



## Board Report

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### CONSTRUCTION COMMITTEE OCTOBER 20, 2022

**SUBJECT: ANNUAL PROGRAM EVALUATION FOLLOW UP - EARLY INTERVENTION TEAM  
PROGRAM ADVANCEMENT**

**ACTION: RECEIVE AND FILE**

#### **RECOMMENDATION**

RECEIVE AND FILE status report in response to Board directed actions leading to the establishment of the Early Intervention Team (EIT).

#### **ISSUE**

In June 2022, Staff responded to Board requests related to the April 2022 Annual Program Evaluation (APE) presentation. In response to the June presentation, as shown below, Director Sandoval directed the CEO to develop an Early Intervention Project Team.

**SANDOVAL AMENDMENT:** *Direct the CEO to develop an Early Intervention Project Team comprised of Metro's finest and the best staff from planning, program management, operations, government relations, OMB, and vendor/contract management to create a list of a comprehensive checklist criteria on successful project delivery addressing such as (1) funding strategy (either it is local or federal project), (2) project delivery method and why the project is being recommended for such delivery method for all Measure M Expenditure Plan Projects.*

Implementation of this directive has been advanced with recognition of other related Board requested actions, including requests from Director Dupont-Walker to incorporate specific measures to ensure project scope growth is being managed and controlled during all phase of project delivery, as well as other requests related to future cost control efforts and reporting.

This October report provides a status update on the EIT initiative.

#### **BACKGROUND**

Los Angeles Metro is delivering the largest transportation infrastructure program in the country. The program is experiencing construction market pressures for labor and materials and the highest inflationary pressures in over forty years. The COVID-19 pandemic has exacerbated these issues, creating extreme volatility and implications regarding Metro's ability to deliver this ambitious capital

program.

Metro performs an Annual Program Evaluation (APE) for construction projects, providing a review of capital project current conditions, challenges, cost, schedule, and risk. Any changes to project budgets/schedules and reasons for adjustments are reported to the Board annually for approval. APE is a project management tool that brings greater consistency, transparency, and discipline to better manage and deliver Board-approved projects.

Prior to presentation of the FY23 APE, in February 2022, Metro staff presented a Construction Market Analysis (CMA) which laid out information on challenges related to our economy that would impact Metro's capital program. Metro staff then provided the FY23 APE report on April 21, 2022; wherein, they included data related to current cost and schedule forecast, funding availability, and mitigation measures for each project.

Following the report of the FY23 APE to the Construction Committee, Director Dupont-Walker requested staff respond to some specific items, including an item related to establishment of measures to control project scope growth during all phases of project delivery. Metro staff returned with a follow-up report to the Board in June 2022, addressing the items requested by Director Dupont-Walker.

In response to the June 2022 FY23 APE Follow-up Report, additional direction was received from both Director Sandoval and Director Dupont-Walker.

In accordance with the directive from Director Sandoval, Metro established an Early Intervention Team (EIT), which the Office of the CEO leads. In addition to the specific directive by Director Sandoval, when establishing team objectives and planned actions, the EIT has also considered other Board requests which also relate to cost control efforts to address the current challenges facing the capital delivery program.

## **DISCUSSION**

Over the years, Metro's capital projects have significantly increased in size and complexity. That change has affected, and will continue to affect, Metro's organizational approach to project development and delivery. This leads to an increased need for internal and external collaboration, cooperation, and communication. All Metro departments are involved in capital projects to a varying extent. The three departments with the most influence on project scope, cost, schedule, and risk are Planning, Program Management, and Operations. Respective roles and responsibilities transform through the project's lifecycle as project leadership shifts between departments.

The trend to larger projects increases the need for continuity of approach across the program and the life of each project. The success of a project increasingly requires the ongoing engagement of the Metro Board and external stakeholders. The continuity of project approach, including leveraging expertise from all departments in the stage gate process between key project phases, entails the commitment of appropriate resources and knowledge at each phase of the project. This level of engagement lays the foundation for an ongoing collaborative and integrated approach to an effective cost containment strategy for project development.

