

Enhancing Gateway Reviews with Governance Maturity Models^{1, 2}

**Dr Tom Crow, BE; Professor Shankar Sankaran, BE;
Ted Tooher, BE; John Templeman, BE**

1. Abstract

This paper explains how and why project governance maturity models can be an important strategy to add value to Gateway Reviews and improve infrastructure productivity in Australia. The paper documents where and why project processes fail to deliver outcomes. It aims to demonstrate how investment in leadership, integrated teams, and a quality assurance culture centered on accountability can be tracked and managed using maturity models as tools for managing risk, grasp opportunities and lead to continuous improvement.

Underperformance of infrastructure projects has shown to be rarely related to failure of technology. It usually stems from a lack of project governance which manifests as deficient project cultures and lack of accountability. This results in not achieving the desired project outcomes because of a range of issues, e.g. wasted effort, lack of planning/quality systems, deviations from standard procedures, ill-defined project strategies, commercial conflict.

By enhancing Gateway Reviews with Governance Maturity Models, process deviations resulting from poor cultures and lack of accountability can be identified, objectively quantified and then tracked throughout the project. Maturity Models can merge project management (hard) and project leadership (soft) elements inter-dependencies and effectively highlight the “knock-on effect” impacting continuous improvement.

Project culture is the main influence of outcomes, and the main creator of positive cultures is collaboration between team members during project management tasks (e.g. during workshops) (Castaner & Oliveira, 2020)

Governance maturity models are frameworks used to evaluate and improve an organization's capability to deliver projects or services successfully, typically progressing through five levels

¹ How to cite this paper: Crow, T., Sankaran, S., Tooher, T., Templeman, J. (2026). Enhancing Gateway Reviews with Governance Maturity Models; *PM World Journal*, Vol. XV, Issue VII, July.

² Editor's note: To assist in reading some of the figures and tables in this document, zoom to 150% or more.

from ad hoc processes to optimization. These models provide a roadmap for enhancing efficiency, consistency, and strategic alignment. Higher maturity is usually linked to significant cost savings and or better value (figure 1).



Figure 1 Project Governance Gateways Framework

2. Gateway Review Process

The Gateway Review Process has been in place for approximately 10 years across all jurisdictions in Australia, including the States and Commonwealth.

The following definitions are relevant:

“**The Gateway Review** Process is in place to strengthen governance and assurance practices and to assist non-corporate Commonwealth entities to successfully deliver major projects and programs.” (Commonwealth Govt)

“Gateway Reviews are independent Reviews conducted at key points, or Gates, along the lifecycle of a project and are important for providing confidence to the NSW Government

(through Cabinet) that projects are being delivered on time, to cost and in line with government objectives.” (NSW Govt)

Issues identified during reviews are generally managed under a red/ amber/ green traffic light system. Significant effort by both reviewers and the project team is needed to prepare briefing materials, attend meetings and produce a report. This results in a deep understanding of the project status and compilation of a knowledge database at a particular point in time. The opportunity exists to use the database for other purposes (e.g.):

- continuous improvement of the project’s implementation strategy, tactics and culture
- productivity and cultural improvement by identifying and removing wasted effort
- monetising supplier rewards for achieving high performance project cultures

The impetus behind this opportunity to make better use of outcomes from gateway review processes in Australia was created circa 1995 when the Commonwealth Government established the Construction Industry Development Agency (CIDA) with \$1m fund. The funds, matched by the private sector, were to research and further develop the construction industry. Several recommendations resulted including the adoption of “Building Best Practice in Construction” incorporating the “Designing Project Development Strategies” maturity model. Subsequently, this model was further developed and tested on over 100 projects and formed the basis of a doctorate. (Crow 2004, Deakin University).

Unfortunately, since CIDA, construction productivity has continued to decline relative to other industries resulting in further recommendations for improvements. As a result, Engineers Australia’s (EA), College of Leadership and Management produced “Enough is Enough”, ([Enough is Enough v6.pdf](#)) which summarised these recommendations and initiated an awareness program.

3. The Problem and the Opportunity

Despite technological progress and regulatory evolution, Australia’s infrastructure sectors continue to suffer from persistent productivity challenges, especially when compared to engineering manufacturing industries, transport and a range of other selected industries. McKinsey (Aug 2004) research highlights that structural, cultural, and managerial factors of leadership, organisational culture, and team behaviour play a significant role in lagging productivity.

Research reports (Lovallo et al 2023) indicate that while regulations are similarly rigid across engineering sectors, engineering manufacturing outperforms construction due to disciplined governance, committed leadership, a focus on quality management, and continuous improvement. In contrast, construction often overlooks the culture of project delivery teams, including accountability, mindsets, attitudes, and behaviors, which leads to inefficiency and wasted effort. This significant difference between engineering and construction sectors, within the same professional qualification, should not exist.

An EA research team of four professional engineers, with over 200 years' practical and academic experience, has been working for 4 years on solutions to improve the infrastructure sector's performance through:

- a. Analysing peer reviewed materials over the last 30 years identifying wasted effort and the causes of low productivity
- b. Presenting 14 expert opinions at 6 recorded workshops by industry practitioners, all with over 30 years' experience
- c. Concluding that project culture is a main determinant of projects' performance and industry productivity
- d. Preparing five project governance maturity models within a framework of improving project governance, culture and productivity

The research has been documented as a peer reviewed book chapter (Governance Frameworks for Major Public Projects International Practices & Experiences, Chapter 13, (2026))

