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2020 Annual Infrastructure Construction Cost Inflation Estimate

October 21, 2019

Annual Infrastructure Construction Cost Inflation Estimate (AICCIE)

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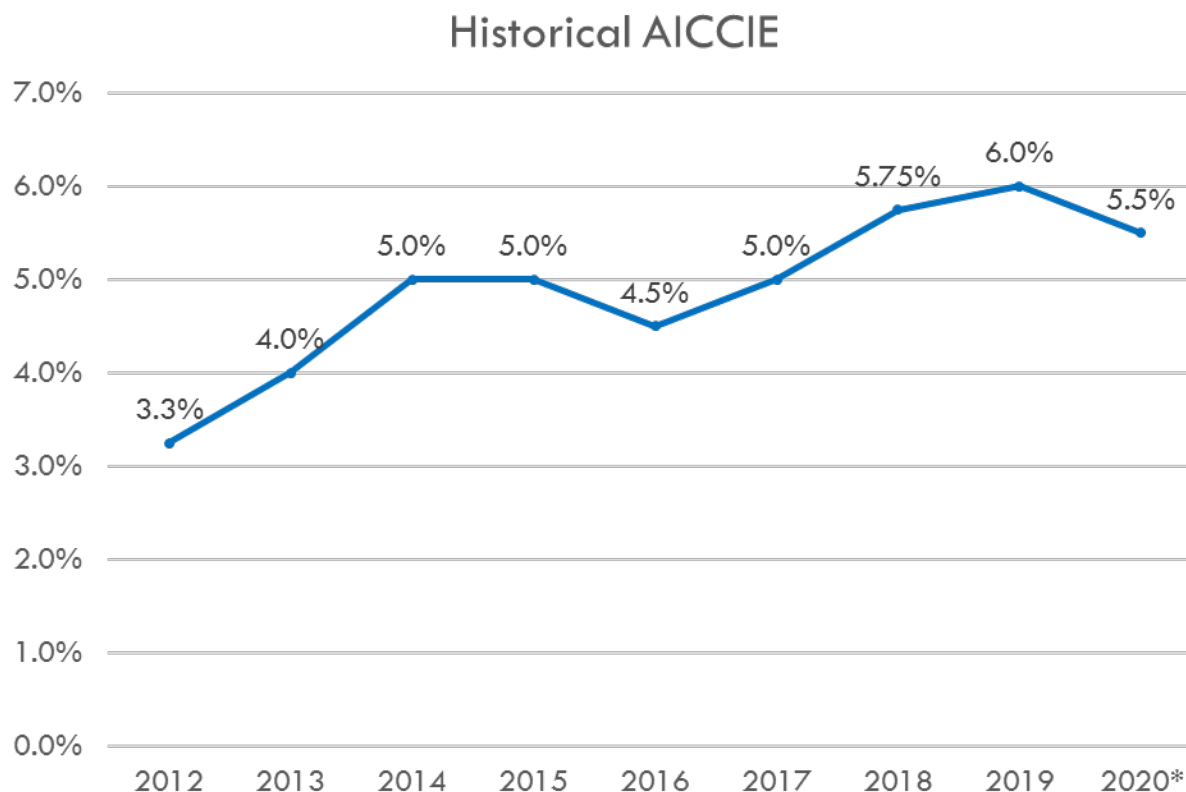
- ▣ Today's action item: Adopt the AICCIE for CY 2020

- ▣ 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 FY2020

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- ORCP recommends an AICCIE of **5.5%** for CY 2020
- Construction still booming even as slowdown looms



*pending CPC acceptance

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 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

Historical Retrospective Escalation Indices

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Construction Index	Description	2013	2014	2015	2016	2017	2018	2019
Turner Building Cost Index	Change in costs of non-residential building construction nationwide	4.1%	4.4%	4.5%	4.8%	4.2%	5.6%	5.5%
BLS New Construction PPI	Change in output price of new non-residential construction	1.9%	3.1%	1.7%	0.6%	3.5%	3.3%	5.6%
BLS Maintenance Contractor PPI	Change in costs of price for work done to maintain and repair non-residential buildings	1.6%	2.9%	2.0%	1.3%	3.1%	2.7%	5.0%
BLS SF Metro CPI	Change in cost of local consumer goods	2.0%	3.0%	2.6%	3.1%	3.4%	4.3%	2.7%
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%	2.6%
ENR CCI – San Francisco	Change in SF <i>common</i> labor and materials	5.3%	4.9%	2.4%	3.6%	4.2%	0.3%	2.4%
ENR BCI – San Francisco	Change in SF <i>skilled</i> labor and materials	3.7%	3.0%	2.6%	3.7%	4.8%	0.5%	4.2%
TBD Consultants Bid Index	Change in construction bid cost for an indexed simple new construction project in SF	6.4%	4.2%	12.5%	11.9%	2.7%	0.2%	9.8%
AICCIE	City of SF estimate for escalation in the calendar year listed (prepared the previous October)	4.0%	5.0%	5.0%	4.5%	5.0%	5.75%	6.0%

