



# Major Road Projects Victoria and its Project Delivery Approach: A case study of procurement reform

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# Executive Summary

In 2020 Major Road Projects Victoria (MRPV) embarked on an ambitious reform of its approach to procurement. It came to be known as the Program Delivery Approach (PDA).

Our research observed that MRPV's reformed procurement model are producing the following six outcomes for Victoria:

- improved market capacity
- rapid and efficient procurement
- increased innovation
- increased collaboration and trust
- increased actual cost certainty
- improved social outcomes.

What is different about the PDA that it can deliver significant outcomes like this?

The four key features we identified that are producing these outcomes are:

- **MRPV's 'Active-Client' culture.** The organisational elements of the PDA, especially MRPV's 'active client' culture, plays a vital role in directing resources and attention – whether in the form of expertise or information – to projects across their life cycle.
- **The Integrated Project Risk Review phase.** The integrated project risk review phase, which happens over a short and intense period prior to the letting of the delivery contract, plays a critical function connecting multiple elements of the PDA to each individual project. This process directs project stakeholder attention and resources to projects and their risks and opportunities.

- **Networks and Information flow.** The PDA increases the network of relationships and flow of information across that network. At the same time, MRPV remains at the centre of that network because of its influence through the contractor and designer panels and the incentive structure built into the delivery contracts.
- **System focus on expertise.** Well informed and well-connected technical skills deployed early and at project level.

Understanding the PDA through the combination of these features provides deeper insight into what produces the six outcomes above. As one MRPV interviewee neatly summarised it, the PDA is delivering for Victoria 'healthier, more predictable outcomes with less surprises.'

We undertook this research to change the conversation about what drives project success. In a market described as critically in need of procurement reform, this study of the PDA and how it works provides an example of what meaningful procurement reform can look like.

*...the PDA is delivering for Victoria  
'healthier, more predictable outcomes  
with less surprises'.*



# Part A

## Introduction, Methodology and Report Overview

### 1. Introduction

#### 1.1 From the Lead Authors

The goal of this case study was to provide an in-depth analysis of an example of procurement reform and to explore that reform from a complex systems perspective. Critical work in the context that the Australian construction industry is in a period of disruption and is looking for ways to change and reform.

What has emerged from the case study is not just the fascinating story of the reform journey itself but insights into the complex interplay in the systems we build to deliver projects and how these interactions drive project outcomes.

We hope this report guides all those involved in the construction industry, including owners, contractors, designers, and other stakeholders, on where further effort should be directed.

#### 1.2 The Authors

This research was undertaken, and this report was prepared by, a research team comprising the following Melbourne Law School personnel:

- Kiri Parr, Senior Fellow
- Phillip Greenham, Enterprise Fellow
- Kari Rea, Research Assistant.

#### 1.3 Acknowledgements

It has been a pleasure to work with Major Road Projects Victoria (MRPV), our colleagues at Melbourne Law School and The University of Melbourne, and the paper's reviewers to bring this case study to fruition.

The research team acknowledges with thanks the funding and other support of MRPV and the University of Melbourne.

The research team further acknowledges the support of Melbourne Law School and its staff who provided invaluable support in making this project possible, including:

- Associate Professor Matthew Bell
- Mr Marcus Feaver.

The Lead Authors further thank the following individuals who generously reviewed this report:

- Associate Professor Matthew Bell
- Dr Sean Brady
- Mr Wayne Jovic
- Professor John Sharkey AM.

### 2. Research Aims, Approach and Methodology

Refer to Appendix A for a detailed outline of the research's aims, approach, methodology, commercial basis, and limitations. Sections 2.1 to 2.3 below summarise the aims, approach, and methodology. Sections 2.4 and 2.5 summarise the commercial basis of the report and its limitations.

#### 2.1 Research Aims

This research project aims to present an in-depth case study of the procurement reform undertaken by MRPV from 2020. A particular aim of the research is to present MRPV's procurement model visually in order to build a holistic understanding of how the model works, the interactions it fosters, and what outcomes emerge from it.

#### 2.1 Research Approach

The research was informed by academic principles applying to case studies and complex systems thinking and visualisations. These academic principles are covered in in depth in Appendix A section A.2 .

#### 2.3 Methodology

This research project was undertaken in accordance with the procedures approved by The University of Melbourne's Human Research Ethics Committee. Consistent with the approved ethics procedure, interviews were undertaken on the basis that interviewees would not be individually identified in this case study and quotes would not be attributed to individuals, in each case without express consent.

The research is based upon:

- interviews of members of MRPV staff in October and November 2022
- review of publicly available documents that relate to MRPV's procurement reform, and material made available to the authors by MRPV on a confidential basis.

#### 2.4 Commercial Research Agreement

This research was undertaken pursuant to a commercial research agreement between The University of Melbourne and MRPV.

## 2.5 Limitations

The scope of this research was limited to publicly available information, information provided by MRPV, and interviews of MRPV staff. The case study did not extend beyond MRPV.

At the time of this research, no project delivered under this procurement model had achieved practical completion. It is therefore not possible to include quantitative analysis of final project outcomes across the program of works.

## 3. Report Overview

### 3.1 Overview

In a market described as critically in need of procurement reform, the ambitious reform undertaken by MRPV stands out as an example of good practice<sup>1</sup> and a prime candidate for in-depth research like this.

In this report, we cover the journey of the PDA, from conception to implementation. It provides a context-rich explanation of that process and supports ‘real-world’ understanding of procurement reform.

That journey is followed by analysis of the PDA. Our research uses complex system mapping as a technique to understand why certain outcomes are emerging from the PDA. This approach was selected because of its ability to provide insight into how systems work and to help identify the most influential parts of a system.

*A small group of experienced individuals at MRPV led the reform.*

### 3.2 Structure of Report

The structure the report follows is:

Section 4 – explores the circumstances that gave rise to the PDA

Section 5 – describes how the PDA was developed

Section 6 – explains the key elements making up the PDA

Section 7 – analyses the outcomes the PDA is delivering and why.

There is additional detail in the appendices:

Appendix A – sets out the detailed research methodology

Appendix B – provides detailed analysis of the elements making up the PDA.

### 3.3 What did we find?

The opportunity for reform was rooted in a period of instability – a significant forward pipeline of projects combined with participants leaving the market, a shift in market risk appetite, a legacy of claims and disputes, and the arrival of COVID-19.<sup>2</sup>

A small group of experienced individuals at MRPV led the reform. It is significant that this group had wide-ranging experience, including across contractor organisations and relationship-based agreements. They understood the limitations of many widely used and established procurement approaches, especially as they impacted market capacity and constrained an owner’s ability to influence project outcomes, manage risks and drive change<sup>3</sup>.

And they saw an opportunity to use this large program of roads work as a foundation on which to develop a more sustainable, long-term approach to procurement.

As to the PDA itself, our research found a procurement model giving rise to the following six outcomes:

- improved market capacity
- rapid and efficient procurement
- increased innovation
- increased collaboration and trust
- increased actual cost certainty
- improved social outcomes.

<sup>1</sup> Roads Australia, *Procurement Reform Report Update* (December 2022) 32. Accessible from [https://roads.org.au/wp-content/uploads/RA\\_Procurement\\_Reform\\_Update\\_Final\\_ForWeb.pdf](https://roads.org.au/wp-content/uploads/RA_Procurement_Reform_Update_Final_ForWeb.pdf).

<sup>2</sup> Refer section 4 for discussion of the reasons given by interviewees for the reform.

<sup>3</sup> Refer sections 4.6 and 5.2 for discussion of the issues identified by interviewees with existing procurement approaches

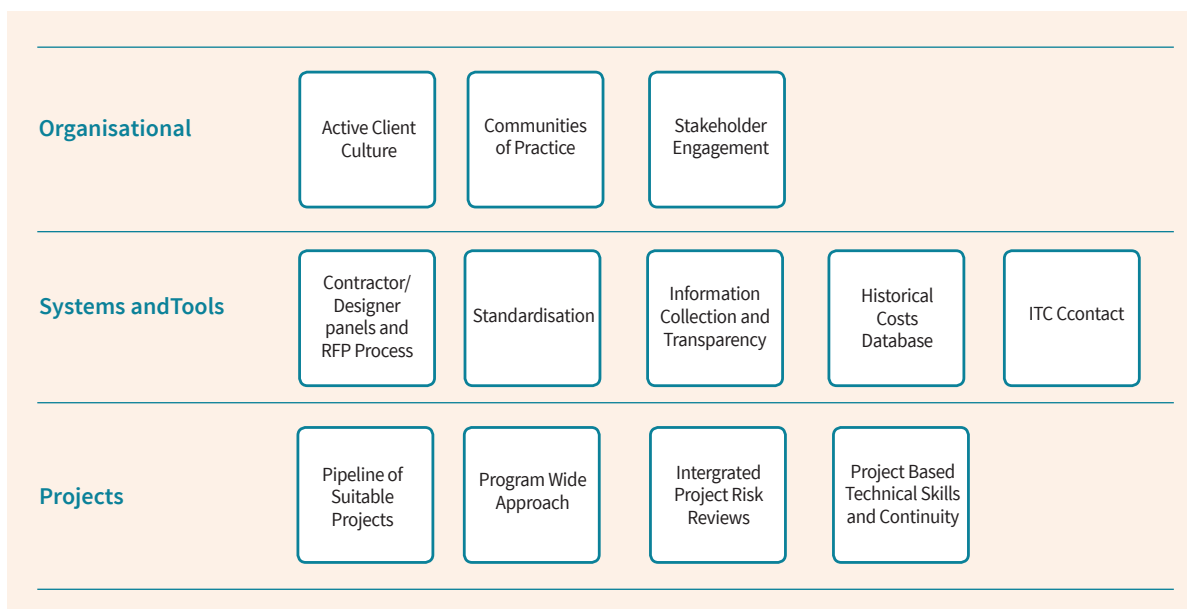


Figure 1- PDA Elements

The 12 key elements of the PDA model that work together to produce these outcomes are depicted in Figure 1- PDA Elements.

In our analysis of the relationships between the outcomes and the elements of the PDA we identify four key features that are most influential. These are:

- **MRPV's 'Active-Client' culture.** The organisational elements of the PDA, especially MRPV's 'active client' culture, plays a vital role in directing resources and attention – whether in the form of expertise or information – to projects across their life cycle.
- **The Integrated Project Risk Review phase.** The integrated project risk review phase, which happens over a short and intense period prior to the letting of the delivery contract, plays a critical function connecting multiple elements of the PDA to each individual project. This process directs project stakeholder attention and resources to projects and their risks and opportunities.
- **Networks and Information flow.** The PDA increases the network of relationships and flow of information across that network. At the same time, MRPV remains at the centre of that network because of its influence through the contractor and designer panels and the incentive structure built into the delivery contracts.
- **System focus on expertise.** Well informed and well-connected technical skills deployed early and at project level.

Understanding the PDA through the combination of these four features provides deep insight into what produces the six outcomes identified above.

Our research confirms the influential role played by organisational culture, information flow and human networks in delivering project outcomes. In considering any procurement model, these are core elements that need to be considered alongside the development of the tools and systems that will be used.

This case study is an example of a government agency that has purposefully built a culture focused on the successful delivery of its projects and is leveraging its resources and influence to that end. This approach is significant in markets where the perception is that government is mainly about shifting responsibility away from itself. As a practical example, MRPV's early and proactive approach to managing utilities risk is paving the way for reduced community disruption and increased coordination of works with the utility providers<sup>4</sup>.

The achievement of improved social outcomes by MRPV, is particularly noteworthy. Prior to the PDA, existing procurement approaches were struggling to leverage infrastructure spending to deliver broader policy goals. Under the PDA this turned around – 2021 alone saw a 400% increase in social procurement spend to AUD\$90m<sup>5</sup>.

Our analysis also reveals that getting the right outcomes is not just influenced by the availability of expertise, but where and how that expertise is deployed and to what networks and information they have access to.

This research supports a different conversation across industry about how we understand procurement models work and achieve outcomes.

<sup>4</sup> Refer to Appendix B.1.4, B.3.2, B.3.3 for discussions of the approach taken to utilities.

<sup>5</sup> Refer to Appendix B.3.2 and B.3.3 for discussion of this outcome and what supported it.

# Part B

## Detailed Findings

### 4. The PDA Context

#### 4.1 Background

Leading up to the development of the PDA, the Victorian Department of Transport (DoT) had been reformed in advance of a significant pipeline of projects designed to respond to the State's growing population and ageing infrastructure.<sup>6</sup>

Interviewees laid out their concerns that the construction market was not delivering sustainable economic returns, especially for smaller construction companies, and the market as a whole might not have the appetite for the commercial risks underlying the Public-Private Partnership (PPP) and fixed price procurement models being used on other projects.

The alliance model, adopted on the Level Crossing Removal Project (LXRP), had shown some success.

The arrival of COVID-19 in early 2020 and the desire to get projects to market as quickly as possible in response were also factors driving the reform.

#### 4.2 DoT Reform and the Project Pipeline

On 1 July 2019, the DoT was consolidated, uniting roads, public transports, ports, and freight into one department with responsibility for delivering over AUD\$70 billion in transport infrastructure<sup>7</sup>.

The DoT established the Major Transport Infrastructure Authority (MTIA) as an administrative office responsible for delivering major projects in planning and construction. MRPV became an administrative office within MTIA on 1 January 2019<sup>8</sup>. (It had formerly been Major Road Projects Authority (MRPA), which was established on 1 July 2018 following the dissolution of the Major Projects Division of VicRoads).

The DoT had six stated objectives in 2019<sup>9</sup>:

- social and economic inclusion
- economic prosperity
- environmental sustainability

- integration of transport and land use
- efficiency coordination and reliability
- safety and health and wellbeing.

The year 2018 also saw a record number of lives lost on Victorian roads. In the first half of 2019 there were 153 deaths, in comparison to 100 deaths in the comparable period the year before. This gave the DoT additional impetus to tackle the road toll through its program of work<sup>10</sup>.

The DoT was managing \$70 billion of transport infrastructure projects at the time of its consolidation in July 2019<sup>11</sup>. Of these projects, MRPV was responsible for overseeing the delivery of major road projects around metropolitan Melbourne and regional Victoria. The pipeline of projects for MRPV at that time was in the order of \$4 billion. This included an ambitious program of upgrades to its outer suburban arterial road network to respond to significant population growth in Victoria<sup>12</sup>.

