



MEMORANDUM

TO: CapMetro Board, ATP Board, City of Austin Council

CC: CapMetro, ATP, and City of Austin Executive Mgmt. Teams

FROM: David Couch, Program Officer – Project Connect

DATE: April 7, 2022

SUBJ: Update on Program including Light Rail Project Cost Drivers and Estimates

For the last several months, we have used a timeline graphic to illustrate our light rail program decision making process. As we discussed at the March 2022 Tri-Party Workshop, staff is conducting several upcoming community meetings on a few remaining design topics. These topics, along with technical, community and cost inputs will help inform staff's 30% design and phasing plan. The schedule assumes board(s) and council action on the design and segment phasing plan in late fall. While there are still some technical design details to review with the community, one of the decision inputs that we want to provide more clarity on is cost drivers and estimates. This memo provides further detail on the progress that staff has made to refine cost estimates as the program evolves.

Program Progress

Several elements of the Project Connect program have already been delivered or have begun the construction phase.

METRORAPID

The overall MetroRapid program remains on schedule and within initial program cost estimates. In March 2022, CapMetro submitted the final application package for funding for two federal Small Starts grants for Expo and Pleasant Valley. Several days after this submittal, the updated amounts for these two Small Starts projects were reflected in the Federal Transit Administration's FY23 Annual Report. The expected federal share for both projects is 64.8%. There was a \$500,000 savings in local share, and that savings will go back into the program's available funding. More details on these grants can be found in the April 2022 memo that our Government Affairs VP Erika Mazza wrote on the funding status for Capital Investment Grants. The total investment for these MetroRapid projects is \$101M, with a total federal investment of \$65.6M which is \$29.5M higher than our initial estimates. Construction will continue on these MetroRapid routes during 2022 with service for customers beginning in summer 2023.

METRORAIL

Improvements to the MetroRail Red Line are also on schedule and in line with the original program cost estimates. A groundbreaking ceremony is being planned for July 2022 for another new MetroRail station that will be located at McKalla near Q2 Stadium, and that new station is scheduled to open in 2024. Construction on the double tracking project between Lakeline and Leander will be completed in October 2022, helping provide more frequent and reliable service for the entire Red Line. Project Connect provided CapMetro with \$25M for Red Line improvement projects, of which \$8.9M will be used to cover the total cost of the Lakeline/Leander double tracking project and the remaining \$16.1M for the McKalla station project. The total McKalla project cost is \$58.7M, with the remaining \$42.6M being funded directly by CapMetro.

PICKUP

“Pickup,” the neighborhood circulator service included in the Project Connect plan, has also expanded this year. This service provides communities with on-demand transit service and connects our customers to the bus and rail network and to destinations inside their zone. Three new zones have been funded by Project Connect. Dessau zone was launched in June 2021, North Oak Hill zone launched in August 2021, and South Menchaca zone was launched in July 2021. To date, Project Connect has invested an estimated \$1.2M in launching and operating these three zones, and this brings the total number of Pickup zones to 11.

CUSTOMER TECHNOLOGY

New customer technology, such as the upcoming account-based fare system, is under budget and ahead of initial schedule. This is a CapMetro managed project that is ahead of schedule and significantly under budget, and staff is evaluating how much of the funding allocated to this program element will definitely not be needed to complete the project and therefore can be reallocated to the overall program funding to help with other projects.

Orange Line and Blue Line Initial Conceptual Estimates

The original conceptual estimates were developed as part of selecting the Locally Preferred Alternative in 2019 based on approximately 5% design. These cost estimates for the light rail projects were based on unit prices from various capital cost elements from the City of Austin Transportation Department (ATD), CapMetro, Pittsburgh Bus Rapid Transit (BRT), Metropolitan Atlanta Rapid Transit Authority (MARTA), Metro Transit, Washington Metropolitan Area Transit Authority (WMATA), GoTriangle, Northern Indiana Commuter Transportation District (NICTD) and are based in whole or in part on unit prices for other transit projects. Using rough quantities from very preliminary design and averaged unit prices, an estimate of program costs was developed. The light rail cost estimates included the following assumptions:

- a) assumed a subway length that ended just north of the lake on Guadalupe,
- b) a 3.5% annual cost escalation,
- c) and a contingency of 40%.

The initial conceptual estimated project costs were \$2.5B for Orange Line, and \$1.3B for the Blue Line, respectively. The tunnel cost estimate was \$2.0B. These three components assumed a \$5.8B light rail capital cost estimate.