Formation and Establishment of the Early Intervention Team:

In line with directives received from the Metro Board members, the Chief Executive Officer assigned the Deputy Chief Executive Officer to lead the Early Intervention Team (EIT) initiative. The EIT kicked off their effort in July 2022 and has since been meeting regularly.

In line with the Board Directive, the EIT composition includes individuals from the Office of the CEO, Operations, Program Management, Countywide Planning, Office of Management and Budget, Vendor Contract Management, Government Relations, and Customer Experience. Representatives for each of the departments were chosen directly by Department Chiefs and Senior Leadership Team (SLT) members.

Structuring the team in this manner led to advancement of the effort in a holistic way that results in the following:

- Enhances teamwork across the full agency in the development of strategies to address the challenges facing the capital delivery program;
- Recognizes the role each department plays in the successful delivery of the projects while encouraging cross-department collaboration to address the full lifecycle needs of projects;
- Facilitates a framework whereby previous and related initiatives within each department can be validated and expanded to agency-wide initiatives; and
- Establishes a vehicle for direct engagement on project-focused reviews.

Early Intervention Team Objectives and Planned Actions:

To kick off the EIT initiative, the group identified and agreed upon overall objectives and selected planned actions to guide the team. These objectives envelope the Board directive related to the formation of the team, while also recognizing some more expansive goals related to the successful delivery of the capital program intended to align with other related Board items.

The overarching objectives of the EIT initiative include the following:

- Improve successful delivery of the capital program, with a focus on cost containment strategies and inter-departmental objectives;
- With the recognition of related efforts being advanced and implemented at Metro, this effort also considers and complements those existing agency programs;
- Advance an update of project forecasts, considering full lifecycle costs, in a manner that will enable the Chief Executive Officer and the Metro Board to assess and address the agency's ability to continue delivery of the planned capital projects with existing available resources.

In line with these objectives, team actions underway and planned in later stages include the following activities:

- Assessment of the primary cost drivers and corresponding mitigation actions which need to be considered for successful project delivery, including decision points related to funding strategies and delivery models;
- Update of project cost estimates, with consideration of significant external market drivers, for use as the basis for future metrics to evaluate the success and progress of agency cost control efforts;

- Confirm method for provision of estimate ranges as appropriate for major projects in all phases of delivery (planning, design, and construction);
- Propose processes that support cost control efforts and which effectively build upon previous department specific approaches, including confirmation and updates of comprehensive checklists within the current stage gate and corresponding readiness review procedures;
- Conduct project-focused reviews to more quickly align longer-term EIT planned actions with immediate project needs; and
- Identification of required resource needs to implement the scope of any recommended processes and procedures related to the effort.

**Project Influence Curve and Corresponding Phases of the Project Lifecycle:**

With recognition that as projects progress through the overall project lifecycle - spanning through planning, engineering, construction and operations phases - both the cost drivers and corresponding actions will change; therefore, the needs and opportunities available to influence the project outcome will also vary at each of these key phases. These project stages and the corresponding ability to influence project cost forecasts are depicted visually by the Project Influence Curve in Figure 1.

