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Building Our Future

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2016 Annual Infrastructure Construction Cost Inflation Estimate

October 19, 2015

Annual Infrastructure Construction Cost Inflation Estimate (AICCIE)

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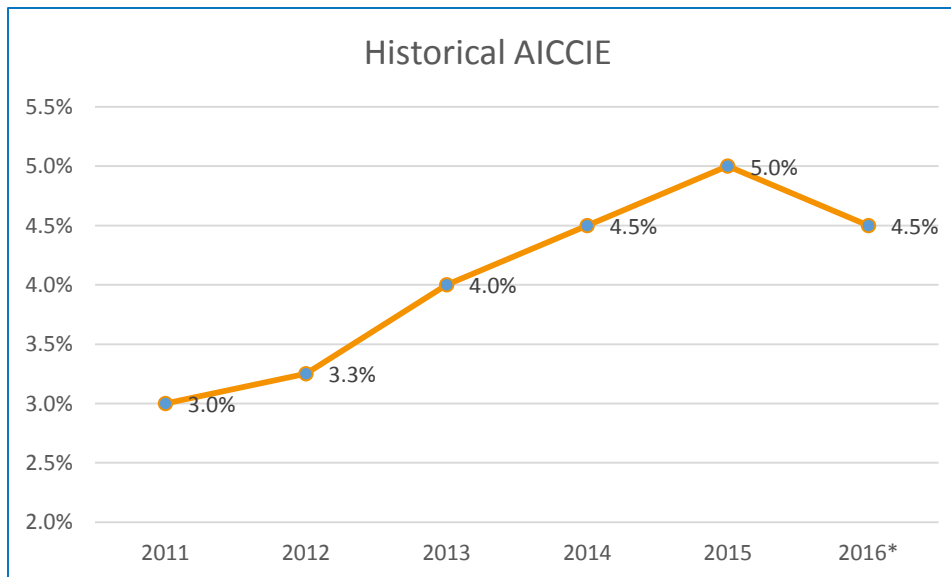
- Today's Action item: Adopt the AICCIE for CY 2016

- AICCIE: projected rate of construction cost escalation for the upcoming calendar year, used to:
 - Forecast costs for the 2-Year Capital Budget & 10-Year Capital Plan
 - Annually adjust developer impact fees
 - Update FRRM and other city forecasting tools

AICCIE Recommendation CY2016

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- ▣ CPP recommends an AICCIE of **4.5%** for CY 2016
 - Reflects continued escalation being driven by a competitive local market.



*pending CPC acceptance

Escalation Indices

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Construction Index	Description	2009	2010	2011	2012	2013	2014	2015
Turner Building Cost Index	Change in costs of non-residential building construction nationwide	-8.4%	-4.0%	1.6%	2.1%	4.1%	4.6%	4.5%
BLS New Construction PPI	Change in output price of new non-residential construction	2.0%	-0.1%	2.8%	2.9%	1.9%	3.1%	1.7%
BLS Maintenance Contractor PPI	Change in costs of price for work done to maintain and repair non-residential buildings	1.8%	0.4%	2.2%	1.9%	1.7%	2.8%	2.0%
BLS SF Metro CPI	Change in cost of local cost of consumer goods	-	1.0%	2.9%	2.8%	2.0%	3.0%	2.6%
BLS SF Metro Employment Cost Index	Change in employment cost (averages Total Compensation and Wages/Salaries)	-	-	-	-	-	4.5%	2.2%
ENR CCI – San Francisco	Change in SF <i>common</i> labor and materials	4.6%	1.9%	2.8%	1.7%	5.3%	4.9%	2.4%
ENR BCI – San Francisco	Change in SF <i>skilled</i> labor and materials	2.8%	2.5%	6.0%	1.5%	3.7%	3.0%	2.6%
TBD Consultants Bid Index	Change in construction bid cost for an indexed building project scope in SF	- 26.2%	4.3%	14.8%	7.6%	6.4%	4.2%	12.5%
Local Expert Average	Estimated cost escalation rate for the coming year	-	-	-	-	-	-	5.1%
AICCIE	City of SF estimate for escalation in the calendar year listed (i.e. 2015 AICCIE is the estimate made in October 2014 for 2015)			3.0%	3.25%	4.0%	4.5%	5.0%

- ▣ 2015 average across all listed indices: 3.95%
- ▣ 2015 average across all local indices (shaded rows): 4.56%

2015 SF Experts Projected Escalation

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Organization	Description	Cost Escalation Estimates for 2016
Stanford University	Estimated escalation rate on capital projects within campus	3.0%
Cummings Construction	Estimated escalation rates on SF construction	5.5%
Davis Langdon/AECOM	Estimated escalation rates on SF construction	6.0%
Leland Saylor Associates	Estimated escalation rates on SF construction (includes SFUSD)	4.0%
M. Lee Corporation	Estimated escalation rates on SF public sector construction	6.0%
TBD Construction Consultants	Estimated escalation rates on SF construction	5.0% minimum
Turner Construction	Estimated escalation rates on SF construction	5.0% - 6.0%
Webcor	Estimated escalation rates on SF construction	6.0%

Industry experts are estimating SF 2016 escalation in the range of 4% – 6%
Average: 5.1%

Contractor/Project Manager Perspective

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With so many projects, contractors can afford to be pickier and build in higher profit margins

Skyrocketing costs are giving some contractors pause about starting new projects

Empty labor halls and unrelenting demand lead some to hire “travelers” from out of town, which can bring higher costs and risks

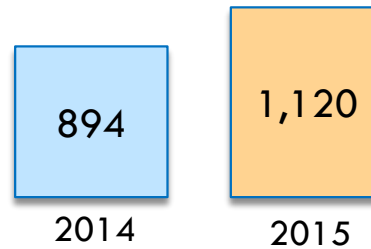
Active mega-projects and demanding tech clients are sapping resources, making timelines more difficult to meet