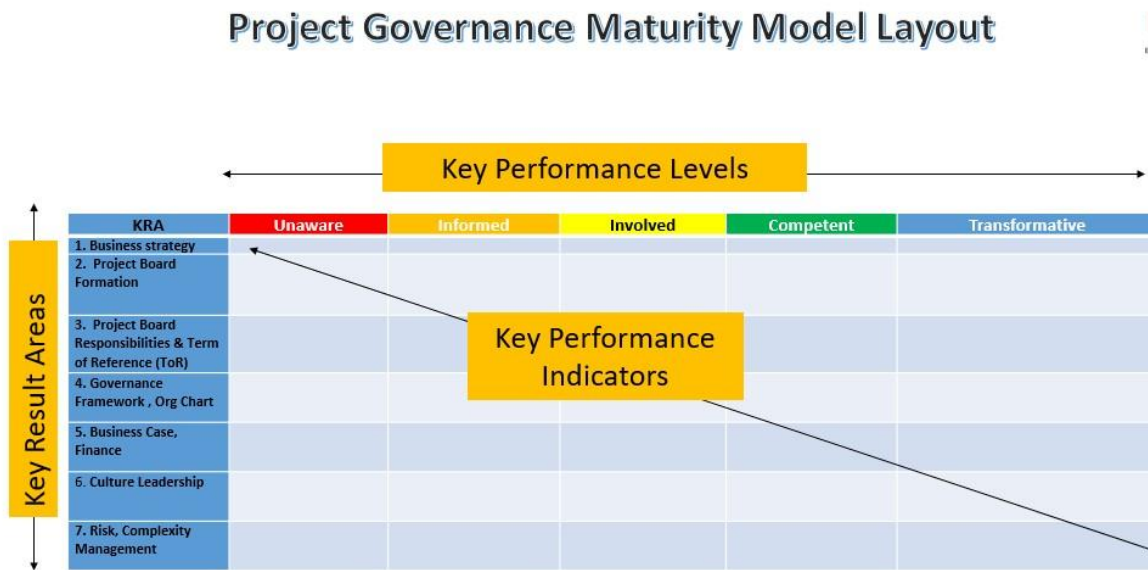


Figure 2 Maturity Model layout

This maturity model framework (figure 1) adopts the project gateway principles used by Australian governments and demonstrates how these models could enhance the effectiveness of existing models used to review major projects.

The gateways have been detailed as maturity models, with 34 Key Result Areas and 5 Performance Levels, (figure 2, & section 7). Five maturity models represent each stage gate in a typical assurance model for major projects (Figure 1). For each stage, system performance can be measured using a specific maturity model. Each model has been constructed using KRA's and a 5-level maturity/capability test, which has been workshop tested and peer reviewed.

The 5 levels are described as *Unaware* (lowest), through to *Transformative* (highest) level. Using this methodology a Project's level of Governance Maturity can be assessed at each critical phase of delivery. With a Quality Management system in place, each capability level claimed by the Project Governance Team at each stage gate can be audited for conformance, prior to getting the green light to advance the project. This allows the Corporate Governance Board to intervene with a corrective action plan if required as well as provide the Project Governance Team with the areas for continuous improvement as required for audit signoff.

4. Maturity Models Complement Gateway Reviews

Gateway reviews provide a snapshot at specific points in time to help with decision-making on projects. This ensures that a major project is viable, has good control and helps to identify issues early to prevent disastrous outcomes. Gateways reviews are designed to improve governance, manage risk and address delivery issues.

Maturity models, on the other hand, serve as a framework to help improve organisational capability. This results in improved project outcomes by ensuring alignment with strategic goals and creation of a continuous improvement culture. Higher maturity can result in better success rates and removal of unpredictability and uncertainty. However, developing maturity takes time and effort to develop standard processes, grow talent and embed best practices.

Both gateway reviews and maturity models are important. Maturity models result in systemic improvement based on prevention and continuous improvement while gateway reviews act as quality check point and use an inspect and intervene approach.

Studies show that organisations with better maturity provide better outcomes (PWC 2020) while gateway reviews help at critical points and with project assurance. Gateway reviews could identify recurring issues and identify root causes and improve performance through maturity initiatives. Leading project organisations use both to improve project delivery capabilities.

For example, Sydney Metro has engaged consultants to improve organisational maturity through the P3M3 model.

A global survey by PWC in 2004 found that projects with higher Project Management maturity delivered better business benefits while those with lower maturity were lower than 50% in meeting their project performance targets (Nieto-Rodriguez & Ervard, 2004)

If an organization demonstrates a string of project failures, a maturity model can help to address underlying issues. Maturity models are designed to foster sustainable improvement. However, when an organisation embarks on a high-risk/ high-value project, often foreign to the organisation, gateway reviews are key. They help to reduce group think and optimism bias that often affect major projects. Gateway reviews are also critical when public accountability and confidence in delivery are important.

Maturity models and gateway reviews are complementary and reinforce each other. So, it is important to use both - maturity models to improve organisational capability, consistent delivery and to realise the benefits outlined in the Business Case (Young et al., 2014) while gateway reviews are important to ensure a project is viable and issues are identified on time to ensure success.

Ultimately, improving infrastructure productivity in Australia, requires a holistic understanding of where and why project processes deviate, with greater emphasis needed on leadership investment, integrated teams, and a culture of diligent application, quality management and consequential accountability.

By enhancing Gateway Reviews with Maturity Models, process deviations can be identified

Maturity Model KRAs and KPIs Emphasis

By enhancing Gateway Reviews with Governance Maturity Models, process deviations resulting from poor cultures and lack of accountability can be identified, objectively quantified and then tracked throughout the project. Maturity Models can merge project management (hard) and project leadership (soft) elements inter-dependencies and effectively highlight the “knock-on effect” impacting continuous improvement. With project culture defined as ‘the way we do things here’ (Crow & Gadzuric 2021), this must involve both project leadership and project management, as well as the interdependence between them. (McKinsey Company (2017) “The Art of Project Leadership”) The various things/tasks/activities appear as a jigsaw puzzle: constrained or enabled by behaviors. Castaner and Oliveira (2020) refer to these as Hard and Soft Systems. A further essential Assurance System is outlined in the book chapter 13 (Governance Frameworks 2026)

The maturity model KRAs must include all elements, including the project management elements and project leadership elements.