#### 4.3 PPP Availability Model

The original procurement model considered by VicRoads for the suburban road upgrade program was a PPP availability model.

The first of these projects was the Western Roads Upgrade, which consisted of eight arterial road upgrades in the outer western suburbs of Melbourne. The works included road widening, duplications and intersection upgrades and extended to 20 years of road maintenance. This project was valued at AU\$1.2 billion. The project was released for expressions of interest in November 2016 and the PPP contract was let to the NetFlow Consortium in December 2017<sup>13</sup>. Construction commenced in 2018, and the capital aspects of the project were completed in early 2021<sup>14</sup>. (Significant claims and disputes in relation to the Western Upgrade Project began to emerge publicly in December 2020<sup>15</sup>).

The PPP model was being proposed for two further road upgrade programs in Melbourne's north and south-east. In late 2019 and into 2020 MRPV reassessed the suitability of this model, especially in the context of the emergence of COVID -19.

6 In Australia, infrastructure procurement is generally delivered by government agencies established by each State.

7 Department of Transport, *Department of Transport Annual Report 2019-2020* (2020).

8 Ibid 10.

9 Ibid 7.

10 Department of Transport, *Department of Transport Annual Report 2018-2019* (2018), 6.

11 Ibid 5.

12 It was reported that 40% of the Victorian road network was on track to be in very poor condition within 20 years. Adam Carey, 'Multibillion-Dollar Arterial Roads Boost Launched in Melbourne's West', *The Age* (18 February 2019).

13 VicRoads, *Western Roads Upgrade Project Summary* (February 2018), 10.

14 State Government of Victoria, 'Western Roads Upgrade', Victoria's Big Build <<https://bigbuild.vic.gov.au/projects/mrpv/western-roads-upgrade#:~:text=All%20major%20upgrades%20for%20the,bridges%20and%20a%20pedestrian%20overpass>>.

15 Timna Jacks, 'State Government Road Debacle Leaves Project Stalled, Contractors Owed Millions', *The Age* (16 December 2020).



That assessment is examined in section 5.2, noting that the PPP model was not adopted for these projects.

#### 4.4 Level Crossing Removal Project

At around the same time, the Victorian Level Crossing Removal Project (LXRP), with its high risk and complex interfaces (community, rail operators and signalling), was being delivered under an alliance model. The Level Crossing Removal Authority (LXRA) was formed in May 2015 to remove 50 level crossings across Melbourne. By 2022, 67 crossings had had been delivered under its alliance model and a total of 110 crossings were planned to be removed by 2030<sup>16</sup>.

Four of the interviewees had worked on LXRP and reported that this directly informed their experiences, which included:

- familiarity with relationship-driven approaches, including the use of external facilitators to provide external perspectives
- the ability of alliance models to resolve complex issues, including those involving significant technical and interface complexity
- the capacity to shift behaviours towards collaboration and problem solving, and away from contract compliance
- enabling individual and group freedom to do, in their words, ‘amazing,’ ‘remarkable’ and ‘pragmatic’ things.

These comments are consistent with research into the LXRP Alliance Program Package<sup>17</sup> which examined how the collaborative model on that project enabled:

- a united single team with a best for project mindset
- process and technical product innovation
- effective stakeholder and community engagement
- high levels of collaboration.

The research also noted that, ‘alliance package 1 was completed on time and within the target outturn cost and met or exceeded its Key Result Areas, so that it was successful at a range of levels.’<sup>18</sup>

The LXRP was also audited by the Victorian Auditor-General’s Office, in October 2020, following adverse audit findings in 2017 relating to: the development of projects; procurement and packaging; managing benefits; network integrity and standards governance<sup>19</sup>. The 2020 audit report found that LXRA had introduced actions ‘that have assured MTIA that its contracting approach is cost-effective.’<sup>20</sup> The audit report observed: ‘while there is now less direct competition between program alliances, MTIA has successfully incentivised them to share lessons learnt and re-use ideas to achieve cost savings’<sup>21</sup> and the model ‘has the potential to achieve cost savings through economies of scale because program alliances can adopt similar designs that require the same standard components and materials.’<sup>22</sup>

#### 4.5 Market Constraints

The interviewees noted that prior to the development of the PDA, the market was dominated by Tier 1 and Tier 2 contractors.<sup>23</sup> Their observations as to the causes included that:

- Large contractors were outbidding smaller contractors on smaller projects, and, consequently, Tier 3 and Tier 4 contractors were not able to win sufficient work or to win work at sustainable rates.
- There was lack of direct opportunity for lower tier contractors to bid for projects because of the size of the projects going to market.
- Lower tier contractors were being forced to compete for work on risk appetite and price, leading to a cycle of loss-making projects, the so-called ‘profitless boom’.

This was creating a real risk that this part of the construction market would leave the Victorian market or go out of business, let alone grow or invest in their businesses.

This issue gave rise to the concern that there would be significantly less competition in the market for planned projects, current procurement models did not create a sustainable marketplace for lower tier contractors and did not encourage investment in capability and capacity building.

The longer-term concern was that, without a healthy market, competition would reduce over time, thus increasing prices.

16 State Government of Victoria, ‘Level Crossing Removal Project’, *Victoria’s Big Build*, <<https://bigbuild.vic.gov.au/projects/level-crossing-removal-project>>.

17 Derek Walker, Tayyab Maqsood and Juri Matinheiki, ‘Level Crossing Removal Program Package 1: Nurturing Innovation in Complex Alliance Delivery Projects’ (RMIT University, 1 November 2018) 3.

18 *Ibid* 3.

19 Victorian Auditor-General’s Office, ‘Follow up of Managing the Level Crossing Removal Program’ (Independent assurance report to Parliament 2020–21: 5 October 2020).

20 *Ibid* 25.

21 *Ibid* 30.

22 *Ibid* 30.

23 In the building industry in Australia, tiers are used to differentiate the size, quality, and capacity of construction companies. The Grattan Institute defines a Tier 1 firm as one capable of delivering a project or contract worth \$1 billion or more solo. Marion Terrill, Owain Emslie and Lachlan Fox, *Megabang for Megabucks: Driving a Harder Bargain on Megaprojects* (Grattan Institute, 2021).

## 4.6 Past Experience with PPP, D&C and Construct-Only Procurement Models

Interviewees were also keen to describe their experiences with the lump sum procurement models commonly used to deliver road projects prior to the introduction of the PDA: typically, PPP, design-and-construct, and construct-only models.

The interviewees described a range of common experiences with these lump sum models. These were almost universally negative and included:

- Projects were commonly awarded based on lowest price. This led to projects being loss makers for contractors and their need for claims in order to recover commercial positions. This system also normalised windfall gains on some projects needed to balance out the loss-making projects.
- Extensive resources were consumed in handling commercial disputes and claims (both from within a project team and external consultants, such as lawyers).
- Relationships soured after commercial disputes and claims.
- The models focused the parties' attention on preserving contractual rights and their aggressive administration.
- The primacy of commercial outcomes had become a barrier to achieving other project goals, such as safety, social values, or innovation. In the absence of available budget and willingness to agree scope variations (with their time and cost implications), opportunities were rebuffed to avoid dealing with these consequences.
- The commercial framework constrained flexibility after contracts were signed.
- Information was asymmetric, with limited incentives for contractors to be transparent and share information, including during the tender phase. This extended to information about the actual costs of change, and what money was being invested in areas such as safety, social value and community engagement, and the effectiveness of that investment.
- Government agencies tended to narrowly focus on compliance, managing projects against the project budget and rectifying problems after they emerge.

These observations are consistent with other research into the Australian construction industry, including the Health of the

Australian Construction Industry report's findings in 2020,<sup>24</sup> which included that:

- the majority of survey participants had a negative view of whether the construction industry was 'healthy'<sup>25</sup>
- it is very difficult to make a profit<sup>26</sup>
- contractors engage in irrational pricing<sup>27</sup>
- the government is often unhelpful in how it exercises its significant role.<sup>28</sup>

## 5. The PDA's Development

### 5.1 Introduction

The development of the PDA involved detailed consideration by MRPV of the issues arising with existing procurement models as well as the goals sought to be achieved with the PDA.

For example, MRPV knew that utilities were consistently leading to claims and that, under traditional models, neither MRPV nor its contractors could properly assess or manage that risk. The goal was then to design a model which could take advantage of the State's capacity to influence and manage this risk and to deliver increased certainty of cost and outcome.

Illustrative of the desire for reform, the PDA was built in five months from its approval, led by a small core team of six.

### 5.2 Issues for Consideration

As noted above, the Government announced investment in Melbourne's outer suburban arterial road network, foreshadowing three packages of upgrades. The first package, Western Roads Upgrade, was let as a PPP contract in 2017.<sup>29</sup>

The original intention had been to deliver the remaining two packages under the PPP availability procurement model. However, in late 2019 and into 2020, MRPV had to reassess the suitability of the PPP model for the remaining two packages, which consisted of 12 separate projects in Melbourne's outer Northern and South-Eastern suburbs.

Issues that were being taken into consideration at this time, as observed in the interviews, included:

<sup>24</sup> John Sharkey, Phillip Greenham, Matthew Bell, Wayne Jovic, Julia Korolkova and Didi Hu, 'The Health of the Australian Construction Industry' (September 2020) <[https://law.unimelb.edu.au/\\_\\_data/assets/pdf\\_file/0009/4355082/Health-of-the-Australian-Construction-Industry-Research-Report.pdf](https://law.unimelb.edu.au/__data/assets/pdf_file/0009/4355082/Health-of-the-Australian-Construction-Industry-Research-Report.pdf)>.

<sup>25</sup> Ibid 12.

<sup>26</sup> Ibid 15.

<sup>27</sup> Ibid 15.

<sup>28</sup> Ibid 18.

<sup>29</sup> Infrastructure Partnerships Australia, Suburban Roads Upgrade <<https://infrastructurepipeline.org/project/suburban-roads-upgrade>>.

- The PPP model was not building lower tier contractor capacity, with the risk that there would not be sufficient capacity for future work. The longer-term consequence would be that, if the market became dominated by Tier 1 and Tier 2 contractors, there would ultimately be less market competition and higher prices overall.
- The outcomes of the PPP models would not be known for many years and there would be little ability to drive change along the way.
- The market was not making reasonable levels of profit, with the result that projects tendered on existing procurement approaches were not attracting bidders or not returning acceptable prices or levels of risk transfer.
- There were concerns that COVID-19 would lead to increased claims and disputes.
- The complexity and scale of PPP packages meant that MRPV could not accelerate projects to market, a key driver as the State sought to drive economic recovery following COVID.
- Smaller contractors and designers were unwilling to work on the PPPs as subcontractors and subconsultants to the larger contractors because of the commercial terms involved and claims risk.
- Some areas of risk, such as utilities, were consistently leading to claims under the traditional models, but MRPV could not properly assess or manage those risks. For example, if works required a telecommunications cable to be relocated, the contractor would be responsible for managing that relocation with the telecommunications provider, and any delay or disruption caused by that provider could entitle the contractor to an extension of time or variation claim.

- Poor outcomes were being seen in the areas of community impacts and social values. Social organisations were becoming disengaged by the tender processes which required up-front investment by them, but with little assurance as to outcomes.

### 5.3 The PDA’s Development

Against this background, the CEO of MRPV developed the original elements of the PDA model.

The concept of a program-based approach to deliver the suburban road upgrades was presented to MTIA’s Board and the other government stakeholders at the end of 2019.

The original elements making up the PDA were:

- A portfolio of projects that create a sustainable pipeline of future work.
- The establishment of contractor and designer panels, with up front agreed commercial terms that cover participation in the panel, the project development phase, and the delivery phase.
- The Request for Proposal (RFP) phase where projects are categorised (based on size, complexity, and risks) and the preferred contractor is selected from the appropriate panel, based on past performance, capacity, and capability.
- The Project Development Phase, where the selected contractor and MRPV design and develop the project collaboratively, including establishment of a Target Outturn Cost.
- Project Delivery Phase, where the contractor is appointed under the ITC Delivery Contract<sup>30</sup> and MRPV plays an active role in project delivery.