Contracting with a complex client like the City/Bidding on more unusual projects becomes less desirable when there are more straightforward options

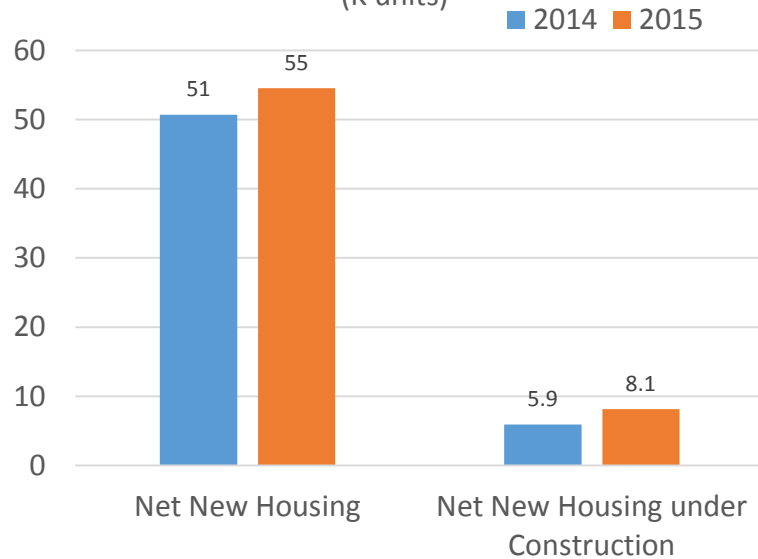
SF Planning Pipeline Statistics

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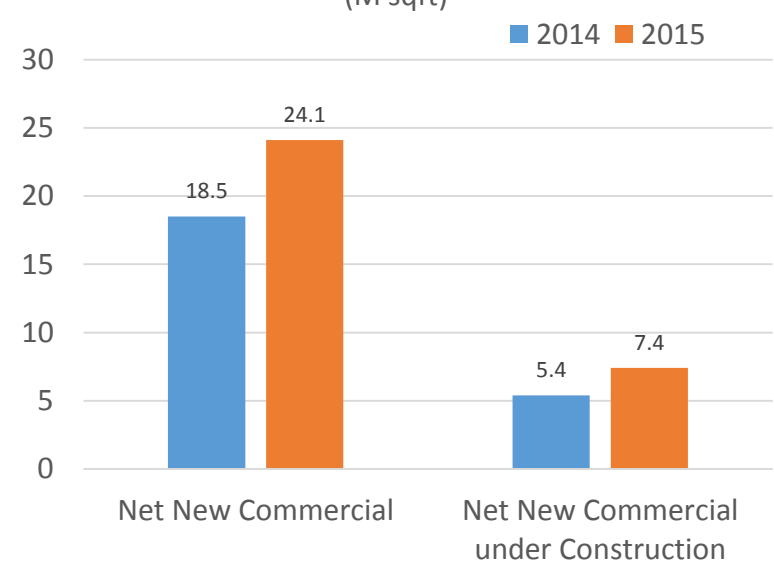
Projects in Pipeline



YOY Housing Construction Growth (K units)



YOY Commercial Construction Growth (M sqft)



Impact of # of Bids on Costs

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- SF is in the same cost multiplier band as last year, although at **4.1 average bids per construction project**, close to the next band.

Journal of Construction Engineering & Management (National, 2005)	
# of Bids	Low Bid Deviation From Estimate
1	1.15
2	1.11
3	1.07
4	1.01
5	0.95
6	0.91
7	0.89
8	0.88

Saylor Consulting (Bay Area, 2015)	
# of Bids	% Differential (estimate vs. bid)
1	+25% to 50%
2-3	+10% to 25%
4-5	0% to 10%
6-7	0% to -10%
8 – 10	-10% to -20%