- 2019 average across all listed indices: 4.6% (2.8% in 2018)
- 2019 average across all local indices in shaded rows: 4.3% (2.3% in 2018)

2020 SF Experts Projected Escalation

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Organization	2019 Estimate	2020 Estimate	2019 vs. 2020
Jacobs	7.8	6	-1.8
Clark	7.6	6.5	-1.1
Webcor	7.5	4.5	-3.0
TBD Construction Consultants	7.5	5.5	-2.0
M. Lee Corporation	7	6	-1.0
SFO	5.5	6	+0.5
SFPUC	6	6	0.0
Pankow	6	5	-1.0
Cumming Construction	5.5	4.5	-1.0
Saylor Consulting Group	5	4.5	-0.5
UC Berkeley	5	5	0.0
UCSF	8	7	-1.0
Sightlines (academic institutions)	5	5.5	+0.5
Average	6.4	5.5	-0.9

Industry experts are estimating SF 2020 escalation in the range of 4.5% to 7.0%

Local Market Reality

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“The Bay Area construction market continues to be challenging for owners, with **more work than the current contractor and subcontractor capacity can supply**. Consequently, we continue to see construction costs exceeding cost supported by labor and material increases alone.

Additionally, **in an overburdened economy, productivity suffers**, as less experienced and less productive workers join the workforce.”

Contractor/Project Manager Perspective

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‘[The] biggest risk factor for the construction industry is finding qualified and responsive bidders at the subcontractor level.

Sub-contractors can pick and choose the work they want to bid on and to a large extent dictate the profit margins they are willing to work for.”

Contractor/Project Manager Perspective

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Lack of competition especially at the subtrade level.

Lower productivity, which increases the cost of labor in excess of wage gains.

Public sector clients should carry bidding contingencies on all projects

Expect market growth to level out and construction employment to continue to rise.

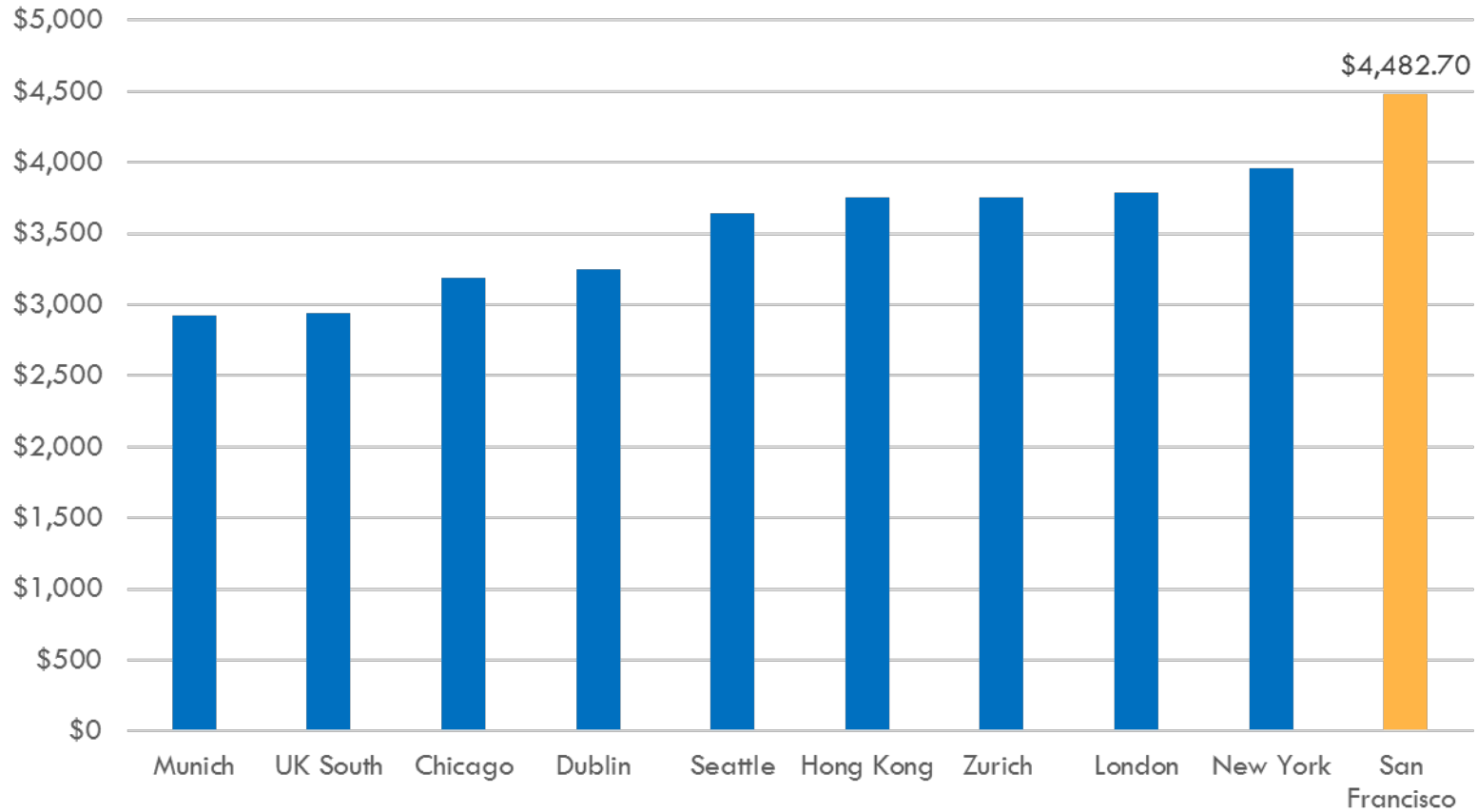
Most key construction materials have been falling since Q4 2018, market may have hit its peak in last year.

