



October 7, 2019

To: Executive Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Measure M2 Next 10 Plan: Market Conditions Key Indicators Analysis and Forecast

Overview

On September 10, 2018, a Market Conditions Key Indicators Analysis and Forecast was presented to the Board of Directors providing insight into delivery of the Measure M2 Next 10 Plan. At the request of the Board of Directors, continued monitoring of market conditions and potential risks of project delivery has taken place and an updated forecast has been prepared. A presentation on the results of this effort is provided.

Recommendation

Continue to monitor market conditions and their effects on the advancement of the Next 10 Delivery Plan and provide updates to the Board of Directors as appropriate.

Background

On November 7, 2006, Orange County voters approved the renewal of Measure M (M2), the one-half cent sales tax for transportation improvements. Since approval, the Orange County Transportation Authority (OCTA) Board of Directors (Board) has continued to advance implementation of M2 commitments through the adoption of a series of early delivery plans. These delivery plans are designed to streamline implementation of all projects and programs through 2041 as promised to the voters, bring transportation improvements earlier to residents and commuters of Orange County and, as appropriate, address slower growth in sales tax revenue projections through strategic financing, and successfully capturing and augmenting the program with external revenue.

To date there have been three early delivery plans, with the most recent being the Next 10 Plan (Next 10). The Next 10 provides a framework to accelerate the delivery of M2 freeway, streets and roads, transit, and environmental projects through the year 2026.

Following Board adoption of the Next 10 in November 2016, the Board directed staff to conduct a market analysis to provide an outlook on M2 project costs as influenced by demands on construction resources. The overall objective was to provide insight on construction market conditions in unison with the revenue outlook to assist with prudent project delivery decisions. The analysis was prepared by the Orange County Business Council (OCBC), led by Dr. Wallace Walrod, Chief Economic Advisor to OCBC, and Dr. Marlon Boarnet, Professor and Chair of the Department of Urban Planning and Spatial Analysis at the University of Southern California.

The results of the analysis were presented to the Board in September 2017 and identified four near-term cost risks that were expected to be particularly impactful to M2 project delivery. These included: neighboring county transportation construction programs (resulting in strained supply of materials and workers), construction wage pressures, sustained low statewide unemployment, and residential construction demand and the effect on the public works construction market. Overall, the consultant's analysis identified a strong potential that during the Next 10 delivery years, OCTA would experience an increasing cost environment.

Following the presentation, the Board directed staff to continue to work with the consultant to monitor and track early warning indicators and provide the Board with updates to cost risk factors on project delivery. In response, the consultant team spent early 2018 analyzing trends and creating an Infrastructure Construction Cost Index (ICCI) model. On September 10, 2018, the consultant team presented their ICCI model and their prediction for the 2018, 2019, and 2020 cost fluctuation range to the Board.

This data tracking, collecting, and analytics effort continued with planned annual fall forecasts, timed to occur with the sales tax revenue forecast, and a mid-year update to staff in the spring. The forecast presented in fall 2018 (forecasting 2018, 2019, and 2020), and the spring 2019 update (forecasting 2019, 2020, and 2021), is included in Attachment A.

Discussion

With staff direction, the consultant team continues to analyze trends in material costs, labor costs, and general economic conditions and perform data analytics on this information to determine a range of potential cost impacts.

Consultant Findings

Using a series of regression analyses and forward-looking projections, the consultant team updated the ICCI to see how the information provided in fall 2018 and spring 2019 held up; and prepared a fall 2019 three-year forecast through 2022. This fall 2019 forecast is also included in Attachment A for easy reference and comparison.

The projections forecast a range of cost fluctuation for OCTA to consider when reviewing the M2 cash flow in support of successful delivery of M2 capital projects. Attachment B, prepared by the consultant, shares the basis for the forecast and the methodology supporting their findings.

According to the consultant, the ranges developed are built to be forecasting tools, with scores indicating public construction forecast cost increase fluctuationsp. Index scores of two and three indicate somewhat normal inflationary environments. A value of four is a high inflation environment. A value of one is a low inflation/deflationary environment. Values of zero and five correspond to the most extreme conditions observed in Orange County 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.

Using the ICCI described above, combined with a detailed trend analysis of building permits, unemployment rates, localized labor costs, material costs, and general economic conditions, the consultant estimates an ICCI ranking of “three” in 2020, and in each subsequent year 2021 and 2022.

An ICCI ranking of three represents potential cost increases in the range of two percent to six percent in all three years.

| OCBC Orange County Transportation ICCI Score, 2020-2022 | | |
|---|-------------|---------------------------|
| Year | Index Score | Range of Cost Fluctuation |
| 2020 | 3 | 2%-6% |
| 2021 | 3 | 2%-6% |
| 2022 | 3 | 2%-6% |

This suggests a tempering compared with the previous forecast from spring 2019, and that cost pressures have slowed in the most recent data available. As in prior forecasts, the consultant indicates that OCTA will also need to be aware and ready to respond to cost pressures that are not able to be modeled.

The consultant explains that there are two different cost pressure groupings which are described as systematic and idiosyncratic. Systematic risks have characteristics that are observable and more predictable. Systematic risks are captured in the ICCI through the cost pressure model. Cost pressures in this group are reflections of the construction/building environment, the state's economy (which influences both the demand for construction services and the cost of construction labor and materials), and direct measures of material and labor costs.

Idiosyncratic risks are cost pressures which cannot be statistically modeled. These cost pressures are not related to historic or observable economic factors, but are still real risks that may be important and warrant careful tracking. The consultant pointed to cost pressures in the idiosyncratic group as:

- Tariffs and associated effects on cost of materials from the nation's changing trade policy,
- Regulatory requirements and changes that create additional hurdles during the bidding process.

Overall, the consultant's analysis identifies a potential that during the next few years of delivering Next 10, OCTA will experience a moderate cost environment. The consultant's analysis also indicates that measurable cost pressures may be flattening and are not as pronounced as in the previous time period. The Market Conditions Key Indicators Analysis and Forecast concludes that OCTA may experience a cost increase of between two percent and six percent during the next three years of construction activity, which is the timeframe for the ICCI model. OCTA's current assumptions, developed by OCTA's Capital Programs Project Controls Department (Project Controls), assumes a 3.5 percent escalation, which is a decrease from last year's short-term project escalation assumptions of 4.0 percent. Project cost estimates also include a prudent contingency specifically developed for the project based on the individual project risks.

Project Controls' cost estimating process uses historical information, as well as current trends in the market, and follows a consistent and defined process. Looking back at the last 20 years, OCTA's cost estimates have included a 3.0 percent escalation, which, on average during this timeframe, provided the appropriate escalation to deliver projects successfully. Using 3.5 percent for construction escalation, as well as incorporating contingency based on the project type and complexity, is staff's best estimate using industry standards on cost estimating.


Summary

The Market Conditions Key Indicators Analysis and Forecast concludes that the Orange County Transportation Authority may experience a cost increase of between two percent and six percent during the 2020 through 2022 time period of construction activity. To reduce the potential risk of cost pressure and project delivery slowdowns due to unanticipated cost increases, staff will incorporate information from this analysis into the Measure M2 cash flow for the 2019 updated Next 10 Delivery Plan, which will be presented to the Executive Committee and Board of Directors in November 2019.

Attachments

- A. Orange County Business Council, Orange County Transportation Infrastructure Construction Cost Index Score, Fall 2018, Spring 2019, and Fall 2019 Forecasts
- B. Orange County Business Council, Orange County Transportation Infrastructure Construction Cost Index, Fall 2019

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