

LINK21

CONNECT NORTHERN CALIFORNIA

STRATEGIC PROGRAM PLAN

CHAPTER 5: STAGE GATE PROCESS

November 2022

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ISSUE AND REVISION RECORD

REVISION	DATE	PREPARER(S)	PMC REVIEWER(S)	APPROVER	DESCRIPTION/ NOTES
			BART/CCJPA REVIEWER(S)	BART/CCJPA APPROVER	
0	02/07/2020	Ian Brown, Network Rail Consulting	Gay Knipper, HNTB	Peter Gertler, HNTB	WPA.01 DRAFT submittal
	02/19/2020	---	Duncan Watry, BART	Sadie Graham, BART	WPA.01 DRAFT submittal review
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	08/03/2020	---	Sadie Graham, BART	Sadie Graham, BART	WPA.02 V1 DRAFT submittal review
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		---			<i>No review requirement</i>
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	05/13/2021	---	Sadie Graham, BART	Sadie Graham, BART	WPA.03 V2 Working DRAFT submittal review
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REVISION	DATE	PREPARER(S)	PMC REVIEWER(S)	APPROVER	DESCRIPTION/NOTES
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	10/19/2022	---	Sadie Graham, BART	Sadie Graham, BART	WPA.01-01 Working DRAFT submittal review
4.B	11/14/2022	Joseph Chroston-Bell, Network Rail Consulting	Sudhish, HNTB	Peter Gertler, HNTB	WPA.01-01 DRAFT FINAL submittal
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SHAREPOINT PATH

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ACRONYMS AND ABBREVIATIONS

ACRONYM/ABBREVIATION	DEFINITION
BART	San Francisco Bay Area Rapid Transit District
CCJPA	Capitol Corridor Joint Powers Authority
EAC	Equity Advisory Council
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
JWG	Jurisdictional Working Group
PDT	Program Development Team
PMC	Program Management Consultants
PMT	Program Management Team
UK	United Kingdom

LINK21 PROGRAM TEAM NAMES

TEAM NAME	TEAM MEMBERS
PMC	The HNTB Team
PMT	BART/CCJPA + PMC
Consultants	Consultants supporting program identification/project selection
Link21 Team	PMT + Consultants

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5. STAGE GATE PROCESS

5.1. Purpose

5.1.1. What are Stage Gates?

Stage gates are key points in the development and delivery of the Link21 Program (Link21) that provide fundamental strategic definition to Link21's progress.¹ They memorialize the actions made at the appropriate board and executive levels of authority based upon staff recommendations. Among the many actions that must be made over Link21's life cycle, stage gates capture the foundational guidance that determine Link21's direction, effectively closing one part of the life cycle, opening the next, and confirming support for continued investment and progress of the Program to the next Stage Gate.

5.1.2. Benefits of Stage Gates

An effective Stage Gate Process identifies the actions that need to be taken at important milestones, the information (from program deliverables) that is needed to support those actions, and the key personnel that need to partake. The process is designed to minimize and mitigate risks associated with the delivery of capital projects and to enable appropriate governance and control. It also documents the support for continued investment in projects as they progress through development and onto delivery and completion. On large, complex programs, the lack of a clearly defined planning process can lead to significant and costly delays, work revisions, and other inefficiencies. Numerous megaprojects in the U.S. and internationally have implemented versions of the Stage Gate Process because it represents a best practice. The Stage Gate Process provides the following benefits for Link21:

- Provides a planning structure that focuses the Program Management Team (PMT)² on the strategic deliverables that progressively define Link21, which are clearly defined as go/no-go validation points to avoid unnecessary expenditures and avoid delays to project development.
- Memorializes findings and actions taken at key points in Link21's life cycle prior to advancing the program to the next level of investment towards completion.
- Establishes a future oversight process for managing the program. It also provides the opportunity for wider involvement of BART/CCJPA staff as part of the review process.

¹ A staged approach to project development and implementation has been utilized by the United Kingdom (UK) transportation industry over the past 20 years.