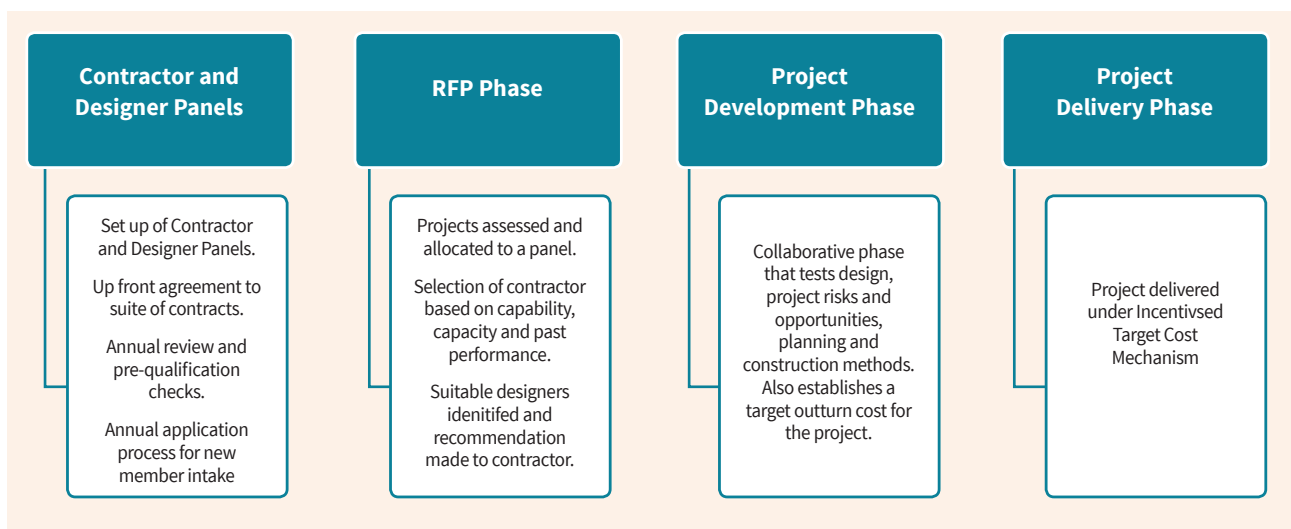


Figure 2 - PDA Procurement Process

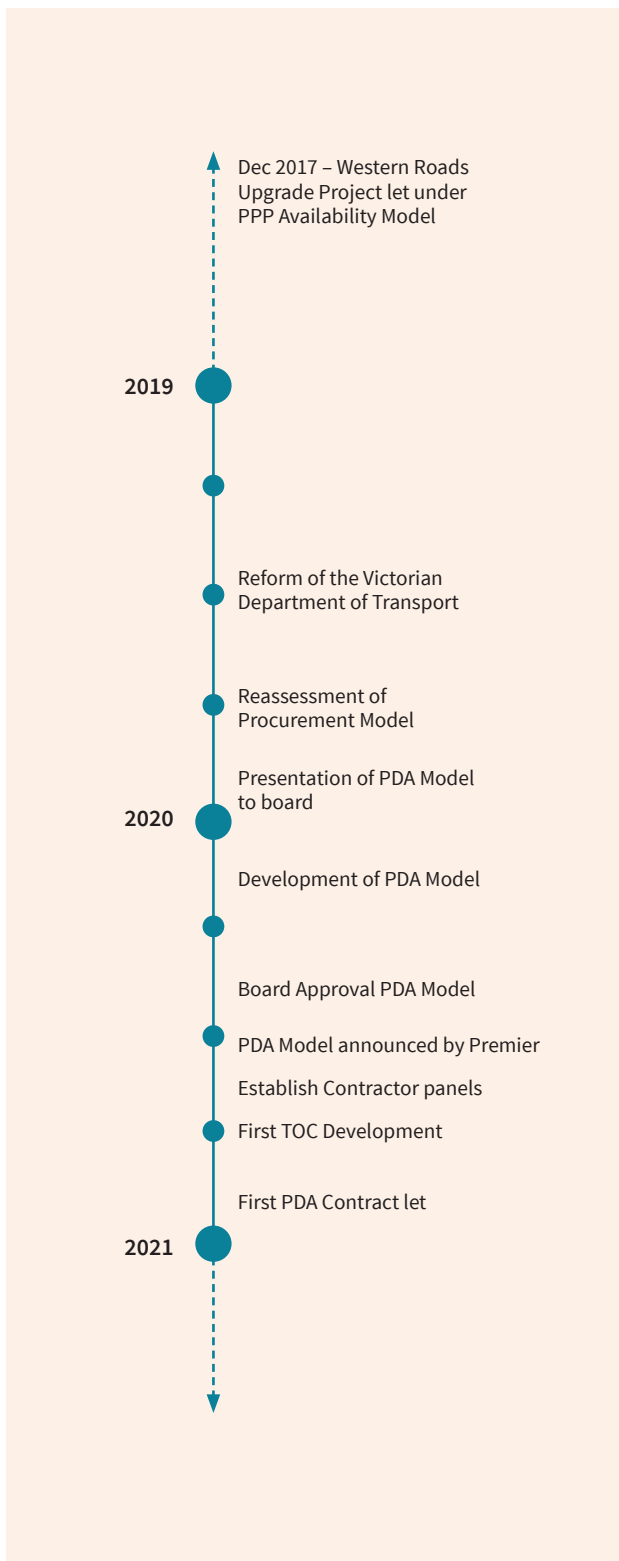


Figure 3 – Development of PDA Timeline

This process is illustrated in Figure 2 - PDA Procurement Process below.

Once endorsed, a core team of six was established to develop the model in detail. This group was supported by a small number of external legal, commercial, procurement, and project management advisers.

The model was built rapidly over the following five months.

The PDA was formally announced by the Victorian Premier in July 2020. In a statement by the Minister for Transport on 8 July 2020, the reasons given for the model were to ‘accelerate the massive Suburban Roads Upgrade’, ‘deliver benefits for local communities’, ‘create more jobs and capacity in the construction sector’, and ‘give local construction companies more opportunities to win contracts’.<sup>31</sup> That statement also noted that the approach was modelled on the collaborative model used on LXR.

The contractor panels were established by September 2020 and the first project went through the project development phase between September and November 2020. The first delivery contract using the PDA model was awarded at the end of 2020.

The overall timeline is shown in Figure 3 – Development of PDA Timeline.

In response to questions about how the PDA was developed, interviewees, which included members of the core team, observed:

- The development of the PDA was led by an informed client that knew what it wanted.
- The process involved detailed scenario planning, especially regarding how the model would respond to risks. One issue was how to identify risk and to de-risk projects (such as through more extensive site investigations). Another was how those risks would be managed inside the financial and contractual model.

The adoption of this model was not without controversy at the time. Infrastructure Partnerships Australia, an industry think tank on infrastructure policy and regulatory reforms, expressed concerns over uncertainty and bidding costs wasted because of the termination of the PPP tender processes that were already underway. The Victorian Government’s response focused on the importance of supporting smaller tier contractors accessing the pipeline of work during COVID-19.<sup>32</sup>

<sup>31</sup> Jacinta Allan, ‘Getting on with Next Stage of Suburban Roads Upgrades’ (Media Release, 8 July 2020), <<https://www.premier.vic.gov.au/getting-next-stage-suburban-roads-upgrades>>.

<sup>32</sup> Lauren Jones, ‘Vic Gov Drops PPP Contract Model on \$2.2b Suburban Road Upgrades’ *Roads and Infrastructure Australia*, (13 July 2020), <<https://roadsonline.com.au/vic-gov-drops-ppp-contract-model-on-2-2b-suburban-road-upgrades/>>.

The speed with which this reform was implemented is notable. The interviews revealed several factors that contributed to this speed:

- The support and courage of leadership within MRPV
- The core team's skill set, dedication, and willingness to make decisions
- Rapid decision making by key stakeholders and Government
- The strategic goal of getting individual projects to market quickly
- The additional pressure created by COVID-19.

#### 5.4 Goals of the Model

In the development of the PDA, those interviewed who were part of its development said they sought to build a model which fostered:

- Pride
- Trust
- An 'anything can be achieved' culture
- Market capacity
- Increased certainty of cost and outcomes

and had the ability to:

- Take advantage of the State's capacity to influence and manage risks, including utilities, road closures, and ground conditions
- Be defensible on a value for money basis
- Pay a fair margin on all work done
- Foster competition
- Support the delivery of a large program of work
- Provide benefits at both a project and program level
- Mitigate risks including utilities, community disruption, interface issues, safety, and environmental
- Support social value objectives
- Evolve from existing VicRoads tools with which the market was familiar
- Be rapid, adaptable, and able to solve problems quickly
- Remove commercial friction
- Minimise claims behaviours.

In the DoT's 2020/21 Annual Report, the PDA was included in its section titled 'test and trial new ideas', with the following description:<sup>33</sup>

Under MRPV's innovative new PDA, road upgrades are progressively awarded to pre-qualified contractors based on capability, capacity, past performance, and ability to deliver value-for-money solutions. This model removes red tape, integrates project planning and project delivery, and supports a more sustainable contractor and design market. MRPV is bringing certainty to all tiers of the construction sector and reducing the time from development to completion of vital upgrades. First trialled under the AUD\$2.2 billion Suburban Roads Upgrade program, it will be used for future projects, including Barwon Heads Road and Princes Highway East (Flynn to Kilmany) projects.

As of 18 August 2023, 32 Delivery Contracts had been awarded with a value in excess of AUD\$4.1bn and there were seven Development Agreements for projects at various stages of the PDA Development Phase giving total value in excess of AUD\$4.8 billion.<sup>34</sup>

*The speed with which this reform was implemented is notable.*

<sup>33</sup> Department of Transport, *Department of Transport Annual Report 2020-2021 (2022)* 24.

<sup>34</sup> Project numbers and value provided by MRPV as part of the research.



## 6. The PDA's Elements

### 6.1 Introduction

The next step in our research was to identify the elements that made up the PDA.

Our research identified 12 key elements and we allocated these elements across three categories – projects, systems and tools, and organisational.

The elements are set out below in Figure 4 – Elements of the PDA.

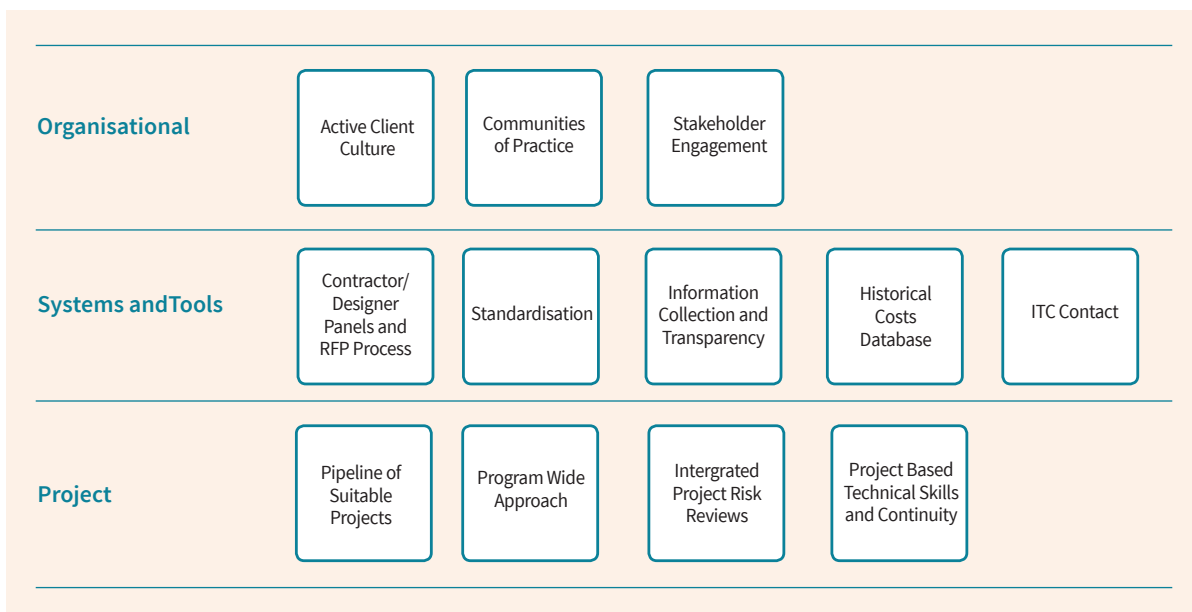


Figure 4 – Elements of the PDA

## 6.2 Summary of elements

In summary the elements making up the PDA are set out below. Each of these elements is explored in detail in Appendix B.

<b>A Pipeline of Suitable Projects</b>	A forward pipeline of projects that provides participants with the assurance that collaborative efforts on current projects will pay off with an improved capacity to secure future projects.
<b>Program-wide Approach</b>	An approach focused on leveraging best practice and innovation across the entire program.
<b>Integrated Project Risk Reviews</b>	A key early collaborative phase, used to build an understanding of a project, its costs, the scope of works, and the project's risks and opportunities.
<b>Project-based Technical Skills and Continuity</b>	Project teams are populated by subject matter specialists, including in the areas of engineering, safety, communications, and stakeholder relations. Where possible, continuity of people is pursued across a project's life cycle.
<b>Contractor/ Designer Panels and the Request for Proposal</b>	Contractors and designers are appointed to panels and selected for projects through a request for proposal phase: <p><b>Contractor panels</b> Five panels, each representing a different scale and complexity of project, to which MRPV allocates contractors. Entry onto a panel requires up-front agreement by the contractor to the suite of contracts that govern that panel.</p> <p><b>Designer Panels</b> Two panels, each representing a different scale and complexity of project, to which MRPV allocates designers.</p> <p><b>Request for Proposal Phase</b> This is the phase when MRPV invite a shortlist of contractors to submit proposals for a project.</p>
<b>Standardisation</b>	A focus on standard processes, templates, and artefacts to drive efficiency and consistency across the program.
<b>Information Collection and Transparency</b>	Multiple elements of the PDA are designed to support and foster widespread information collection and transparency.
<b>Historical Costs Database</b>	MRPV's database of actual cost data, collected across the program of works.
<b>The ITC Delivery Contract</b>	The design-and-construct contract developed for the PDA. Based on VicRoads General Conditions for Design and Construct, AS4300-1995-VR. Its key differentiator from the standard is the inclusion of an incentivised target cost model. Under this model, reimbursable costs are paid based on actual costs, whilst the margin and performance pool are adjusted (within caps) based on performance.
<b>'Active Client' culture</b>	MRPV's culture is framed by the shared view that its responsibility and role is to exercise all resources and influence available to it to support the successful delivery of each project.
<b>Communities of Practice</b>	Specialised communities of technical experts that support project and program outcomes. They include utilities, engineering, social procurement, safety, and the Tiger Team (a group of independent industry specialists that support MRPV, its contractors, and consultants across a project's life cycle).
<b>Stakeholder Engagement</b>	A focus on engagement with a wide range of stakeholders, including government, community, panel members and utility providers. This engagement is supported by a system of reporting, reviews, and oversight.

## 7. The PDA's Outcomes

### 7.1 Introduction

The research led to the observation that there were six key outcomes emerging out of the PDA. These are:

- improved market capacity
- rapid and efficient procurement
- increased innovation
- increased collaboration and trust
- increased actual cost certainty
- improved social outcomes.

How do the elements of the PDA identified in Section 6 result in these outcomes?

To work this out, for each outcome we built a visual map to identify which elements of the PDA are most influential in achieving that outcome.

For example, Figure 5 - Improved Market Capacity is the visual map built for improved market capacity.

This map identifies as influential elements:

- the pipeline of suitable projects
- the contractor/designer panels and RFP process
- the ITC Delivery Contract.

We also observed that improved market capacity has a positive relationship on innovation.

Sections 7.2 to 7.7 below set out our detailed analysis of each of the six outcomes.