Collaboration Draws on Hard and Soft Systems

HARD SYSTEMS are formal, structured elements that support collaboration and compliance:		SOFT SYSTEMS include behaviours, culture, and relationships:	
Governance Structures	Clear organisational frameworks, including decision-making hierarchies and accountability models,	Collaborative Leadership	Leaders who model openness, trust, and shared accountability.
Processes and Procedures	Documented workflows for relationship management, risk management, and performance measurement.	Trust and Commitment to Mutual Benefit	Building confidence between parties to enable joint problem-solving and innovation.
Information and Knowledge Management Systems	Tools and platforms for sharing data, reporting, and maintaining transparency across partners.	Shared Vision and Values	Alignment on purpose and objectives to foster a sense of common goals.
Risk Frameworks	Standardised approaches for identifying, assessing, and mitigating risks collaboratively.	Collaborative Behaviour Maturity	Skills and attitudes that encourage shared vision, objectives, conflict resolution, and evaluation and evolution.
Lifecycle Management	Structured stages: initiation, value creation, planning, governance, continuous improvement, and exit strategy.	Culture of Continuous Improvement	Encouraging feedback loops and learning to refine collaborative practices over time.

6

Source: Castañer and Oliveira (2020) – Journal of Management (FT50 Research Journal).

An early recognition of the criticality of project culture was detailed in a study for Property Council of Australia (PCA) “Projects as Wealth Creators” (Barda & Crow 2001). This study interviewed 95 discipline leaders on 35 projects to determine their success factors. When several different organisations, with different cultures, come together to deliver a project, it’s essential to create a unified project culture. It is the interdependence between the project leadership and project management elements that shape the culture through the project phases.

4.1 Emphasis on Project Leadership (Soft Systems)

Usually, different cultures will be more effective at each stage. For example, an inquiring and collaborative culture combining future thinking, sustainability, strategic and innovative thinking will be beneficial at the Initiation Stage. At later stages after project definition, delivery culture is required. This PCA research found that the prerequisite elements, to be included in maturity models, for creating a robust collaborative project culture are:

- a) **Leadership and Commitment:** Ensure that client/sponsor and supply chain leadership are actively involved and consistently demonstrate accountability and

trustworthiness.

- b) **Culture Design and Creation:** Intentionally design and create a project culture that fosters collaboration, rather than defaulting to the lowest common denominator of team member cultures.
- c) **Culture Charter Development:** Facilitate multidisciplinary team workshops to prepare, agree and commit to a project charter that emphasizes stakeholder engagement, risk management, team collaboration, and shared behaviors.
- d) **Corporate Accountability:** Establish a project board or control group, responsible to the owner’s corporate entity or ministerial cabinet, for delivering project outcomes and shaping the project culture.
- e) **Quality Assurance and Audit:** Implement ISO9000 quality assurance processes and audits to ensure compliance and effectiveness, with financial incentives to drive performance.
- f) **Measurement and Feedback:** Regularly measure the health of the project culture, provide timely feedback, and adjust as needed to address cultural pitfalls and enhance overall project performance.

4.2 Emphasis on Project Management (Hard Systems)

The project management elements are creating project culture through multi-disciplinary facilitated workshops with a goal to value-add to outcomes by removing wasted effort. Participants are team members across professions and trades, thus creating a collaborative culture. Examples of workshops are:

Title	Purpose (establishing project culture)
Project Start-up	Agree Project Charter
Option Analysis	Apply value management techniques
Project Strategy	Determine optimum solutions
Progress Review	Monitor maturity models for continuous improvement strategy
Risk Management	Prepare risk plan and assess contingencies
Scope	Prepare detail scope

The following sources have been used to select the project management elements:

- “Smashing Dumb Stuck” author Nick Fleming, 2010

- “Getting it Right the First Time” 2005, Engineers Australia
- Research panel and workshop presenters knowledge and experience

4.3 Emphasis on QA and Governance (Assurance Systems)

A common feature of all stages in a transformative culture is quality assurance, including most importantly continuous improvement (exceeding requirements) of all the systems and processes including the Governance function itself.

The model (figure 1) identifies elements of a project culture needed at different phases of the project life cycle.

- Establishment of *culture leadership* through Project Governance boards at formation (Gate 0)
- Identifying *project culture drivers* at project definition (Gate 1)
- Establishing *project team culture* at planning (Gate 2)
- Assuring capability of *Project Governance* and delivering continuous improvement. (Gate 3)

However, it is important to understand that at the heart of governance is culture, and at the heart of culture is leadership. It is the competent leadership of client-side Project Directors/Managers in the first instance that drives the desired culture. Training, development and mentoring of these individuals is therefore essential.

Systems should then be put in place to reinforce and quality assure the culture, and the project governance framework.

A robust collaborative project culture is the backbone of infrastructure project outcomes (Institute Collaborative Working 2026). Such a culture acts as the cohesive force that aligns development strategies with implementation. International studies have consistently shown that a project’s culture, or “the way we do things here”, is the essential primary driver for determining business case outcomes. {Nguyen & Watanabe (2017), Ankrah (2007)}. A key responsibility of Project Governance Boards is to oversee Quality Assurance (QA) through an audit program to ensure the project teams’ systems are in place and functioning correctly. Systems such as WH&S, Project Management, Environmental Management Systems, Procurement, Risk Management, QA and Integration Management require audit with non-conformances and rectifications reported as they impact legal, financial and corporate responsibilities that could result in criminal charges.

If left unaudited and unreported, these systems may lapse into a “tick box exercise” by Project teams.

The Quality Assurance responsibility of the Project Governance Board is based on managing risks and opportunities which fall outside the remit of Project team members as well as ensuring legal compliance. The QA system is based on a risk analysis and treatment plan which will define the systems and processes that need a QA function.

A Robust Collaborative Culture is the guarantee for achieving business cases, profits, stakeholders’ and job satisfaction (Institute for Collaborative Working
03/2026)

5. How this report helps Project Boards and Management

This paper proposes that the data collected during a Gateway Review could populate a maturity model, providing an objective assessment of how the project stands in terms of governance. The database thus becomes input into creating a continuous improvement plan for the project owner and implementation/operation team. The plan could be monitored, actioned and updated at subsequent reviews and if required, plan tactics to get back on track to achieve the desired strategic outcome.

