



## Board Report

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**File #:** 2023-0651, **File Type:** Informational Report

**Agenda Number:** 15.

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### CONSTRUCTION COMMITTEE NOVEMBER 16, 2023

**SUBJECT: METRO G LINE IMPROVEMENTS PROJECT STATUS REPORT**

**ACTION: RECEIVE AND FILE**

#### **RECOMMENDATION**

RECEIVE AND FILE status report on Metro G Line Improvements Project.

#### **ISSUE**

This report provides updates related to the scope, schedule, and budget of the Metro G Line Improvements Project (Project). Based on both a joint venture of Stacy Witbeck and Flatiron dba Valley Transit Partners (VTP) and Metro estimates for the cost of Phase 2, allocated funding for the project is not sufficient to cover costs.

#### **BACKGROUND**

The Project seeks to provide safe and cost-effective improvements to operating speeds, capacity, and safety, while addressing passenger needs and minimizing disruption to San Fernando Valley residents. The proposed improvements previously communicated to this Board include

- Sepulveda BRT grade separation with aerial station
- Van Nuys BRT grade separation with aerial station and overcrossing at Vesper
- Gates at up to 35 intersections
- Stormwater capture
- Bike Path Improvements



On November 11, 2022, Metro awarded the G Line Improvements Project Progressive Design Build Phase 1 contract to VTP. Between November and July 2023, VTP progressed design through 30% design, conducted field investigations, developed value engineering ideas, and provided Metro with a 30% Opinion of Probable Construction Cost (OPCC). In parallel, Metro’s ICE team prepared a 30% estimate. Based on both VTP and Metro estimates for the cost of Phase 2, allocated funding for the project is not sufficient to cover costs.

The project can point to various factors that have created this disparity, including labor and material shortages and rising inflation. The estimates also account for the inherently high cost of doing work within the City of Los Angeles where restrictions on street closures require multi-phase traffic control and phased construction, which significantly increase the duration and cost of construction. Over the course of the last three months, the project team, in partnership with VTP, has been evaluating value engineering and scope alternatives that could allow the project to achieve the stated objectives of improved safety and reduced trip times at a reduced cost from the current estimates.

## DISCUSSION

### **Progressive Design Build (PDB) Delivery Method**

A significant factor in the use of PDB for this Project is the ability to negotiate scopes of work to maintain affordability for the Project. Under traditional delivery methods such as Design-Bid-Build, the scope is set at the time of bid with a contract price submitted to Metro, and increases to the contract price are realized through change orders received throughout the life of the project. This often results in a need to increase funding to projects late in the life cycle. Through the use of a two phase PDB delivery method and appropriate allocation of risk and contingency early in the preconstruction process, Metro can receive pricing for elements of the project and can negotiate, and eliminate as needed, scope from the project to achieve cost certainty and value for money.

On August 26, 2022, Metro awarded a PDB contract to VTP. Through the PDB delivery method, the Contractor, VTP, and their designer were brought in early to progress design, develop risk mitigation strategies, and evaluate the constructability of the Project. The Project team participated in value engineering workshops that resulted in the generation of 37 value engineering proposals, of which 11 were designated for further development, and 12 were immediately accepted and integrated into the design.

After the submission of 30% design, VTP provided Metro with an Opinion of Probable Construction Cost (OPCC) which is an open book detailed cost estimate that has enabled staff to evaluate the overall projected Project costs against the Project budget. This has provided early visibility into significant affordability components of the project scope. This surfaced in both the pricing from the PDB contractor and to a lesser degree, in the Metro estimate.

The Project has allocated funding of \$391M, including Measure M (\$286M), SB-1 (\$75M) and Measure W (\$30M). As of August 2023, the project expenditures equal \$67.7M, which leaves \$323.3M of remaining funding. Of those funds, \$42.2M is slated for costs associated with professional services, construction support services, real estate, Metro staff, and other soft costs, leaving \$258M for Phase Two design and construction.