Current SF Market

Source: Saylor Consulting Market Trends 2015 Construction Forecast

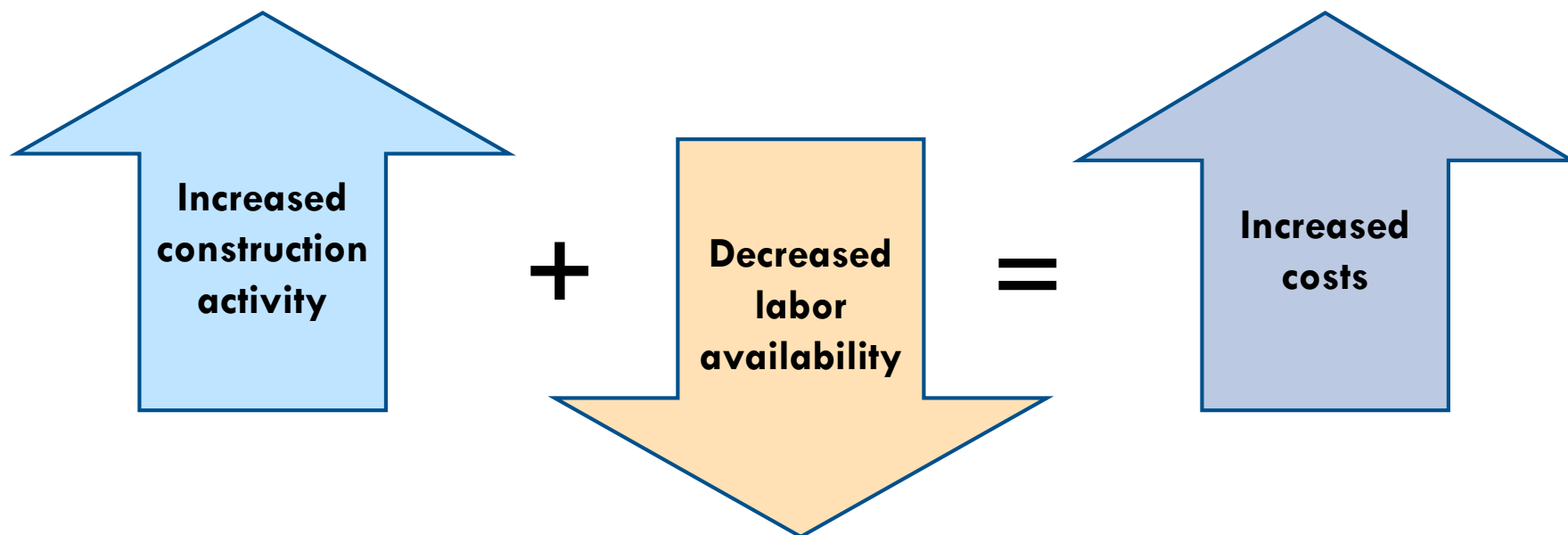
Local Cost Spike

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From 2014 to 2015, San Francisco had the biggest increase in construction costs of any city in the country

Local Labor Considerations

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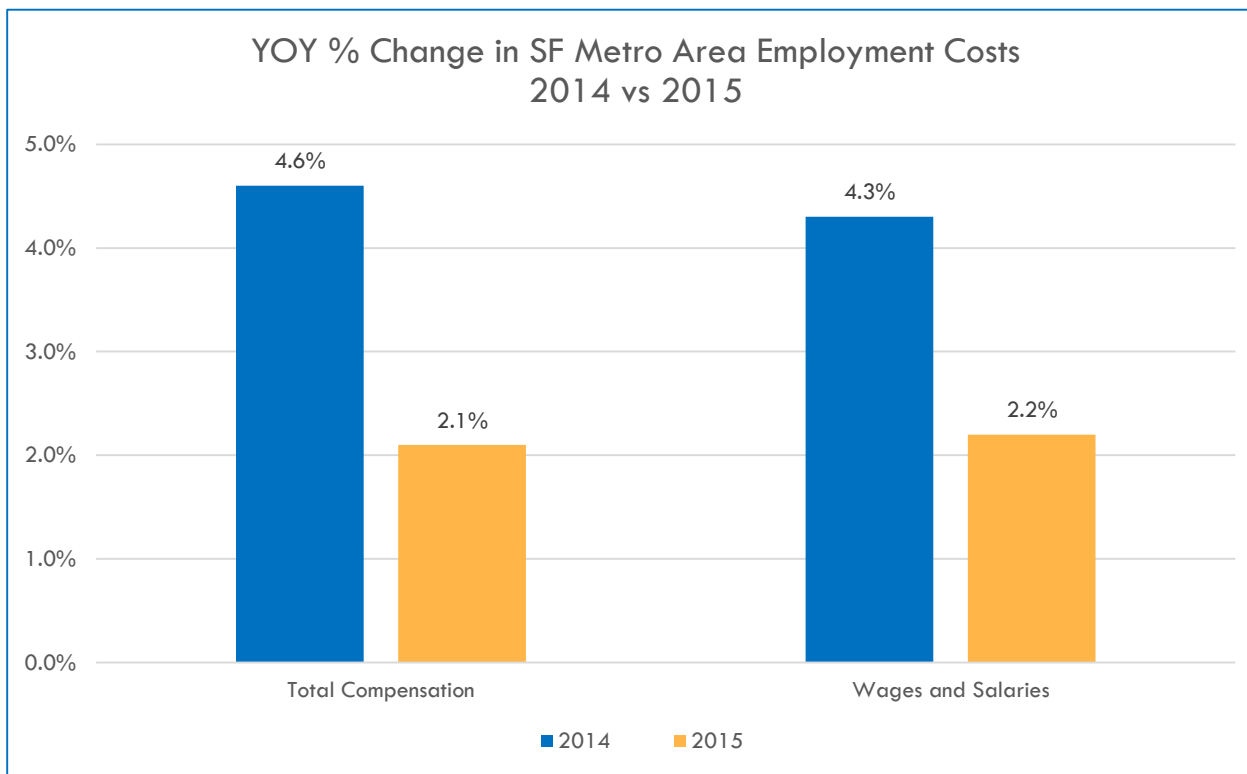
- ▣ SF unemployment: 3.5%, down 20% from 2014
- ▣ SF area construction employment up 4.7% from 2014
- ▣ SF metro wages up 2.2% in 2015 after 4.3% rise in 2014
- ▣ Shortages in specialized subcontractors and labor