The steps found also useful in populating the models are by having a workshop, with an independent facilitator, involving project staff representing all disciplines. This can be helpful in creating the desirable project culture and creating a continuance improvement strategy. Assurance of input is critical, as its been found that team members involved tend to be biased or even threatened by this analysis.

Using Maturity Models as the starting point for risk management (i.e. risk identification), Project Governance Boards then undertake risk analysis, treatments, risk monitoring and control of those systems needing detailed risk-based quality assurance.

Other benefits to project boards and management from this report include

- assist Gateway Reviews
- prepare project strategies at initiation
- enable continuous improvement strategies to be executed during implementation
- provide a roadmap for project culture creation and audit
- set performance targets

- provide resource skills planning required
- prepare more detailed balanced scorecard reports during gateway reviews and audits
- assess reward-based project payments for achieving project culture standards
- prepare risk management plans

6. Maturity Models

Gate 0: Formation Project Governance Board

Project Governance Maturity Models
Form Project Governance Board- Maturity Model #1
"Focus on Outcomes, not Outputs"



KRA	Unaware	Informed	Involved	Competent	Transformative
1. Business strategy	Service & asset outcome planning incomplete. Strategies based on replacement existing assets and services. Pr mission not linked to business outcome nor needs.	Project leaders with limited experience emerge from sponsor operational structure. Service and asset plan outcomes inform project strategies. Project outcome benefits linked corporate business strategy	Leadership formalised with single point accountability . Project governance separated from sponsor organisation to avoid conflict , assist decision making. Corp Board overcomes resistance to Pr Gov	Good project governance recognised as allowing effective & efficient decision making. Strategic project goal linked to business improvement. Regular probity audits actioned	Strategic goals to be updated and informed by business planning, disruptive technologies to be translated into project updates and changes to improve outcomes.
2. Project Board Formation, Stakeholders	Board not needed as supplier project mgn role. Stakeholders not identified. Project leadership roles not agreed.	Sponsor reluctantly appoints Pr Board with conflicted member 'mates' & sponsor CEO chair. Stakeholders identified and involved in project decisions	Pr Board Independent chair appointed. Stakeholders respected and views actioned but not directly involved in decisions. Operators involved in preparing brief	Independent members appointed with no conflict of interest . Charter prepared as terms of reference. Stakeholders involved in delivery strategy with handover & operation plan included	Project Board formed and involved in business case , option analysis and project development strategy. Stakeholder insight monitored
3. Project Board Responsibilities & Term of Reference (ToR)	Not defined and/ or overlapping with operations. Roles confused; skill sets not listed. Stakeholder representative mindset.	Responsibilities evolve from process decisions & documented as rules of play. Ad hoc decisions.. Operational delegation limits.	Functions allocated to individuals with skillsets. Processes reviewed as QA developed. Risk and QA audit functioning. Pr Board ToR prepared as accountable for achieving project outcome.	Deliverable outcomes to be integrated and coordinated. QA processes for governance performance used. Individuals selected based on skillsets. QA used to improve Governance functions. .	Project and Operational outcomes integrated & updated to reflect changing environment, as project develops. Feedback from QA process and strategic thinking used to improve ToR.
4. Governance Framework , Org Chart	Governance framework roles responsibilities not shared/unknown. Pr Board not independ't.	Gov framework prepared as org chart differentiating Pr Gov from project management and sponsor management.	Independent progress assurance function appointed to ensure no misinformation and decisions based on current forecasts	Stakeholder involvement strategy implemented & representative appointed.	Project Board function and performance independently audited annually, and corrective action taken if necessary
5. Business Case, Finance	Finance not committed. Progress payments delayed. No formal business case	Output cost funds committed. Basic business case prepared.	Asset operators involved. Operational KPIs included in business case	Finance committed including contingencies, escalation. Prompt payments for defect free work.	Finance arranged for business case outcome cost
6. Culture Leadership	Pr Board hands off approach to fostering culture. "Supplier responsibility". Board Directors have conflicts of interest. No progress reporting	Supplier contracts require collaborative teamwork. No assurance of progress reporting by supply chain. Reporting only time and cost.	Pr Board actively supports team culture as "way we do things here". Stakeholders involved & needs respected. Independent assurance of progress reporting	Pr Board leads without interfering, motivates team to achieve less wasted effort, greater collaboration & innovation for added value, mediates disputes.	Pr Board inspires visionary achievements for enhanced business case & outcomes.
7. Risk, Complexity Management	Risk and complexity not considered. Sponsor has no experienced skills in project governance. All risks contracted out to suppliers	Risk and Complexity factors considered as events occur. Risk mgn plan prepared but not regularly monitored/actioned	Risk management plan prepared within sponsor appetite. Complexity reflected in project controls. Issue resolution formalised. Risk responsibility by party best to control	Risk, Issues & Assurance management plans align with contingencies and subject to QA reporting of non conformances. Sponsor assures risk mgn & budgets contingency allowances	Proactive risk, issues & assurance management leveraging real time data & trend analysis. Sponsor actively considers & actions outcome risks & opportunities
8. Stakeholder requirements	Stakeholder requirements not considered nor are stakeholders consulted.	Stakeholders engaged informally to establish their requirements but not updated regularly on progress	Interactive processes with stakeholders used to capture and optimise engineering solutions to meet stakeholder requirements	Stakeholders regularly engaged and informed of progress on their specific requirements.	Formal requirements tracking implemented. Endeavours made to meet or exceed stakeholder requirements

Gate 1: Definition-Outcome and Strategy

Project Governance Maturity Models
Establish Outcome Strategy-Maturity Model #2
"Project Governance Provides Assurance of Project Outcomes"