² San Francisco Bay Area Rapid Transit District (BART)/Capitol Corridor Joint Powers Authority (CCJPA) and the Program Management Consultants (PMC)



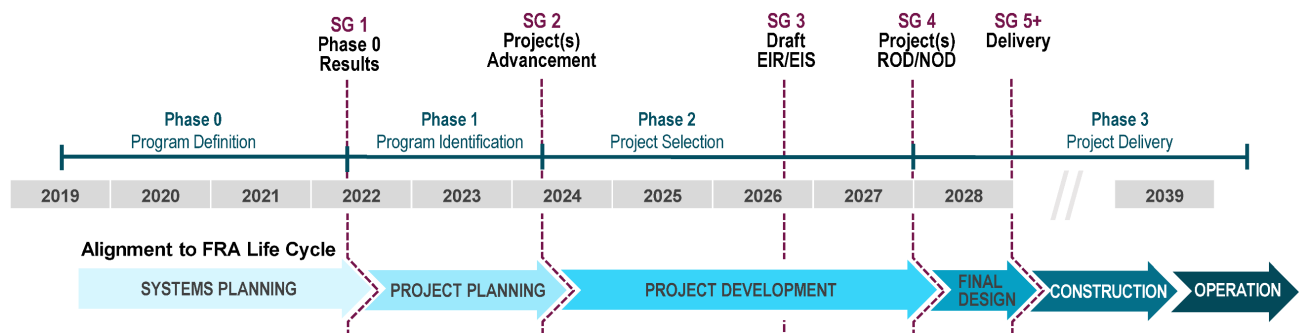
- Drives all program activities towards common milestones and allows tracking of Link21's progress across key elements and against cost, scope, and time parameters.
- Confirms Link21 continues to meet its goals and objectives and meets the operational and service requirements of the business taking on the final responsibility for managing the assets and program outputs.

5.2. Strategy

5.2.1. Identifying Stage Gates

The timing of stage gates and their strategic definition are periodically reviewed by the PMT to facilitate critical decisions to advance the program. For example, following Stage Gate 1's approval in April 2022, the PMT reviewed the Master Timeline and the definition of four future stage gates. This review resulted in Stage Gate 2 being refocused to facilitate critical decisions on advancing Link21's recommended project(s) into Phase 2 and the initiation of the environmental review. Stage Gates are illustrated in **Figure 5-1**.

Figure 5-1. Stage Gate Schedule and Alignment to FRA Guidance



EIR/EIS = Environmental Impact Report/Environmental Impact Statement

ROD/NOD = Record of Decision/Notice of Determination

ALIGNMENT TO FEDERAL GUIDANCE

Link21 has not yet designated a federal lead for the Crossing Project recommended to be advanced into Phase 2.³ However, stage gate decisions are aligned with federal processes where possible to support future engagement. For example, **Figure 5-1** also illustrates how future stage gates have been aligned to the Federal Railroad Administration's (FRA) draft guidance on the development and implementation of

³ The FTA is traditionally the lead agency for rapid transit projects, such as those on the BART network, whereas FRA is traditionally the lead agency for Regional Rail and Intercity Rail Projects, such as those on the CCJPA network.



Railroad Capital Projects.⁴ The FRA identifies six common stages to a project life cycle: Systems Planning, Project Planning, Project Development, Final Design, Construction, and Operation. Up to the initiation of the Construction stage, the transition between each FRA stage aligns to one of the program’s planned stage gates. By aligning these transitions to stage gates, Link21 can efficiently focus prepared evidence, and the stage gate actions themselves, to support federal processes for funding applications and management.

Similarly, the Stage Gate Process can align to the Federal Transit Administration (FTA) multi-step Capital Investment Grants Program processes. For example, the FTA identifies three steps to its New Starts and Core Capacity Process: Project Development, Engineering, and Full Funding Grant Agreement. Should a project be advanced with the FTA identified as lead agency, Stage Gates 3, 4, and 5 could be aligned to support FTA approval processes as necessary.

As both agencies implement new and expanded programs under the federal Bipartisan Infrastructure Law, FRA and FTA are working to align the requirements and processes under their respective programs. Given the multimodal nature of the program, Link21 is supportive of FRA-FTA alignment, and it is also working to identify differences between the agencies' programs and how to account for them as the program develops.