The VTP estimate for the 30% OPCC was \$898M, and the Metro ICE was \$592M, a variance of approximately 50%. While it is common for there to be variances between the Contractor estimate and the ICE, a variance of this magnitude was unexpected and is primarily attributed to Contractor assumptions related to third party impacts such as City of Los Angeles plan approvals for design and means and methods, differing methodologies for assessing labor market risk, and predicted production rates for work completion. It is anticipated that the variance between Contractor cost and the ICE will become smaller as design is advanced and risk is reduced and/or allocated appropriately, and staff will continue this process. However, based upon the VTP estimate (\$898M) and the Metro estimate (\$592M) for the cost of Phase Two design and construction for all elements of the Project, the allocated funding for the project is not sufficient to cover estimated costs. To stay within the \$391M-\$511M cost previously estimated and communicated to the Board, the Project scope must be reduced approximately \$275M-\$395M in Phase Two design and construction costs.

Staff intend to discuss with the stakeholder community the following potential scope modifications to remain within the affordability limit of the Project:

**Van Nuys and Sepulveda Grade Separations and Aerial Stations:**

Staff is proceeding with evaluating a value engineering proposal to build the grade separation at Sepulveda Blvd while protecting in place the existing Sepulveda station. The change would guard the safety and travel time benefits inherent in the Measure M mandated grade separation as well as address safety concerns related to access and visibility of an aerial platform. The value engineering proposal could reduce the long-term maintenance costs associated with an aerial station, including systems rooms, elevators, and escalators. The change would maintain existing station conditions for riders and proximity to Metro Park-n-Ride lot. Staff will evaluate pedestrian improvements between the existing Sepulveda station and Sepulveda Blvd. and work with Metro Operations on measures to improve connectivity to transfers at Sepulveda Blvd. The grade separation would be designed for future conversion to LRT.

The G Line project team is coordinating with Sepulveda Transit Corridor (STC) alternatives analysis teams to preserve connectivity between the G Line station and the various STC alternatives.

Based upon estimates, this change could result in an overall Project cost reduction of \$55M-\$75M.

### **Gated Intersections:**

The gated intersections scope is an area where Metro staff see the most opportunity for applying cost saving innovation. The contractor's estimate and the Metro estimate for gated intersections, as previously planned, greatly exceeded available funding, making this portion of the scope untenable from a cost perspective. A task force comprised of representatives from Metro safety, systems engineering, bus operations, and LADOT has been formed with the objective of identifying alternative scope that could still achieve safety and travel time savings at reduced cost. The team is exploring options ranging from installing fewer gates to eliminating gates entirely and implementing state-of-the-art traffic signal priority (TSP) that could significantly reduce red light delays. Metro is hopeful that LADOT could support an industry-standard approach to traffic signal priority as these options are advanced. Staff will also seek LADOT's support to reduce costs and schedule during construction, primarily through more flexibility in deploying full and partial street closures.

The task force has been charged with developing a recommended alternative solution by December 2023.

Depending on the alternative chosen, anticipated cost reduction could be upwards of \$150M.

### **Bike Path Improvements:**

Staff is evaluating a deletion of bike path improvements scope under City of LA Recreation and Parks (LAR&P) jurisdiction within the Sepulveda Basin Recreation Area as these improvements would require a new maintenance agreement, additional CEQA clearances and Army Corps of Engineers (Corps.) approvals. The Project does not have the time or resources to obtain these additional governmental approvals and develop new maintenance agreements.

Staff is also evaluating removing unwarranted scope including CCTV and lighting upgrades where upgrades have already occurred as well as bollard scope that is not supported by LADOT.

Based on the original estimate, this change could result in an overall Project Phase 2 cost reduction of approximately \$2M-\$4M.

### **Stormwater Capture:**

Measure W funding obtained for this element of the Project requires the capture and recharge of 895 acre-feet of stormwater on an average annual basis. Based on field investigations, infiltration rates were found to be significantly lower than the assumed average used in the preliminary engineering concept. Additional site investigations were performed in August 2023 at deeper depths with the hopes of increasing infiltration rates, but preliminary results are showing, even at increased depths,

the project will not meet infiltration rates necessary to satisfy Measure W requirements. Furthermore, the Stormwater Capture 30% cost estimate for Phase 2 totaled approximately \$76M, which significantly exceeds the \$30M allocated funding. Staff has notified Metro’s Environmental Services Division (ESD) of the infiltration and budgetary issues with the project. The path forward is to complete 60% design and 60% estimate and provide the package to ESD along with results of the field investigations performed to date. Staff will freeze design development at 60% and not progress to 85% design until ESD has secured additional funding and has agreed upon modifications to Measure W funding performance criteria. ESD will facilitate conversations with stakeholders, including the County of Los Angeles, as the scope of the stormwater capture is refined.

