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2019 Annual Infrastructure Construction Cost Inflation Estimate

October 22, 2018

Annual Infrastructure Construction Cost Inflation Estimate (AICCIE)

2

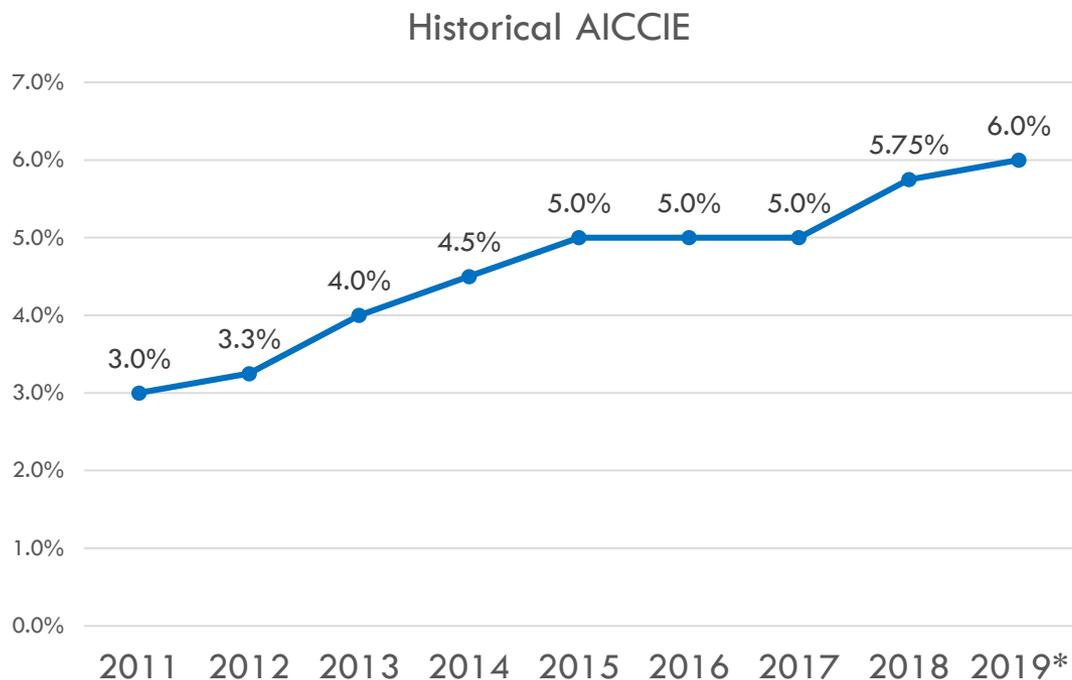
- ▣ Today's action item: Adopt the AICCIE for CY 2019

- ▣ 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
 - ▣ Adjusts property tax baseline for Transbay properties

AICCIE Recommendation CY2019

3

- ▣ ORCP recommends an AICCIE of **6.0%** for CY 2019
- ▣ Construction still booming even as slowdown looms



*pending CPC acceptance

Methodology

4

- ▣ 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 Bureau of Labor Statistics (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

Local Market Reality

5

“Seven straight years of significant growth has seen the Bay Area construction economy more than double in output.

This has placed extreme strain on the available labor resources and has caused significant escalation of costs.”

Historical Retrospective Escalation Indices

6

Construction Index	Description	2012	2013	2014	2015	2016	2017	2018
Turner Building Cost Index	Change in costs of non-residential building construction nationwide	2.1%	4.1%	4.4%	4.5%	4.8%	4.2%	5.6%
BLS New Construction PPI	Change in output price of new non-residential construction	2.9%	1.9%	3.1%	1.7%	0.6%	3.5%	3.3%
BLS Maintenance Contractor PPI	Change in costs of price for work done to maintain and repair non-residential buildings	2.0%	1.6%	2.9%	2.0%	1.3%	3.1%	2.7%
BLS SF Metro CPI	Change in cost of local cost of consumer goods	2.8%	2.0%	3.0%	2.6%	3.1%	3.4%	4.3%
BLS SF Metro Employment Cost Index	Change in employment cost (averages Total Compensation and Wages/Salaries)	-	-	4.5%	2.2%	2.2%	5.8%	6.2%
ENR CCI – San Francisco	Change in SF <i>common</i> labor and materials	1.7%	5.3%	4.9%	2.4%	3.6%	4.2%	0.3%
ENR BCI – San Francisco	Change in SF <i>skilled</i> labor and materials	1.5%	3.7%	3.0%	2.6%	3.7%	4.8%	0.5%
TBD Consultants Bid Index	Change in construction bid cost for an indexed simple new construction project in SF	7.6%	6.4%	4.2%	12.5%	11.9%	2.7%	0.2%
AICCIE	City of SF estimate for escalation in the calendar year listed (prepared the previous October)		3.25%	4.0%	4.5%	5.0%	5.0%	5.75%

- 2018 average across all listed indices: 2.8% (3.9% in 2017)
- 2018 average across all local indices in shaded rows: 2.3% (4.2% in 2017)