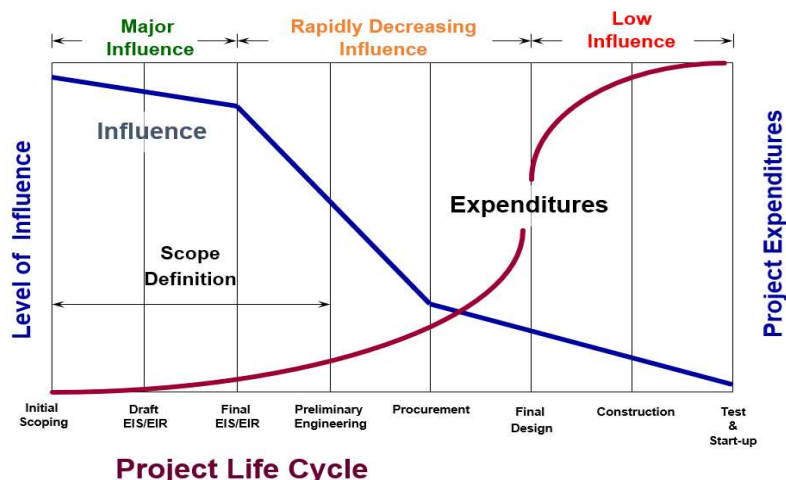


Figure 1 - Project Influence Curve

Although the Project Influence Curve serves as a reminder of the importance of advancing cost control opportunities at the earliest stages of project development, it is also important to recognize that Metro has major projects within all phases of the project lifecycle curve. Currently, Metro has approximately \$25 billion of projects in engineering and construction stages and approximately \$40-\$50 billion of projects in planning stages. Thus, with recognition that Metro has major projects within each project phase, the team is assessing cost drivers within each project delivery phase within the advancement of the EIT initiative.

**Early Intervention Team - Initial Efforts:**

Subcommittees were formed for each major project phase - planning, engineering, construction, operations - to identify key cost drivers and potential cost mitigation opportunities, including

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recognizing actions already underway. Subcommittee leads reported to the EIT on this initial assessment of findings to facilitate information gathering and team collaboration for incorporation into the next steps. An overview of this initial feedback is provided within Attachment A.

In parallel with these EIT subcommittees' efforts, the Program Management department is working to expand updates of project forecasts beyond those reported in the FY23 APE. This includes projects currently in planning and engineering phases, which have not yet established Life of Project (LOP) budgets. At this time, with the awareness they are still subject to final determinations of an environmentally preferred alternative, the PM department has updated potential project cost estimates for the four pillar projects to understand the impacts of current market conditions. In coming months, this reforecasting effort will continue to expand to other Measure M capital projects as well. These updated forecasts will serve as the basis to assess the effectiveness of future cost control processes, particularly for projects in earlier phases of the overall project life cycle when the EIT effort has the best opportunity to influence project outcomes.

In addition to the activities described above, which outline program-wide components of the initial EIT effort, the EIT team is also advancing selective project-focused reviews. By leveraging work done during the project phase assessment, targeted questions have been compiled to guide focused discussions with project teams. This forms the basis to engage the EIT in open discussions related to specific project challenges and opportunities, as well as to assess readiness for advancement to the next phase of the project lifecycle.

To date, the team has conducted an initial review with the East San Fernando Valley (ESFV) team. Additional project-focused reviews are also anticipated for West Santa Ana Branch and Eastside Phase 2 projects in the coming months. These project-focused reviews engage the EIT to support immediate project needs, while also providing an opportunity for the team to refine procedures for effective engagement between the EIT and project teams in support of specific project needs.

## **EQUITY PLATFORM**

While no direct equity impacts are anticipated because of this update, the listed cost drivers and mitigation strategies can disproportionately impact marginalized groups. Examples of this include balancing community benefits and stakeholder engagement with project cost management and ensuring Metro remains a responsive and responsible steward of taxpayer dollars, which are disproportionately generated from lower income communities. These examples will help focus Metro's infrastructure program on riders and residents who rely the most on Metro's system.

## **IMPLEMENTATION OF STRATEGIC PLAN GOALS**

The recommendation supports the following strategic goals:

Strategic Plan Goal #1 - Provide high-quality mobility options that enable people to spend less time traveling. This will be accomplished by planning and delivering multiple capital projects on time and on budget.

Strategic Plan Goal #5 - Provide responsive, accountable, and trustworthy governance within the

Metro organization.

### **NEXT STEPS**

The EIT will hold project-focused reviews on select projects in the coming months. Updates on those projects will include information from these internal EIT reviews.

Additionally, in February 2023, there will be a report back to the Board on the program-wide, organization-wide Early Intervention Team process, including the status on further advancement of all identified EIT objectives and planned actions.