Based upon estimates, this change could result in an overall Project cost reduction of \$76M, but would also remove the \$30M in allocated funding from Measure W.

**Conclusion:**

To stay within the estimated \$391M-\$511M cost, based on Metro estimates, the project must identify approximately \$275M-\$395M in Phase Two cost reduction. Exploring the above recommended changes, the total preliminary cost reduction could be approximately \$253M - \$275M. Staff will continue to explore value engineering and cost reduction options to maintain the affordability of the Project.

**METRO G LINE BRT IMPROVEMENTS**

	(1) Present Value	(2) 30% ICE	(3) Best Case 30% ICE Potential Reductions
<b>Planning</b>	\$ 3,497,840	\$ 3,497,840	\$ 3,497,840
<b>Metro Labor</b>	\$ 19,104,751	\$ 19,104,751	\$ 19,104,751
<b>PDB Phase 1 (Pre-Construction)</b>	\$ 43,997,256	\$ 49,521,176	\$ 49,521,176
<b>PDB CONTRACT (PHASE 2)</b>	\$ 344,765,901	\$ 592,433,452	\$ 282,896,742
Gated Intersections (w/ utility relocations)	\$ 85,791,642	\$ 130,874,422	\$ 43,624,807
Grade Separations	\$ 150,461,326	\$ 162,771,819	\$ 117,771,819
Stormwater Infiltration	\$ 27,829,000	\$ 47,893,943	\$ -
Bike Path	\$ 8,153,786	\$ 7,070,928	\$ 5,070,928
Final Design / Design EWPs	\$ 16,049,534	\$ 50,709,495	\$ 24,214,620
Indirect Costs (PDB Contract Phase 2)	\$ -	\$ 53,275,370	\$ 25,439,868
Other (BOC/ROC, MOT, SWPPP, Detour, CSW, Startup, Spare Parts)	\$ -	\$ 31,290,048	\$ 14,941,514
Design Support During Construction (DSDC)	\$ 2,519,376	\$ 15,395,914	\$ 7,351,803
Markup (10.5%)	\$ -	\$ 53,885,700	\$ 25,731,310
Management Fee	\$ -	\$ 9,954,693	\$ 4,753,530
Allocated Construction Contingency	\$ 27,223,575	\$ 29,311,120	\$ 13,996,543
Escalation Costs	\$ 26,737,662	\$ -	\$ -
<b>Professional Services and Other Construction Costs</b>	\$ 57,072,495	\$ 65,991,838	\$ 65,991,838
<b>ROW, Land, Existing Improvements</b>	\$ 2,292,237	\$ 2,292,237	\$ 2,292,237
<b>Unallocated Contingency</b>	\$ 40,269,520	\$ 109,926,194	\$ 63,668,188
<b>Finance Charges</b>	\$ -	\$ -	\$ -
<b>Total Project Cost excluding unallocated contingency</b>	\$ 470,730,480	\$ 732,841,294	\$ 424,454,584
<b>Total Project Cost</b>	\$ 511,000,000	\$ 842,767,488	\$ 488,122,772
<b>Available Funding</b>		\$ 391,000,000	\$ 361,000,000
<b>Delta between funding and Total Project Cost</b>		\$ 451,767,488	\$ 127,122,772

**EQUITY PLATFORM**

The Project seeks to improve transit passenger experience and pedestrian safety through the construction of grade separations, vehicle and pedestrian crossing gates, first/last mile improvements, and ADA accessible features along the entire G Line alignment. The proposed removal of Project scope has an impact on the quantity of improvements made but does not impact the quality of the portions that remain and are intended to serve more vulnerable travelers.

Although crossing gates may be removed, staff are exploring alternatives that would preserve end to end run time reductions. Potential reductions in scope to the bike path improvements are minimal, and the planned bike path improvements are materially the same as originally planned. Impacts to the community due to construction, where noise and vibration pollution and construction traffic may create adverse situations for individuals near the alignment, would be reduced as the scope of the Project is reduced. For the Sepulveda station location, all passengers, including those boarding and alighting at Sepulveda, will gain travel time benefits by not having to stop at red lights at the Sepulveda intersection. There are anticipated accessibility benefits to an at-grade station as patrons with mobility issues will not need to rely on working elevators and escalators to get to the boarding platform. Maintaining the at-grade station at its current location also improves station proximity to the approximately 10-acre site currently proposed for joint development under the Agency's 10,000 Home Acceleration Strategy. The Project as originally planned passes through or is adjacent to 18 Equity Focus Communities (EFCs).