2019 SF Experts Projected Escalation

7

Organization	2018 Estimate	2019 Estimate	2019 vs. 2018
Jacobs	7.6	8	+0.4
Clark	7	7.6	+0.6
Webcor	7	7.5	+0.5
TBD Construction Consultants	5.7	7.5	+1.8
M. Lee Corporation	6	7	+1.0
SFO		6.5	
SFPUC		6	
Pankow	4.7	6	+1.3
Cumming Construction	6	5.5	-0.5
Saylor Consulting Group	4.8	5	+0.2
UC Berkeley		5	
Sightlines (academic institutions)		4	
Average	6.1	6.3	+0.2

Industry experts are estimating SF 2019 escalation in the range of 4.0% to 8.0%

Contractor/Project Manager Perspective

8

Premier contractors are unlikely to engage in competitive bidding and negotiated awards are most commonly used.

Lack of competition especially at the subtrade level. Finding two or more bidders for each sub-trade is an ongoing challenge.

Recent White House tariff announcements have created a volatile market and erratic escalation of material prices.

Lack of experienced construction personnel is becoming more acute. The immigration crackdown has likely aggravated this shortage.

Public sector clients should carry bidding contingencies on all projects with a heavier weighting on renovation.

Contractor/Project Manager Perspective

9

“Due to extreme scarcity, subcontractors are being extremely choosy as to which projects they will bid.

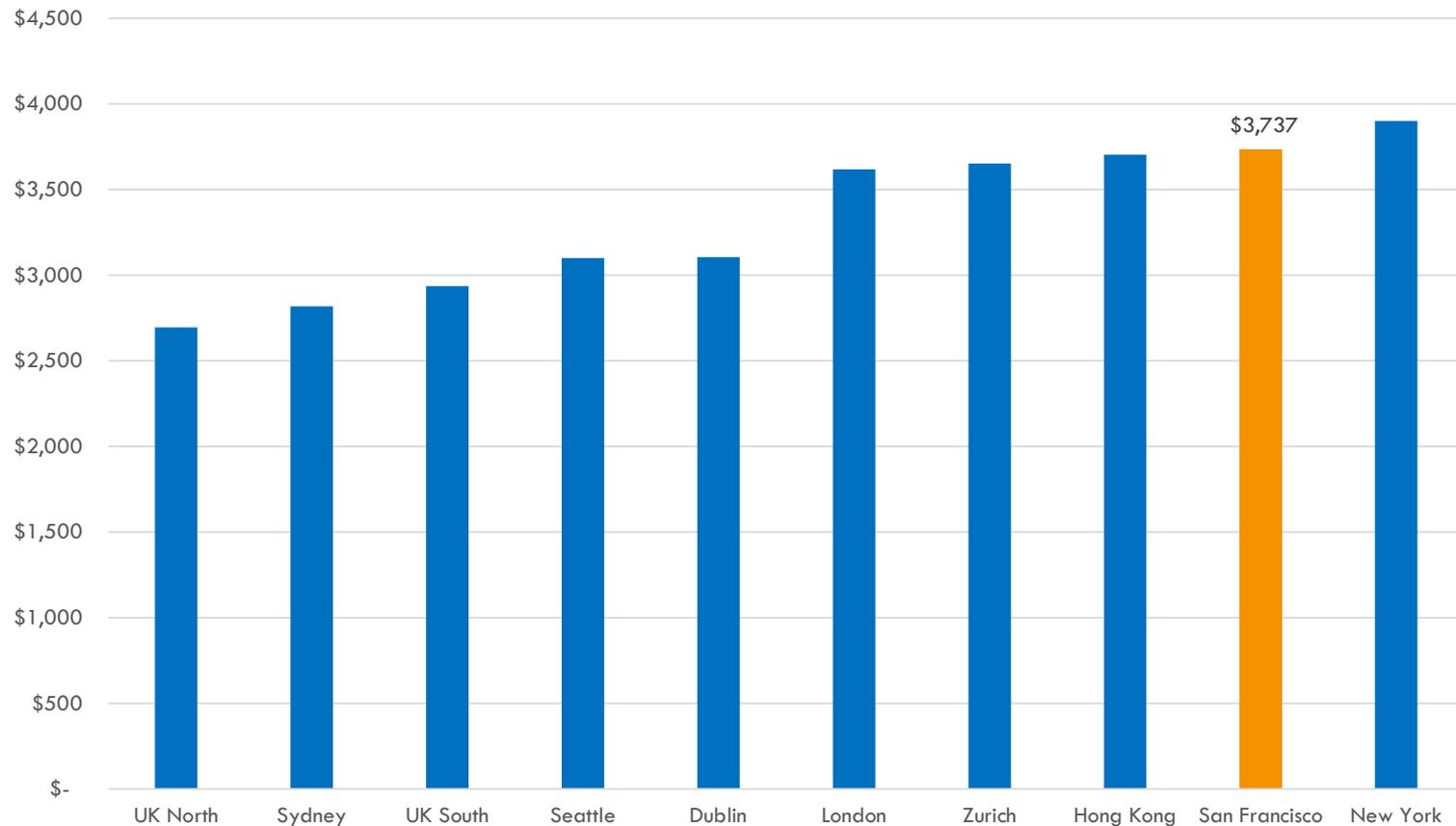
This can result in prices as much as 10% over the labor/material escalation.”