Global Construction Costs

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10 Most Expensive Cities to Build

Cost per Square Meter in USD



National Economic and Sector Growth

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□ **Economic recovery continues, GDP growth slows**

- GDP growth in Q2 2019 of 2.0% annual rate, the 21st consecutive quarter of growth
- Overall US unemployment: 3.7% in August 2019 (3.9% last year)

□ **Construction activity still strong but with signs of slowing**

- National construction industry unemployment: 3.6% (3.4% last year)
- Construction spending down -2.7% YOY, dipping from the high of last year's 5.8% increase.
- Nonresidential spending slight increase 0.1% YOY
- Dodge Momentum Index down -10.3% YOY.
- Lower interest rates, but commercial loans slow with affordable housing exception.

□ **Heightened volatility**

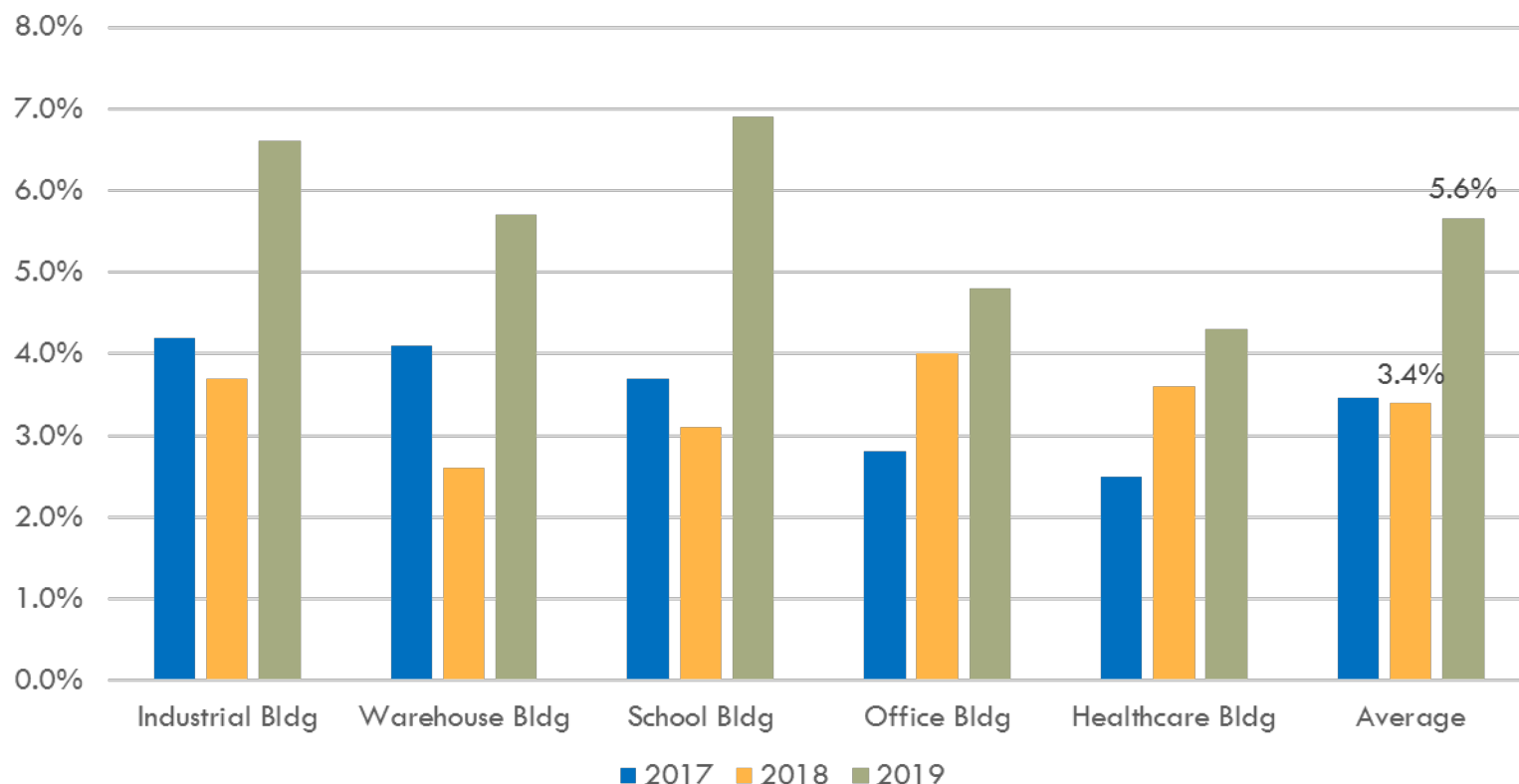
- Natural disasters, geo-political conflict, trade wars, tariffs