5.2.2. Stage Gate Process

STAGE GATE REVIEW LADDER

The Stage Gate Review Ladder is a hierarchal review and assessment of presented evidence alongside consideration of potential challenges and risks. This occurs prior to recommending an action that is presented to the BART and CCJPA boards for formal approval and memorialization.

These actions are made and confirmed at a sufficiently senior level to provide the surety that Link21 can progress without the risk of revisiting and re-evaluating planning work that is already completed.

Stage Gate actions are of sufficient importance and consequence over the lifecycle of the Program that they require board approval. As the joint sponsors of Link21, BART and CCJPA are responsible for overseeing the program’s development; therefore, their boards have authority to direct planning decisions.

Future management and responsibilities for Link21 may change over time to some extent, depending on the timescales and direction of the options chosen and the future

⁴ This guidance is currently issued as a draft. It was open for comments until August 12, 2022. The final issuance date is unknown at the time of this Strategic Program Plan update, but once it occurs, Link21 will review the planned stage gates against finalized guidance to identify opportunities for alignment.

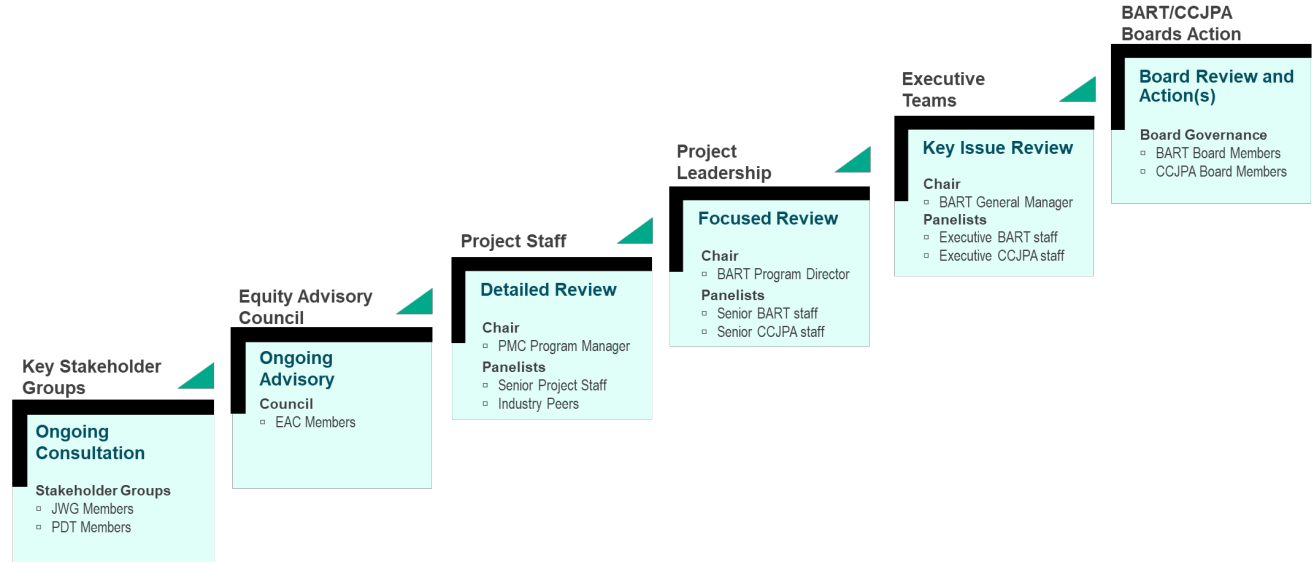
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funding, contractual, and operational responsibilities. If changes occur, the responsibilities will be evaluated and updated as required.

The current stage gate review and approval process is set out in **Figure 5-2**.

Figure 5-2. Review and Approval Ladder



EAC = Equity Accountability Council
 PDT = Program Development Team
 JWG = Jurisdictional Working Group

The stage gate review and approval process involves general public outreach on development throughout the phase, key stakeholder group consultation, review workshops, executive review, and board approval of the recommended action(s).