- Saylor Consulting

Global Construction Costs

10

10 Most Expensive Global Construction Markets
(Cost per Square Meter in \$USD)



National Economic and Sector Growth

11

- **Economic recovery continues**
 - GDP growth in Q2 2018 of 4.2% annual rate, the 17th consecutive quarter of growth
 - Overall US unemployment: 3.9% in August 2018 (4.4% last year)

- **Construction activity still strong but with signs of slowing**
 - National construction industry unemployment: 3.4% (4.7% last year)
 - Construction spending up 5.8% YOY, surpassing the previous high in 2006.
 - Nonresidential spending up 5.3% YOY
 - Dodge Momentum Index up 21.3% YOY.
 - Higher interest rates, but more relaxed construction finance capital requirements.

Local Construction Cycle Perspective

12

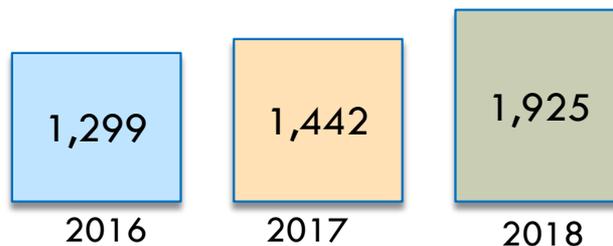
- Healthy local project pipeline for construction and permitting.
- San Francisco is the fifth ranked office construction market nationally.
- San Francisco is the most expensive rental rate and lowest vacancy rate nationwide.
- Continued priority on building affordable and subsidized housing likely to continue.



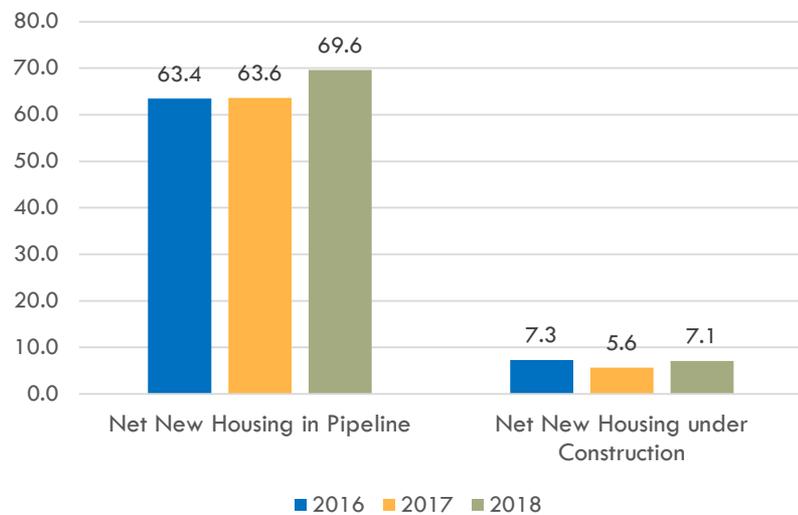
SF Planning Pipeline Statistics

13

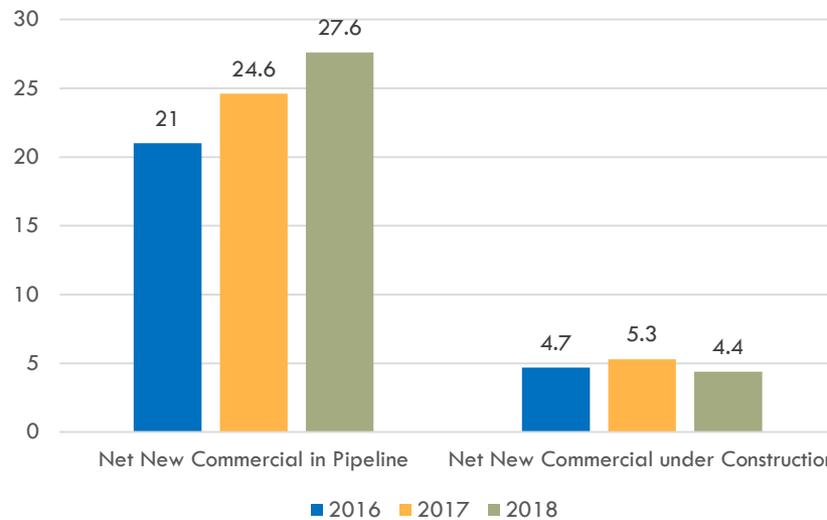
Projects in Pipeline



YOY Housing Construction Growth (K units)

