

# Transport Infrastructure Review

Program Scan Insights Report

Finalised September 2024

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# Purpose and scope of the Program Scan

## Why are we conducting this Program Scan?

- ▶ The Department of Transport and Main Roads' ("TMR") forward program of investment is as large as it has ever been, estimated at c.\$32.1 billion to 2026-27.<sup>1</sup>
- ▶ TMR has a strong track record of program delivery, with a very mature roads delivery arm. The pipeline composition has shifted in recent years, with rail investments forming an increasingly large share of the TIP.
- ▶ TMR's ability to deliver on this program is coming under pressure from a range of strategic risks, including:
  - The growth of the pipeline off the back of the commitments to support the 2032 Brisbane Olympic and Paralympic Games
  - The wider growth pressures in South-East Queensland
  - Cost escalation and supply chain pressures
  - Market capacity constraints
  - Climate change and natural disaster risks
- ▶ This has been compounded by Commonwealth Government's recent change to funding arrangements.
- ▶ With these pressures and in the context of a growing rail part of the business, there is a need to ensure that the investment governance, planning and delivery frameworks across TMR are set-up to manage this change and ensure integration across the Portfolio.



## What is the scope of the Program Scan?

- ▶ This Program Scan has been undertaken as a diagnostic piece of work to understand the suitability of investment governance, planning and delivery frameworks across TMR to manage these strategic risks in the coming years.
- ▶ The Program Scan has involved reviewing:
  - TMR's Transport Infrastructure Portfolio ("TIP") pipeline and identifying key strategic risks and opportunities;
  - The current arrangements for strategic planning and project development, gateway processes and organisational arrangements; and
  - The current delivery models and commercial arrangements.

### Current state



Whether the current pipeline is best maximising economic, industry and community benefits for Queensland

### Strategic risks



Ways to manage various strategic risks that may impact the current pipeline

### TMR's approach



How TMR's approach to strategic planning, delivery and governance arrangements can be optimised

### Way forward



Preliminary high-level insights for guidance going forward

# Methodology and report structure

## Our method to conducting the Program Scan

- ▶ The Program Scan was undertaken between January 2024 and March 2024 and involved three structured phases of activities and consultation (described below).
- ▶ Across all three phases, conversations were had with senior leaders across TMR to gather insights, better understand pain points and to validate key findings and recommendations.

|              | Phase 1: Initial program scan  | Phase 2: Consultation and draft insights   | Phase 3: Final report finalisation   |
|--------------|--|--|--|
| Aim          | Develop a clear understanding of the current state of the TIP in Queensland  | Develop initial insights and recommendation  | Finalise report and develop clear path forward to address recommendations  |
| Activities   | <ul style="list-style-type: none"> <li>▶ Initial review of TMR governance and investment program documentation</li> <li>▶ Analysis of current work program and pipeline</li> <li>▶ Review of delivery models</li> <li>▶ Review of planning and governance</li> </ul> | <ul style="list-style-type: none"> <li>▶ Development of initial insights pack</li> <li>▶ Circulation of initial insights pack to TMR Program Scan working group for targeted review and feedback</li> <li>▶ Workshop to review preliminary recommendations</li> <li>▶ Second round of consultation with Core TMR Leadership Group</li> </ul> | <ul style="list-style-type: none"> <li>▶ Drafting of final report</li> <li>▶ Refinement of report recommendations</li> <li>▶ Final round of engagement with wider TMR Leaders and finalisation of program scan report</li> </ul> |
| Consultation | <ul style="list-style-type: none"> <li>▶ Early consultation with Core TMR Leadership Group</li> </ul>  | <ul style="list-style-type: none"> <li>▶ Presentation of preliminary findings and recommendations to Core TMR Leadership Group</li> </ul>  | <ul style="list-style-type: none"> <li>▶ Refinement of report recommendations with TMR Leadership Group</li> <li>▶ Final round of review and iteration with other TMR Leaders</li> </ul>   |