It is important to note that capital cost estimates are one of the three cost estimates that make up

the full costs of these transit investments. Other costs also include financing as well as Operations and Maintenance (O&M). These costs were transparently documented prior to the referendum in the Project Connect Integrated Financial Model White Paper that can be found on the City of Austin's website (<https://www.austintexas.gov/edims/document.cfm?id=347693>)

In January 2020 a peer review of the Project Connect program was conducted by professional members of the American Public Transportation Association (file at <https://adobe.ly/37qRSoN>) and included peers from Seattle, Houston, Dallas and Phoenix. The panel was specifically asked to review the Project Connect initial cost estimates and provide feedback and recommendations based on their experiences with delivering large rail projects. The report noted that “two of the highest risk areas, regarding cost and schedule growth, on a light rail project include real estate acquisition and utility relocations” and that “the real estate contingency is conservative but acknowledges the number of unknowns at this level of design.” Further, the report concluded that the panelists “believe this (inflation rate of 3.5%) is a good rate, but market conditions may affect this rate if the local economy remains as strong as it is currently.” While the report’s findings and recommendations were factored into developing the 15% design cost estimates, this work was completed prior to fully understanding the unprecedented effect that a global pandemic would have on real estate costs and inflation rates.

Here are other highlights from the APTA Peer Review report:

Costing methodology: Appropriate for this level of planning, data sources, unit pricing, and soft cost at 35% is a reasonable rate, and a good rate considering local market conditions. Consider adjusting infrastructure contingency to 40% based on current industry practices. Unallocated contingency may need to be adjusted depending on contract delivery method selected. (Staff took this recommendation and has adjusted infrastructure contingency to 40%)

Right-of-Way: Methodology looks adequate for base cost. Maximize use of City’s existing ROW.

Utilities: Utilize strong partnership with City which may be an opportunity for City to use franchise agreements in addition to other City projects that could be beneficial to leveraging local match dollars

Tunnel: Adds flexibility in operations and increase throughput allowing for projected headway adherence. Preliminary estimates of the overall cost seem to be in line with industry costs based on a conceptual level design.

The team has begun the process of refining potential O&M costs based on updated CapMetro operating costs as well as a bottoms up operations cost model. The team will also be reviewing financing cost assumptions and modeling scenarios as part of work that Ernst & Young (E&Y) is conducting to review risk and program delivery options.

Orange Line and Blue Line Revised Cost Estimates

As the program advances through the life cycle of development, staff and consultant teams will continue to validate assumptions to gauge how the program is advancing in relation to initial conceptual estimates. This allows the program to adjust, if needed, before advancing the final design, and more importantly, before construction efforts commence. These efforts need to be continuous and transparent but also grounded in analysis and discussion about alternatives and potential scenarios. To do this effectively, staff needs the appropriate time to analyze technical details and community input.

One of the key milestones of this program is the 30% light rail cost estimate that supports the 30% light rail design and National Environmental Policy Act (NEPA) process. By the 30% design milestone, the program should be developed and have had community and stakeholder input to define the program. This program definition will meet the level needed to advance the NEPA process through a Record of Decision (ROD) and support a policy discussion on implementation strategy, implementation scenarios and ultimately program choices.

Part of the process getting to 30% design and cost estimates is defining the project for environmental analysis. As part of the definition of the program, the team wanted to set a baseline as we moved through the early stages of design. They developed a preliminary opinion of cost that is also referred to as the 15% cost estimate. The preliminary cost estimates that were developed at the 15% design milestone are early estimates used by staff to baseline design topics and to help refine the program towards 30% design. It is important to note that as the design of all projects develop the certainty of those costs' estimates will be refined. Additionally, it is also important to remember that at 15% design the scope is still evolving and in fact, in the case of the light rail lines, the scope has changed considerably in certain areas. These steps are the natural process that large infrastructure projects follow to identify design, cost and implementation risk.

As discussed at several CapMetro and ATP Board meetings and specifically at the March 2022 Tri-Party Workshop, costs related to elements of the program are increasing. The Project Connect program is not immune to the global and national economic pressures that everyone is feeling. Transit, airport, highway, utility, housing, and commercial projects are all seeing cost increases. As you all know, Austin is experiencing these impacts at an even higher level than the national average due to the unprecedented growth we are experiencing.

The three specific cost drivers that are impacting changes in the cost estimates are real estate, inflation/supply chain and scope refinement/change. The Austin Board of Realtors reported in November 2021 that the median sales price of homes increased by 29% year-over-year (<https://www.abor.com/november-2021-central-texas-housing-market-report>). Economic inflation has risen to historic highs due to stresses on the supply chain, the increased cost on construction materials, a tight labor market, and the rapid growth of our region. Program scope has also changed as we incorporate the community's input and include new technical information.