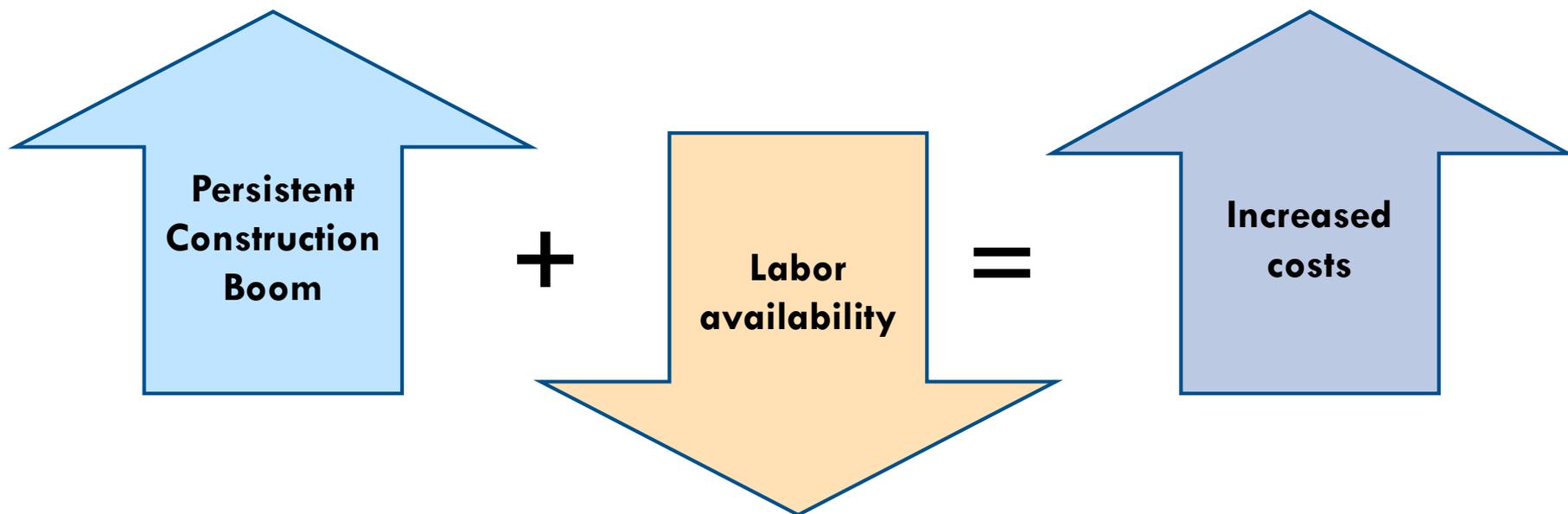


YOY Commercial Construction Growth (M sqft)



Local Labor Considerations

14



- SF unemployment: 2.4%, well below national level of 3.9% (August 2018)
- SF area construction employment up 2.6% from last year.
- Shortages in specialized subcontractors and labor
- 37.6% higher construction labor hourly wage than national average

Impact of # of Bids on Costs

15

- SF is in the same cost multiplier band as last year, at approximately **3 average bids per construction project**.