National New Construction Cost Indices

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- Average is 2.2% higher than 2018.

Annual % Change in BLS New Construction Cost Indices



State Economy

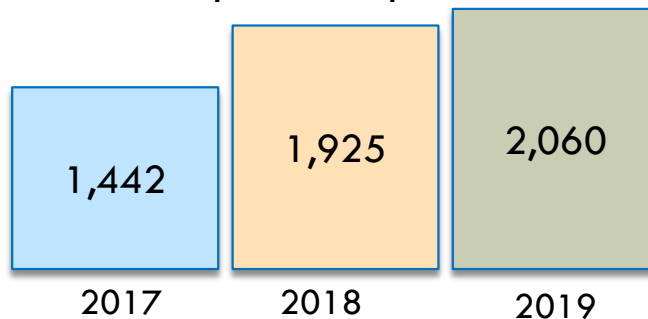
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- Federal funding uncertainty
 - Threats to reduce or eliminate various federal sources continue
- San Francisco strongly competitive within CA and closely aligned with State priorities
- State projections re: anticipated downturn

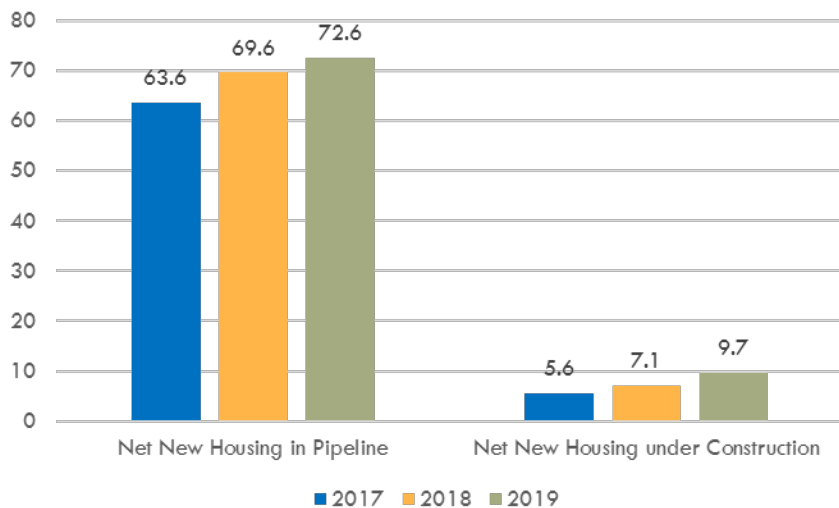


SF Planning Pipeline Statistics

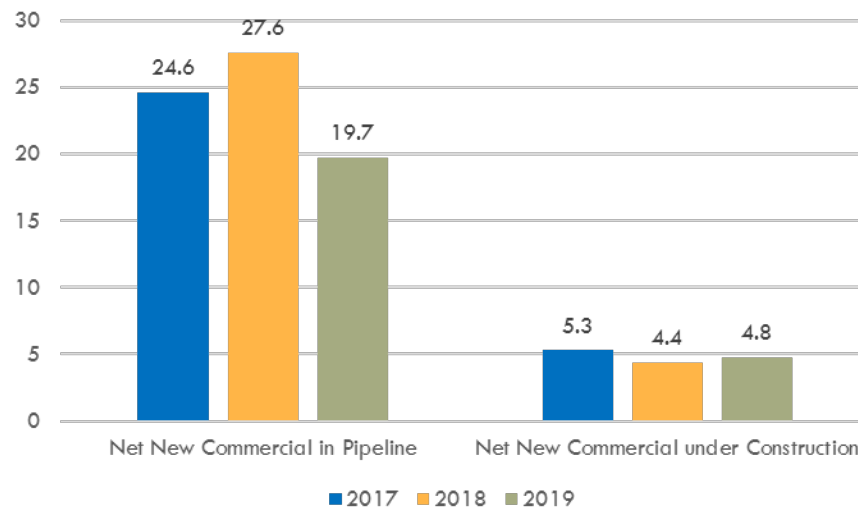
Projects in Pipeline