KRAs	Unaware	Informed	Involved	Competent	Transformative
1. Project Culture Drivers, Sponsor Collaboration	Existing operational cultures predominate. Sponsor dep'ts protect turf & are risk averse. Minimum cost drives strategy. Payments delayed. Legal opinions drive project decisions.	"Culture eats strategy for breakfast" is becoming accepted. Project culture recognised as important to success.	Collaborative integrated teams operating within project governance structure. Codes of conduct developed. QA applied to all processes including project management technique rigour	Trust & trustworthiness is earned. Diversity and wellness applied; High performance teams evolve. Legal thinks strategically on achieving optimum outcome	Innovation, continuous improvement, curiosity and exceeding expectations adopted as normal. Personal risk and quality in service delivery evident. Mutual sponsor/team trust is cornerstone to business outcome
2. Integrated Engineering	Each engineering discipline works in a silo as there are no fees to integrate & collaborate	Quality management & innovation is supplier responsibility. No leadership by Pr Board	QA noncompliance seen as project governance issue. Eng integration included in briefs	Integrated Eng. creates nontraditional output & improves outcomes business case	Appointment of integrated Eng. Teams critical to creating outcome value & improving business case
3. Option appraisal	Traditional solutions used to justify investment. Non build or technology options not considered	Risk free stakeholder and vested interest solutions dominate. Disruption, future service delivery changes not evaluated. Value management (VM) just informal brainstorming	Current asset and system performance shortfalls considered. Industry/sponsor capability, capacity, resource, skill limitations understood & drives option selection/scheduling. Key suppliers consulted	Service and asset plans to include non-traditional delivery using IT, future innovation & technology. Evaluation based on return on investment & sustainability. Formal VM with independent experts appraising nontraditional options	Options to incorporate future technologies, demand analysis, business environment & deliver sustainable outcomes of future value that exceed current practices. Critical resources identified & considered for nomination in delivery strategy
4. Delivery strategy	Delivery strategy driven by time/cost outputs. Stakeholders & operators not considered.	Strategy designed to achieve sponsor corporate service goals without stakeholder involvement. Strategy considers sponsor capability, risk appetite & resource skills.	Strategy & industry capability & capacity considered in option selection. Stakeholders needs considered. Lessons learnt applied	Stakeholders involved in designing delivery strategy. Option selection drives strategy. Supply chain fully integrated into project team. Wasted effort reduced through process improvement.	Delivery strategy based on exceeding outcomes disrupting competitors and step change improvement of services and outcomes. Strategy designed to achieve sponsor sustainability and low carbon commitments. Innovation embedded in delivery, asset lifecycle.
5. Team appointment	Project team is selected on price and availability. Team culture not valued.	Long term informal relationships between consultants' influence selection of team. Preference to appoint an Integrated team.	Consultants manage long term relationships with supply chains. Team culture valued, drives outcome	Supplier selection based on nominated team members track record (performance, culture, collaboration, value) not lowest fee	Strategic business relationships between consultants and supply chains involve benchmarking of performance
6. Sustainability	Considered an unnecessary cost burden	"It's up to the supply chain". No knowledge of Infrastructure sustainability rating criteria	Sustainability considered a functional performance requirement not just an option	Sponsor/supplier practices aligned on sustainability principles	Infrastructure Sustainability Council distinction award targeted
7. Assurance	Issues audited after identification to determine size, scope and nature of the problem	Sponsor/shareholder audits to inform Pr Board of findings/issues. Non-conformances ignored. Lack of trust in information.	Pr Board involved in planning audit program with sponsor & stakeholders. Validate project design capability to deliver outcomes	Assurance program to independently inform Pr Board of key risks & issues incl application rigour of management techniques & controls, culture issues. Non-conformances notified and actioned.	Proactive assurance program to provide insights and early identification of emerging issues, unresolved risks and continuous improvement opportunities.

Gate 2: Planning-Asset Capability Assured

Project Governance Maturity Models
Project Board Assures Strategy Implementation– Maturity Model #3
“Project Culture is the Way We Do Things Here”



KRA	Unaware	Informed	Involved	Competent	Transformative
1. Team Start-up and Charter	There are no common project objectives agreed between sponsor and team	Sponsor documents project objectives and given to consultants and head contractor without consultation	Project initiation is shared with all stakeholders and team members to get commitment of objectives	Project start-up is focused on achieving sponsors’ business case and the Project Targets jointly established. Project Charter developed and signed by whole team , sponsor	Project start-up is focused on enhancing the business case and exceeding the Project Targets through removing wasted effort and introducing innovation.
2. Team business planning	Project teams believe they construct facilities in isolation, and are not part of a business to meet end-user needs	Project management plans are generic, with QA, WHS and corporate procedures to meet contractual requirements but have no relevance to actual project.	Some elements are bespoke project business plans (e.g. risk, programs, cost plans, briefs,) but are not integrated as a rigorous overall plan.	Project is recognised as multi- million \$ business needing a rigorous business plan. Prepared by client, consultants, contractor and focuses on achieving the Project objectives	Project business plan prepared by sponsor, Project Team, consultants, contractor and key trades, and focuses on delivering end user service outcomes detailed in the Business Case.
3. Team Culture	Low levels of trust between team members and team/ sponsor/ Project Governance Board	Partnering workshops held to satisfy contract but limited team commitment to “walk the talk”.	Sponsor knows good team relationships are important. Team chemistry is a consideration in selecting the Team and Team building events held.	Trustworthiness is earned through demonstration of appropriate behaviours. Equitable relationships and mutual respect forged through planning workshops and working together on common goals.	Project team becomes a virtual organisation formed with mutual trust and collaboration focused on value creation to benefit all.
4. Assurance Reporting	Limited output progress reporting by suppliers. Often misinformation. Lack knowledge or skills in applying project management techniques	Suppliers only report good news. No independent assurance. Resistance to acquire & apply PM techniques with rigour	Independent progress monitoring of outputs verifies supplier reports on time/cost. PM techniques scheduled but not rigorously applied. No assurance	Independent status reporting on team business plan and charter. Independent verification ensures rigorous application of PM techniques and Assurance Strategy. QA non-compliance treated seriously by Project Board as a governance issue	Independent progress assurance of sponsor outcome business plan (time, cost, benefits, risks, culture, disputes, value creation, opportunities). Ongoing upskilling of project teams on PM techniques
5. Remove wasted effort	“We’ve always done it this way” attitude	Team knows there’s wasted effort but accepted as common practice. Organisational barriers to accept change	Team recognises industry wastes 30% of effort and seeks to find smarter ways Team works on embedding a culture of “doing it right the first time”	Root causes of wasted effort determined. 80/20 analysis to identify value add improvements and these are actively implemented	Process mapping identifies nonvalue adding tasks. Information/ designs pulled by team, Project team proactively looks to ways to introduce innovation. LEAN principles actively employed
6. Change Attitudes	Project team members operate solely to comply with contractual obligations and optimise their profitability.	It is recognised that project success requires teamwork. Occasional cooperation based on personal relationships.	Engineering integration from long term relationships optimises services solution. Project culture helps develop trust.	Development of integrated engineering team of consultants/supply chain results in non-traditional outputs that optimise outcomes.	Integrated project team seen as virtual organisation dedicated to end user service delivery as outcome. Traditional roles replaced with “best person for job”
7. Project Communications	Silo mentalities prevail. Advanced IT Technology is rejected as extra cost with no immediate benefit	Obscured roles and poor communication cause delays. Email abused. “copy all”. No Document Management systems	Project roles well defined and communicated. Technology protocols assist engineering integration	Co-location of design consultants and key suppliers. CAD, BIM and Document Management systems adopted by all to integrate engineering	Technology adopted to enhance business case & whole of life operations. Integrated team reviews new technology opportunities

