ATTACHMENT B

Orange County Business Council
Orange County Transportation Infrastructure Construction
Cost Pressure Index
Fall 2025
Prepared for the Orange County Transportation Authority

Orange County Business Council (OCBC) Research Team

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Background and Purpose

As a supplementary examination to the Next 10 Delivery Plan: Market Conditions Forecast and Risk Analysis study delivered by OCBC in September 2017, the Orange County Transportation Authority (OCTA) Board of Directors (Board) requested further study and exploration of potential cost fluctuations beyond existing cost analysis from the California Department of Transportation's (Caltrans) Construction Cost Index and internal OCTA analysis. The Board requested an ongoing analysis of construction cost factors, with periodic updates. In response, the OCBC team developed the Orange County Transportation Infrastructure Construction Cost Pressure Index (ICCPI), which is updated every six months.

To develop the cost pressure index, the OCBC team analyzed annual trends in material costs, labor costs, and general economic conditions to determine a range of potential cost increases with a time horizon that is typically three years into the future. The index updates begin by collecting relevant market data and indicators and then performing data analytics to assess current cost pressure and forecast future cost pressure. In doing so, and providing these findings to the Board, more accurate budgets can be determined by reducing the potential risk of cost pressure and project delivery slowdowns due to financial constraints. This September 2025 memo updates the March 2025 forecast of the Orange County Transportation ICCPI and provides annual cost pressure index forecasts for the remainder of 2025 and for 2026, 2027, and 2028.

Findings and Discussion

The most recent available input data were gathered to update the index. That includes second quarter 2025 data for the following index components: California's unemployment rate, California building permits, Caltrans index data on infrastructure construction materials costs as well as fourth quarter 2024 data on Orange County and Southern California construction industry wages. 2025 values for building permits and unemployment rates were estimated from changes from the second quarter of 2024 to the second quarter of 2025 and construction wages for 2024 from the fourth quarter of 2023 to the fourth quarter of 2024.

As of July 2025, the national inflation rate measured 2.7 percent, yet recent increases in the Producer Price Index indicate inflationary pressures may be returning. With recent remarks from the Federal Reserve, the probability for a September rate cut stands at 91.2 percent according to the Chicago Mercantile Exchange Group. At the same time, employment growth in both May and June 2025 was revised lower by a combined 258,000 jobs while the nation only added 73,000 jobs in July 2025, well below expectations. In California, the Employment Development Department reported the state's non-seasonally adjusted unemployment rate reached 6.1 percent in July 2025, 0.3 percentage points higher than its 5.8 percent reading in June 2025, higher than its July 2024 reading of 5.9 percent, and well-above the national July 2025 rate of 4.6 percent.[1] As of the second quarter 2025, household debt continues to increase, reaching $18.39 trillion, with mortgage balances growing by $131 billion to $12.94 trillion, while auto loans rose by $13 billion to $1.66 trillion. At the same time, credit card debt grew by $27 billion to now total $1.21 trillion, an increase of 5.9 percent compared to a year ago.[2] In the face of rising debts and increasing costs, growth in consumer spending saw a sharp decline beginning in 2025, largely due to uncertain trade policies and market volatility resulting in waning consumer confidence and sentiment. Consumer spending growth fell to 0.5 percent in the first quarter of 2025 and 1.4 percent in the second quarter of 2025, compared to growth of 3.7 percent in the third quarter of 2024 and 4.0 percent in the fourth quarter 2024.[3] As consumer costs may further increase due to new tariff policies and inflationary pressures, spending is likely to remain under pressure as consumer are increasingly squeezed.

In the March 2025 update, the OCTA ICCPI reported a value of 2—indicating annualized cost changes between 1 and 2 percent—for the years 2025, 2026, and 2027. Six months earlier, in the September 2024 update, the ICCPI had forecasted a cost change index of 2 for 2024, followed by an increase to a level 3 (2 to 6 percent annualized increase) in 2025, and then a decrease back to level 2 for both 2026 and 2027.