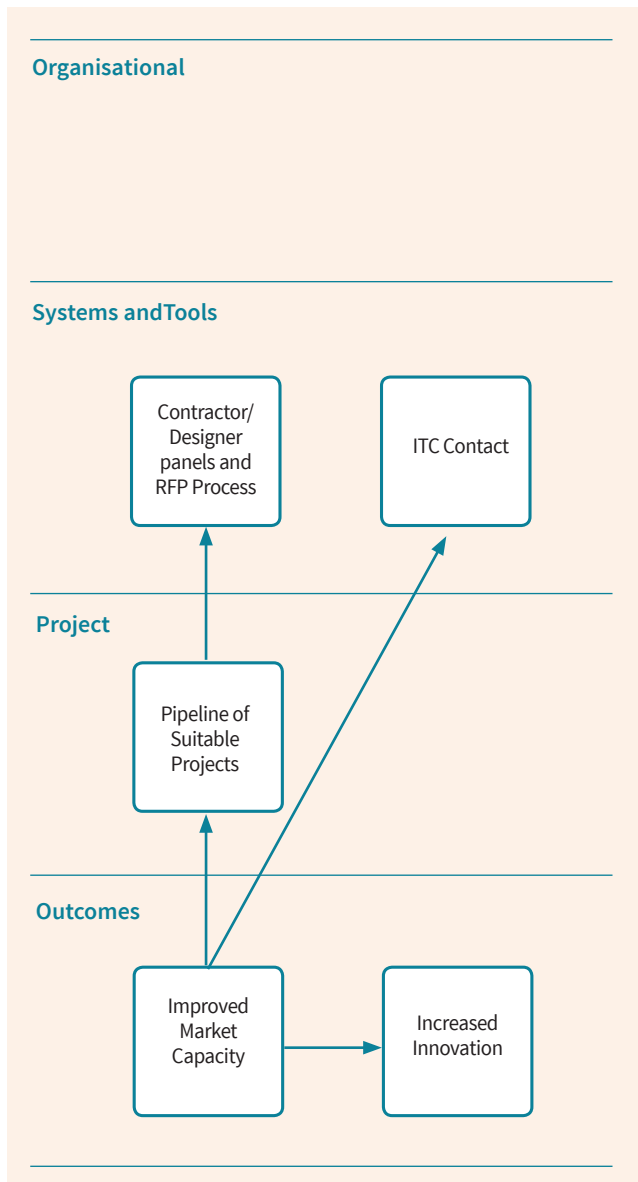


Figure 5 - Improved Market Capacity

*...for each outcome we built a visual map to identify which elements of the PDA are most influential in achieving that outcome.*

In section 7.8 we then overlaid each individual outcome map, to build an overall visual map of the interactions happening across the PDA.

From this overall map four features emerge that assist with understanding why the PDA works as it does.

These features emphasise:

1. the critical role played by organisational culture in directing resources,
2. that there need to be processes that connect elements of a system together,
3. that the system is enabled by increasing human networks and information flow across it and 4. by the availability of expertise.

## 7.2 Improved Market Capacity

We observed that market capacity is improved by the project pipeline, the panels and RFP process.

The speed at which the Tier 3 and 4 contractors have lifted their organisational skills and capacity surprised many of those interviewed. Some interviewees expressed the view that it is the Tier 3 and 4 contractors that have been better able to seize the opportunity to innovate and drive value compared to those in Tiers 1 and 2.

This response was entwined with the incentive model, which promotes longer term thinking and investment, particularly in social value outcomes and stakeholder engagement. Interviewees noted that competition between contractors is now emerging across these factors.

The approach is changing the shape and skills of the market. Solutions that would not previously have been thought possible are now looked at as opportunities.

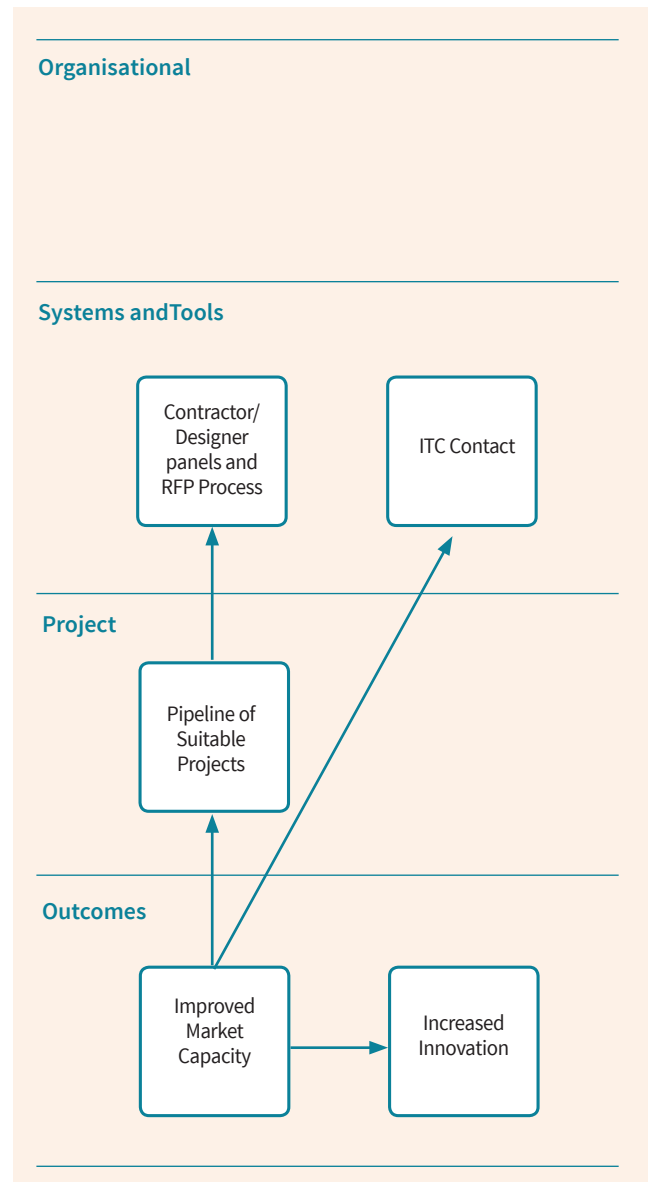


Figure 6 - Improved Market Capacity

### 7.3 Rapid and Efficient Procurement

Under the PDA, the time from project assessment to contract award has reduced to approximately six months from 9-12 months previously.

The main reasons for this improved procurement cycle, on our analysis, are:

- The program-wide approach being taken
- Up front negotiation of commercial terms during the panel establishment, including the common contractual framework, made up of the Program Participant Agreement, ITC Development Contract, and the ITC Delivery Contract
- The standardised procurement and governance approach.

Interviewees commented on several benefits related to how efficient project participants now have the freedom to be. Examples included:

- Selecting approaches to minimise community disruption during construction because of the combined effort during the Project Development Phase
- Increased opportunities to work in intense blitzes because of MRPV's support of stakeholders
- Safety programs adopted across multiple packages, even where different contractors are involved.

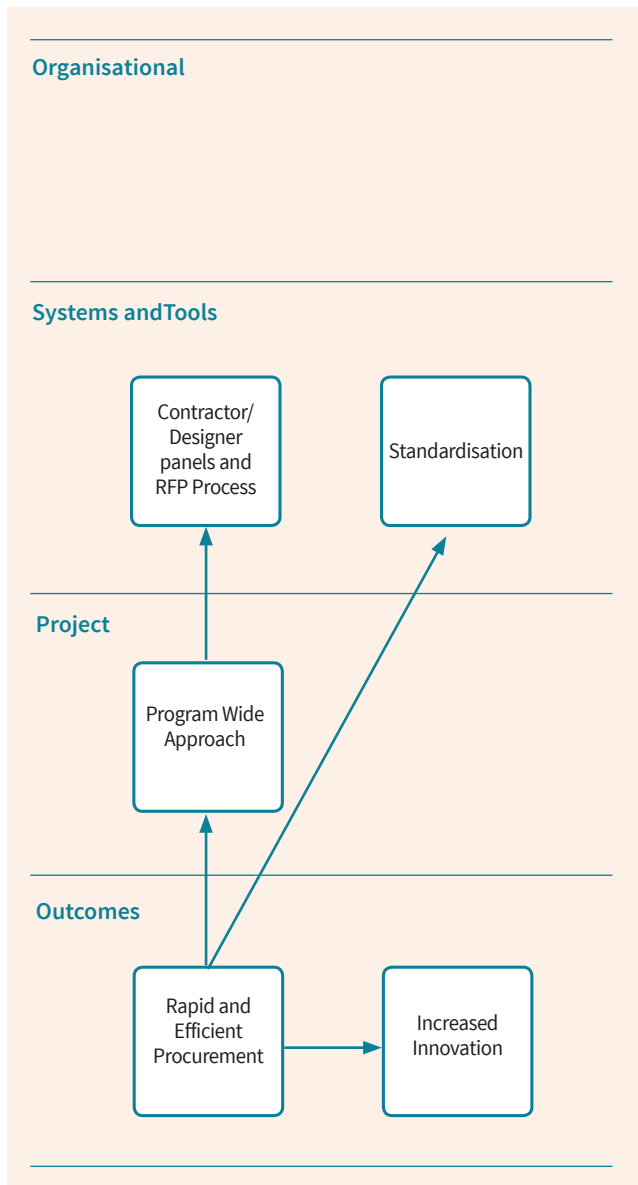


Figure 7 – Rapid and Efficient Procurement

*...the time from project assessment to contract award has reduced to approximately six months from 9-12 months previously.*



*...innovation was repeatedly being fostered across projects and the program.*

### 7.4 Increased Innovation

The interviews revealed that innovation was repeatedly being fostered across projects and the program.

The discussion in sections 7.2 and 7.3 observed that innovation is firstly supported by the improved market capacity and the rapid and efficient approach to procurement.

The other key enablers of increased innovation are: the program-wide approach; the intense focus on finding project opportunities and identifying and mitigating risk during the integrated project risk reviews; the ITC Delivery Contract's financial model; information collection and transparency; standardisation; and the active client culture.

In addition, without the proactive technical support provided by the communities of practice, much of the potential innovation would be forsaken.

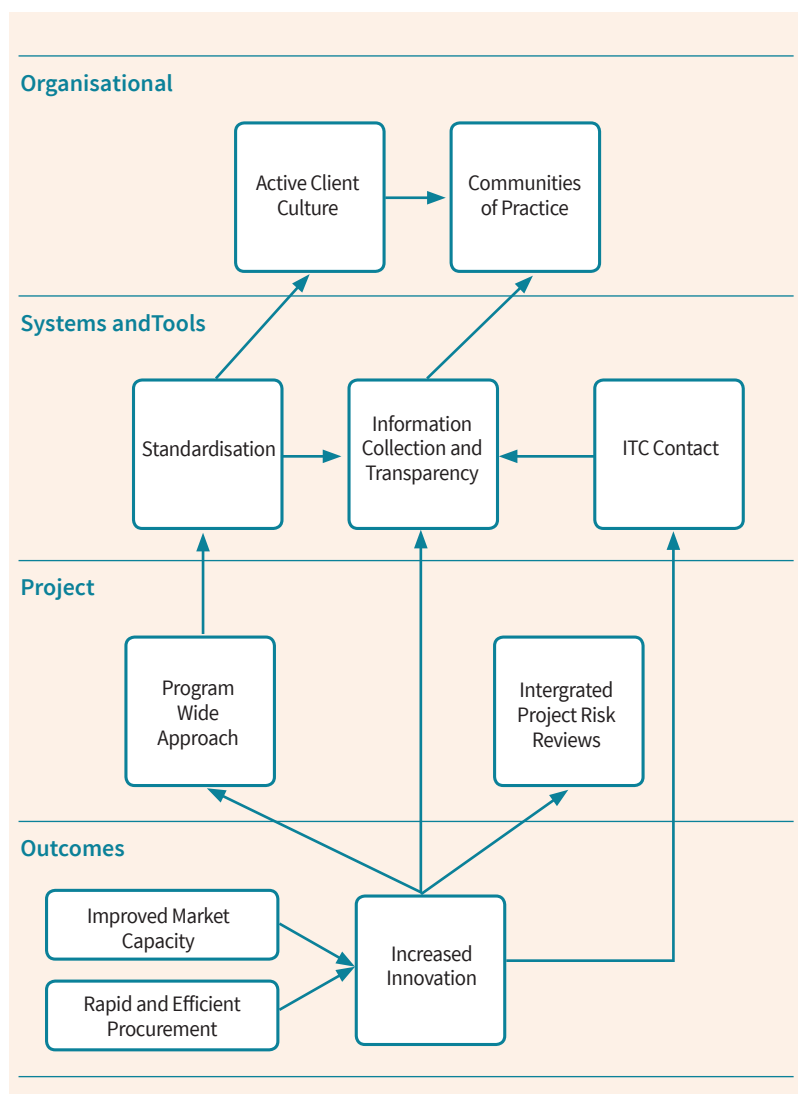


Figure 8 - Increased Innovation

*...the active client culture drives MRPV to focus its resources toward projects, the work as it is being done on site, and problem solving.*

### 7.5 Increased Collaboration and Trust

On our analysis, the active client culture drives MRPV to focus its resources toward projects, the work as it is being done on site, and problem solving. Problem solving is facilitated by a shift away from fear of negative financial outcomes.

When this culture shift is combined with high levels of information transparency and high levels of stakeholder engagement, the PDA increases information flow and personal relationships across the participants in the program and its stakeholders.

The outcome of this approach appears to be increased levels of collaboration and trust across the program, which in turn feeds into the innovation outcomes.

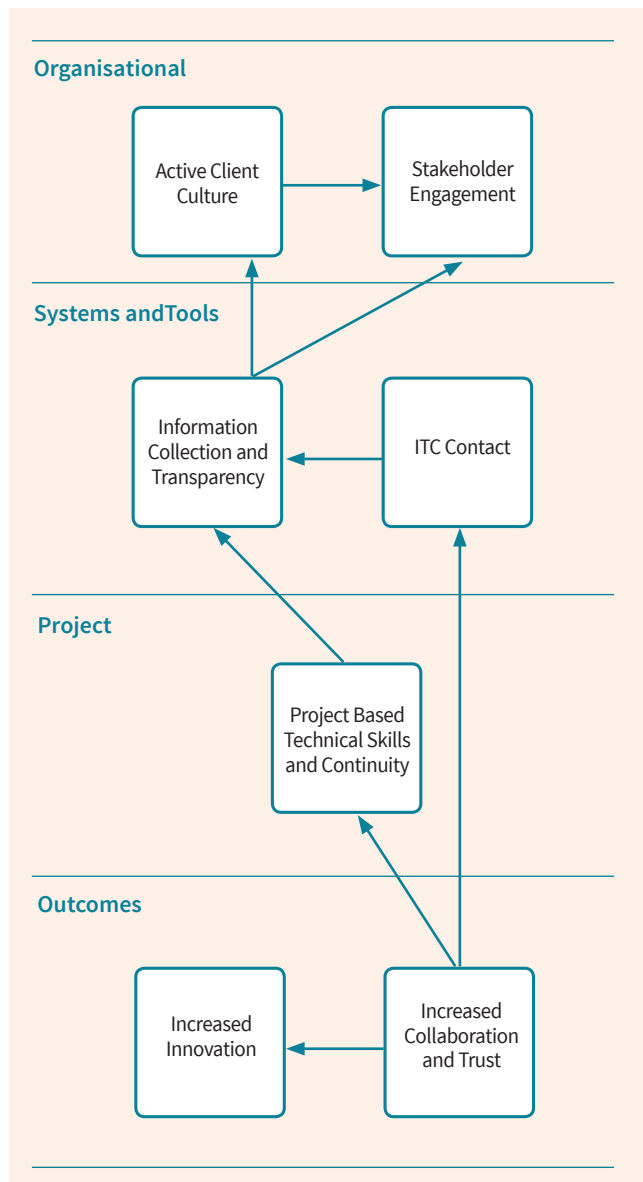


Figure 9 - Increased Collaboration and Trust

## 7.6 Increased Actual Cost Certainty

Because MRPV pays actual costs under the ITC Delivery Contract, the MRPV project-based team is highly engaged in every decision that affects actual costs. This engagement is reinforced by the active culture and the communities of practice.