Additional consideration will be given to the potential impacts created by bus and bike detours, and lessons learned will be drawn from the recent A Line and L Line bus detours, such as proper and timely notification provided in multiple languages, concise and prominently located signage, and having Metro Ambassadors to facilitate minimize impacts related to the disruption. Staff is currently ramping-up outreach efforts as construction nears and will engage stakeholders about the proposed scope changes through direct field visits, face-to-face meetings with community members and local officials, collateral material distribution, and community meetings.

## **IMPLEMENTATION OF STRATEGIC PLAN GOALS**

Strategic plan goal # 1, Metro will expand transportation options, improve the quality of its transit network and assets, and take steps to manage demands on the entire network.

Strategic plan goal #5, Metro will provide responsive, accountable, and trustworthy governance within the Metro organization.

## **NEXT STEPS**

Moving forward, staff will continue outreach and engagement with impacted stakeholders, especially Metro G Line customers, to discuss any changes to expectations or previously communicated commitments prior to implementation. Finally, staff will return to the board for approval to enter into construction for the first phase of the project.

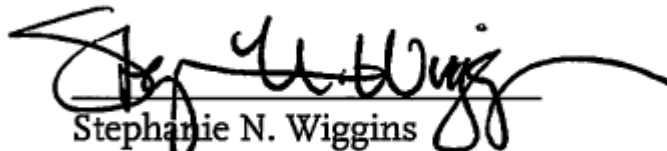
Prepared by: Brad Owen, Senior Executive Officer (Interim), Program Management(213) 418-3143  
Annalisa Murphy, Senior Director, Program Management (213) 474-6838



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Tim Lindholm, Deputy Chief Program Management Officer, Program Management, (213) 922-7297  
Debra Avila, Deputy Chief Vendor / Contract Management Officer (213) 418-3051

Reviewed by: Darcy Buryniuk, Chief Program Management Officer



Stephanie N. Wiggins  
Chief Executive Officer

# Purpose and Agenda

## **Purpose:**

- > **Receive and File** on G Line Improvements Project Status Update
- > Project estimated costs exceed forecasted budget and staff is presenting suggested scope refinements to maintain project affordability and Measure M schedule dates.

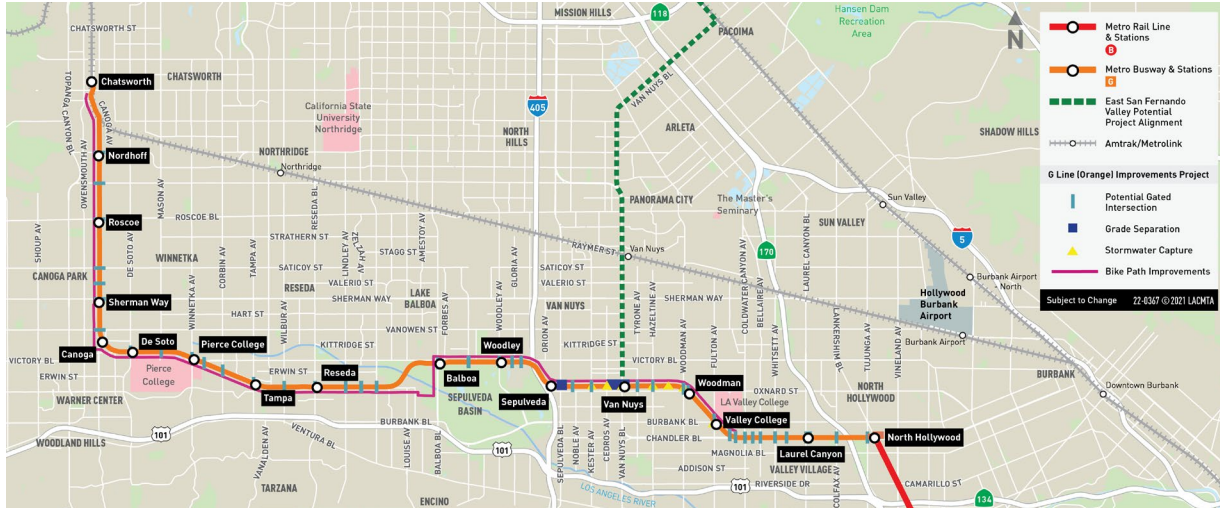
## **Agenda:**

- > Project Overview
- > Current Status
- > Value Engineering Proposals and Cost Reduction Measures