SF unemployment: 3.5%
US unemployment: 5.3%

Local Private Industry Employment Cost Index

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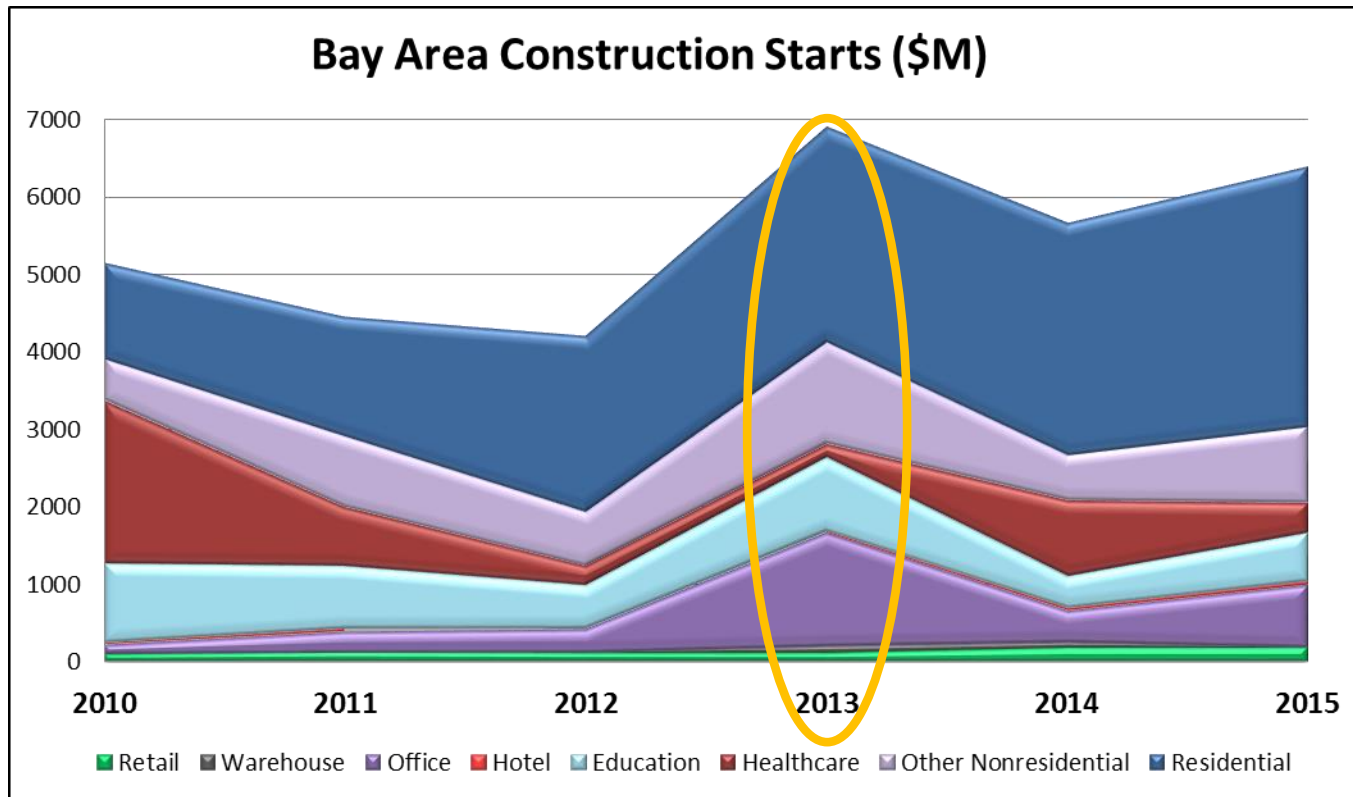
- Continued rise in cost of both total compensation and wages and salaries, but less steep than last year



Local Construction Cycle Perspective

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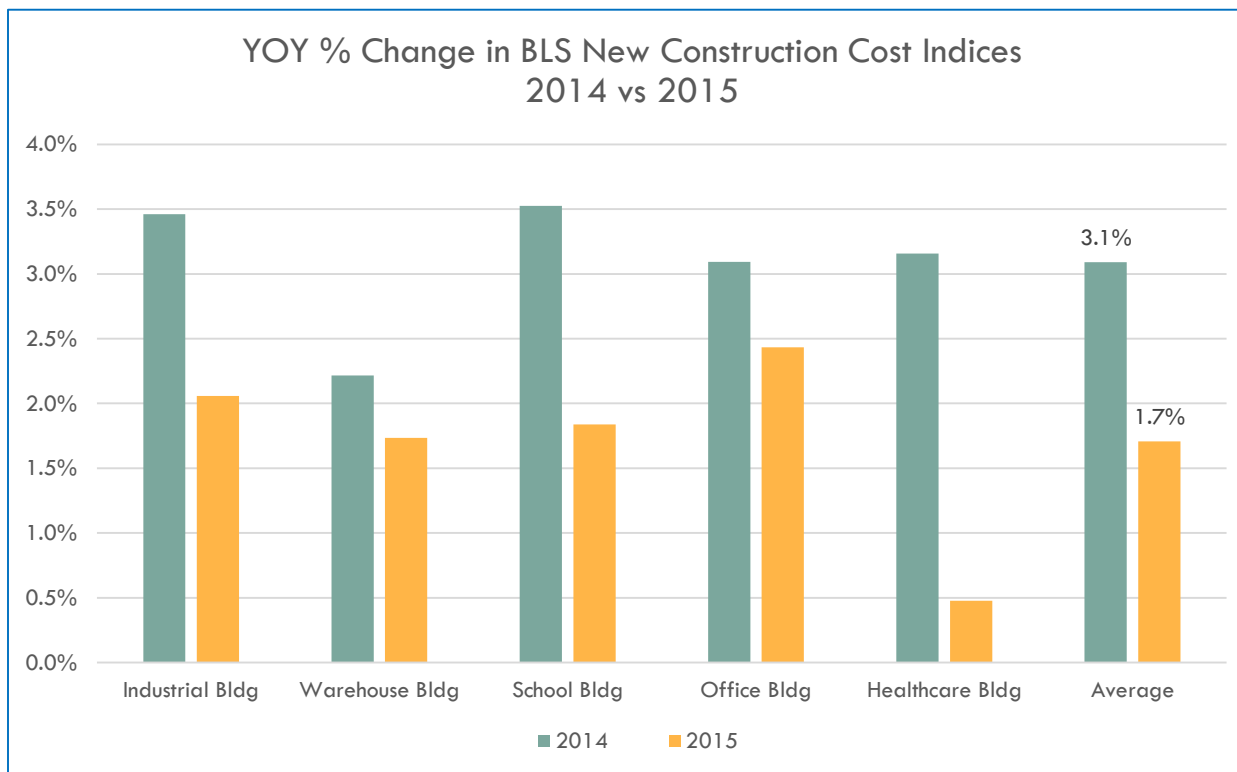
- 2013 construction starts peak may help explain why average bid counts are not coming in lower.



