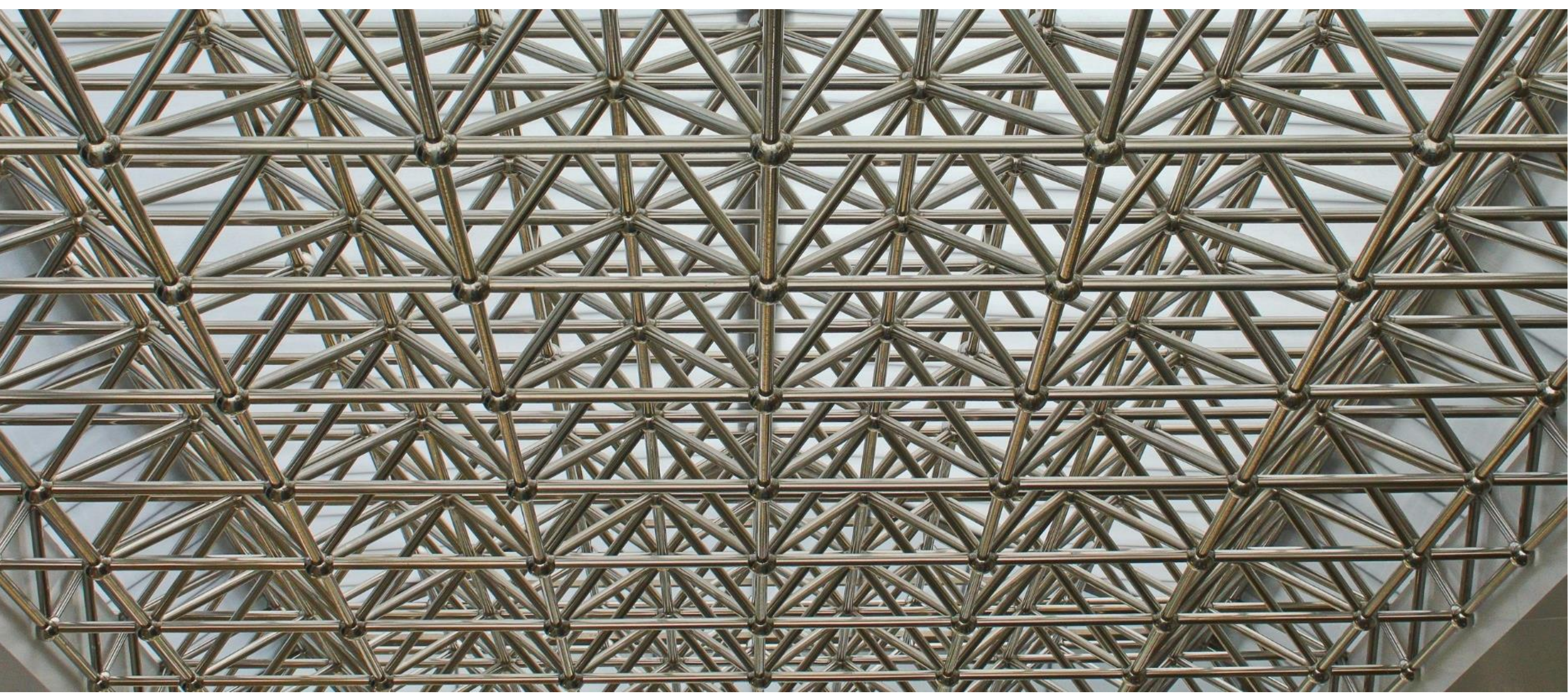
Quarterly absorption:
67.9m s.f. | 32.3% more than Q2 2016 deliveries

L.A. and Orange County markets maintain sub 2.0% vacancy

More than one-third of U.S. absorption came from four core markets: Philadelphia (10.5%), Dallas (8.6%), Houston (8.5%) and Chicago (6.4%).

Industrial deliveries should deliver more new construction than 2015, but still below pre-recession levels.

(QOQ change from Q2 2016)



DEVELOPMENT PROFILES
HOSPITALITY

Lodging metrics for the U.S. hotel industry in Q3 2016 continued to suggest that the sector is stabilizing to normalized performance levels. National occupancy remains stable at a historic high, and ADR growth for the first three quarters of the year amounted to a strong 3.1 percent. U.S. hotel transaction volume in Q3 2016 demonstrated robust growth in deal activity, greater than YTD and cyclical highs, due mainly to the acquisition of Strategic Hotels and Resorts by Chinese investor, Anbang Insurance Group. Additionally, the supply pipeline has increased by 1.5 percent year-to-date, but this growth remains below the long-term average of 2.0 percent.

SIGNIFICANT INDICATORS | Q3 2016

Lodging occupancy (YTD): 66.9% | ▼ 10 basis points

RevPAR (YTD): $83.10 | ▲ 2.9% YOY

ADR (YTD): $124.18 | ▲ 3.1% YOY

Q3 transaction volume reached $10.5 billion, nearly double the volume achieved in Q2 2016.

As of YTD August 2016, approximately 70.0% of the projects under construction are select-service hotels.

The supply outlook for each of the top 25 U.S. markets varies widely with Nashville, New York, Seattle, Denver, Houston, Miami and Dallas anticipated to post the highest levels of growth.