Each one of these drivers impacts the program differently, and we also have limited ways to manage risk around each one of the drivers. The slide below was presented at the March 2022 Tri-Party Workshop to outline those cost drivers:

Drivers Impacting Construction Segment Phasing
In what order we build the program is driven by the following decision inputs

Decision Inputs:

- Finalizing program scope (30% design)
- Traffic and access impacts and coordination with other projects (I-35, Corridor Program, AUS Expansion)
- Labor, workforce and DBE availability
- Operational Requirements (staffing, safety, technology, bus/rail integration)
- FTA Process and Federal Funding
- Cost Drivers:
 - Inflation (labor, supply chain)
 - Real Estate and Right of Way (Austin Market)
 - Program Scope (i.e., subway length)

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Decision input slide from March 2022 Tri-Party Workshop

These cost drivers were reflected in the 15% design cost estimate based on the timing and scope of design at that check in point. The major cost impacts include:

Real Estate:

- The initial estimates included \$250M for the Orange and Blue Lines.
- The 15% design progression has determined a significant increase in the number of affected parcels. This, along with the increase in real estate values (29%) in Austin market, has resulted in a net real estate cost increase of approximately \$940M.

Inflation:

- Inflation/supply chain costs: increased annual construction cost escalation from 3.5% to 5.0% resulting in a potential impact of approximately \$380M. We are proactively making this change to reduce risk of future cost escalation based pandemic impacts.

Design progression and scope:

- The development of the 15% design identified potential long term street closures, along with FEMA flood zones and other technical details resulted in increased tunnel length from 1.56 miles to 4.19 miles. This includes the extension of the tunnel from 3rd street to Live Oak, along South Congress, and includes a new underground station at Auditorium Shores and South Congress, increasing the overall Orange Line south tunnel cost to approximately \$1.4B for that portion. In addition, a new underground station at Congress, and a pedestrian concourse on

the Blue Line has resulted in a potential overall cost increase for the tunnel of approximately \$2.1B, above the original \$2.0B.

- Development of more detailed utility information, refinement of utility coordination with City of Austin, and the additional relocation of major utilities adds a potential cost increase of approximately \$260M.
- Bridge, civil and structural design adjustments have been identified for the station area improvements, drainage and water management requirements and aerial structure modifications, Dean Keaton connection to San Antonio, resulting in a potential cost increase of approximately \$450M. Many of these increases are from the community input process and collaboration on the technical design and requirements with all three parties.
- Riverside multimodal improvements of \$68M originally included in the Corridor program budget were reallocated by the City of Austin and therefore need to be included in the Blue Line project. Additional costs for bike and pedestrian facilities along the Blue and Orange Lines result in total potential increase of \$350M.

The sum of various inputs to the updated cost estimates are below:

15% Design Cost Estimates			
	Base Estimate	Additional Cost Projections	Total
Blue Line	\$1.3B	\$600M	\$1.9B
Orange Line	\$2.5B	\$1.8B	\$4.3B
Tunnel	\$2.0B	\$2.1B	\$4.1B
Totals	\$5.8B	\$4.5B	\$10.3B

It should be noted that cost estimates that are provided at 15% design are not indicative of the cost estimates that will be finalized this summer as part of the 30% design. The community and stakeholder input to the design review process has been incredible and we very much appreciate the volume of interest in the light rail design. These comments are being incorporated and will be reflected in the 30% design and cost estimates. The 30% design cost estimates will bring a further refinement of the costs associated with real estate, inflation/supply chain, program progression and scope.

Moving Forward

As discussed at the March 2022 Tri-Party Workshop, the team will be hosting a series of community meetings over the next few months. These meetings will help the team advance design elements as part of the NEPA process and the tri-party approval process this fall. At each of these community meetings the team will be highlighting the best available cost information related to the specific topic area. As an example, at the upcoming Lady Bird Lake bridge meeting the team will review design options as well as provide an initial cost estimate related to the original bridge concept and the option for a bridge with dedicated bus lanes. These topics will all

lead to the team presenting final 30% cost estimates later this summer.

During the March 2022 Tri-Party Workshop, staff reported that they are working on funding and phasing scenarios. These scenarios work hand in hand with the 30% light rail cost estimates and will help inform the tri-party decision process later this year.

Staff feel it is important to reiterate our working expectation that there will be no additional tax increase to support this program and that the parties will need to meet its commitment to voters to deliver this program with the allocated revenue sources. We are also cautiously optimistic that the bi-partisan approved infrastructure bill signed by President Biden will result in a larger federal contribution and/or annual funding disbursement than originally assumed. CapMetro will continue to work with our partners at the FTA and USDOT to lay the groundwork for potential Full Funding Grant Agreements in 2024. While our work this year will have our best revised federal estimates, we will not know our final federal share for the light rail projects until 2024.

As discussed at the March 2022 Tri-Party Workshop, this fall staff will bring forth all input from the community and our technical teams to present a recommendation on 30% light rail design and a segment phasing plan. The CapMetro Board, ATP Board and Austin City Council will consider this recommendation and work toward concurrence so that the staff can advance to the next stages of program development. Through the power of collaboration and community engagement, we've made tremendous strides in our progress on Project Connect, and we look forward to continuing that momentum so we can deliver on our promises to the communities we serve.