New Construction Cost Indices

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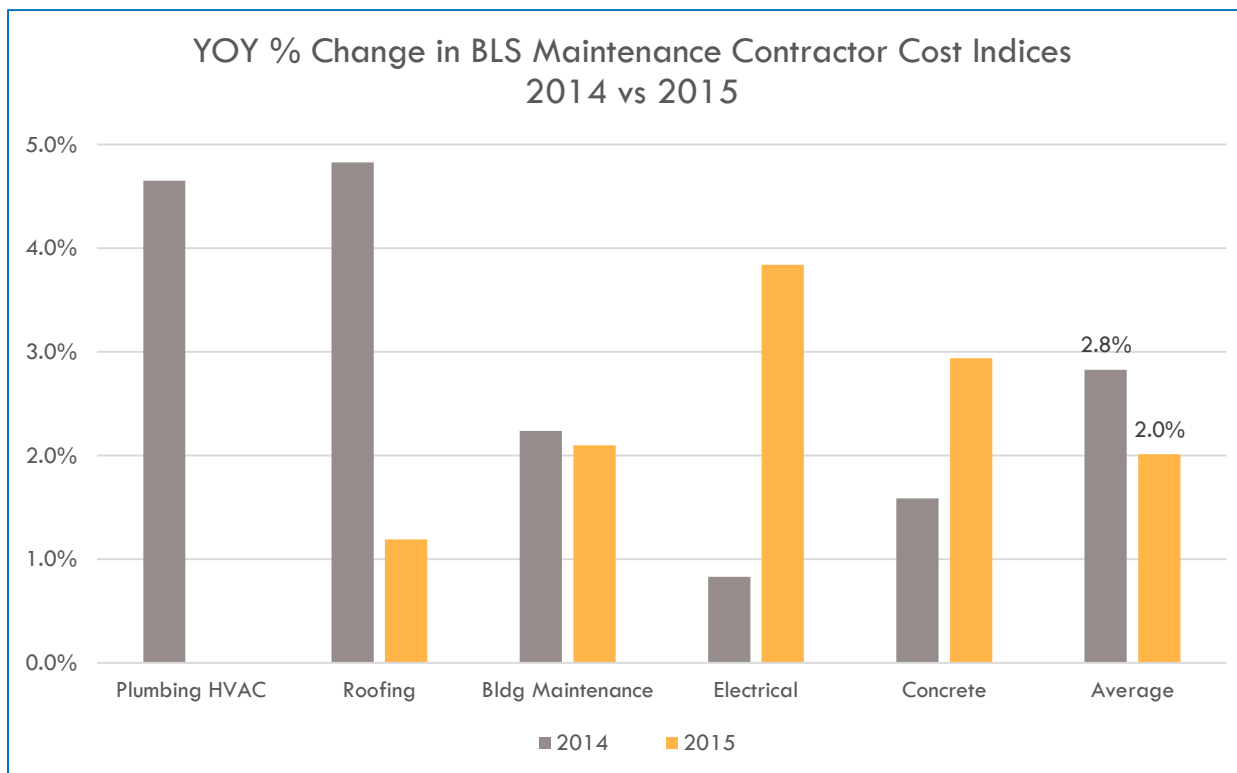
- Continued rise in cost of new construction across non-residential building types, but less steep than last year



Maintenance Contractor Cost Indices

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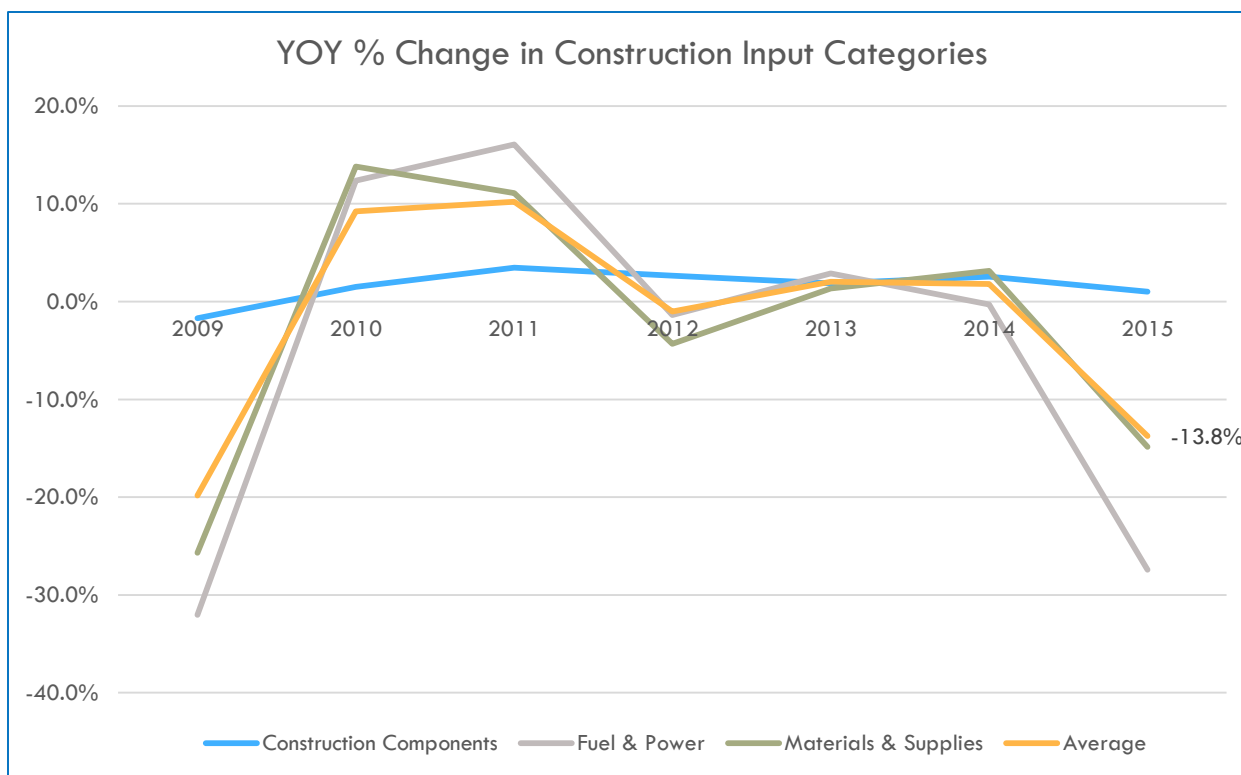
- Continued rise in cost of maintenance contractors, but less steep than last year