## How we have structured our findings from the Program Scan

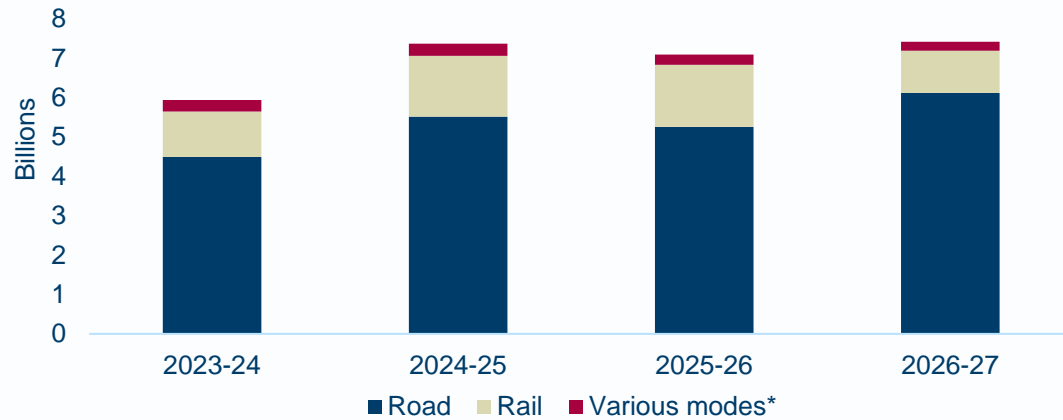
- ▶ The first part of the report uses an analysis of the current state of the investment pipeline and an understanding of external factors to discuss key strategic risks confronting the TIP.
- ▶ The remainder of the report is structured to systematically review key issues across the infrastructure lifecycle, from strategic planning and project idea conception all the way through to delivery (see below), with recommendations for each.



# Snapshot of the Transport Infrastructure Portfolio (“TIP”) Pipeline

The TIP is a strategic compilation of the department's 10-year transport infrastructure investment view, both approved and under consideration by TMR. The TIP has a pipeline worth c.\$62 billion between 2023 and 2033 (including Queensland Rail) and c.\$28 billion during 2023-27 for road and transport infrastructure (excluding Queensland Rail).

## TIP Pipeline by Mode



\* Various modes include Active Transport, Air, Bus Infrastructure, Maritime and Multi-modal

The composition of the pipeline is aligned with the five medium-term infrastructure focus areas for Queensland, as outlined by the **State Infrastructure Strategy (“SIS”)**:

1. Building a Brisbane 2032 legacy;
2. Connecting Queensland’s regions;
3. Creating liveable communities;
4. Realising Queensland’s future as a renewable energy superpower; and
5. Driving infrastructure performance.

## A significant share of the pipeline is being injected into road and rail infrastructure

### Key focus areas for the *road pipeline* include:

- ▶ Planning and delivery of key projects to support the Brisbane 2032 Olympics and Paralympic Games
- ▶ Improving freight efficiency that links Queensland to the rest of Australia
- ▶ Delivering \$13 billion Bruce Highway Upgrade Program over a 15-year period (2013–14 to 2027–28)
- ▶ Strengthening transport safety system through safe roads, safe vehicles and safe road use

### Key focus areas for the *rail pipeline* include:

- ▶ Optimising SEQ rail network with a focus on strategic corridors between Brisbane, the Gold Coast and Sunshine Coast, as well as support Cross River Rail
- ▶ Providing high-frequency passenger transport “trunk” services that complement Brisbane Metro and Cross River Rail
- ▶ Upgrading accessibility of transport infrastructure
- ▶ Maximising benefits of Inland Rail working alongside the Australian Government