Gate 3: Asset Outcome

Project Governance Maturity Models
Asset Outcome Delivery Assurance– Maturity Model #4
"Mission Accomplished"



KRA	Unaware	Informed	Involved	Competent	Transformative
1. Operator Engagement	Operator not appointed. No urgency nor understanding of lead times involved.	Clear accountabilities, responsibilities & reporting not identified/accepted.	New business processes designed. HR strategy resourced and seen as CSF. Team culture being integrated with developer suppliers. Define what success looks like.	Operator is member of project leadership team and have their views accepted. Suppliers accept operator is "client" to be satisfied. Excellent rapport and culture exists. Change management implemented	Change management within asset owner is CSF to leveraging business improvement from new asset. Project Board supports systems engineering design approach. Being agile is cautiously adopted/controlled
2. Risk Management	No risk identification or acceptance of possibility for handover. Risk blame on developer team. Significant issues unresolved that could jeopardise delivery of project.	Risks identified and rated to monitor. Independent project governance oversight not in place.	Development risks all resolved. Risk management plan for commissioning and service delivery prepared with strategy to resolve risks, contingencies & responsibilities to prevent. IT systems designed and contracted. Risk tolerance level agreed.	Risk management plan regularly monitored and actioned to prevent occurrence. Focus on consequences of delays critically understood. Project Board ratifies proceeding with handover and provides oversight. Operators involved in risk management	Risk scenarios analysed based on sensitivities. Strategies in place for preventing. Lessons learnt applied. Desktop scenarios of incidents carried out to bolster team's ability to handle various situations.
3. Commissioning	Commissioning is 3 years off, there's plenty of time.	Recognised that commissioning should start before design, but no budgets or Board commitment. Draft schedule prepared including test/inspection plans with benchmarks.	Operator team established to manage. Commissioning project team established with project mgr, resourced schedule, key milestones, budget & monitoring/reporting.	All parties accept relevant commissioning/test results. Independent verification & authority acceptance scheduled. Digital twins and simulators budgeted.	IT and physical systems stress tested for disasters such as equipment failure and cyber attack. Disaster response plan prepared and tested through disaster scenarios prior to "go live". AI incorporated.
4. Operational Readiness (OR), Training	No recognition of training needs. "on the job when handed over" is the default attitude. Suppliers not identified.	Cursorry attempt at OR . Operators not consulted. Minimal budget for training and familiarisation therefore poor handover to operators and no scenario testing , OR panic.	Detailed OR Plan produced, including equipment training programs & business processes. Resources scheduled. Safety high priority. Handover responsibilities agreed. New skills identified, personnel sourced. Maintenance staff involved.	IT systems and interfaces with existing systems fully tested by operating staff. Training and familiarisation completed, progressively as components are completed. Simulators used for training. Test program includes a wide range of operating conditions e.g. heat, rain, loaded, unloaded, heavy traffic etc	IT & backup systems tested. Entire system testing program implemented with external stakeholder involvement to prove system ready for service and operator ready to manage any extraordinary incidents e.g. need to evacuate customers.
5. Asset Management Information (AMI)	Data collection starts at handover. No AMI strategy or plan.	Operating manuals not completed before supply chain staff taken off project to another project. QA records & test plan results not secured.	AMI recognised as critical. IT systems designed with operators and contracted. Manuals & data collection only 80% complete. Progress payments linked to delivering AMI.	AMI systems in beta test months before handover. AMI requirements detailed at early stage of delivery and produced progressively throughout. Digital twin completed. All operator manuals completed & independently verified. OC QA plans, warranties verified.	Digital twin incorporates AI for optimising design & operating procedures. Extensive consultation with the asset management team at an early stage and throughout project delivery to establish and prepare detailed AMI relating to the specifics of the project
6. Asset Handover	Scant information handed over at project completion. Zero attempt to relate this to the specific asset management requirements.	O&M Manuals put together at project completion with no reference to specific scope delivered or ongoing asset management requirements. Zero familiarisation conducted with asset team.	Comprehensive Asset Management requirements established by project team in consultation with the asset owners and asset management information compiled based on this at project completion. Patchy handover to asset managers.	Detailed Asset Handover strategy developed and implemented in collaboration with asset management team. Extensive handover to asset management team	At handover, carry out comprehensive familiarisation, stress testing and disaster response exercises to prepare the asset team to manage the new asset appropriately & realise business plan benefits.