Materials Costs – Combined Categories

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- Significant drop in energy prices and materials, but not in all construction costs



Local Sector Forecast

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SF REGION CURRENT MAJOR PROJECTS (\$750+M)

Apple Campus 2 (Cupertino)
Transbay Transit Center
Treasure Island
SalesForce Tower
Parkmerced
City Place (Santa Clara)
Third Street Light Rail
Seawall Lot 337 Mixed Use
Mineta Airport Roads/Parking (SJC)

- Annual average of 8.2% increase in local construction volume over the next 3 years
- Annual construction volume forecast to hit \$31.4B (+7.2%) in 2016
- Robust residential growth @ 23.1% in 2015 and 9.1% in 2016
- 181 projects submitted for permitting or breaking ground in SF alone

Relevant Local Legislation

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- ▣ TSP/TSF (if approved)



- ▣ Applies to most non-residential development, market-rate residential development creating 21 or more units, and large non-profit private universities with Institutional Master Plan

- ▣ Proposed \$7.74 per gross sqft residential, \$18.04 per gross sqft non-residential, and \$7.61 per gross sqft PDR

- ▣ Prop A Affordable Housing Bond on the ballot in November

- ▣ Public Health & Safety Bond on the ballot in June (if approved)

SF Debt Program and Enterprise Fund Projects

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Enterprise Fund Projects
Central Subway
Transit Optimization Program
Pier 70
Sewer System Improvement
SFO On-Site Hotel
Active GO Bond Programs
2008 and 2012 Neighborhood Parks & Open Space
2010 and 2014 ESER
2011 Road Resurfacing & Street Safety
2014 Transportation
Other Major Public Building Projects
Mosccone Expansion
Rehabilitation & Detention Facility

Conclusion

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- Strong demand continues to be major construction cost escalation driver
 - Raw material prices mostly dropping with some important exceptions and little translation to lower supplies costs
 - Bidding environment remains favorable for contractors/subcontractors
 - Labor: high demand, tight supply
 - Subcontractor trades continue to increase profit margins
 - TBD Bid Index shows 12.5% increase in local bid estimates over the past year, triple last year's increase

- Local experts are using 2016 escalation rates of 4.0% to 6.0%

- CPP's recommendation of **4.5%** is in line with experts' predictions. It is higher than cost and material indices suggest due to the strong effects of high activity, limited locally available labor resources, and contractor selectivity.

Questions or Comments?

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The screenshot displays the ONESF website interface. At the top left is the ONESF logo with the tagline "Building Our Future". A navigation bar includes links for Home, About Us, The Plan, Current Projects, Staff Resources, Documents, and F.A.Q., along with a search box. Below the navigation is a "News Blog" section with a featured article titled "Discussion on Public-Private Partnerships". The article text discusses the City's commitment to building a stronger future through the Capital Plan. A large image shows street construction workers. To the right, a "Follow Us" section lists social media icons and a "Highlights" section with links to "Street Resurfacing Financing", "Loma Prieta: 180 Seismic Projects Since 1989", "Plan & Budget" (including draft capital plans and budgets), "Capital Planning Committee" (including meetings and archives), and "Did you know?". A "loading..." indicator is present below the highlights. At the bottom, a row of partner logos includes SFPUC, SFP, PORT of San Francisco, San Francisco Recreation & Parks, SFMTA, SFO, and 311.

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Methodology

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- ▣ Reviewed cost inflation data, market trend analyses, employment data, and a variety of national, state and local commercial and institutional construction cost inflation indices to:
 - ▣ Understand economic conditions
 - ▣ Identify inflation trends for construction related materials and services
 - ▣ Gauge San Francisco's current construction market

- ▣ **Resources Used:**
 - ▣ Major construction and construction-related cost indices
 - ▣ National and local employment data from BLS
 - ▣ Market reports from industry experts
 - ▣ Conversations with project managers, construction consultants/economists, and those working in the field
 - ▣ Public reports of local construction activity

Economic Trends—Global

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- Global construction continued growth expected

Source	Global Construction Industry Projection
MarketLine Construction Global Industry Guide	10.3% CAGR for the period 2013-18
Timetric's CIC Global Construction Outlook 2020	3.8% growth in 2015; 3.9% 2016-20
BMI Research Global Construction Outlook 2015-24	3.2% average annual growth 2015-24

- Rising debt levels in emerging market economies, particularly in construction facilitate growth but also bring risk
 - Low interest rates in the US, Europe, and Japan have encouraged borrowing
- Volatility and growth in global markets
 - Weaker consumption in Chinese manufacturing and construction, with recent construction growth heavily reliant on leveraged investments
 - Middle East and Africa region predicted to be fastest growing 2016-20