### **ATTACHMENTS**

Attachment A - Early Intervention Team - Initial Project Phase Assessment Exercise

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Reviewed by:

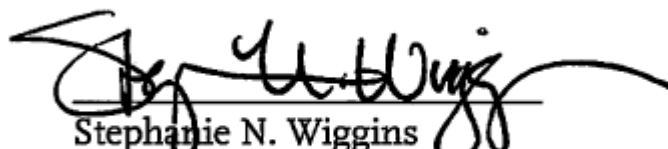
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Chief Executive Officer

**Early Intervention Team – Initial Project Phase Assessment Exercise:**

**Planning Phase Assessment:**

*Phase purpose: Identify and evaluate project alternatives and environmentally clear a preferred alternative that provides high quality mobility options for diverse communities.*

<b>Identified Cost Drivers</b>	<b>Identified Mitigation Opportunities <sup>(1)</sup></b>
Limited design development and operations team involvement during period of initial scope development.	Implement methodology to conduct stage gate lifecycle project review process to review scope, cost, schedule, and risk. Evaluate cost estimates in ranges to reflect uncertainty in early design and planning phases.
Potential integration of additional community requests, as well as external stakeholder mandates.	Establish a clear project definition (purpose, scope, and goals) to reduce the possibility of subsequently added scope, time, and cost after the selection of Locally Preferred Alternative (LPA).
Third party requirements and payment for expedited review and permitting services to maintain focus on project schedule needs.	Reach agreement with key third parties reflecting scope freeze of critical project components at the end of environmental phase.
Future requirements for construction mitigations and systems planning needs.	Leveraging monthly coordination meetings, identify project constructability needs and conduct assessment of projects' connectivity to systems.

*1 – Identified mitigation opportunities shown may apply to more than one cost driver.*

**Engineering Phase Assessment:**

*Phase purpose: Design the project to provide for the intended scope of work including safety, operational, and maintenance requirements. The contractor uses the design documents as a basis for the project's subsequent construction, testing, and commissioning.*

<b><i>Identified Cost Drivers</i></b>	<b><i>Identified Mitigation Opportunities <sup>(1)</sup></i></b>
Continued project scope growth.	Continue implementation of stage gate lifecycle project review process to review and control scope, cost, schedule, and risk. Involve all Metro departments in developing the project scope during planning and avoid oversimplifying the scope to match the budget.
Third party and utilities requirements, processes and design criteria that differ from those of Metro or are imposed on Metro after completion of planning phase.	Identify items that require permits from third parties. Advance the project in line with the scope freeze of critical project components agreed upon at the end of environmental phase. Enforce policies related to when and how stakeholders can request project enhancements (i.e., betterments), including a process to evaluate and identify related cost, schedule, and third party funding needs.
Discovery of previously unforeseen and/or undefined site conditions.	Provide sufficient soils and geotechnical investigations that align with the project needs to reduce the subsequent risks associated with differing site conditions.
Consideration of FLS requirements, particularly for underground systems.	Evaluate technical solutions to address FLS requirements cost-effectively, leveraging expertise from multiple departments and agencies.
Construction planning with limited contractor involvement.	Advancement of alternative project delivery models, when appropriate, to enhance opportunities to leverage a partnership approach leading into the construction phase of project delivery.

*1 – Identified mitigation opportunities shown may apply to more than one cost driver.*



**Construction Phase Assessment:**

*Phase purpose: Deliver capital projects safely on-time, on-budget while effectively addressing both internal and external stakeholder needs.*

<b><i>Identified Cost Drivers</i></b>	<b><i>Identified Mitigation Opportunities <sup>(1)</sup></i></b>
Ensure project scope is managed and controlled to reduce costly contractor claims and project changes.	Continue implementation of stage gate lifecycle project review process to review scope, cost, schedule, and risk. Leverage advanced technology, such as Building Information Modelling (BIM), during design and construction for improved design efficiency and scope monitoring.
Mega project construction contracts have significant longevity ranging up to ten years. Escalating market conditions have further increased contractor risk, leading to increasingly strained contractor relationships.	Ensure Metro-seasoned key staff who can bring lessons learned from recent projects are embedded into upcoming project teams. For agreed upon changes, ensure change processes are done timely.
Execution of third party/utility agreements later in life cycle and agreements that do not drive desired performance and accountability, resulting in some changing standards, lack of adherence to timelines, late design change requests and imposition of unexpected work hour restrictions by third parties.	Engage third parties/utilities early to finalize agreements, confirm standards, agree upon streamlined processes, and implement design freeze for significant scope components.
Discovery of previously unforeseen and/or undefined site conditions.	Assist with logistical efficiency with respect to environmental and geotechnical issues that arise. For agreed upon changes, ensure change processes are done timely.
Schedule delays and contractor claims resulting in additional project soft costs and professional service cost increases.	Ensure Metro-seasoned key staff who can bring lessons learned from recent projects are embedded into upcoming project teams.  Advancement of alternative project delivery models, when appropriate, to enhance partnership approach and reduce potential impacts of strained relationships.