Gate 4: Service Startup

Project Governance Maturity Models
Service Startup Operate Project Mission- Maturity Model #5
"Benefit Realisation"



KRA	Unaware	Informed	Involved	Competent	Transformative
1. Service Delivery	Service required from asset not agreed. No business plan to improve corporate operational outcomes and financial results. No transition plan to new asset	Business improvement guidance issued. No corporation agreement on objectives, mission, outcomes. Project governance not in place. Informal transition plan to new asset	Formalised introduction plan for the new asset prepared which includes targets, objectives, mission and outcomes anticipated. Project governance put into place to oversee this introduction.	Senior executives have satisfied themselves that transition strategies, plans, resources are in place for service delivery outcomes to be achieved as per business plan.	Strategy agreed for asset to be basis for transforming business operations exceeding business plan projections. Independent verifying reports confirming scope and performance delivery.
2. Continuous Improvement	Attitude is that "we've always done it this way. Why should we change?"	Some willingness to consider and implement improvements if cost benefit is apparent however continuous improvement is not an embedded discipline	Formalised approach and culture of continuous improvement and value seen in doing so. Appropriate resourcing and budget available.	Organisation has signed off on its readiness to implement new processes and achieve planned business improvement benefits through systems engineering being applied.	Stretch targets agreed to leverage off new asset and further transform business opportunities. Information mgtm provides performance trends to trigger ideas and business improvements
3. Operational Reliability	No pre-planning for operations and maintenance. Spares not identified. All maintenance is reactive when a failure occurs or when management deems it necessary.	Operators aware that regular maintenance is required however focus is on production and running asset until it fails, then reacting.	Planned outages for maintenance take place and maintenance schedule is followed. Supply chains established for maintaining operations including maintenance, spares, and implementing upgrades. Contingency planning carried out for unplanned failures	All operational/technical documentation has been received, tested and accepted as adequate. Fault correction and recovery processes have been simulated and tested.	Service reliability demonstrated by pre-live testing under various conditions including weather, loaded or unloaded, simulated fire, simulated partial failure, simulated external system failure. Highly skilled personnel to be retained as operators and engaged by means of challenging and interesting work and positive culture.
5. Asset Lifecycle Management	Zero attempt at integrated Lifecycle management except to record cost of operation and maintenance with no lessons learnt records	Some awareness and attempts are made at asset lifecycle management however not considered a priority over production. Reactive approach taken once asset reaches its design life or fails.	An Asset Management Plan is produced in line with the Asset Management Standard which describes the assets in detail, its maintenance requirements, lifecycle budgets for maintenance and life extension, etc. Regular reporting against this plan is then carried out.	Supply chains established for replacements/backup. Human factors & safety assurance integrated into life cycle planning.	Life extension and asset replacement plans are prepared well before they are required. All stakeholders' requirements are considered and workshopped. Independent cost estimates & timeframes are produced. Budgets for continuous improvement. Alternative technologies are considered.
4. Business Case Benefit Realisation	Zero attempt or ability to quantify benefits realised in the newly delivered asset.	Awareness that Benefit Realisation is required however no serious attempt to do so. No budget or personnel available to take on the task.	Benefit Realisation Plan prepared including all benefits identified in the Business Case and how these are delivered in the new asset. This plan to include business, societal, environmental, aesthetic, sustainability, amenity and physical benefits	Business case benefits validated & non-conformances actioned.	Process in place to measure ongoing benefits. Asset owner proactively looks for unplanned benefits and leverages off these for business improvement.
6. Lessons Learned from Developing Asset & Delivering Services	No attempt to capture lessons learnt. All information kept quarantined in operators' heads	Awareness that capturing Lessons Learnt is required however no serious attempt to do so. Operators not motivated to do so.	Lessons learnt data-base kept for all with contributions by any of the team. Individuals required to access it on an informal basis	Integrated team workshops to identify lessons learnt with corporate strategies to recommend adoption and formal notification of critical safety or process improvements.	A continuous learning and improvement culture is evident throughout the team where members proactively seek ways to improve the business and to ensure that all team members are informed of these improvements.

8. References

Agarwal, U. A., Jain, K., Anantatmula, V., & Shankar, S. (2023). Understanding project culture. *In managing people in projects for high performance: Behavioral approach to productive project teams* (pp. 103-120). Singapore: Springer Nature Singapore.

Ankrah, N. (2007). An investigation into the impact of culture on construction project performance.

AICD (2020). Governing company culture: Insights from Australian directors. Australian Institute of Company Directors Available at <https://www.aicd.com.au/organisational-culture/business-ethics/change/governing-company-culture-insights-from-australian-directors.html>

Ball A., and S. Asbury (1989). "The Winning Way". Johnathon Ball: Johannesburg

Battistella, C., Bortolotti, T., Boscari, S., Nonino, F., & Palombi, G. (2024). The impact of cultural dimensions on project management performance. *International Journal of Organizational Analysis* (2005), 32(1), 108–130. <https://doi.org/10.1108/IJOA-11-2022-3498>

Breese, R., Couch, O., & Turner, D. (2020). The project sponsor role and benefits realisation: More than 'just doing the day job.' *International Journal of Project Management*, 38(1), 17–26. <https://doi.org/10.1016/j.ijproman.2019.09.009>

Brunet, M., & Aubry, M. (2016). The three dimensions of a governance framework for major public projects. *International Journal of Project Management*, 34(8), 1596–1607. <https://doi.org/10.1016/j.ijproman.2016.09.004>

Caravel (2013) *A review of project governance effectiveness in Australia*, Infrastructure Australia.

Castaner & Oliveria 2020, *Journal of Management* (FT 50 Research Journal)

Crawford, L. (2023). Steering committees as governance entities. In *Research handbook on the governance of projects* (pp. 116–123). Edward Elgar Publishing.

Crow, T. (2004) *Strategic planning of projects*, D. Tech Thesis, Deakin University, Australia

Crow, T. and P. Barda, (2001) "Projects as Wealth Creators", Property Council of Australia

Crow, T. & Gadzuric, N. (2022) *Raising the bar' in the delivery of infrastructure projects through a focus on project culture*, Sustainable People Solutions

Deal, T. E., and A. A. Kennedy (1982). "Corporate cultures: the rights and rituals of corporate life". Reading, MA: Addison – Wesley

[Enough is Enough v6.pdf](#)

(Governance Frameworks for Major Public Projects International Practices & Experiences, Chapter 13, (2026))

Infrastructure Australia (2024). *Annual performance statement 2024*, Infrastructure Australia.