National Economic and Sector Growth

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■ Economic recovery continues

- GDP growth at an annual rate of 3.7% as of Q2 2015; down slightly from 3.9% YOY
- Overall US unemployment: 5.3%, down from 6.1% YOY
- Strong job growth prompting more construction starts
- Low interest rates encouraging financing, with lending activity up and higher rates anticipated soon

■ Construction activity increasing

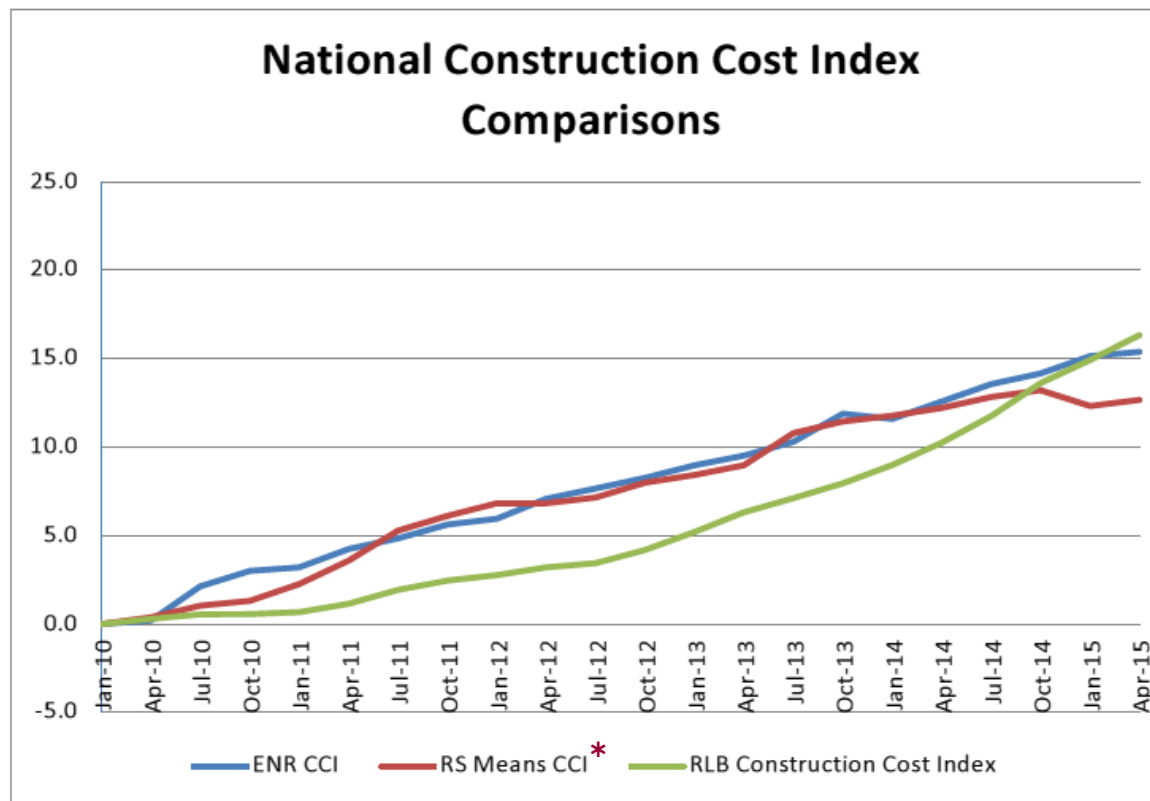
- National construction industry unemployment: 6.1%, down 7.7% YOY
- Construction spending up 4.8% YOY, still 14% below 2007 peak
- Nonresidential construction spending up 12.7% YOY
- Dodge Momentum Index up 20.6% YOY in commercial, up 5.1% YOY in institutional