STAGE GATE REVIEW GOVERNANCE

Board approval of recommended actions is conducted as directed by BART and CCJPA board governance. Following a presentation, discussion, and public questions on Link21’s materials, actions are usually secured by majority vote of Board members and by formally recording the outcome in minutes issued on the BART and CCJPA websites.

For the Project Staff, Project Leadership, and Executive Stage Gate reviews, meetings are governed by a Chair supported by Review Panelists.

Chair

The Chair facilitates discussion and review of evidence, identification of key findings and recommended actions, and ultimately approves the stage gate and prepared evidence so it can progress to the next level in the review ladder. Each review meeting’s Chair has an identified role within the Link21 or BART/CCJPA organization charts, and they are chosen to be appropriately empowered to lead the meeting and to call for the

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concurrence of panel members to progress to the next level of review. The identified Chairs for each review (as shown in **Figure 5-2**) are:

- Project Staff Review: PMC program manager
- Project Leadership Review: Link21 program director
- Executive Review: BART general manager (or their designee)

Review Panelists

Review Panelists support the Chair by reviewing presented materials, raising clarifying questions, discussing risks and opportunities, and providing constructive feedback to refine and improve Link21's evidence and practices. Review Panelists are selected to give a broad and constructive review appropriate to the actions recommended at each particular Stage Gate. For the Project Staff Review, panelists are senior PMC managers, such as the Strategic Advisory Manager, and respected industry peers chosen to give deep feedback. For the Project Leadership Review, panelists are senior staff from BART and CCJPA departments, such as the Director of Funding Strategy, who can give multiple viewpoints on the project across each organization. For the Executive Review, panelists are executive staff from BART and CCJPA, such as the Assistant General Manager of Government and Community Relations.

Review Notes and Actions

During each review meeting, notes are taken to summarize the discussion, identify key findings, and record recommended actions. Following the review, the Link21 Team has an opportunity to respond to comments and to complete recommended actions before progressing to the next review. The meeting notes, and any follow-up responses to actions and comments, are then approved by that meeting's Chair for inclusion into the stage gate report's appendix so subsequent reviews can see topics of prior discussion, recommended actions, and how resolutions were provided.

STAGE GATE REVIEW PARTICIPANTS

The Stage Gate Process requires involvement from a diverse group of participants that have differing roles and responsibilities, as summarized in **Table 5-1**.

**Table 5-1. Stage Gate Participants' Roles and Responsibilities**

	PHASE 0: PROGRAM DEFINITION	PHASE 1: PROJECT IDENTIFICATION	PHASE 2: PROJECT SELECTION	PHASE 3: PROJECT DELIVERY	PHASE 0: PROGRAM DEFINITION
Stage Gate	1	2	3	4	5
Date	Q2 2022	Q1 2024	Q2 2026	Q2 2027	Q4 2028
General Public	Engage	Engage	Engage	Engage	Engage
Key Stakeholders (PDT/JWG)	Consult	Consult	Consult	Consult	Consult
Equity Advisory Council	Advise	Advise	Advise	Advise	Advise
Program Management Consultants	Approve	Approve	Approve	Approve	Approve
Program Management Team	Approve	Approve	Approve	Approve	Approve
BART/CCJPA Executives	Approve	Approve	Approve	Approve	Approve
BART/CCJPA Boards	Action	Action	Action	Action	Action

General Public

Outreach to and feedback from the general public through grassroots outreach events, webinars, live Q&A sessions, Office hours, and co-creation and public workshops forms a key part of the Link21 Engagement and Outreach strategy. Feedback from these outreach events and activities directly informs Link21's development and the ultimate preparation of evidence for stage gate reviews. In addition, meetings are held with partner agencies and advocacy groups, and feedback from them is fed into the formal review process.

Key Stakeholders

Key stakeholder groups have a clear consultation role throughout the Stage Gate Process. The main forums for consultation to-date have been the PDT) meetings (staff and executive) and JWG meetings.

Specific briefings with key stakeholders occur before the formal stage gate reviews commence. They focus on the evidence prepared to support the proposed Board action(s), and they aim to capture critical feedback and document Link21's responses and revisions before entering subsequent reviews with the PMC, PMT, executives, and boards.