YOY Housing Construction Growth
(K units)

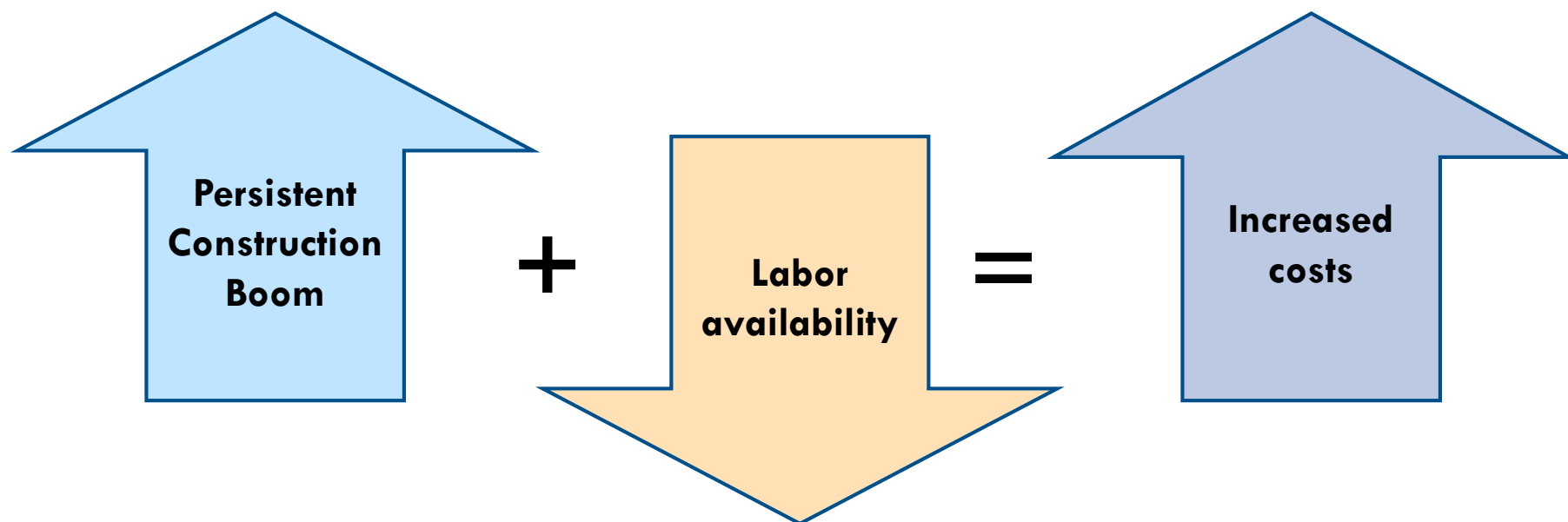


YOY Commercial Construction Growth
(M sqft)



Local Labor Considerations

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- SF unemployment: 2.5%, well below national level of 3.7% (July 2019)
- SF area construction employment numbers up 7.9% from last year.
- 37% higher construction labor hourly wage than national average

Impact of # of Bids on Costs

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- SF is in the same cost multiplier band as last year, at approximately **3.7 average bids per construction project**. Slight increase from 2019.