*1 – Identified mitigation opportunities shown may apply to more than one cost driver.*

**Operations Phase (Testing, Commissioning & Operations) Assessment:**

*Phase purpose: Identify and evaluate project alternatives and environmentally clear a preferred alternative that provides high quality mobility options for diverse communities.*

<b>Identified Cost Drivers</b>	<b>Identified Mitigation Opportunities <sup>(2)</sup></b>
Cost impact for scope necessary for system operations or system implementation needs increase significantly when identified later in the project lifecycle.	Ensure operations team involvement within all phases of the stage gate lifecycle project review process to review scope, cost, schedule, and risk.
Additional and unplanned Bus Bridges requested on projects during implementation phase.	Identify and provide sufficient and as needed resources, via internal staff and bench contractors, to support operations and maintenance review during earlier project phases. This includes, but is not limited to, review of value engineering proposals, bus bridge planning, and subsequent needs related to system expansion.  Ensure project scope components which are critical to future operations and maintenance costs are embedded in the design and closely monitored in earlier stages of project development.
Late engagement of operations expertise, resulting in Value Engineering reversals/corrections to avoid future impacts on maintenance and system operations.	
Unanticipated requirements for partial demolition and reconstruction of existing systems or facilities, which are required to accommodate system expansion.	

*2 – Identified mitigation opportunities shown apply to all cost drivers listed.*

# Annual Program Evaluation Follow-Up – Early Intervention Team Program Advancement

Sharon Gookin, Deputy Chief Executive Officer



# Annual Program Evaluation Follow-Up

(Staff to report back  
in 90 days upon  
creation of Early  
Intervention Team)

## June 2022 Board Items:

- **SANDOVAL AMENDMENT:** *Direct the CEO to develop an Early Intervention Project Team comprised of Metro's finest and the best staff from planning, program management, operations, government relations, OMB, and vendor/contract management to create a list of a comprehensive checklist criteria on successful project delivery addressing such as (1) funding strategy (either it is local or federal project), (2) project delivery method and why the project is being recommended for such delivery method for all Measure M Expenditure Plan Projects.*
- **DUPONT-WALKER AMENDMENT:** *As part of the next report on the cost management action plan, direct the CEO to include metrics to help evaluate the success and progress of cost control efforts; and In the monthly Countywide Planning Major Project Status Report, direct the CEO to include a cost estimate range and design level for all projects.*