US construction
unemployment down
21% from last year

Strongest nonresidential
construction spending
growth since 2008

National Construction Costs

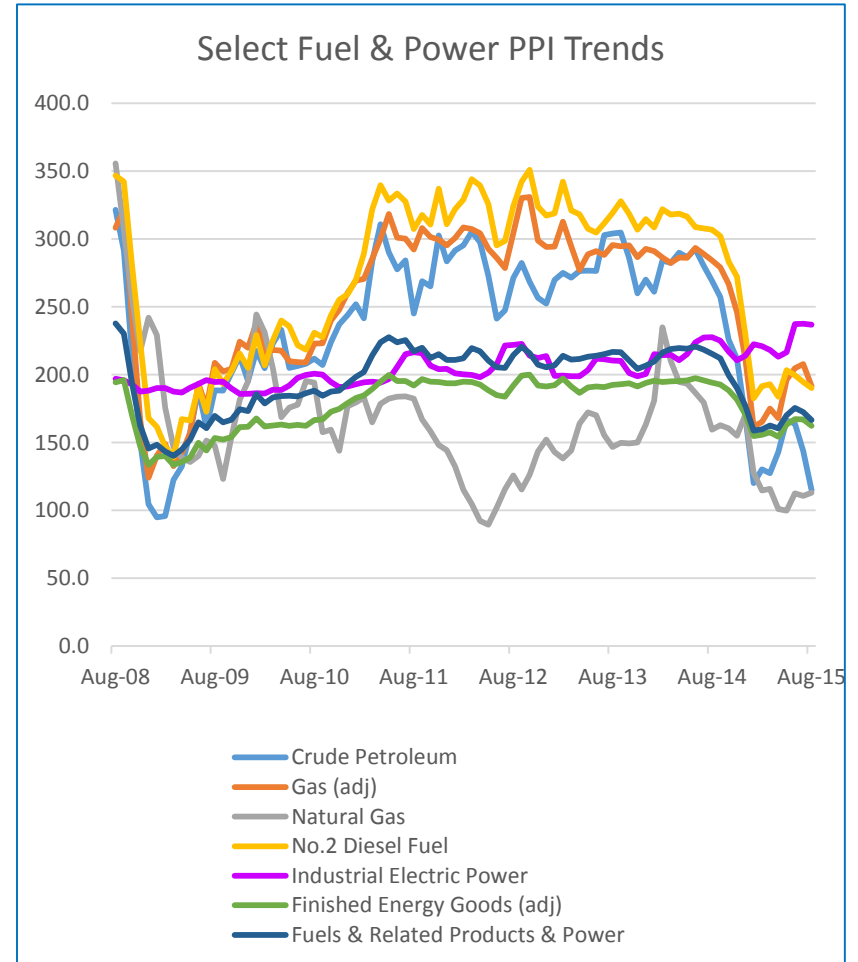
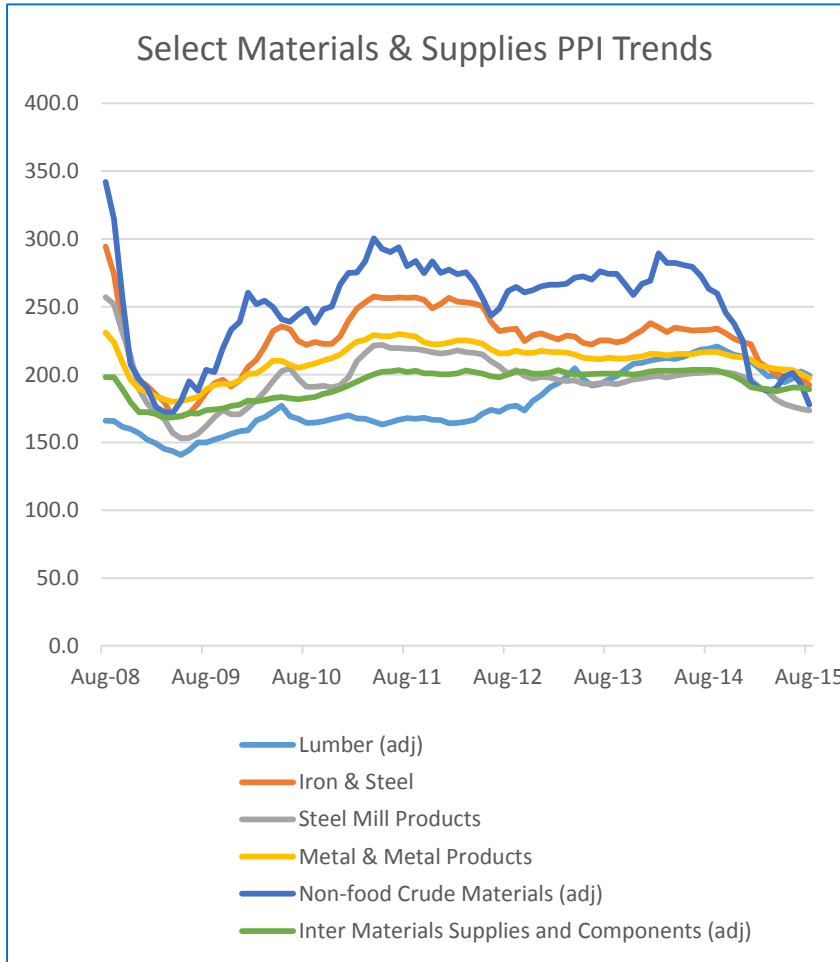
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* Note that SF has a cost construction multiplier of 17-24% of the RS Means CCI 30-city average

Materials Costs – Individual Commodities

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Materials Costs – Glass

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THE WALL STREET JOURNAL.

BUSINESS

Cost of Skyscraper Glass Hits Dizzying Heights

Earlier manufacturing cutbacks create delays, add to price tag as construction rebounds



A typical high-rise office tower can need hundreds of thousands of square feet of metal-framed glass panels. A Brookfield Property under construction in New York City. PHOTO: BEBETO MATTHEWS/ASSOCIATED PRESS

- ▣ Curtain wall prices reported up 30% in the last 18 months
- ▣ Many glass manufacturers shuttered during the recession, slow to reopen
- ▣ Shortage is causing project delays

By **ROBBIE WHELAN**

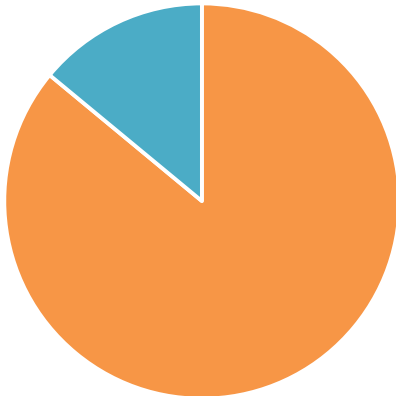
Updated Sept. 8, 2015 10:42 a.m. ET

Bids vs. Estimates

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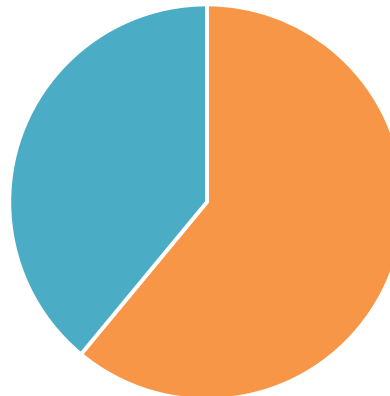
Average Industry Engineer Estimate vs. Low Bid (CA-Wide)

2013



■ Low Bid Under Estimate
■ Low Bid Over Estimate

2014



■ Low Bid Under Estimate
■ Low Bid Over Estimate

2015



■ Low Bid Under Estimate
■ Low Bid Over Estimate