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%

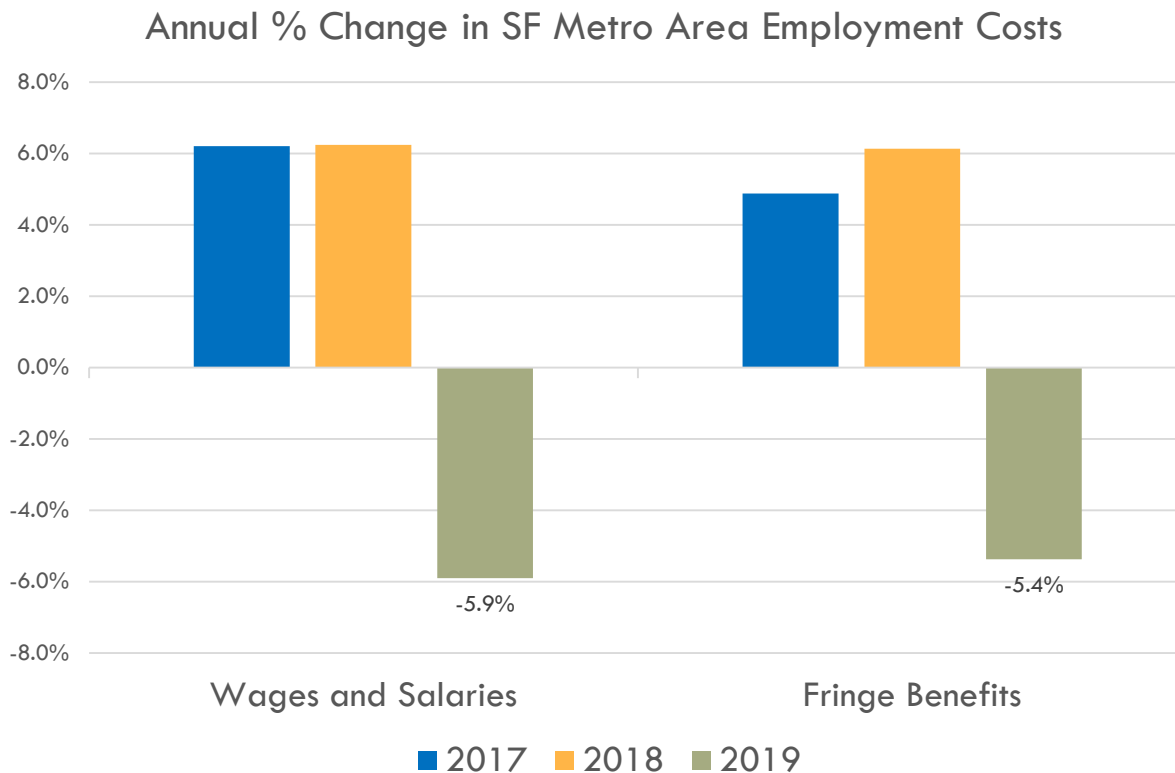
Current SF Market

Source: Saylor Consulting Market Trends 2015 Construction Forecast

Local Private Industry Employment Cost Index

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- Wages and benefits declined in 2019