The new estimate for September 2025 sees the index for 2025 increasing to a value of 3 for the remainder of the year and remaining steady at an index of 3 for 2026, 2027, and 2028. While the Federal Reserve has made dramatic strides in getting inflation under control, tariffs have begun to have a measurable impact on short-term costs and continued uncertainty surrounding the impacts of economic, trade, and immigration policies have resulted in slowed hiring trends as businesses struggle to forecast future needs. Adding to shifting government policies, the accelerating adoption of artificial intelligence technologies has also started to potentially slow overall job growth.

Comparisons of the five most recent Orange County Transportation ICCPI estimates are reflected in Table 1. The index values correspond to ranges of forecast annual infrastructure construction cost increases, as shown in Table 2.

[1] https://labormarketinfo.edd.ca.gov/file/lfmonth/oran$pds.pdf
[2] https://www.newyorkfed.org/microeconomics/hhdc
[3] https://www.fitchratings.com/research/corporate-finance/fitch-ratings-us-consumer-spending-slows-sharply-as-labor-market-weakens-tariffs-raise-inflation-21-08-2025

Table 1: September 2025 Update to Three-Year Orange County Transportation ICCPI, with comparison to March 2025, September 2024, March 2024, and September 2023 Index Estimates

Year	Index (September 2025) with Annual Cost Increase Range	Index (March 2025) with Annual Cost Increase Range	Index (September 2024) with Annual Cost Increase Range	Index (March 2024) with Annual Cost Increase Range	Index (September 2023) with Annual Cost Increase Range
2023	Not Estimated	Not Estimated	Not Estimated	Not Estimated	3 (2% to 6%)
2024	Not Estimated	Not Estimated	2 (1% to 2%)	2 (1% to 2%)	3 (2% to 6%)
2025	3 (2% to 6%)	2 (1% to 2%)	3 (2% to 6%)	3 (2% to 6%)	2 (1% to 2%)
2026	3 (2% to 6%)	2 (1% to 2%)	2 (1% to 2%)	2 (1% to 2%)	2 (1% to 2%)
2027	3 (2% to 6%)	2 (1% to 2%)	2 (1% to 2%)	Not Estimated	Not Estimated
2028	3 (2% to 6%)	Not Estimated	Not Estimated	Not Estimated	Not Estimated

Forecasting Method

OCBC used a series of regression analyses and forward-looking projections to create the ICCPI. The ICCPI provides a ranking from 0 to 5, with each rank corresponding to a range of percentage changes in overall construction costs. These ranges are built to be forecasting tools, with scores indicating public construction forecast cost increase. Values of 2 and 3 indicate somewhat normal inflationary environments. A value of 4 is a high inflation environment. A value of 1 is a low inflation/deflationary environment. Values of 0 and 5 correspond to the most extreme conditions observed in Orange County over the past three decades, and hence the ranges for those values are wide due to the unusual nature of the highly deflationary environment that occurred immediately prior to and during the Great Recession and the high-cost inflation environment that occurred in the building boom years of the early 2000s and most recently in 2021 and 2022.

Table 2 highlights each ICCPI ranking and the proposed range of cost fluctuations which have been provided on a low, midpoint, and high scale.

Table 2: OCBC Orange County ICCPI Index Values and Corresponding Forecast Annual Cost Increase Range

Index Value	Projected Annual Cost Increase, Low	Projected Annual Cost Increase, Midpoint	Projected Annual Cost Increase, High
0	-17%	-9.5%	-2%
1	-2%	-0.5%	1%
2	1%	1.5%	2%
3	2%	4%	6%
4	6%	8.5%	11%
5	11%	25.5%	40%

Methodology

To determine the Transportation ICCPI, the OCBC team started by aggregating several datasets, measures, and indicators on an annual basis as far back as 1972.

The index was built with the following key data inputs:

- California's unemployment rate
- Building permits in California
- Selected construction materials costs for California, from Caltrans
- Orange County Construction Labor Costs

The OCBC team examined how the various measures and indicators of construction costs varied with changes and recent past trends in construction inflation. Using statistical analyses, the research team has built a forecasting model that projects forward cost increases and predicted cost increases are grouped into the categorical ranges shown in Table 2.