# Project Scope and Line Map



**The Project seeks to provide safe and cost-effective improvements to operating speeds, capacity, and safety, while addressing passenger needs and minimizing disruption to San Fernando Valley residents.**

The proposed improvements included:

- Sepulveda BRT grade separation with aerial station
- Van Nuys BRT grade separation with aerial station and overcrossing at Vesper
- Gates at up to 35 intersections
- Stormwater capture
- Bike Path Improvements



# Project Funding/Location

- > 2027: BRT Improvements
  - Measure M and SB-1 Local Partnership Grant Program: \$361 million
  - Measure W: \$30 million
- > 2057: BRT Conversion to LRT
  - Measure M: \$1.4 billion



# Schedule

WE  
ARE  
HERE

2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026

❖ **06/2016** G Line (formerly Orange Line) BRT Improvements identified for funding in Measure M

**07/2027** Measure M Funding Deadline ❖

**12/2017 – 03/2021**  
Preliminary Engineering

❖ **01/2018** Metro applied for SB-1 Grant Funding

❖ **07/2018** Metro Board determination that Project is Statutorily Exempt, pursuant to CEQA

**11/2018 – 12/2023**  
Right of Way Property Acquisition

**03/2020 – 12/2023**  
Advanced Utility Relocations (By Utility Owner)

❖ **01/2022** Measure W funded Water Infiltration and Quality Project scope added

❖ **11/2022** Progressive Design Build Contract Notice to Proceed (NTP)

**11/2022 – 02/2024**  
Phase I: Design & Early Works

**03/2024 – 12/2026**  
Phase II: Final Design, Const./Testing





# G Line Status

November | December | January | February | March | April | May | June | July | August | September

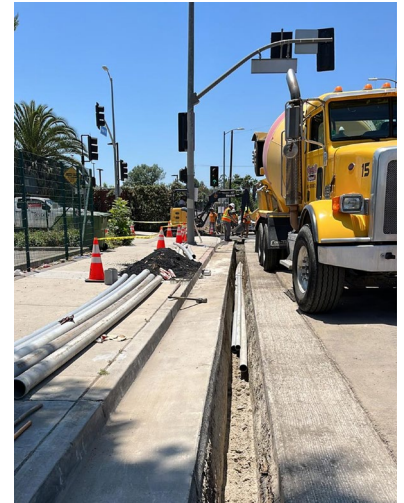
- ❖ **11/11** Notice to Proceed
  - ❖ **12/13** Risk Working Group Kick-off
    - ❖ **1/25** Field Investigations Began
- ❖ **4/7 – 5/19** 30% Designs Submitted
  - ❖ **4/19-4/20** Value Engineering Workshop
- ❖ **7/19** 30% Contractor's Opinion of Probable Construction Cost Submitted



CicLAmimi – North Hollywood



Geotech Infiltration Testing



Utility Owner-Performed  
Advanced Utility Relocation



Over the course of the last several months since submittal of the contractor pricing, the project team, in partnership with the PDB Contractor, have been evaluating value engineering and scope alternatives that could allow the project to achieve the stated objectives of improved safety and reduced trip times at a reduced cost from the current estimates, including the following:

- Sepulveda Grade Separation Value Engineering
- Gated Intersections Value Engineering
- Bike Path Scope Refinements
- Stormwater Capture





# Gated Intersections: Value Engineering Ideas

Developing value engineering alternatives that would achieve safety and travel time savings at a lower cost.