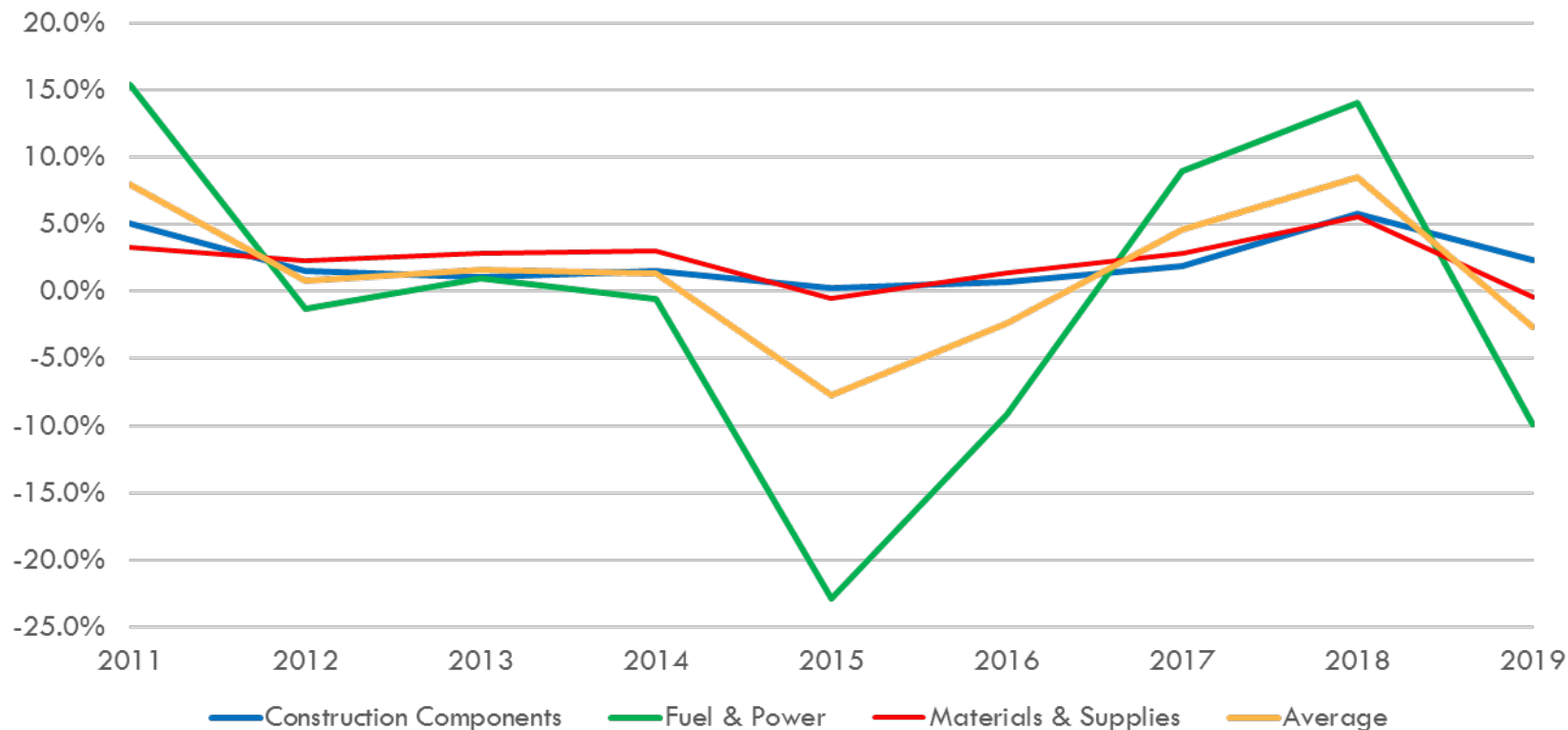


Materials Costs – Combined Categories

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- ▣ Negative change across all categories in the last year, after three years of consistent growth

Annual Rate of Change in Construction Input Categories



Local Sector Forecast

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CURRENT MAJOR BAY AREA PROJECTS (\$1+B)

Pier 70
 Hunters Point Shipyard
 5M Project
 Delta Water Tunnels
 City Place Mixed-Use Development
 Treasure Island
 Santa Clara BART Extension
 Vallco Town Shopping Center
 Stanford University Expansion
 Mission Rock
 Potrero Power Plant

Source: Cumming Quarterly Construction Market Report Q3 2019

- Key sectors contracting since Q1 2019
- Construction employment has continued is at its highest mark for many years
- Construction spending still far above national average, top 10 projects valued over \$1B
- Expect market growth to level and construction employment to continue to rise in 2020 and 2021

Source: Cumming Quarterly Construction Market Report Q3 2019

Conclusion

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- Strong demand continues to be major construction cost escalation driver
- Shifts in bidding environment but remains favorable for contractors/subcontractors
 - Labor: high demand, tight supply
 - Bids are coming in closer to estimate
- Local experts are using 2020 escalation rates of 4.5% to 6%.
- ORCP's recommendation of **5.5%** 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

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Volatile Materials
Lumber
Steel
Aluminum
Copper
Concrete
Glass
Asphalt
Gypsum

Subtrade Shortages
Mechanical
Electrical
Plumbing
Concrete
Glazing
Drywall

Relevant Legislation

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- ▣ Seawall Bond (approved November 2018)
- ▣ State Affordable Housing Bond (approved November 2018)
- ▣ SF Affordable Housing Bond (November 2019 ballot)
- ▣ Earthquake Safety & Emergency Response Bond (March 2020 ballot)
- ▣ Central SOMA Plan (approved December 2018)
- ▣ Public Health & Safety Bond (approved June 2016)
- ▣ SB 5 “Redevelopment 2.0” (on Governor’s Desk*)
- ▣ State School & College Facilities Bond (March 2020 ballot)
- ▣ New State laws to fast-track shelters & supportive housing
- ▣ New State infrastructure bond (November 2020 ballot)

SF Debt Program and Enterprise Fund Projects

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

2010 and 2014 ESER

2012 Neighborhood Parks & Open
Space

2014 Transportation

2015 Affordable Housing

2016 Public Health & Safety

2018 Seawall Bond

Other Major Public Building Projects

Animal Care & Control

49 South Van Ness

Hall of Justice

India Basin Park

Economic Trends—Global

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- Global construction growth expected overall, despite ongoing uncertainty