## TMR Investment 2023-27



**Roads**  
\$21.4 billion



**Railways**  
\$9.6 billion



**Bus Infrastructure**  
\$539 million



**Active transport**  
\$328 million



**Maritime**  
\$185 million



**Multi modal and other**  
\$71 million

Source: QTRIP 2023-24 to 2026-27

# Strategic risks to the delivery of the TMR pipeline

*The delivery of the TIP has come under pressure from a range of strategic risks. The most pressing issues have been associated with market-wide cost-escalation, compounded by the decision of the Commonwealth Government to review its funding arrangements. An overview of these strategic risks is provided below.*

## Emerging strategic risks to the TIP

### Cost escalation and funding pressures



- ▶ The national infrastructure market has come under significant cost pressure, stemming from post-covid supply chain constraints, labour market shortage and wider market capacity issues.
- ▶ This has transpired for TMR in the form of budget overruns and presents a major risk to the short-to-medium term pipeline delivery.
- ▶ These cost pressures coincide with the Commonwealth Government's decision to review and update its funding arrangements of the National Land Transport Network projects.
- ▶ This has resulted in a significant short-term program of work, led by the PIP Branch, to reprioritise the TIP.

### 2032 Brisbane Olympic and Paralympic Games



- ▶ The funding and cost pressures also come at a time when TMR is under pressure to deliver Government commitments in support of the 2032 Brisbane Olympic Games.
- ▶ This adds a layer of complexity when determining portfolio prioritisation.
- ▶ There was a perceived risk that these commitments could compromise wider network priorities.

### Environment and sustainability



- ▶ Queensland has been particularly exposed to extreme weather events, realised most recently through the intense rainfall and floods across the State in January and February 2024.
- ▶ 38% decrease in public transport usage on the SEQ network due to events like flooding events and successive COVID-19 lock-downs.
- ▶ This creates immediate short-term delivery pressures, with TMR resources having to be diverted to resolve associated infrastructure damage and network disruption.
- ▶ There is a longer-term cost and planning issue of embedding resilience in TMR's infrastructure.

### Population growth



- ▶ Queensland's population of ~5.3 million is forecast to increase to ~6.8 million by 2037 and ~7.3 million by 2042.
- ▶ Much of this growth is expected to occur in Southeast Queensland, coastal communities and regional centres with industry growth.
- ▶ This places increasing demands and needs for upgrades on the transport network in these areas.
- ▶ There is difficulty in balancing the need for investment in growth areas, with network optimisation in other areas of the State.

### Market capacity



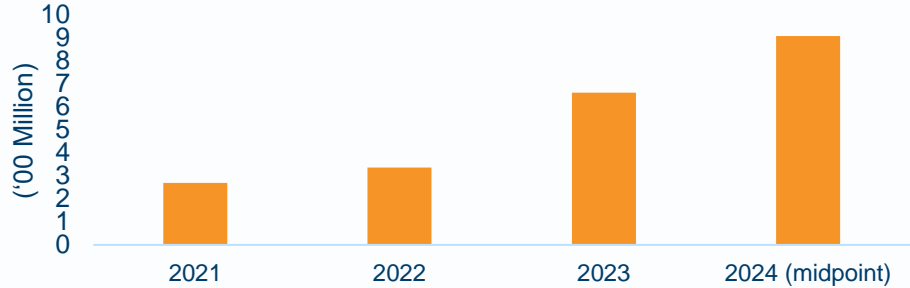
- ▶ The number of projects in the Infrastructure Investment Program tripled between 2015 and 2022.
- ▶ This growth has come at a time when other States have also been increasing their investment programs.
- ▶ When combined, supply chain pressures and labour market shortages, has placed pressure on infrastructure delivery for TMR.
- ▶ The market is evolving and some of the delivery pressures are easing in other States.
- ▶ The challenge for TMR will be to ensure that the right capability exists locally to ensure competitive procurement and delivery of its 10-year pipeline.