Equity Advisory Council

Following its formation, the EAC will be incorporated as a participant in the program’s Stage Gate Process. In accordance with the council’s charter, the group will “to the extent possible, be integrated into the ‘Stage Gate’ approvals process for key Link21 workflows and other decisions that directly affect their communities and lives.”

The EAC’s integration into the Stage Gate approvals process will be finalized once the group is formed. It is envisaged that the stage gate report will include evidence from their meetings, demonstrating the council’s ongoing advisory throughout the phase on key processes and deliverables, and how advisory has influenced work presented at the Stage Gate review.

Program Management Consultants

The PMC, through Strategic Advisory and in support of BART/CCJPA leadership, manages the Stage Gate Process, including preparation of the stage gate report. Following engagement with the general public and consultation with key stakeholder groups, the PMC conducts a detailed internal review of stage gate evidence.

For Stage Gate 1, the PMC held a Project Staff Review that included senior industry experts from the Consultants to provide peer review feedback. In future stage gates, the Project Staff Review may include members from the PMC, Consultants, and other industry or academic experts.

Program Management Team

Following the PMC Project Staff review, the PMT conducts a refined internal review of stage gate evidence. Panelists are selected to provide broad challenge, feedback, and expertise from across the two sponsor agencies to the BART program director, and to provide an internal brief to their relevant executives in advance of the executive review.

For Stage Gate 1, the PMT review consisted of senior BART/CCJPA Link21 staff and key staff from relevant functional areas within BART and CCJPA’s operational organizations (e.g., Engineering).

BART/CCJPA Executives

Once the detailed PMC and PMT reviews have concluded, a key issue review is held at the BART and CCJPA executive level. This is a shorter, more focused review of Link21’s key elements to determine the program’s readiness to progress to the next phase.

BART/CCJPA Boards

The BART/CCJPA boards approve the recommended actions for Link21 through a two-step process that includes an informational presentation and formal approval.

1. A Stage Gate informational presentation is made to the boards, making recommendations for their approval that are supported by the latest draft stage gate report and an associated memorandum. Before issuing the stage gate report to the



Boards, it is updated to include the formal notes and actions from all prior stage gate reviews, giving board members visibility into the refinements and actions made through the process. Following the informational presentation, questions and comments from the Board members and the listening general public are heard through the BART and CCJPA boards' standard procedures.

2. The program seeks approval by returning to the Boards after responding to and revising evidence from the queries and comments made in the first meeting. At the approval, revisions are clearly noted before the program formally requests approval through the BART and CCJPA boards' standard procedures. Once the Boards approve the actions, the stage gate report is finalized to memorialize the decisions made and published on the Link21 website document library for public reference.

STAGE GATE REVIEW DOCUMENTATION

The stage gate reviews and the BART and CCJPA boards' action(s) are supported by two key elements of documentation: the stage gate report and presentations to the Boards with an associated memorandum. When evidence is presented to the Stage Gate Review panels and the Boards, Link21 highlights the extent of the engagement and outreach efforts, as well as how meaningful input from these activities has directly informed and shaped ongoing development.

Stage Gate Report

The stage gate report has two key purposes. First, it articulates how work done throughout a phase supports the action(s) recommended to the Boards and references key deliverables from across the program. These referenced deliverables are either appended directly or linked to publicly available documentation on the website. Second, it memorializes decisions made through the process by capturing formal notes and actions from each stage gate review. The Stage Gate Reports and its appendices will be published on the Link21 website for each Stage Gate review.

BART and CCJPA Boards' Presentation and Associated Memo

The presentations to the Boards provide an overview of how program work was accomplished. They present highlights from the stage gate report and key deliverables, to provide directed support for the recommended action(s). The associated memo outlines the recommendation(s) made to the boards by BART/CCJPA staff and the planning action to be taken. Both the presentation and associated Memo are issued as part of the publicly accessible agency Board agendas and materials. As appropriate, individual Board Member briefings may be held to provide more detailed information and background to individual board members before the Board Meeting.