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%

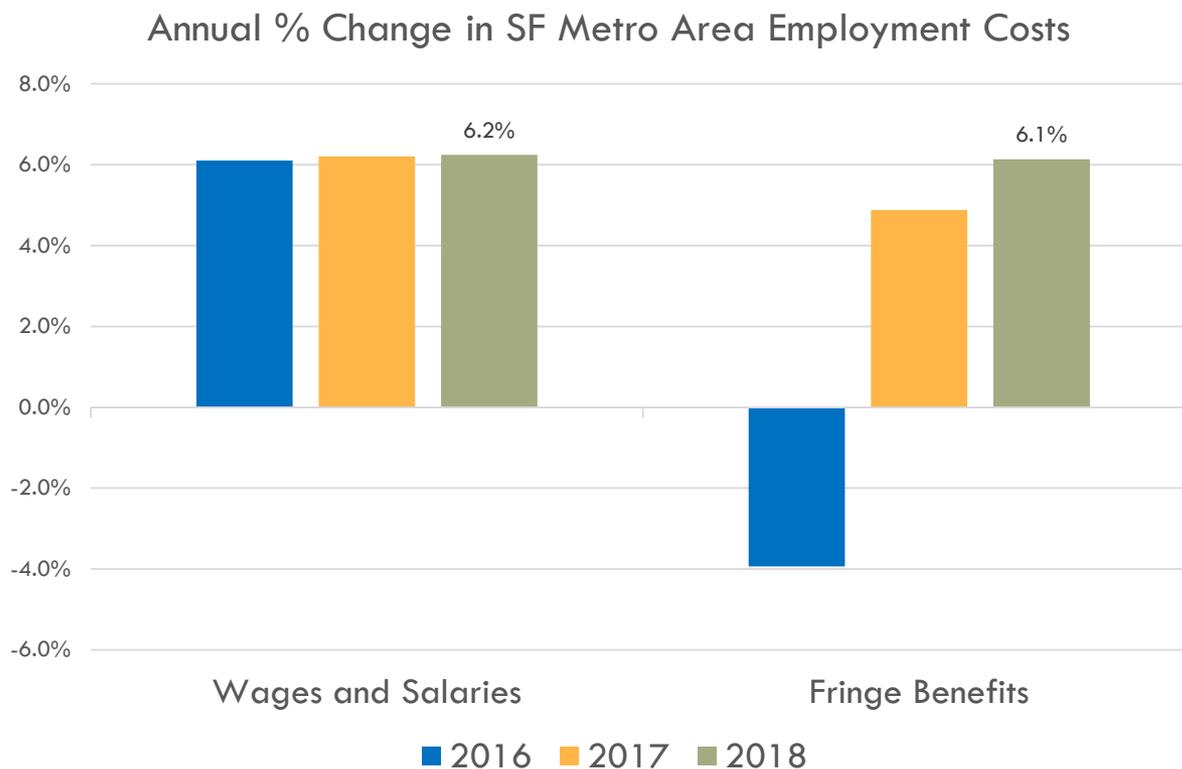
Current SF Market

Source: Saylor Consulting Market Trends 2015 Construction Forecast

Local Private Industry Employment Cost Index

16

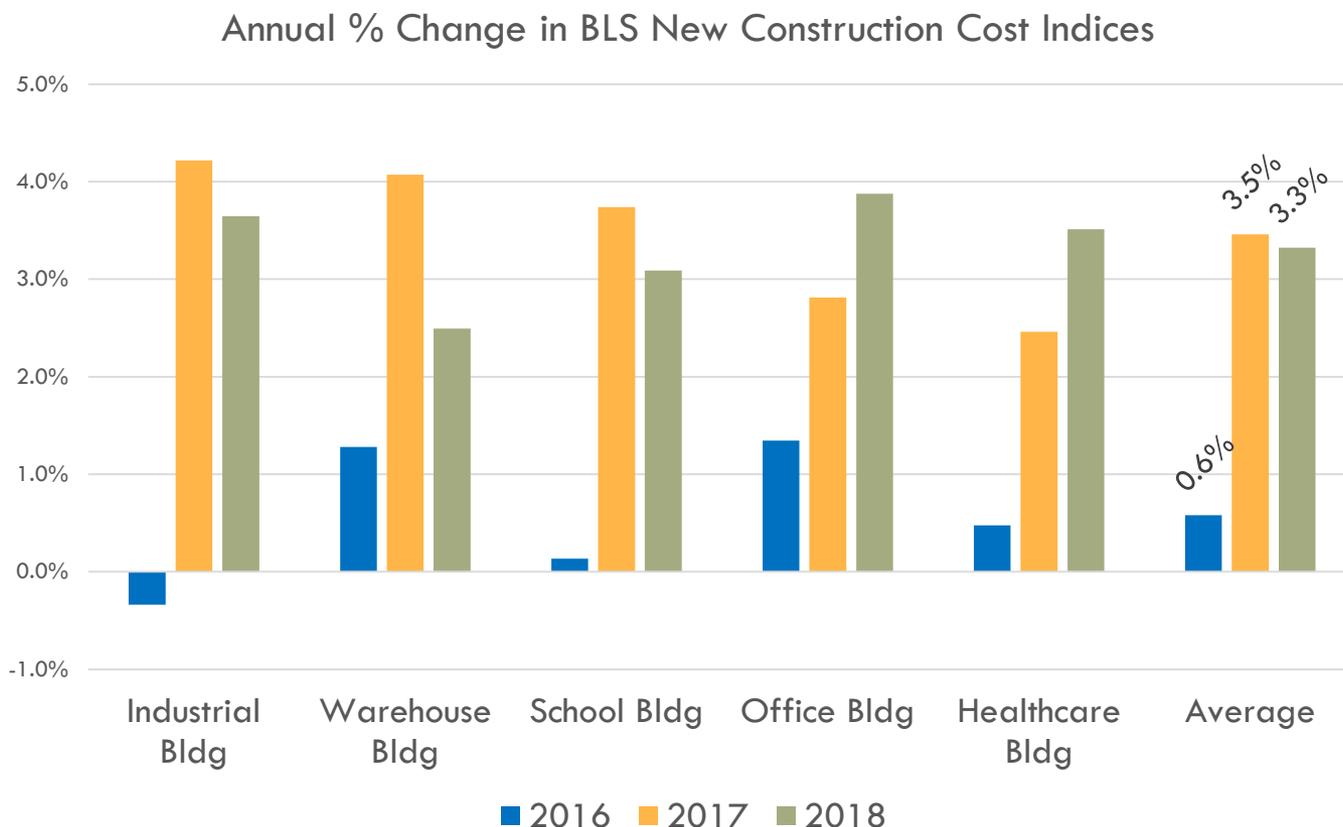
- Continued rise for wages and benefits.