Recent Data Trends

Table 3 shows the recent pattern for three key components of the construction cost pressure index. While building permits in California declined from 2018 to 2020, they jumped by 12.6 percent in 2021, by 0.2 percent in 2022 before falling 7.1 percent to 111,221 in 2023, and further by 10.1 percent in 2024 to 99,959. Using estimates based on the change in permits from the second quarter of 2024 to the second quarter of 2025, building permits are expected to increase by 2.5 percent to 102,478 in 2025. Despite high home prices and interest rates keeping housing demand low across the nation, this forecasted increase in building permits may help highlight recent statewide efforts to reinforce housing supply. Yet, home prices, especially for new construction, are likely to be exacerbated due to tariffs impacting the cost of building materials. Based on the change in average unemployment rates from the second quarter of 2024 to the second quarter of 2025, California's unemployment rate is expected to total 5.8 percent in 2025, 0.4 percentage points higher than in 2024. Construction salaries in Orange County, estimated from the fourth quarter of 2023 to the fourth quarter of 2024, are expected to register a 3.4 percent increase, totaling $94,397 in 2024.

Table 3: Infrastructure Cost Correlates, Annual Percentage Changes, 2016-2025

Year	California Building Permits	% Change Year-on-Year	California Unemployment Rate	% Change Year-on-Year	OC Construction Labor Costs (Average Annual Wage)	% Change Year-on-Year
2016	102,350	4.2%	5.5%	-11.6%	$67,179	3.8%
2017	114,780	12.1%	4.8%	-12.9%	$71,474	6.4%
2018	113,502	-1.1%	4.2%	-12.0%	$74,669	4.5%
2019	110,197	-2.9%	4.1%	-3.4%	$77,288	3.5%
2020	106,075	-3.7%	10.3%	153%	$81,460	5.4%
2021	119,436	12.6%	7.3%	-28.9%	$84,170	3.3%
2022	119,667	0.2%	4.2%	-42.4%	$88,265	4.9%
2023	111,221	-7.1%	4.8%	13.4%	$94,003**	6.5%
2024	99,959	-10.1%	5.4%	12.4%	$94,397**	3.4%
2025*	102,478	2.5%	5.8%	7.4%		

*Estimated from second quarter change, 2024 to 2025, converted to annualized estimate
**Estimated from fourth quarter change, 2023 to 2024, converted to annualized estimate

The appendix shows annual changes in materials costs in recent years. The 2025 values are estimated using the percent change from second quarter 2024 to second quarter 2025 and hence represent an estimate that will be revised in the next six-month update, when later data for 2025 becomes available. In 2025, costs of Portland Cement Concrete (PCC) Structure are expected to see the largest increase, growing by 112.7 percent followed by Structural Steel by 50.1 percent and Aggregate at 49.5 percent, Steel Bar at 5.3 percent, and PCC Pavement at 2.4 percent. Alongside a weakening labor market and declining consumer confidence and sentiment, building costs are likely to continue to increase due to new tariff policies. As more potential headwinds stack up against the national economy, continued close monitoring of tariff policies and their potential impact on costs will be crucial.

Appendix: Changes in Infrastructure Materials Costs 2016-2025 (all values are percentage year-on-year changes, 2025 values forecast from second quarter changes, 2024 to 2025)

Year	Aggregate	PCC Pavement	PCC Structure	Steel Structure	Steel Bar
2016	9.4%	8.6%	7.7%	26.3%	35.0%
2017	24.2%	106.8%	26.8%	-50.1%	-20.1%
2018	18.9%	25.9%	17.2%	-58.8%	9.4%
2019	4.6%	-11.1%	-4.2%	0.8%	53.4%
2020	14.9%	-20.5%	10.0%	-9.3%	-36.2%
2021	-27.5%	-19.8%	23.5%	5.0%	6.6%
2022	47.6%	60.5%	-3.1%	37.9%	28.8%
2023	8.4%	7.4%	52.3%	22.9%	-5.9%
2024	51.5%	43.2%	-0.01%	11.0%	4.0%
2025*	49.5%	2.4%	112.7%	50.1%	5.3%

*The annual 2025 change in value represents the change between the second quarter of 2024 and the second quarter of 2025.