### Other strategic risk areas include:

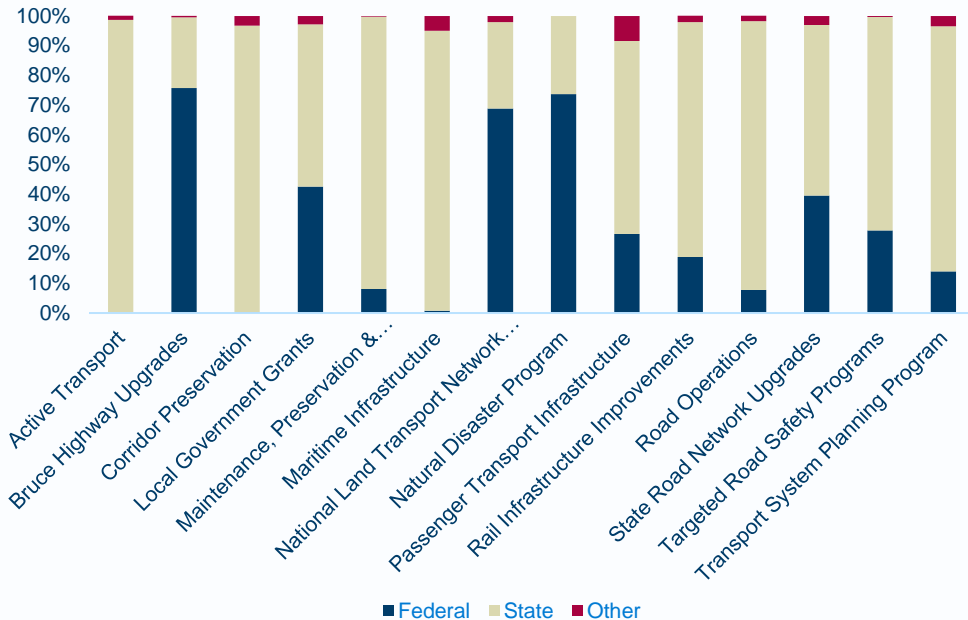
- ▶ Global risks such as overseas wars impacting supply chains
- ▶ Geographical scale and diversity of customers and community
- ▶ New technology and digitisation
- ▶ Inflation
- ▶ External factors impacting road safety
- ▶ Local government priorities and regional plans

# Evidence and factors behind cost escalation

## Variance between total baseline expenditure and total actual expenditure per financial year



## Exposure of investment programs to Commonwealth funding



- ▶ There is a clear upwards trend of significant forecast project cost overruns which are expected to worsen over the coming years. It is important to note that the data available, in terms of the discrepancy between actual and budget expenditure, may not reflect the true scale of cost increases. This is due to decisions to defer expenditure. In other words, if TMR had delivered all its previous TIP commitments, the actual gap may be much higher. Further investigation is needed to properly validate this acknowledging some work is underway.

## Common reasons for cost pressures

### External factors

- ▶ **Adverse global and international market conditions**
  - Uncertainties associated with wars abroad, and unaffordability and declined value for money due to inflation
- ▶ **Impacts of recent natural disasters**
  - Extreme weather events pivot available resources away from planned project delivery
- ▶ **Cost increases in materials, leading to higher construction costs**
  - For example, between March 2020 and October 2023, gravel increased by 62%, concrete increased by 56%, fuel increased by 69%, steel increased by 76%, and bitumen increased by 33%.
- ▶ **Labour market capacity**
  - The availability of skilled workers has become an issue nationally, resulting in wage pressures to attract the right skills needed for project delivery.

### Internal factors

- ▶ **Project scope creep**
  - It was widely acknowledged that TMR projects were under increasing pressure to deliver more as part of project scopes, with 'gold-plating' of projects stemming from increasing societal expectations and a desire to reduce long term maintenance costs and 'only build once to meet future needs'
- ▶ **Cost estimation**
  - It has been noted that there has been issues with the accuracy and currency of cost estimates of TMR projects through the development lifecycle, with cost uncertainty not being accounted for adequately in contingencies.
- ▶ **Pre-construction investigations:**
  - Detailed investigations are insufficient to de-risk delivery due to limited planning budgets.
- ▶ **Post-delivery risk**
  - Environment and contamination risks have been emerging post-procurement, resulting in unforeseen cost increases.