Largest hotels under construction (by room count):

1. Gaylord Rockies Hotel | 1,500 rooms | Denver, CO
2. Hyatt Regency Seattle | 1,260 rooms | Seattle, WA
3. Marriott Marquis Chicago | 1,200 rooms | Chicago, IL

(YOY change from Q3 2015)

DEVELOPMENT PROFILES
RETAIL

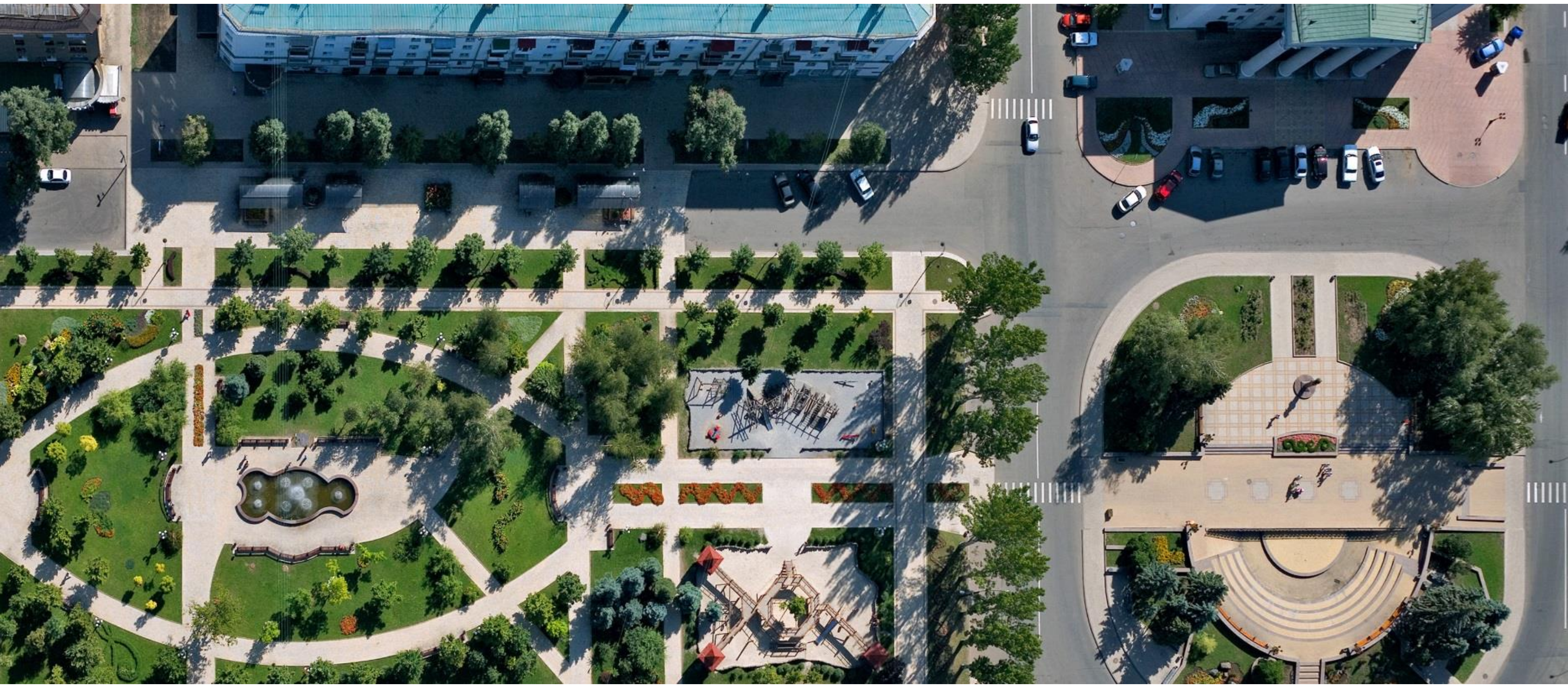
Store closings appear to be at a cyclical high, but their impact on retail real estate as a whole has been limited. U.S. retail properties have seen an unbroken chain of positive annual net absorption since 2009. In Q2, asking rents grew by 1.3 percent quarter-over-quarter. Retail absorption was 49.6 million square feet in the first half of the year. Department store closures are the mall sector's biggest headwind, yet for the majority of malls there is ample demand for new use of that space. Apparel store closures have picked up speed, although they seem driven more by changing fashion than e-commerce disruption.

SIGNIFICANT INDICATORS | Q3 2016

Under construction volumes:
NATIONAL: 82.4m s.f. | Q3 starts: 14.3m s.f.
SOUTHWEST: 37.5m s.f. | Q3 2016 starts: 6.7m s.f.
NORTHEAST: 18.8m s.f. | Q3 2016 starts: 2.2m s.f.
WEST: 14.8m s.f. | Q3 2016 starts: 2.7m s.f.
MIDWEST: 11.3m s.f. | Q3 2016 starts: 2.6m s.f.

H1 2016 deliveries by property type:
General Retail: 17.1m s.f.
Mall: 1.5m s.f.
Power Center: 1.8m s.f.
Shopping Center: 7.4m s.f.
Specialty Center: 0.7m s.f.

Major retailers announced 2016 store closings:
1. Office Depot/Office Max: Closing 400 locations
2. Men's Warehouse/Jos. A. Bank: Closing 250 locations
3. Walmart: Closing 154 locations (opening 300+ worldwide)
4. Sears & Kmart: Closing 142 locations
5. Macy's: Closing 100 locations



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