**Estimated Cost Reduction: Upwards of \$150M**



*Conceptual rendering of gated intersection*



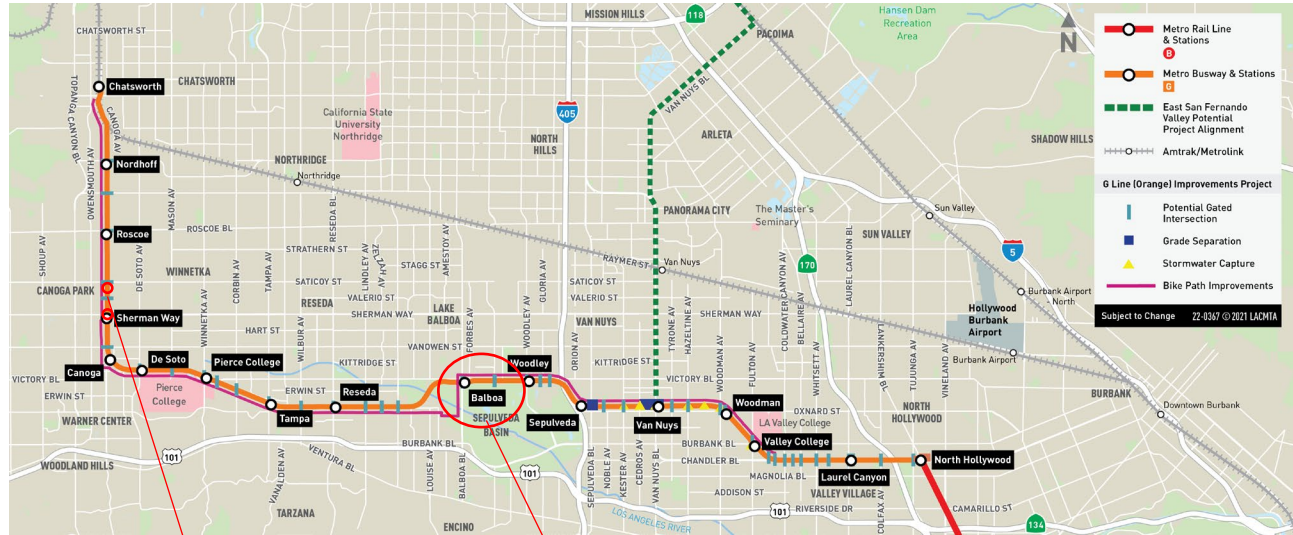
*Pilot Gate - loop-based testing at Hayvenhurst*



# Bike Path Improvements Scope Refinements

Vast majority of scope remains the same. Refined scope in collaboration with LADOT and Metro Operations/Safety including removal of CCTV and lighting where upgrades to LED have already occurred.

Remove scope outside of Metro ROW/not covered under existing CEQA clearances and bike path maintenance agreement.



Remove 2 CCTV cameras –  
at Sherman Way and Saticoy

Remove scope outside of  
Metro ROW, within Army Corps  
of Engineers jurisdiction



FOR INTERNAL USE

# Stormwater Capture Update

Even at increased depths, the project does not meet infiltration rates necessary to satisfy Measure W requirements. Would need to increase # of drywells from 168 to 974.

Phase 2 cost estimate of approx. \$75M exceeds \$30M in available funding.

**Next Steps: working with Metro Environmental Services Department, DWP and County to address funding gaps and insufficient infiltration rates**



Geotech Deep Infiltration Testing



FOR INTERNAL USE

# Estimated Cost vs. Budget

Metro Independent Cost Estimators' Phase 2 cost estimate was 72% above forecasted budget.

To stay within the \$391M-\$511M projected budget, the project must find Phase 2 cost reduction

	(1) Present Value	(2) 30% ICE	(3) Best Case 30% ICE Potential Reductions
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<b>Available Funding</b>		<b>\$391,000,000</b>	<b>\$361,000,000</b>
<b>Delta between funding and Total Project Cost</b>		<b>\$451,767,488</b>	<b>\$127,122,772</b>





# Next Steps

- > The identified cost reductions will consider community input, ensuring that proposed removals from the project scope do not compromise the quality of remaining elements, particularly those intended to benefit vulnerable travelers.
- > Staff plans to conduct additional outreach and engagement with impacted stakeholders, especially Metro G Line customers, to discuss any changes to expectations or previously communicated commitments prior to implementation.
- > Staff will return to the board for approval to enter into Phase 2 final design and construction of the Progressive Design Build contract.