# Key insights and actions

The purpose of this Program Scan was to provide high-level insights of key issues that TMR is experiencing across each stage of the infrastructure lifecycle. To provide meaningful guidance around how these insights translate into actionable next-steps, we have provided a set of recommendations below that map against each of the key insights. The recommendations below have been grouped into two categories that reflect the degree of immediacy and/or type of action required:

- ▶ **Consider:** a recommendation for an action to be undertaken but where there is a lower degree of urgency for action compared with other recommendations in this program scan.
- ▶ **Implement:** a recommendation for to immediately implement an action.

**Suggested actions of highest priority to be carried out immediately are detailed in red below.**

| Issue                  | Key insights   | Suggested actions   |
|------------------------|--|---|
| Strategic planning     | <ul style="list-style-type: none"> <li>• There appears to be a misalignment between the strategic land-use, transport and other infrastructure planning across Queensland Government.</li> </ul>   | <ul style="list-style-type: none"> <li>• <b>Consider:</b> continue to participate in and work on stronger cross-department governance and alignment process between the development and timing of land use, transport and other infrastructure plans.</li> </ul>  |
|                        | <ul style="list-style-type: none"> <li>• Portfolio-level strategic planning documents do not fully reflect changing government commitments and wider strategic risks that have emerged in recent years.</li> </ul>   | <ul style="list-style-type: none"> <li>• <b>Consider:</b> It is acknowledged that a refresh of the Transport Coordination Plan is underway. It is important that this refresh is done in a way that ensures the Plan provides meaningful strategic guidance for decision makers across TMR and sets the right outcome-based performance frameworks for the Department.</li> </ul> |
|                        | <ul style="list-style-type: none"> <li>• Inconsistency in the application of the portfolio-level strategic policy in Regional Transport Plans (RTPs) and subsequent investment decision-making (e.g. inconsistent application of multi-modal principles in all plans).</li> </ul>  | <ul style="list-style-type: none"> <li>• <b>Consider:</b> updates to the RTPs to ensure they better reflect the latest portfolio-level strategic direction of TMR across all modes. The timing of these updates should be considered given a potential Transport Coordination Plan (TCP) update.</li> </ul>   |
| Governance             | <ul style="list-style-type: none"> <li>• There are potential inconsistencies in the way the governance structures and processes are understood and applied across different parts of TMR.</li> </ul>   | <ul style="list-style-type: none"> <li>• <b>Implement:</b> updates to the governance processes and frameworks supporting the Transport Infrastructure Portfolio (TIP) to ensure they reflect the latest structures. These updates should be done alongside education programs to enable consistent understanding and application across TMR.</li> </ul>                           |
|                        | <ul style="list-style-type: none"> <li>• The layers of governance and reporting appear to cause uncertainties for individuals in understanding their roles and responsibilities and potentially create funding and reporting pressures at the sub-program level.</li> </ul>  | <ul style="list-style-type: none"> <li>• <b>Consider:</b> an update of the Investment Program structures so they better reflect the investment priorities of TMR, supported by a capability review and education program across TMR.</li> </ul>   |
| Project prioritisation | <ul style="list-style-type: none"> <li>• There are many projects proceeding through to the Business Case phase. Given the scale of the capital program and the funding pressures TMR is under, the initial filtering process may not be providing enough discipline to select projects to proceed to the Business Case Phase.</li> </ul> | <ul style="list-style-type: none"> <li>• <b>Implement:</b> updates to the strategic decision-making frameworks to ensure more effective decision making at the 'initial filter' phase of the prioritisation process.</li> </ul>   |
|                        | <ul style="list-style-type: none"> <li>• There are inconsistent views about how well TMR strategic planning priorities and local network perspectives are integrated as part of project selection in the project prioritisation process.</li> </ul>  | <ul style="list-style-type: none"> <li>• <b>Consider:</b> a detailed review of investment decision-making process and outcomes, with a view to understanding the alignment of project selection with wider strategic objectives of TMR.</li> </ul>  |