Source	Global Construction Industry Projection
Fitch Solutions Global Infrastructure Report 2019	Peak growth in 2018. 3.2% avg. growth 2019-2023
PWC Global Construction 2030	Project 85% growth in construction output through 2030
Turner & Townsend International Construction Market Survey	4.1% forecasted construction cost inflation 2019

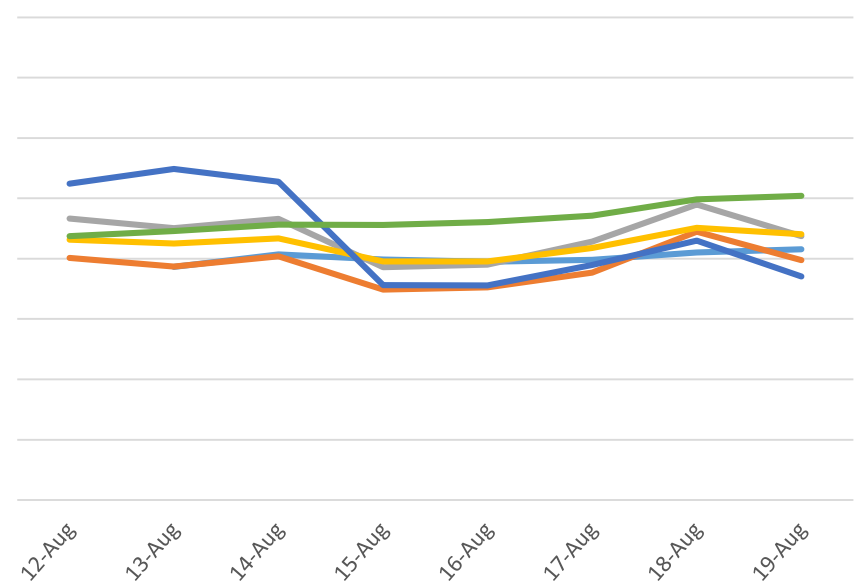
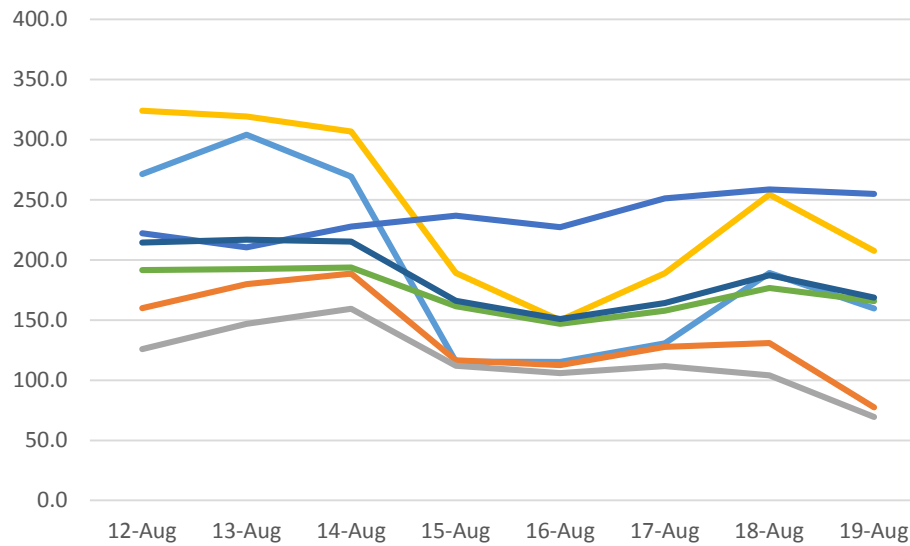
- Risks
 - Slowing of the global economy
 - More conservative central bank decisions resulting in tighter credit conditions
 - Ongoing trade tensions between the US and China
 - Uncertainty in the terms of “Brexit”
 - Ongoing geopolitical tensions and concerns about the economic outlook

Materials Costs – Individual Commodities

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Select Fuel & Power PPI Trends

Select Materials & Supplies PPI Trends



- Crude Petroleum
- Gas
- Natural Gas
- No. 2 Deisel Fuel
- Industrial Electric Power
- Finished Consumer Energy Goods (adj)
- Fuels & Related Products & Power

- Lumber (adj)
- Steel Mill
- Iron & steel
- Metals & products
- Unprocessed nonfood (adj)
- Inter materials & components (adj)