National New Construction Cost Indices

17

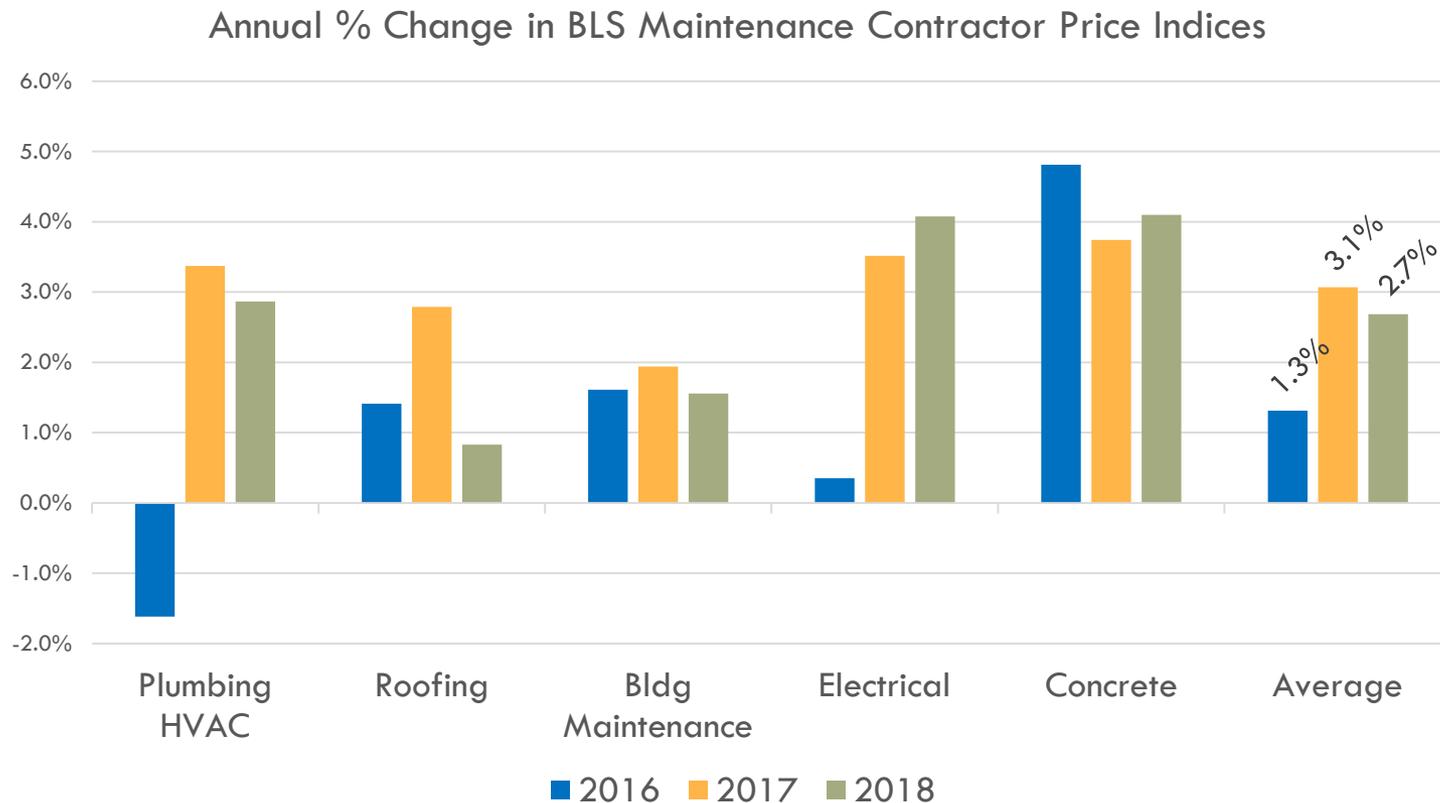
- Average not as high as last year. Higher than 10 year average (2.2%).



National Maintenance Contractor Cost Indices

18

- Moderate increases across all categories. Higher than 10 year average (2.1%).