Decisions on costs are in turn supported by the integrated project risk reviews, information collection and transparency, the historical costs database and the ITC Delivery Contract.

For one interviewee, this reflected a shift away from the view that a successful project could be defined as one which was delivered for budget, without political disruption, and at arm's length. Another observed that this model does not mean that the issues to be resolved are less complex, but that the approach to their resolution comes with a different mindset.

From a problem-solving perspective, rather than risks being identified first as a cost burden for one party or the other (which in turn leads to the problems being avoided or deferred), costs follow problem solving. As an example, the ITC Contract may include project specific Adjustment Events for items such as utilities delay risk. If the TOC allowance plus an agreed threshold is exceeded an adjustment event is triggered. As a result, both MRPV and the Contractor are motivated to take a role in mitigating risk because of the 'active client culture' and joint accountability for project costs.

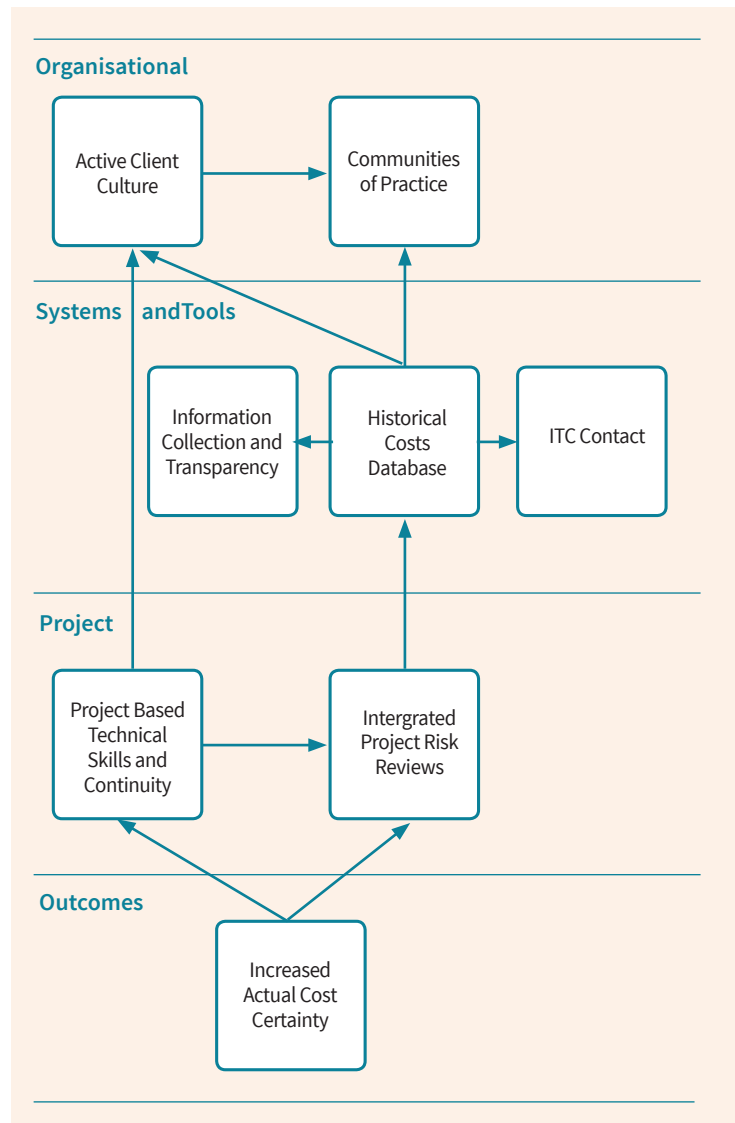


Figure 10 - Increased Actual Cost Certainty

*...both MRPV and the Contractor are motivated to take a role in mitigating risk because of the 'active client culture' and joint accountability for project costs.*

### 7.7 Improved Social Outcomes

MRPV have developed a model where social value and community benefits are planned, measured, enabled, and prioritised on projects.

This outcome flows from the specialist community of practice, which is enabled by the active client culture, information collection and transparency, the program-wide approach, and by leveraging their goals through the integrated project risk reviews and the ITC Delivery Contract.

The interviewees' pride and surprise as to the opportunities that have emerged was telling. This is an area that has exceeded expectations and demonstrated how government can effectively leverage its infrastructure spending to achieve broader policy goals.

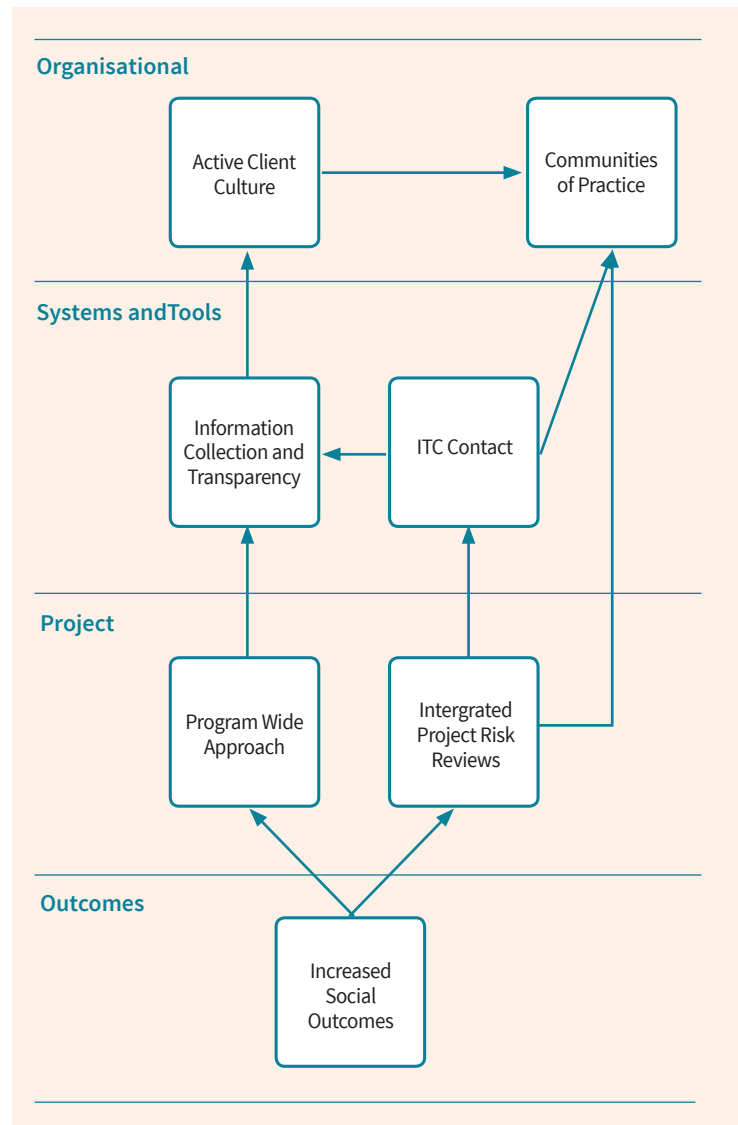


Figure 11 – Improved Social Outcomes

*...social value and community benefits are planned, measured, enabled, and prioritised on projects.*

## 7.8 Overall Analysis

The next step we took was to overlay each of the six individual outcome maps set out above one on top of the other. The purpose of this was to see if any overarching or dominant patterns or insights emerged relating to our analysis of the six outcomes. This map is not intended to reflect all of the interactions that exist under the PDA.

This overall map is shown below in Figure 12 – Overall Visual Map.

In looking at this map, we can see the multitude of interactions and how many of the outcomes rely on a series of interactions leading back up to the organisational elements of the PDA. What is also noticeable is the intensity of connections around information collection and transparency, integrated project risk reviews, the ITC Delivery Contract, and the Project Based Technical Skills.

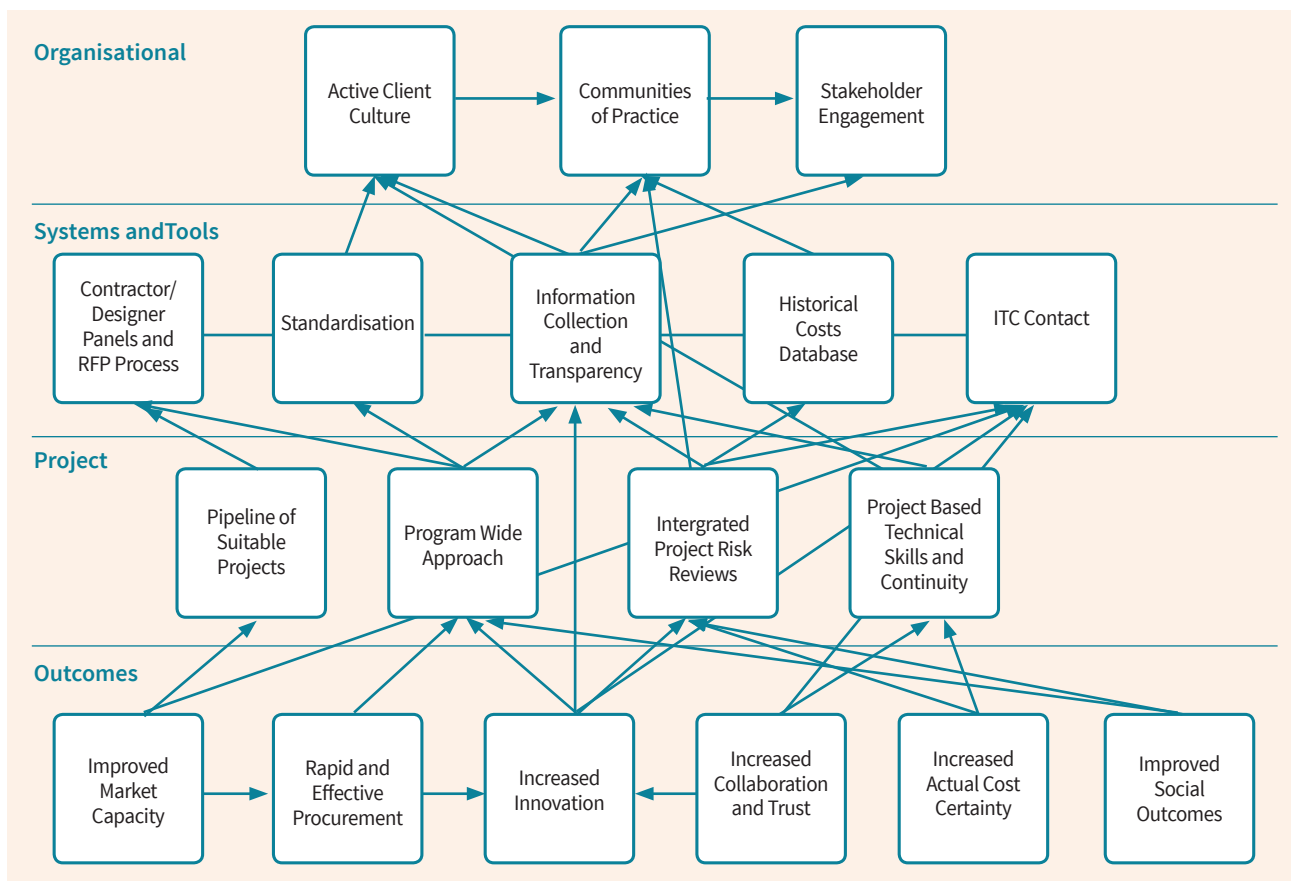


Figure 12 - Overall Visual Map

From our analysis, the four key features we identify that produce these outcomes are:

- MRPV's 'Active-Client' culture.**  
 The organisational elements of the PDA, especially MRPV's 'active client' culture, plays a vital role in directing resources and attention – whether in the form of expertise or information – to projects across their life cycle.
- The Integrated Project Risk Review phase.**  
 The integrated project risk review phase, which happens over a short and intense period prior to the letting of the ITC delivery contract, plays a critical function connecting multiple elements of the PDA to each individual project. This

process directs project stakeholder attention and resources to projects and their risks and opportunities.

- Networks and Information flow.**  
 The PDA increases the network of relationships and flow of information across that network. At the same time, MRPV remain at the centre of that network because of its influence through the contractor and designer panels and the incentive structure built into the ITC Delivery Contract.
- System focus on expertise.**  
 Well informed and well-connected technical skills deployed early and at project level.

Understanding the PDA through the combination of these features provides deeper insight into what produces the six outcomes.



## 8. Conclusion

What has emerged from this research is a nuanced and complex example of procurement reform, built with clear goals and by people with significant industry experience who shared a desire to be the step change needed to support a sustainable market.

Our report has explored the circumstances that gave rise to the PDA, how it was developed and implemented, what it is made up of and what outcomes are emerging from it and why. The use of complex system mapping to analyse the PDA has been a beneficial technique in gaining insight into its workings.

The six significant outcomes emerging from the PDA are: improved market capacity, rapid and efficient procurement, increased innovation, increased collaboration and trust, increased actual cost certainty, and improved social outcomes.

Achieving these outcomes, we found, is emerging from the combination of four features of the PDA:

- **MRPV's 'Active-Client' culture.** The organisational elements of the PDA, especially MRPV's 'active client' culture, plays a vital role in directing resources and attention – whether in the form of expertise or information – to projects across their life cycle.
- **The Integrated Project Risk Review phase.** The integrated project risk review phase, which happens over a short and intense period prior to the letting of the ITC Delivery Contract, plays a critical function connecting multiple elements of the PDA to each individual project. This process directs project stakeholder attention and resources to projects and their risks and opportunities.