# Key insights and actions

| Issue                           | Key insights   | Suggested actions   |
|---------------------------------|--|---|
| Project development             | <ul style="list-style-type: none"> <li>Significant cost escalation has occurred across the TMR investment portfolio, forcing several candidate projects to be deferred, delayed or descoped. This is creating uncertainty in the capital program decision making. There also appears to be major shifts between costs in Business Case phase and those achieved by contractor in delivery.</li> </ul>  | <ul style="list-style-type: none"> <li><b>Implement:</b> a deep-dive review of a sample of TMR capital projects to understand how costs are developed and monitored over the development cycle. This will provide the basis for a review and update of the cost estimating manual.</li> </ul>   |
|                                 | <ul style="list-style-type: none"> <li>The business case process and reporting requirements appear to not direct enough effort to properly manage key project cost and implementation risks.</li> </ul>  | <ul style="list-style-type: none"> <li><b>Implement:</b> an update to the business case guidelines to ensure that the requirements are fit-for-purpose to manage project implementation risk, including exploring ways to embed optionality into project design and delivery.</li> </ul>  |
| Commercial models               | <ul style="list-style-type: none"> <li>TMR is using a range of commercial models for delivery with differing levels of risk sharing. It is unclear if the process of selecting the best commercial model for a project is being consistently applied and whether this is delivering the right TMR-wide commercial outcomes to adapt to current market conditions.</li> </ul>   | <ul style="list-style-type: none"> <li><b>Implement:</b> a strategic review of commercial models and client-side capability to provide clearer direction across TMR, which will help drive better risk allocation and collaboration outcomes.</li> </ul>  |
|                                 | <ul style="list-style-type: none"> <li>Commercial governance structures are in place at TMR, but in practice, the decision-making on projects rests with only a few individuals and there is a lack of collaboration between modes.</li> </ul>   | <ul style="list-style-type: none"> <li><b>Consider:</b> updating the procurement governance arrangements to ensure they provide the right strategic and project-level support across TMR. Consideration should also be given to establishing a TMR-wide working group to facilitate collaboration and knowledge sharing of insights, market trends and lessons learned between modes.</li> </ul>  |
| Delivery and program management | <ul style="list-style-type: none"> <li>Cost issues during delivery seems to be arising from both additions of scope and realisation of risk (such as the discovery of PFAS that was not adequately foreseen prior to commencement of work).</li> </ul>   | <ul style="list-style-type: none"> <li><b>Consider:</b> a more structured approach to change management and cost to complete forecasting so that the most up-to-date information is available on projects during delivery. This can be incorporated into the review of the cost estimating approach noted above.</li> </ul>   |
| Investment assurance            | <ul style="list-style-type: none"> <li>Assurance responsibility appears to be split across different parts of TMR across Gates 1 to 6, which can result in a lack of accountability in terms of actioning recommendations from assurance reviews.</li> <li>There also appears to be gaps in the assurance process, including the levels of assurance after Gate 3 and the extent to which sub-programs are receiving assurance based on individual project costs.</li> </ul> | <ul style="list-style-type: none"> <li><b>Implement:</b> changes to the assurance process governance to ensure that there is a single point of accountability overseeing the entire assurance process. Updates to the assurance process should also include: more oversight post-Gate 3 to ensure greater risk management during the procurement and delivery phases of projects; and updates to the cost and risk thresholds for assurance to ensure they appropriately capture sub-programs and investments with a higher degree of perceived risk (rather than purely based on a cost threshold).</li> </ul> |