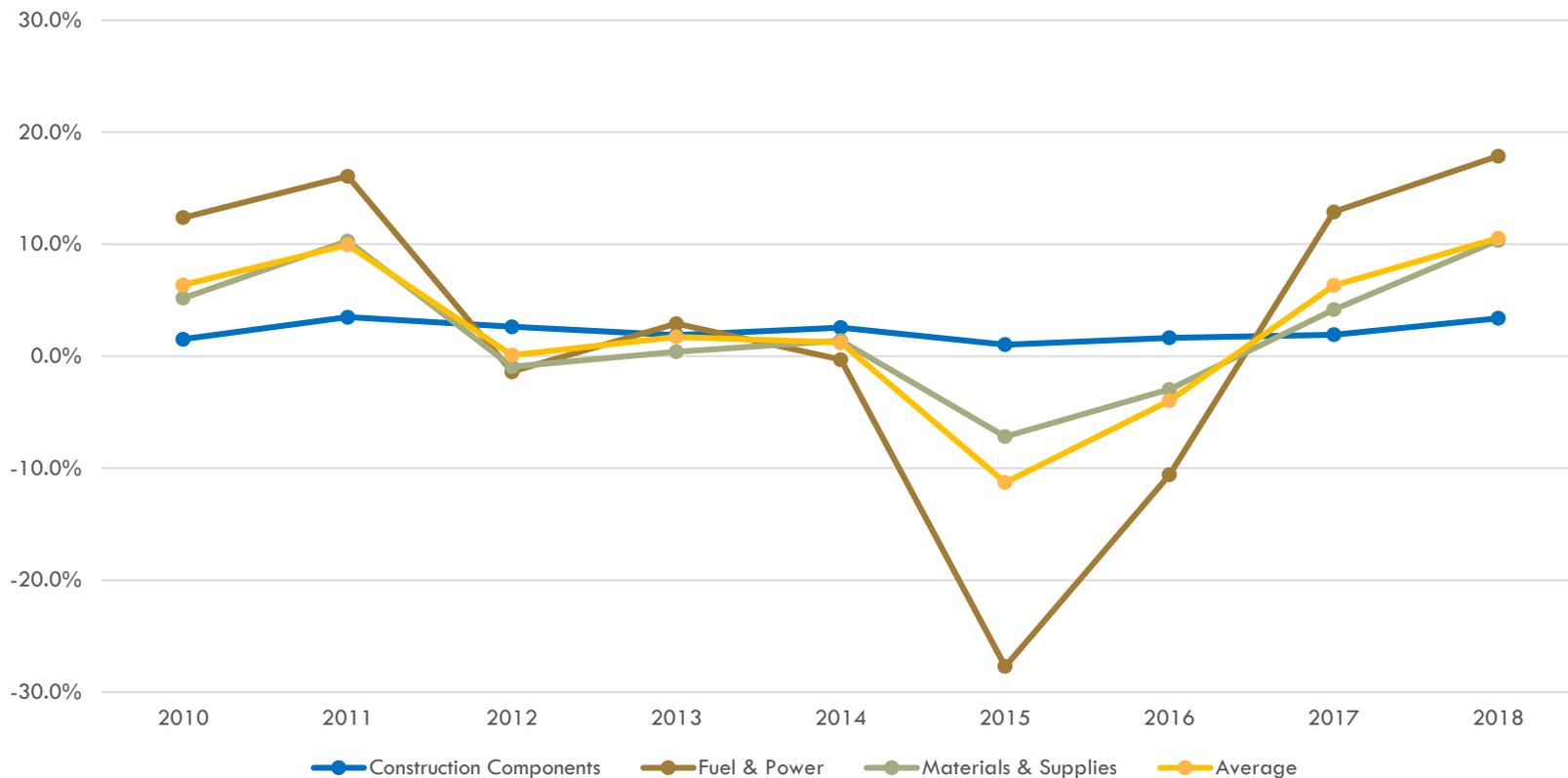


Materials Costs – Combined Categories

19

- ▣ Growing consistently at a higher rate since 2015.

Annual Rate of Change in Construction Input Categories



Local Sector Forecast

20

CURRENT MAJOR BAY AREA PROJECTS (\$500+M)

Market Park – San Jose
 Oceanwide Center
 Central Subway
 Chase Center
 SFO Terminal 1
 Moffett Place (Google)
 CPMC Van Ness
 Park Tower @ 250 Howard Street
 5 projects \$400-500

Source: SF Business Times; June 2018

- Annual construction volume peaking in 2018.
- Expected overall volume to settle between 2019 and 2020.
- Currently in the midst of seventh consecutive annual construction growth rate increase.
- Growth in education, tech, and biotech for next several years.

Source: Cumming Quarterly Construction Market Report Q3 2018

Conclusion

21

- ▣ Strong demand continues to be major construction cost escalation driver
- ▣ Bidding environment remains favorable for contractors/subcontractors
 - ▣ Labor: high demand, tight supply
 - ▣ Subcontractor trades continue to increase profit margins
 - ▣ Moderate increases in costs for most materials
 - ▣ Few bids coming in
- ▣ Local experts are using 2019 escalation rates of 4% to 8%.
- ▣ ORCP's recommendation of **6.0%** is in line with experts' predictions. It is higher than cost and material indices suggest on their own due to the strong effects of high activity, low bid counts, limited locally available labor resources, and contractor selectivity.

Questions or Comments?



There's only one San Francisco. Let's take care of it.

The Office of Resilience and Capital Planning is the City and County of San Francisco's program to plan and finance projects that strengthen the integrity and resilience of San Francisco's infrastructure, neighborhoods, and residents.



Capital Plan

The Plan captures the City's major infrastructure projects for the next ten years and recommends funding levels based on priority and availability for each project.

[Enter The Plan](#)



Capital Budget

The Budget puts the Plan into action by allocating funding over the next two years for projects recommended in the Plan.

[Enter The Budget](#)



Capital Planning Committee

The Capital Planning Committee (CPC) makes recommendations on capital projects to the Mayor and Board of Supervisors regarding capital plans, projects, and funding.