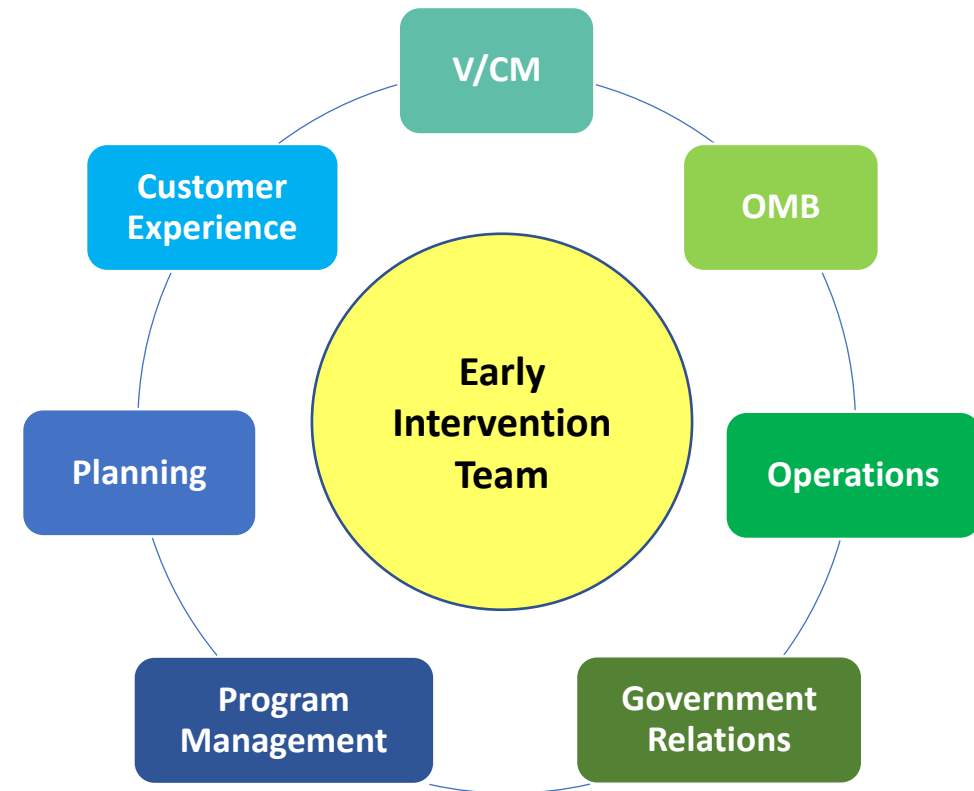
## April 2022 Related Board Item:

- **DUPONT-WALKER REQUEST:** *Establish specific measures to ensure project scope growth is being managed and controlled during all phases of project delivery, not just Program Management.*

# Formation & Establishment of Early Intervention Team

- DCEO was assigned to lead the Early Intervention Team (EIT) effort
- Overview of EIT benefits:
  - Enhances teamwork across agency
  - Encourages cross-department collaboration to address full lifecycle needs
  - Facilitates integration of existing department initiatives in an agency-wide manner
  - Establishes vehicle for direct engagement on project-focused reviews
- Kicked off EIT effort in July 2022

Participants were selected by Chiefs and SLT members and include representatives from the following departments:



# Early Intervention Team - Objectives and Actions

## Team Objectives

- Improve successful delivery of the capital program
- Consider and complement related existing agency efforts
- Facilitate an update of project forecasts, with consideration of full lifecycle costs, to support assessing and addressing the agency's ability to deliver the planned capital projects

## Actions, both underway and planned

- Assessment of the primary cost drivers, including decisions related to funding strategy and delivery model
- Updates of project cost estimates for major projects in all phases of delivery
- Conduct project-focused reviews to quickly align EIT actions with immediate project needs
- Propose processes and procedures that support cost control efforts, and which build upon previous department specific approaches
- Identify required resource needs to implement proposed processes and procedures
- Support establishment of metrics to enable visibility of the effectiveness of initiatives