5.3. Implementation

5.3.1. Stage Gate 1 Review

REVIEW OBJECTIVES AND QUALIFYING STATEMENTS

Stage Gate 1's prime objectives were to approve Link21's vision, goals, and objectives, and to confirm Link21's advancement from Phase 0 (Program Definition) to Phase 1 (Project Identification). Approval of these actions were supported by the following four qualifying statements, under which sufficient documentation, review, and evidence was provided:

- Link21's vision, goals, and objectives are appropriate, clear, and measurable, and they provide a foundation for the Business Case.
- Stakeholder and public engagement, with a focus on equity advancement, has informed the process and supports advancement into Phase 1.
- A foundation of analytic work has been completed to develop and evaluate concepts in Phase 1.
- The program has the people, processes, funding, and tools to support progress through Phase 1.

These four key statements framed each stage of review, providing a clear line of sight from the initial stage gate reviews through to the Board presentations and recommendation to proceed. This provided a progressive level of confidence in Link21's readiness to move into Phase 1.

REVIEW TIMESCALES

An interim review was held in August 2021 with the PMC to assess Link21's preparedness for the formal stage gate reviews. The interim review helped focus the key areas that were assessed during those reviews and the key challenges to progressing Link21 into the next phase.

Following key stakeholder and public outreach, the formal Stage Gate 1 reviews started in mid-December 2021 and concluded with a presentation to the BART/CCJPA boards in February/March 2022 to confirm Link21's readiness to advance from Phase 0 (Program Definition) to Phase 1 (Project Identification).

Stage Gate 1 concluded in April 2022 after receiving approval from the BART and CCJPA boards. The *Stage Gate 1 Report* summarizes the evidence that was provided throughout the specified reviews to support action by the BART/CCJPA boards to advance Link21 from Phase 0 to Phase 1, and it memorializes the decisions made in the reviews. The report is on the Link21 website.



5.3.2. Stage Gate 2 Preparation

Stage Gate 2 is planned to conclude in spring 2024. The review meetings likely will follow the same progression as Stage Gate 1, and they will culminate in the BART and CCJPA Boards' action(s). The process and supporting evidence will be memorialized in a Stage Gate 2 report once the review process concludes. In addition, there will be some improvements to the Stage Gate 2 process, as identified by the lessons learned survey described in the following section.

LESSONS LEARNED FOR STAGE GATE 2

Following Stage Gate 1, a lessons learned exercise was undertaken with stage gate review panel members and the PMT. The exercise aimed to capture critical reflections and feedback to continuously improve the Link21 Team's practices in preparation for Stage Gate 2. The exercise identified three main lessons learned for Stage Gate 2:

1. Stage gate works best when it is embedded as an ongoing tool for guiding the program and assessing progress, not as a series of one-time events.
2. A simple and shared narrative for each stage gate is vital to its success. It should be drafted early and reviewed and refined regularly.
3. Clarity on the structure and roles of each panel in the stage gate decision hierarchy will improve focus, assurance, and buy-in before the Board(s) review.

The team is implementing these lessons learned with the early definition of, and preparation for, Stage Gate 2's objectives and its supporting qualifying statements.

With respect to the first lesson, Stage Gate 2's objectives and statements will be used to guide and structure work progressively; each deliverable will have a clear purpose defined regarding the Stage Gate 2 Board action(s), guiding delivery teams when they write them. Once each is completed, they will be appended to the Stage Gate 2 report.

Regarding the second lesson, the team will draft a Stage Gate 2 report outline early in the phase. This outline will include the key messages and outcomes we expect to communicate through the review process. This will provide a shared narrative across the PMT and Consultant teams. It will be regularly reviewed against progress made and Link21's strategic context to ensure relevance.

In response to the third lesson, the team will review the panels and participants for each Stage Gate 2 review meeting. This will be to ensure attendees can provide feedback that is appropriate to the Stage Gate 2's objectives. Link21 may, for example, need a panel member in the PMC review with sufficient experience in equitable transit planning to provide feedback on the co-creation practices. In addition, this activity will aim to ensure the meetings are set up clearly for the roles of Consult (EAC, PDT, and JWG), Approve (PMC, PMT and Executives), and Action (Boards) as outlined in **Table 5-1**.