- **Networks and Information flow.** The PDA increases the network of relationships and flow of information across that network. At the same time, MRPV remain at the centre of that network because of its influence through the contractor and designer panels and the incentive structure built into the ITC Delivery Contract.
- **System focus on expertise.** Well informed and well-connected technical skills deployed early and at project level.

Whilst the PDA model is not without fault, challenge, or complaint, it gives all participants in the Australian construction industry and beyond an important case study that changes how we understand procurement systems work. It is an opportunity to move beyond simple comparisons of contract models.

In our conclusion, we also want to acknowledge the evident pride of MRPV staff on display throughout this research project – in what they have built and what they have been able to achieve. This is especially so in social value, which provides a clear example of how government infrastructure spending can help achieve wider government policy objectives.

*...(the PDA model) gives all participants in the Australian construction industry and beyond an important case study that changes how we understand procurement systems work.*

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In addition, MRPV provided on a confidential basis its suite of contract documents for reference and three power point presentations as part of the interview process (Safety benefits MRPV PDA, Program Delivery Approach and Stakeholder Communications & Engagement, Building Innovation into Major Road Projects in Victoria).

# Part C

## Annexures

### Annexure A – Research Aims, Approach and Methodology

#### A.1 Research Aims

This research project aims to present an in-depth case study of the procurement reform undertaken by MRPV from 2020.

The case study explores the following questions:

What was the context that led to the procurement reform?

- How was the PDA model developed?
- What are the elements of the PDA?
- What is emerging from the reform?

A particular aim of the research is to present MRPV's procurement model visually in order to build a holistic understanding of how the model works, the interactions it fosters, and what outcomes emerge from it.

#### A.2 Research Approach

The following academic principles inform this research.

##### A.2.1 Case Study Approach

In-depth case studies are an effective and important tool. They are necessary to inform academic analysis and to build in-depth context-based understanding.<sup>35</sup> Whilst large scale sampling and generalised theory is also valuable, it is only through experience of many cases that someone can deduce generalised theories about the real world.<sup>36</sup>

The other advantage of case studies is that they provide access to rich narratives, which can 'explore the complexity and contradictions of real life.'<sup>37</sup> There are numerous case-study investigations in construction procurement literature.

Examples of subjective case studies include Richard Morwood, Deborah Scott, and Ian Pitcher's 'Alliancing: A Participant's Guide: Real Life Experiences for Constructors, Designers, Facilitators and Clients'<sup>38</sup>, and Charles O'Neill's *Global Construction Success*.<sup>39</sup>

Examples of independent case study research can also be found in Professor David Mosey's book *Collaborative Construction Procurement and Improved Value*<sup>40</sup> where over 50 case studies were researched to support its findings, and in Walker, Matinheikki, and Maqssod's paper 'Level Crossing Removal Program Package 1: Nurturing Innovation in Complex Alliance Delivery Projects'.<sup>41</sup>

As an aim of this research is to share a context-rich explanation of MRPV's procurement reform, the case-study method is ideal. It should help readers, whether within MRPV or externally, to gain a detailed 'real-world' understanding of the procurement reform.

##### A.2.2 Complex Systems Thinking and Visualisation

Complex systems theory is the study of networks made up of multiple agents that interact in non-linear ways. Complex systems are often described as open, in that they interact with the environment around them, and that they demonstrate emergent behaviours that are not designed into them. It is often said that complex systems are more than the sum of their parts.<sup>42</sup> They can also be defined by contrast with Newtonian systems, being systems that can be understood by reducing them into their constituent parts and the direct relationships between those parts.

Common examples of complex systems are ant colonies, the climate, the stock market, and earthquakes. The delivery of construction projects also involves the interactions of many parts, including the parties doing the work, and as such can be studied as a complex system.<sup>43</sup>

How complex systems work is explored using 'complex systems thinking' – the concepts and tools that are used to understand and operate in complex systems.<sup>44</sup>

These concepts and tools typically examine the flow of information through a system and the interactions between parts of the systems.

A common technique used in complex systems thinking is visualisation, which is used to build a shared understanding of a system and its interactions. Various approaches have been developed to do this, which vary in complexity and purpose.

35 Bent Flyvbjerg, 'Five Misunderstandings about Case-Study Research' (2006) 12(2) *Qualitative Inquiry* 219.

36 Ibid 222.

37 Ibid 237.

38 Richard Morwood, Deborah Scott, and Ian Pitcher, 'Alliancing: A Participant's Guide: Real Life Experiences for Constructors, Designers, Facilitators and Clients' (Maunsell Aecom, 2008).

39 Charles O'Neill, *Global Construction Success* (Wiley, 2018).

40 David Mosey, *Collaborative Construction Procurement and Improved Value* (Wiley, 2019).

41 Walker, Matinheikki and Maqssod, 'Level Crossing Removal Program Package 1: Nurturing Innovation in Complex Alliance Delivery Projects' (RMIT University, 1 November 2018).

42 See, eg., Sidney Dekker, *Drift into Failure* (CRC press 2011) and Sean Brady, 'Complexity Theory – How It Can Help Us Think about Risk in Construction' SoCLA National Conference, 2022/NC 17.

43 Brady, above n 42.

44 See generally *Simplifying Complexity* (Sean Brady from Brady Heywood) <<https://podcasts.apple.com/au/podcast/simplifying-complexity/id1651582236>>.

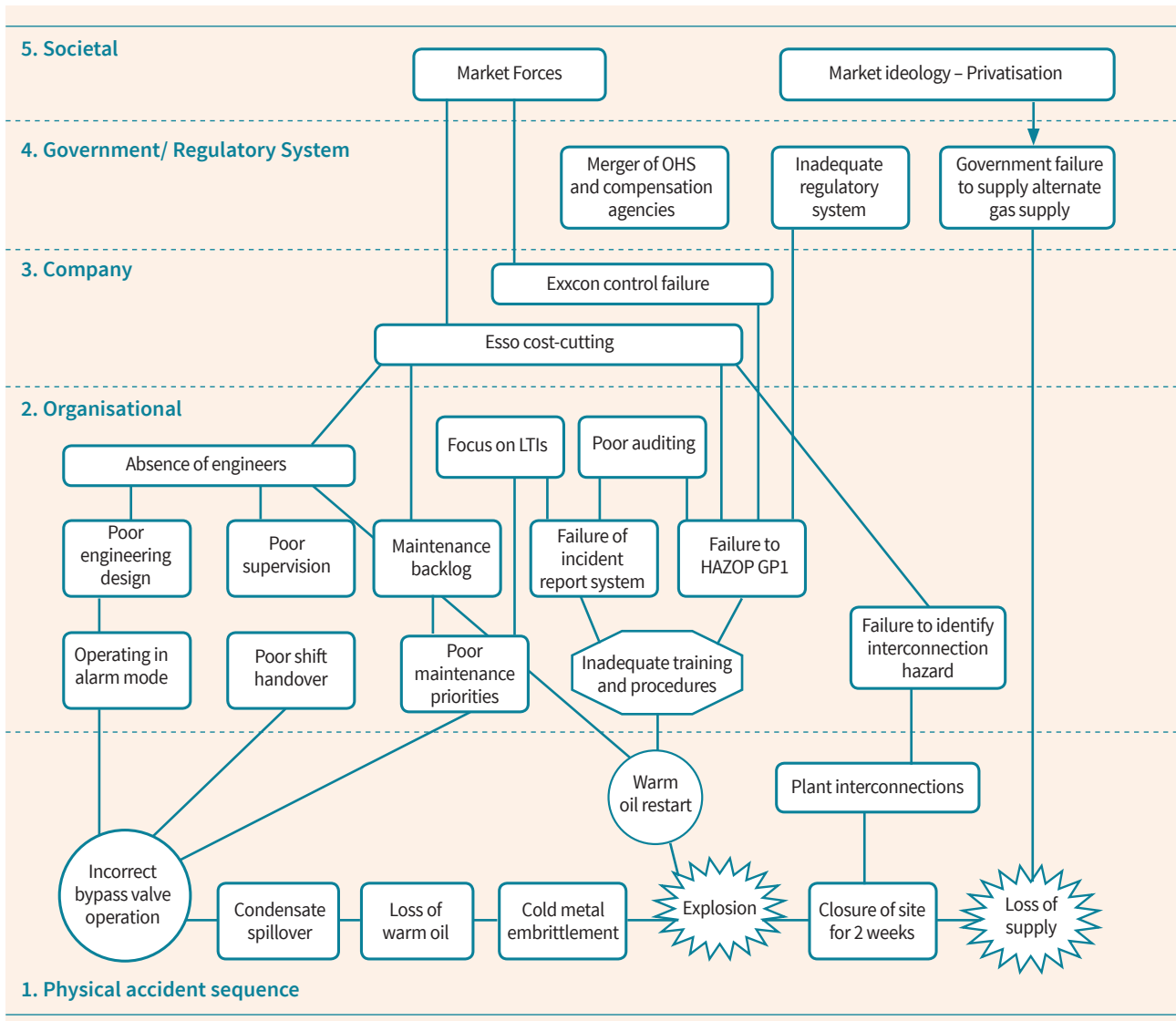


Figure 14 - Causal Diagram of Esso Gas Plant Explosion

For this report, a visualisation of the PDA has been developed based upon system mapping, and AcciMaps in particular. AcciMaps, which was developed for analysing accidents,<sup>45</sup> uses a series of levels to separate parts of a sociotechnical system, starting from a bottom layer which focuses on the direct and immediate contributors to an accident, and then branching upward to more remote factors, such as organisational and external factors. The layers vary depending on the purpose of the map. The arrows in the map reflect influencing factors between parts of the system as opposed to direct causes.

An example of this type of map, reproduced here, is the modified AcciMap developed by Dr Andrew Hopkins in his book *Lessons from Longford: The Esso Gas Plant Explosion*, which examined the factors that gave rise to that explosion.<sup>46</sup>

This system mapping approach has been selected for this research because of its simplicity. It does not require readers to

be familiar with complex system theory, and it enables much information to be communicated quickly. In addition, this kind of visualisation helps build understanding of how a system works, aids ongoing analysis and discussion of the system, and helps identify the most influential parts of the system.<sup>47</sup>

The visualisation developed for this case study has been adapted for procurement reform. The layers start at the lowest level, the outcomes emerging from the system. They then step backwards through the projects being delivered, the tools and systems being used, and then to MRPV as an organisation.

A causal map can only reflect a system at a point in time. It is a feature of all systems that they change. It is intended that this map provide insight into the PDA as developed by MRPV between 2020 and 2022.

<sup>45</sup> Jens Rasmussen, 'Risk Management in a Dynamic Society: A Modeling Problem' (November - December 1997) 127 *Safety Science*, 182.

<sup>46</sup> Andrew Hopkins, *Lessons from Longford: The Esso Gas Plant Explosion* (CCH Australia, 2000), 122.

<sup>47</sup> See further discussion of this technique in Andrew Hopkins', *Learning from High Reliability Organisation Theory* (CCH, 2009), chapter 10.

## A.3 Methodology

The following methodology was applied in undertaking the research and preparing this report.

### A.3.1 Ethics Approval

This research project was undertaken in accordance with the procedures approved by The University of Melbourne's Human Research Ethics Committee.

Consistent with the approved ethics procedure, interviews were undertaken on the basis that interviewees would not be individually identified in this case study and quotes would not be attributed to individuals, in each case without express consent.

### A.3.2 Interviews

Members of the project team interviewed fourteen MRPV staff in October and November 2022. The interviews were semi-structured.

Seven (out of 14) were members of the MRPV Executive Leadership Team. They were the:

- Chief Executive Officer
- Chief Operating Officer
- Director Delivery
- Director Delivery Services
- Director Strategic Communications
- Director, Commercial and Legal
- Director Commercial.

In addition, seven members of the wider leadership team were interviewed, being the:

- Director Services & Continuous Improvement
- Deputy Director Commercial
- Assistant Director Program Services & Engineering,
- Assistant Director Safety
- Director Communications and Stakeholder Engagement
- Director Social Value, Capability, and Inclusion
- Tiger Team Representative.<sup>48</sup>

Every participant interviewed had experience working in both the private and government sectors, including experience working for Tier 1 contractors<sup>49</sup> on large linear infrastructure

projects. Four of the interviewees had worked on the Victorian Level Crossing Removal Project (the significance of which was discussed in 4.4 above).

### A.3.3 Document Review

The review extended to publicly available documents that relate to MRPV's procurement reform, and material made available to the authors by MRPV on a confidential basis. This material included the full suite of MRPV's procurement documents (including the suite of contract documents), and three power point presentations (Safety benefits MRPV PDA, Program Delivery Approach and Stakeholder Communications & Engagement, Building Innovation into Major Road Projects in Victoria).

### A.3.4 Commercial Research Agreement

This research was undertaken pursuant to a commercial research agreement between The University of Melbourne and MRPV.

MRPV did not have any role in the analysis of the information provided or the conclusions reached. The research represents the views of the authors.

MRPV was given a complete draft of this report prior to publication, for the purpose of fact checking and to ensure that the research did not breach any individual's privacy or disclose confidential information.

### A.3.5 Limitations

The scope of this research was limited to publicly available information, information provided by MRPV, and interviews of MRPV staff. The case study did not extend beyond MRPV. In particular, interviews did not extend to stakeholders beyond MRPV, such as other government agencies, contractors, designers, industry bodies, or community members.

At the time of this research, no project delivered under this procurement model had achieved practical completion. It is therefore not possible to include quantitative analysis of final project outcomes across the program of works.

These limitations provide an opportunity for further research.

<sup>48</sup> The Tiger Team, a group of independent consultants engaged by MRPV to support projects, is discussed at section B.3.3.

<sup>49</sup> See n 23.



## Annexure B – Elements of the PDA System

This annexure contains a detailed description of each element of the PDA identified in our research.

These elements have been broken up into three categories:

- Projects
- Systems and tools
- Organisational.

### B.1 Projects

In this section we examine four elements of the PDA that relate to projects.

#### B.1.1 Pipeline of Suitable Projects

The model depends on a suitable pipeline of projects to assure participants that the collaborative efforts on current projects will pay off through improved capacity to win future work.

MRPV openly shares its project pipeline with the program participants. This transparency supports the effectiveness of the incentive model at rewarding behaviours on current projects.

These projects must be of a suitable size (or capable of being broken up into a suitable size) for this procurement model to work well.