# Project Influence Curve relationship to EIT Initial Effort

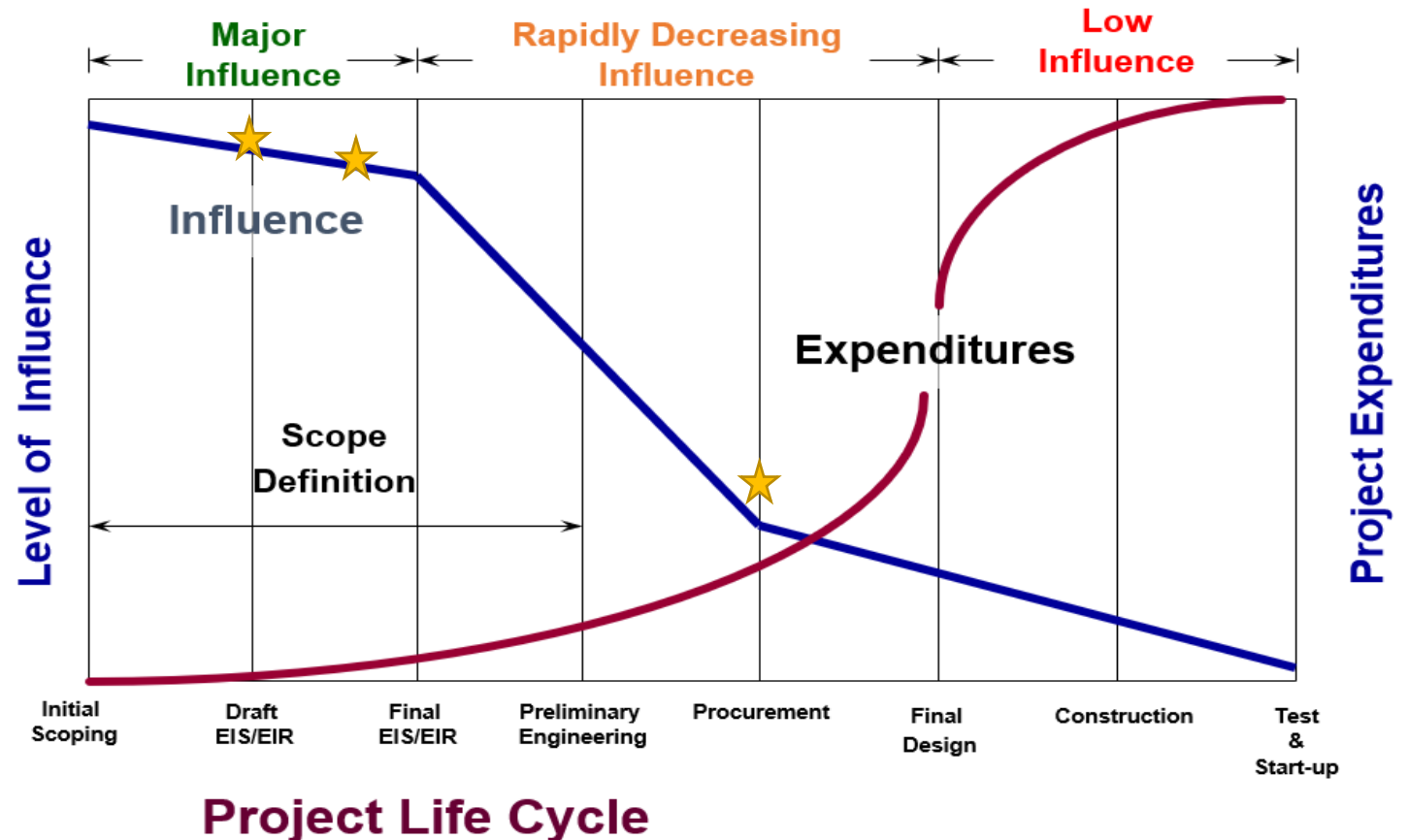
## Major Phases within the Project Lifecycle:

- Planning
- Engineering
- Construction
- Operations

*EIT subcommittees were formed for each major phase to identify key cost drivers and cost mitigation opportunities aligned with that phase of project delivery.*

*EIT is also advancing project-focused reviews for the following projects:*

- *East San Fernando Valley (ESFV)*
- *Eastside Phase 2*
- *West Santa Ana Branch (WSAB)*



★ Reflects current stage of projects selected for EIT reviews

# Current Status and Next Steps

## Work to Date

- ✓ Subgroups performed an initial assessment of cost drivers and corresponding mitigation actions for key project lifecycle phases (Planning, Engineering, Construction, Operations)
- ✓ Leveraging EIT meetings to facilitate cross-department discussion and collaboration related to these initial assessments
- ✓ Program Controls has updated Pillar project cost estimates to current market conditions
- ✓ The EIT held an initial project-focused review with East San Fernando Valley (ESFV) team members

## Next Steps

- Continue to compile subgroup efforts in line with objectives to advance agency processes and procedures that support cost control efforts
- Follow-up related to the ESFV project review
- Perform additional project-focused reviews for other select projects in different lifecycle phases (West Santa Ana Branch, Eastside Phase 2)
- Continue full update of Measure M capital project cost estimates
- Report back to Board in February 2023 on overall EIT effort



Questions?