[View Committee Info](#)

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Materials and Trades – Special Concerns

23

Volatile Materials
Lumber
Steel
Aluminum
Copper
Concrete
Glass
Asphalt
Gypsum

Subtrade Shortages
Mechanical
Electrical
Plumbing
Concrete
Glazing
Drywall

Relevant Legislation

24

- ▣ 25% Affordable Housing Requirement (as of June 2016)
- ▣ Public Health & Safety Bond (approved June 2016)
- ▣ Schools and BART Bonds (approved Nov. 2016)
- ▣ Prop M Exemption for Candlestick Point and Hunters Point (approved Nov. 2016)
- ▣ California State Housing Bond (2018 Ballot)
- ▣ Seawall Bond (2018 Ballot)
- ▣ Continued 30% Local Workforce Requirement
- ▣ Mayoral Executive Directive to Increase Housing Production
- ▣ Central SOMA Plan
- ▣ Regional Measure 3 & Proposition 6 (SB1 Repeal)

SF Debt Program and Enterprise Fund Projects

25

Enterprise Fund Projects
Central Subway
Transit Optimization Program
Pier 70
Sewer System Improvement Program
SFO On-Site Hotel and Terminal 1
Hope SF
Treasure Island Development
Hunters Point Shipyard and Candlestick Point Redevelopment
Seawall Project

Active GO Bond Programs
2008 and 2012 Neighborhood Parks & Open Space
2010 and 2014 ESER
2011 Road Resurfacing & Street Safety
2014 Transportation
2015 Affordable Housing
2016 Public Health & Safety

Other Major Public Building Projects
Moscone Expansion

Economic Trends—Global

26

- ▣ Continued global construction growth expected overall

Source	Global Construction Industry Projection
Timetric's CIC Global Construction Outlook 2021	3.6 % CAGR for the period 2017-21
Fitch Solutions Global Infrastructure Report 2017	Peak growth in 2018. 3.91% growth in 2019
PWC Global Construction 2030	3.9% CAGR through 2030
Turner & Townsend International Construction Market Survey	4.3% Forecasted construction cost inflation 2018

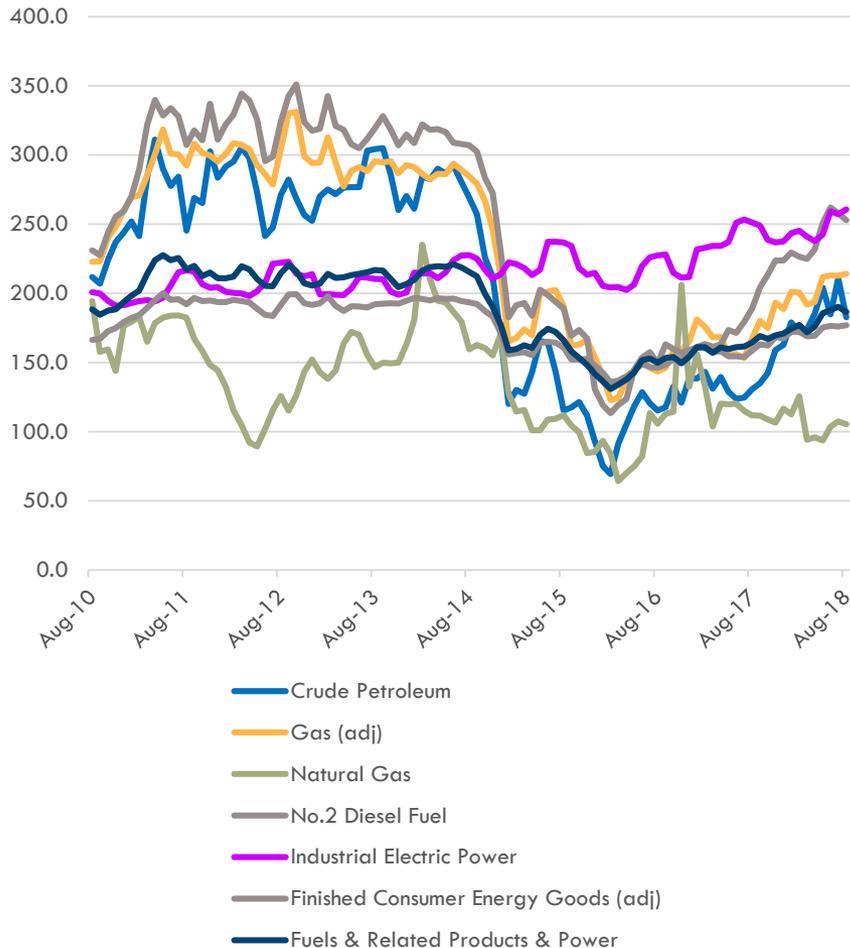
- ▣ Risks

- ▣ Slackening growth potential rather than recession in 2019
- ▣ Weakening currency in Europe and China
- ▣ Increasing interest rates
- ▣ Increased sentiment for protectionist trade policy in US
- ▣ High levels of infrastructure spending and financing in China could end
- ▣ Heightened geopolitical tensions

Materials Costs – Individual Commodities

27

Select Fuel & Power PPI Trends



Select Materials & Supplies PPI Trends