#### B.1.2 Program-wide Approach

Where opportunities and innovations are identified on one project, MRPV technical specialists (who are organised through Communities of Practice discussed in section B.3.3) can leverage that idea across the program of works. These ideas are disseminated through increased information channels that have been built across the model. The financial model in the contract also creates accessible commercial pathways for changes during delivery.

In other procurement models, such opportunities are often not pursued because they are not included up front as an express contractual obligation and because there may be commercial friction if they are raised during delivery.

#### B.1.3 Integrated Project Risk Reviews

The Integrated Project Risk Review is a key early phase in a project's shaping. This phase is also known as the Project Development Phase. It immediately follows the Request for Proposal Phase (see Appendix B.2.1 below) and lasts approximately 12 weeks.

MRPV, in collaboration with the contractors and designers, use this phase to build an understanding of the project, its costs, the scope of works, and the project's opportunities and risks. This phase includes analysis of the construction methodology and what actions can be taken early on to reduce project costs or risks.

This phase is also used to challenge the project from multiple perspectives. For example, MRPV's safety specialists participate in conversations about resources, technology solutions, and wellbeing. Thus, safety systems are established and understood before the contract is awarded. This intense early planning is facilitating outcomes such as the use of technological solutions to create safer work environments, such as traffic management, and people and plant separation.

In the Project Development Phase, the Contractor and MRPV work together on:

- Scope confirmation
- Development of a detailed cost estimate budget (called a Target Outturn Cost or TOC), which is formally reviewed three times during this phase, at approximately weeks 4-5, week 8, and week 11. (Members of MRPV's leadership team, including its Chief Operating Officer, participate in all TOC reviews)
- Risk identification, quantification, elimination, and mitigation of risks
- Challenging the reference design and specification
- Value engineering, including optioneering and innovation, including in the areas of utilities, regulatory issues, and external stakeholders
- Further investigation of site conditions
- Development of staging and programming
- Identifying any early delivery activities.

The other goal of the Project Development Phase is to support the fast transition into delivery once the TOC has been accepted and a contract signed.

The counterbalances to provide assurance that TOCs are robust include:

- Actual cost transparency provided for in the ITC Delivery Contract (discussed in section B.2.2 below)
- The Principal's Benchmark, an independent estimate of a project's cost.
- An independent cost estimator reviews the Contractor's TOC and challenges the project team's costings and assumptions.
- The incentive model in the ITC Delivery Contract to incentivise performance across the key result areas

- An independent challenge team (the Tiger Team, discussed in section B.3.3 below)

At the end of the Project Development Phase, if the TOC is not approved, MRPV is free to return to the beginning of the Project Development Phase and seek an alternative price.

If the TOC is approved, the project moves into the Project Delivery Phase under the agreed ITC Delivery Contract.

A competitive TOC mechanism (where two contractors develop project TOCs side by side) was not incorporated into this model, including due to the resources required (by both MRPV and the market) and the volume of projects involved in the program. The other advantage of a single TOC commented on by interviewees was that it avoided the need to include a probity system during the RFP phase, which by its nature would interfere with the intense integration and collaboration this model seeks to establish between MRPV, the contractor and the consultant during the Project Development Phase. Probity protocols are involved in the RFP Phase and around the Delivery Phase Offer.

### B.1.4 Project-based Technical Skills and Continuity

MRPV's employees are allocated across projects and technical disciplines, with multiple reporting lines.

Teams are allocated to projects, with each project having a project manager who 'owns' the project and its budget. Project teams are populated with subject matter specialists, including in the areas of engineering, safety, communications, and stakeholder relationships.

The project teams, and in particular the subject matter specialists, are in turn supported by specialist teams. Inside MRPV, these are the Communities of Practice discussed in section B.3.3.

This structure increases interactions within MRPV and is intended to improve project-level decision making by directly deploying specialist skills into projects as early as possible before issues crystallise into problems.

MRPV also aims to achieve continuity of staff across a project's life cycle, from the initial development of the Target Outturn Cost (TOC) (see section B.2.2) through to delivery. This is done to retain project knowledge and reduce commercial friction.

This structure is a shift from previous models where project teams were populated by generalist project managers who had limited access to technical support: generally, only after things had gone wrong.

Interviewees emphasised that achieving this shift in culture was one of the most challenging elements of the reform program and has taken considerable effort and time to achieve, especially while attempting to preserve the existing workforce. This cultural shift is discussed further in section B.3.1.

## B.2 Systems and Tools

MRPV's PDA involves a range of systems and tools. In this section, we describe the five key systems and tools our research identified that support the PDA.

### B.2.1 Contractor/Designer Panels and RFP Phase

We bundled the contractor and designer panels and RFP phase together as one element for the purposes of our analyses of the PDA.

#### Contractor Panel

The PDA has established five contractor panels which match the scale and complexity of projects to contractor capability:

- Panel 1 – Value over AUD\$300m and high complexity
- Panel 2 – Value AUD\$400m – AUD\$100m and high to moderate complexity
- Panel 3 – Value AUD\$150m – AUD\$25m and moderate complexity
- Panel 4 – Value under AUD\$50m and low complexity
- Panel 5 – Specialists

MRPV determines which panel an individual contractor is placed on.

Entry onto a panel requires up-front agreement to the suite of contracts that govern that panel: the Program Participation Agreement, the ITC Development Agreements, and the ITC Delivery Contract.

The panels are open to new entrants every year and contractors can move up and down through the panels as their capacity, performance, and skills change over time.

A contractor cannot be on more than one panel at a time. This minimises the risk of large contractors pricing smaller contractors out of lower value or less complex projects to take market share or fill workbooks.

Panel 5 is the specialist panel which supports specialist skills. For example, early utilities works.

Each contractor on a panel is subject to an annual performance review and pre-qualification status check.

## Designer Panels

After the first tranche of projects under the PDA was released to the contractor panels, MRPV sought to address the same problem with market capacity for designers, where the smaller end of the market was underutilised.

MRPV formed two designer panels:

- Panel 1 – Value over AUD\$75m and high to moderate complexity
- Panel 2 – Value under AUD\$125m and low to moderate complexity

MRPV segmented the market based on capacity to handle design complexity.

However, MRPV chose not to engage the designers directly, preserving the typical relationship between the contractor and designer for a design and construct procurement model. For each project, designers are invited to Request for Information (RFI) sessions. MRPV then uses the information from these sessions to give feedback to the contractors as to which designers might best suit particular projects. This feedback is not binding on the contractor, which remains free to select a designer of their choice.

Interviewees noted that, despite early caution, this approach was resulting in contractors, more often than not, using the designers suggested by MRPV. This approach appears to be building capacity in the market for designers. Examples were given of a small engineering firm that has trebled its staff over 18 months and of one large engineering organisation which had obtained local qualifications to enter the road design market in Victoria. Interviewees noted that this model appears to be building more diverse relationships between contractor and engineering organisations which are being deployed beyond MRPV projects.

## Request for Proposal Phase

In the Request for Proposal (RFP) Phase, a project is first assessed and allocated to the most appropriate panel.

A short list of contractors from that panel are invited to submit a proposal for that project.

The successful contractor is selected based on mandatory and qualitative criteria, which include capability, capacity, project team, value for money, and compliance.

The capacity criterion helps MRPV distribute work across the market and avoid negative outcomes associated with individual contractors winning more work than what they can effectively deliver.

## B.2.2 ITC Delivery Contract

The contract developed for the PDA is based on VicRoads General Conditions for Design and Construct AS4300-1995-VR. AS4300-1995 is a standard form design and construct contract published by Standards Australia. Standards Australia contracts have been observed by research to 'dominate the Australian construction landscape',<sup>50</sup> largely driven by familiarity with its forms.<sup>51</sup> Victorian contracting requirements require use of contract forms approved by the Victorian Secretary to the Department of Treasury and Finance,<sup>52</sup> one of which is AS4300.

Consistent with this research, the main reason interviewees for this research gave for choosing this base contract was its familiarity, both to contractors and government stakeholders.

The most significant adjustment to that standard form was the change of financial model, from lump sum to an Incentivised Target Cost Model. In most other respects, the contract follows the risk allocation of the underlying standard form of contract.

Interviewees reported that the ITC Delivery Contract's development was shaped by MRPV wanting to drive collaboration and reduce scope for adversarial claim behaviour, whilst retaining the contractor's responsibility for design and construction (including fitness for purpose warranties).

Under the new remuneration model, the amount payable to the contractor is made up of three components:

- **Reimbursable costs.** Reimbursable costs are paid based on actual costs incurred. Reimbursable costs include management costs, insurance, design costs, preliminaries, construction costs, provisional sums, and scope modifications.
- **Margin.** A fixed margin, covering corporate overheads and profit.
- **Performance Pool.** A performance pool (payable subject to KRA performance – see below) is capped at 3% of the Principal's Benchmark.

50 John Sharkey, Matthew Bell, Wayne Jovic and Rami Marginean, 'Standard Forms of Contract in the Australian Construction Industry Research Report' (University of Melbourne, June 2014) 5.  
51 Ibid 34.

52 See State Government of Victoria, 'Contracting Requirement (Construction Direction and Instruction 7.1)', Buying for Victoria <<https://www.buyingfor.vic.gov.au/contracting-requirements-direction-and-instruction-71>>; and State Government of Victoria, 'Construction Standard Form Contracts', Buying for Victoria, <<https://www.buyingfor.vic.gov.au/construction-standard-form-contracts>>.

The payment mechanism adjusts the Margin and Performance Pool amounts paid to the contractor as follows:

- The margin has a painshare/gainshare mechanism applied to it. Where the Actual Outturn Cost is less than the Target Outturn Cost, a gainshare adjustment is made. 30% of the gain is shared with the Contractor, capped at 5% of the Reimbursable Costs allowed for in the Target Outturn Cost. Painshare applies where the Actual Outturn Cost is greater than the Target Outturn Cost. 50% of that difference is borne by the Contractor, capped at 5% of the Reimbursable Costs allowed for in the TOC.
- The Performance Pool is adjusted based on performance measured against a series of Key Result Areas (KRAs) and their specific Key Performance Indicators (KPIs).

The KRAs cover time, quality, disruption, stakeholder communications, sustainability, safety, environment, government requirements, innovation, and utilities.<sup>53</sup> Each KRA has specific quantitative KPIs.

The KPIs are measured on a whole-of-project basis, providing incentives for all project participants to work together to meet the KPIs rather than focusing on their individual contributions.

Interviewees observed that one of the more challenging elements of the model was to determine the fixed margin that would be paid on actual costs. A figure of 10% (including the Australian goods and services tax (GST)) is being used at the time of writing. Interviewees described this figure as a reasonable mid-point (not a premium) which would provide a consistent, secure, and sustainable commercial return. One of the goals of the financial model was to avoid MRPV contributing to financial pressures on contractors (and the supply chain in turn) through cash flow problems.

The model provides for negotiation of adjustment events under the contracts. That process is supported by higher levels of information transparency, the Project Development Phase, continuity of MRPV staff and the MRPV 'active client' culture (discussed in section B.3.1).

The 'open book' cost approach gives MRPV a level of transparency and control over costs which is intended, firstly, to balance concerns that the TOC process can lead to inflated and overpriced outcomes and, secondly, to overcome the way lump sum pricing had led to contractors needing to make windfall gains on some projects to balance out loss making projects. This requires a cultural shift for industry and government stakeholders, with one interviewee describing the shift as 'tricky to get your head around'.

Contractor performance, as measured by the KPIs, forms part of the annual panel review process, thus linking project performance and future selection for projects.

### B.2.3 Information Collection and Transparency

Another element of the PDA is its widespread focus on information collection and transparency. This permeates the PDA.

This approach supports:

- **Visibility of the supply chain and issues emerging downstream.** This is particularly supported by open-book costs, which means that MRPV can tell whether subcontractors, consultants, and suppliers have been paid.
- **Faster resolution of issues.** There are two aspects of note here. The first is that shared information is available to both parties from the outset. This speeds up the parties' ability to resolve issues and reduce the energy required to do so. The second and more subtle point is that, when issues are resolved, MRPV can better document and substantiate the position reached. One interviewee commented on this approach by comparison with their experience with claims in traditional procurement models, which typically suffer from significant information asymmetry. In the interviewee's experience, inadequate information to justify a position was a common barrier to resolving issues.
- **Increased accuracy for future TOC development.** As MRPV develops detailed knowledge of what constitutes market leading performance, and the real costs of resolving problems, there is increased transparency about the costs of dealing with disputes and defending claims.
- **Information sharing across the industry.** By increasing the distribution of information about best practice, innovation, and cost savings across program participants, the interviewees expect that this approach will, over time, drive market competition, innovation, and increased productivity.

The organisational focus on transparency is reflected in:

- Investment in continual training of staff and engagement with industry partners. Several interviewees commented on the effort applied to explaining the model, both within MRPV and externally.
- Openness and sharing of information within MRPV.
- Wide participation in opportunities to share experiences in different forums.
- Support for research.
- Innovations and opportunities being shared across projects.

<sup>53</sup> MRPV ITC Delivery Contract - Attachment 1 to Schedule 4, Nov 2020.

Interviewees recognised a range of commercial and legal sensitivities associated with this open approach, but preferred to find ways to work through these concerns to favour transparency over confidentiality.

#### B.2.4 Historical Costs Database

A goal of the PDA is to substantially improve the estimation of each project's costs and, over time, more accurately predict the likely costs of projects. The project cost estimate, known as the Principal's Benchmark, is prepared independently for each project. Increasing accuracy is driven by the actual cost data collected across the program of works.

This approach changes the dynamics of the TOC development phase by focusing on realistic project costs, allowing MRPV to look for anomalies in costs in the TOC development phase and to find savings.

Since the program's inception, the extensive cost database created by MRPV is now informing multiple aspects of the program, including forecasting future costs, TOC development, and assessment of contractor performance.

As costs are also examined on a program-wide basis, MRPV can drive cost savings across the program of work.

#### B.2.5 Standardisation of Processes

Wherever possible, MRPV has adopted standard processes, templates, and other artefacts. This attitude has been adopted across the program, from the design of the procurement model itself to engineering specifications and community stakeholder plans.

Specifications are standardised to support consistent outcomes and to avoid unnecessary duplication of work.

The goal is to drive operational efficiency and consistency across projects and the program.

### B.3 Organisational

A significant component of the PDA is the way MRPV itself has been shaped to support the PDA's implementation and goals. Indeed, on our observations, the extent of change has itself been enabled by the formation of MRPV as a new entity.