Joslin, R., & Müller, R. (2016). The relationship between project governance and project success. *International Journal of Project Management*, 34(4), 613–626. <https://doi.org/10.1016/j.ijproman.2016.01.008>

Kotter, J. P., and J. L. Haskett (1992). "Corporate Culture and Performance". New York: Free Press

Van Marrewijk, A. (2007). Managing project culture: The case of Environ Megaproject. *International Journal of project management*, 25(3), 290-299.

McKinsey Consultants (2017, 2004), "The Art of Project Leadership"

McKinsey Company (2017). The heart of project leadership: Delivering the world's largest projects, McKinsey. Available at

<https://www.mckinsey.com/~media/mckinsey/business%20functions/operations/our%20insights/the%20art%20of%20project%20leadership%20delivering%20the%20worlds%20largest%20projects/the-art-of-project-leadership.pdf>.

PMBOK Guide 2016 Project Management Institute (6th edition)

Productivity Commission Productivity Report 2023. <https://www.pc.gov.au/inquiries-and-research/productivity/report/>

Schott, K. (2023). The delivery of inland Rail: An independent review, Department of Infrastructure, Transport, Regional Development, Communication and the Arts, Australia.

Schein, E. H. (1984). "Coming to a new awareness of organisational culture". Sloan Management Review

Young, M., Young, R., & Romero Zapata, J. (2014). Project, program and portfolio maturity: a case study of Australian Federal Government. *International Journal of Managing Projects in Business*, 7(2), 215–230. <https://doi.org/10.1108/IJMPB-08-2013-0034>

Yates, A. (2005). Government as an informed buyer: How the public sector can most effectively procure engineering-intensive products and services, Engineers Australia.

About the Authors



Dr. Tom Crow, PE

Sydney, Australia



Dr Tom Crow BE, MBuil, DTech, FIE Aust, EngExec, CMC, MAICD is a graduate civil engineer with a master's degree in building science and a Doctorate in Strategic Planning of Infrastructure Projects. He has practiced as a certified management consultant for 40 years and is also an Infrastructure Sustainability Accredited Professional. His experience encompasses all leadership and management responsibilities in the construction industry from project governance to client development manager, delivery strategic planning, team coach, management of change, post graduate trainer, performance auditor, project manager, supply chain manager and project controls. With this all-encompassing experience, in 2004 he was awarded a Doctorate in Strategic Planning of Projects. This included preparation of Maturity Models that assisted the effective formation, implementation and auditing of Project Governance Boards to achieve outstanding project development outcomes.



Prof Shankar Sankaran, PE

Sydney, Australia



Shankar Sankaran PhD PMP PMI Fellow, Professor of Organizational Project Management at the University of Technology Sydney (UTS) Australia. He is a member of the faculty of Design and Society at UTS where he teaches advance level subjects at the Master of Project Management course including Project Governance, Project Leadership, Digital Transformation and Systems Thinking. His research areas are in project governance, project leadership, sociotechnical systems, and action research. Shankar has won awards for research excellence from PMI and IPMA. He is a Chief Investigator in two Australian Research Council (ARC) funded

research grants, one in an Industry Transformation Research Hub for Human Robot Teams for Sustainable and Resilient Construction and Project Governance and Governmentality as Collaborative Challenges. Shankar has been involved in the publication of 15 books including a research handbook on project governance and has published and/or presented over 150 peer reviewed research publications in international conferences and journals. Shankar worked for several years in industry as a project manager, and a technical director in a Japanese MNC in Singapore before joining academia in Australia in 1999. He has been serving a PMI as a Volunteer for over 20 years including serving as a Chair of the Board of PMI's Global Accreditation Centre, and as an Associate Editor of *Project Management Journal*. Shankar is also a member of the College of Leadership and Management's Sydney Committee at Engineers Australia where he works with other committee members to promote project governance to improve the performance of major projects in Australia. Shankar is an Honorary Academic Advisor of PM World Journal from Australia



Ted Tooher, PE

Sydney, Australia



Ted Tooher BSc., BE(Civil), MPM, Eng Exec., LFAIPM, FIEAust. After qualifying in Computer Science and Civil Engineering he started as a Main Roads, Works Engineer for 200 staff and roads, bridges, and ferries. From these beginnings he went onto manage majors, Infrastructure, IT, Health reform, Transport and education Projects. In 1980 with a master's in project management, he moved to Project Direction, as a Certified Practitioner (AIPM), Management Consulting in strategic planning, economic analysis, asset recycling, and gateway reviews. He has directed, Consulted or Managed, Health, Education, Urban Development, Housing, Transport, Nuclear Fusion and Fission, Oil, and gas, Highrise, Industrial Plant and Energy. He founded consulting companies in the UK, and Australia, including TSA Management in 1990, now over 1000 staff. He served as Adjunct Professor and Adjunct Associate Professor, lecturing in Project Direction and Management. Author of several papers on Risk management and Complexity on projects he specialises in Economic analysis, gateway reviews and Project Governance.



John Templeman, PE

Sydney, Australia



John Templeman BE, GAICD has substantial experience as a Project Leader and business executive with over 40 years' experience within the infrastructure sector, across the transport (road, rail and rollingstock), water and wastewater, mining, defense, manufacturing and heavy industrial domains. In his previous Project Director roles, he has had single point accountability for:

- High capital value and complex programs (>\$2Bn) in both private and public sectors
- Leadership and direct oversight of procurement and transaction management, for high value and intricate contracting models.
- Business case development and securing funding to proceed
- Strategic planning and execution of commercial strategies
- Extensive stakeholder engagement.
- The financial performance for programs
- The implementation of risk assessment and risk control measures
- Asset management for road and rail assets