Several interviewees directly observed that it is the combination of organisational changes, with changes in the tools and systems, which is driving different project behaviours and outcomes.

#### B.3.1 The 'Active Client' Culture

The concept of MRPV as an 'active client' does not expressly form part of the PDA, but these two words emerged repeatedly in interviews to describe MRPV's culture. This culture was firstly expressed as a shift away from a passive approach where a project is the contractor's responsibility and MRPV's role was, as one interviewee put it, to watch for non-compliance, followed by risk allocation and counting the cost.

When positively expressed, the 'active client' culture is described as meaning that the successful delivery of each and every project is MRPV's responsibility and MRPV's role is to exercise all the resources and influence it can to that end.

To support this cultural shift, MRPV invested substantially, both on the job and through explicit modules, to train staff on the procurement model and how it works.

This investment in explaining the model and the culture to support it was essential. Close to 80% of MRPV staff had never previously worked within a relationship-based procurement model and the culture required was a paradigm shift for many.

Practical examples of what being an active client meant to interviewees included:

- Engaging in options to undertake works in 'blitzes' in order to minimise local community disruptions caused by extended day works.
- Health and safety staff being on site, directly engaging with the project, its safety processes, and behaviours on site.

In a telling observation, one interviewee reflected on how the offices used to be covered in pictures of the 'bridge' being delivered, whereas now they are more likely to be pictures that reflect the broader skills and goals of MRPV, such as communication, industry capability, and safety outcomes.

#### B.3.2 Stakeholder Engagement

MRPV is responsible to a range of stakeholders, including other government agencies, the community, and a broad range of organisations participating in the projects themselves.

MRPV supports stakeholder engagement through a dedicated and specialised communications team.

We also draw out the role reporting, reviews and oversight plays in this engagement.

#### Victorian government

One group of stakeholders is the wider Victorian government. The interviewees saw people within the broader DoT and other Victorian government departments as a critical group

with whom they had to build understanding and knowledge of the PDA. MRPV has established an oversight steering body for the PDA, made up of representatives from Department of Transport, Department of Finance, Department of Premier and Cabinet, and the MRPV itself.

Specialist areas have their own internal forums. For example, there is a Major Transport Infrastructure Authority strategic communications committee that shares lessons across all of Victoria's Big Build program.

In addition, Department of Finance representatives participate in the TOC development phase. This level of engagement has been included to build understanding of the procurement model and over time, build trust across the Victorian government. A core element of this engagement is to achieve a shift away from analysis of individual project performance to identifying the outcomes and value for money being delivered across the program as a whole.

### Community and Stakeholders

One of the challenges in the development of the PDA was to design a model which effectively drove community and stakeholder engagement.

The process begins in the TOC development phase with the development of a Community Stakeholder Engagement and Management Plan (CSEMP). MRPV specialists provide guidance on the content of these plans and a standard template is used across all projects.

The ITC Delivery Contract includes a KRA (Key Result Area) for stakeholder and communications engagement which measures both the planning and the effectiveness of the engagement.

Outcomes are measured through six monthly independent surveys. MRPV audits the survey results every six months with contractors, and at Practical Completion. Interviewees explained that the objectives of this process are to:

- Encourage reflection on performance
- Provide a formal mechanism for regular feedback
- Check whether the requirements of the CSEMP are being met
- Provide a project audit that assesses all communications requirements for the contractor and MRPV
- Create a pathway to achieve a satisfactory score at practical completion
- Encourage continuous improvement
- Provide evidence for benchmarking across other MRPV and MTIA projects.

Interviewees stated that using this approach has so far resulted in MRPV achieving overall satisfaction levels higher than on projects not delivered under the PDA model, and that they are generally getting outcomes above industry benchmarks. The other observation was that the best performing community engagement programs were not necessarily projects being delivered by the Tier 1 and 2 Contractors, but by smaller contractors who were willing to adopt more innovative approaches.

Interviewees also commented on how the model worked when the desired level of stakeholder engagement was not being achieved, and the effort by all participants invested to understand why that may be the case: whether because a project is not wanted by its local community or because the management plan is proving ineffective.

The flexibility of the contract model has also meant that changes can be adopted after contract award to meet the needs of community stakeholders. One example of this flexibility arose on the Western Port Project. This project had a CSMEP that involved lots of mailbox paper-based notifications. However, the team learned through the survey that what the community needed was more on-site signage to capture the audience while they were on the road. The team addressed this mid-project.

Interviewees reported that project-specific outcomes emerging from this stakeholder engagement approach included:

- The ability to deliver legacy projects for local communities.
- Local decision making in the selection of opportunities and direct involvement in design components.
- Earlier engagement of traders to manage local business disruption.

According to interviewees, the program-wide approach is further enabling:

- The adoption of earlier and more effective communication plans.
- Struggling projects to be identified and improved earlier. As costs are transparent, projects that are underspending on communications (which as a rule leads to poorer engagement outcomes) are readily identifiable and can be acted upon.
- The use of prior experience to develop evidence-based approaches to CSEMP planning. As an example, community preferences for 'blitz' approaches (which minimise disruption) are emerging in preference to extended periods of day work.
- Lower tier contractors to improve their capacity to meet community and stakeholder engagement requirements.



- Increased transparency of community engagement spending and effectiveness, leading over time to increased predictability of the actual costs.

### Panel Members

The PDA model has increased focus on building networks and relationships between MRPV and its panel members.

Panel members meet regularly with MRPV, using a combination of in-person meetings, small group feedback sessions and written submissions. The emphasis is on sharing lessons, feedback, and identifying challenges across the program.

There is also engagement with specialists in areas such as safety. MRPV's technical teams engage with panel members' specialists to discuss industry trends, and project outcomes and to share lessons.

### Utility Providers

MRPV has specifically focused on the relationship between it and utility providers (electricity, water, telecommunications etc.). This engagement led to utility providers having:

- advance notice of the pipeline of projects to support their planning
- direct involvement in the TOC development phase to understand and mitigate utilities risks.

Interviewees observed that this early engagement approach led to opportunities such as avoiding disruption to utilities altogether or bringing forward utility upgrades so that they can be done in conjunction with road upgrades. This has secondary benefits, such as less disruption to the community and improved pavement quality because it is interfered with less.

The relationships emerging at both a technical and management levels is facilitating problem resolution with utilities. For example, if utilities are found during non-destructive testing, then assessments can be made whether it is preferable to change the reference design or move the utility.

The contractual relationships are also beginning to shift away from individual agreements between contractors and utility providers, towards overarching agreements between MRPV and the utility providers.

This is a key area of risk in which the PDA seeks to drive efficiency and improve project and cost planning.

### Reporting, Reviews and Oversight

MRPV has implemented detailed reporting and reviews on every project and across the program.

Interviewees commented favourably on internal monthly project reviews that focus on what is happening on each project. One interviewee observed that this contrasted with reviews that are upwardly focused on what management wanted to hear.

Other reviews referenced by interviewees included:

- Annual reviews by the Department of Treasury and Finance to analyse the overall program performance.
- Annual panel reviews, including commercial terms and KRAs. These are undertaken in conjunction with market feedback on the PDA and with a mindset of continuous improvement.

At a project level, direct project oversight is emphasised, with MRPV directing resources, such as superintendents and surveillance staff, to monitor construction proactively. Interviewees noted the positive impact this had on building relationships between MRPV and its contractors which in turn supported problem solving and innovation.

Within MRPV, interviewees observed that reporting is now highly accessible and that there is more oversight than before.

### B.3.3 Communities of Practice

MRPV has redirected resources to build specialised communities of practice that support project and program outcomes. These specialists are available to provide help as needed on individual projects and to drive program-wide improvement.

#### Utilities

Interviewees noted that on road projects, utilities comprise a significant portion of costs, pose significant risk, and are a common ground for claims.

To mitigate this risk, MRPV has established a utilities team of approximately ten staff who deal with utilities at a program-wide level. This team consists of highly qualified and specialised individuals with deep knowledge of utilities across areas such as gas, water, and telecommunications.

On individual projects, the utilities team helps with changes to specifications and the redesign of works to avoid clashes, facilitate early works, and otherwise achieve time and cost certainty on utility-related matters.

More broadly, interviewees observed that this team is supporting the resolution of utility issues at a program-wide level and before risks crystallise on an individual project. This is being done through building direct relationships between MRPV and the utility providers.



These specialists' consistent involvement is also helping to identify problems likely to emerge across the program, again reinforcing the team's ability to mitigate utility risks before they arise.

### Engineering

In addition to engineering managers embedded in projects (frequently co-located with designers), MRPV has established an engineering community of practice to support technical queries.

This technical expertise has been put in place to support design innovation, changes which can drive project costs savings, and the achievement of government policies, such as the Recycled First Policy.<sup>54</sup>

This goal is supported by the PDA in a range of ways:

- Actively taking potential solutions (on individual projects and on a program-wide basis) to the asset owner (the Department of Transport) and engaging it in understanding, assessing, and managing risk. One example is the adoption of slip form barrier construction, which saved money (it was estimated to be 25% of the cost of precast barriers) and time (80% of normal construction times), as well as reducing truck movements and providing greater flexibility in local site dimensions and tolerances.
- Supporting project specification changes, whether during the TOC development phase or as issues or opportunities arise during delivery.
- The development of new specifications which support the use of recycled materials. Examples have included specifications that incorporate green waste into landscaping and that allow noise walls, conduit, and other components to be made from recycled plastics.

Interviewees' observations on this proactive approach are that it is enabling more solutions to be implemented faster. It is no longer left wholly to the contractor to find solutions to gaps between MRPV's specifications and available market solutions.

### Social Procurement

MRPV's social procurement team is focused on building, across the program of works, strategies that support a range of government policies concerning social value, employment of marginalised groups, and local jobs. Its goal is to work collaboratively with contractors and designers to find and support opportunities that fulfil these policies.

Success stories include the partnership between MACA Ltd and First Nations Traffic Management (FNTM), a certified Victorian Aboriginal owned and controlled traffic management business on the Golf Links Road Upgrade project. That project delivered a 15-month partnership, including the employment of 21 Indigenous FNTM staff and the potential for further opportunities to work together.<sup>55</sup>

Support provided by this team comes in various forms. It hosts introduction sessions where contractors (outside of individual projects) are introduced to social providers and the work they do. During the Project Development Phase, the team works with contractors to develop their project's social procurement plans. The ITC Delivery Contract contains KPIs for the measurement and satisfaction of these requirements.

Contractors' social procurement plans are reviewed quarterly, and ideas that emerge during the project's life can be introduced along the way under the ITC Delivery Contract model.

The interviewees noted that, over time, the focus is shifting from individual project opportunities to program wide opportunities, such as apprenticeships which span multiple projects and are more economically sustainable for contractors.

To date, results in this arena have exceeded interviewees' expectations. From a position where social procurement goals were on the verge of being downgraded, interviewees stated that 2021 saw a 400% increase in social procurement spend to AUD\$90m.

### Safety

MRPV's safety specialists play a proactive role in projects, from the TOC development phase through to delivery.

The evolution of this team is reflected in its involvement in a wider range of areas that drive safety outcomes, including:

- Development of the Safety Management Systems before work commences.
- Reviewing the contractor's planning, scheduling, and resourcing of work in the project development phase.
- Leading initiatives for Tier 3 and Tier 4 contractors who may otherwise not have the organisational commitment or funding to initiate these processes.
- Focusing on higher order controls, technology adoption and critical risk planning.

<sup>54</sup> State Government of Victoria, 'Recycled First Policy', *Victoria's Big Build* <<https://bigbuild.vic.gov.au/about/ecologia/recycled-first-policy>>.

<sup>55</sup> State Government of Victoria, 'Golf Links Road Upgrade Creates Social Impact', *Victoria's Big Build* <<https://bigbuild.vic.gov.au/news/major-road-projects-victoria/golf-links-road-upgrade-creates-social-impact>>.

- Expanding relationships between safety specialists across organisations (including subcontractors), leading to increased familiarity with approaches to safety.

This model represents a shift from prior approaches where the safety team's involvement was constrained to the relationship with the head contractor, focused on confirming contractual obligations had been met, and involved a limited site presence focused on compliance.

The financial model also means that contractors are not incentivised to cut corners with safety to win a job.

A good example is the Barwon Heads Road Upgrade and Princes Highway East Duplication (each consisting of the three packages), where the three principal contractors meet each month, rotating across each site, to share lessons, industry trends, audit performance, common non-conformance issues, and incidents.

MRPV's safety team is also driving a learning culture supported by:

- Safety alerts issued after the event by the contractor (or if that is not possible, by MRPV)
- Live distributions lists for notifications
- Regular contractor safety forums
- MTIA awards which include an award for leading safe practices.

MRPV is tracking three safety measures:

- HPIFR – High Potential Incident Frequency Rate
- TRIFR – Total Recordable Injury Frequency Rates
- LTIFR – Lost Time Injury Frequency Rate.

However, the KPI only measures TRIFR, that is the total number of incidents, and does not measure high potential incidents or lost time injury incidents. Interviewees reported that the shift in measurement and incentives has led to:

- Better awareness of total incidents and overall increased reporting of loss time injuries
- Fewer high potential incidents because safety is being better managed overall
- Better responses by contractors to injuries, because they are no longer concerned with managing injuries to keep the LTIFR measure low.

MRPV provided the following safety data in support of their observations:

- Total incidents:
  - 912 between 1 September 2018 and 31 August 2020 (worked hours: 8,783,761)
  - 1296 between 1 September 2020 and 31 August 2022 (worked hours 8,837,761)
- HPIFR
  - September 2020: 4.35
  - September 2021: 1.27
- TRIFR
  - September 2020: 7.08
  - September 2021: 5.95
- LTIFR
  - September 2020: 0.75
  - September 2021: 2.12

### **Tiger Team**

MRPV has established the 'Tiger Team' – a group of approximately six independent industry specialists (with specific experience in alliances) to support MRPV and its contractors and consultants.

Their role spans the whole life cycle of a project, but their effort is concentrated in the TOC development phase. They use their skills to challenge price assumptions, options, and constructability, and to help find reasonable solutions to issues. Their other critical role is when projects are distressed. They support the parties to understand the issues and work together to find solutions and compromises.

Their role also extends to mentoring and developing the participants' commercial skills (especially for lower tier contractor organisations who are being challenged to build their capability through this approach). They are most active on projects where the participants can benefit from this deep experience.



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