

Trends and Insights 2022





Acknowledgement of Country

Infrastructure NSW acknowledges the Traditional Custodians of the lands where we walk, work and live, and pays respect to their Elders past and present.

We acknowledge and respect their continuing connection to land, seas and waterways of NSW, and the continuation of their cultural, spiritual and educational practices.

In preparing the Trends and Insights Report, we acknowledge the importance of Aboriginal and Torres Strait Islander people's unique history of land and water management, and of art, culture and society that began over 65,000 years ago.

This report analyses the performance of the NSW Infrastructure Program of capital projects and programs in financial year 2021–2022 and assesses the progress made in addressing key drivers of risk previously identified.

It identifies opportunities to further increase the confidence in the successful delivery of a sustainable infrastructure legacy.



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Introduction

Purpose

This report analyses the performance of the NSW Infrastructure Program of capital projects and programs in the fiscal year 2021–2022 (FY22). It assesses:

- program-wide trends affecting the performance of infrastructure projects
- progress made in addressing key drivers of risk previously identified
- opportunities to further increase confidence in the successful delivery of a sustainable infrastructure legacy for the people of NSW.

Infrastructure NSW is pursuing initiatives to improve future infrastructure investment outcomes. Our focus is on initiatives which:

- promote investment in the right project, at the right place and at the right time
- reduce the NSW Infrastructure Program risks
- maximise community benefits for today and tomorrow
- increase the capability to deliver the NSW Infrastructure Program.

Scope

Infrastructure Investor Assurance Framework

This report analyses the information collected by Infrastructure NSW in administering the *Infrastructure Investor Assurance Framework* (IIAF).¹ The principles of the IIAF and thereby of Infrastructure NSW's Assurance function are established by the *NSW Gateway Policy*.² The scope of Infrastructure NSW's Assurance function applies to all infrastructure projects with a value of \$10 million and above, being developed, procured or delivered by NSW Government agencies and businesses.

Mandated assurance activities include independent reviews at critical decision points throughout the lifecycle of capital projects and regular, risk-based, project monitoring and reporting.

Although the Assurance process is confidential to each project, the aggregated insights gained from Assurance activities presents a unique opportunity to evaluate the overall performance of the NSW Infrastructure Program and continuously improve its delivery.

Assurance activities in FY22

Throughout FY22, 138 reviews were completed on 101 projects, which resulted in over 1,500 'Critical' and 'Essential' recommendations.¹ These recommendations are categorised by risk topics and criticality as defined in the IIAF and in the Review Workbooks.³ Further performance and risk information was collected on 509 projects through Infrastructure NSW ongoing monitoring and reporting activities. This report draws from these Assurance activities and builds on the Trends and Insights reports from the last 3 years.

1 Infrastructure NSW, Infrastructure Investor Assurance Framework, updated September 2022, NSW Government.

2 NSW Treasury, NSW Treasury Policy and Guidelines: NSW Gateway Policy, 2022, NSW Government.

3 See <https://www.infrastructure.nsw.gov.au/investor-assurance/project-assurance/resources/nsw-gateway-reviews/>

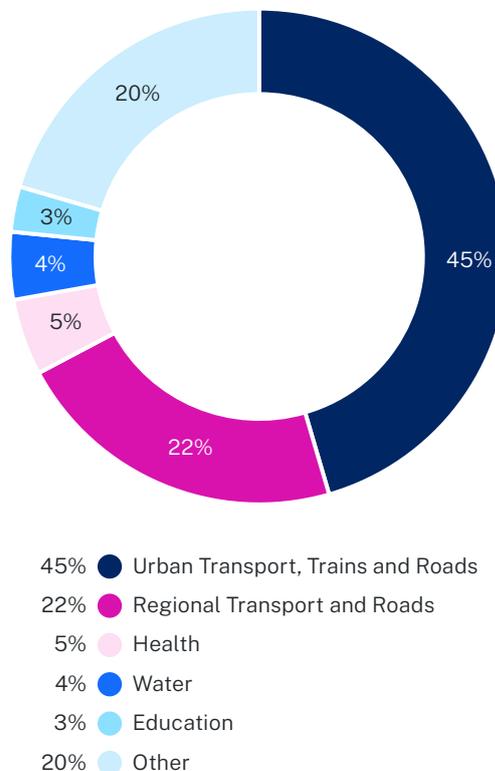
The NSW Infrastructure Program

The IIAF defines 4 project tiers to reflect the project scale, risk and financial value. Tier 1 projects are the riskiest and highest value and Tier 4 projects are the lowest risk and smallest projects.⁴

The NSW Infrastructure Program (consisting of all 4 tiers) comprised of 652 projects at the end FY22.

The Transport Cluster accounts for 67% of the total NSW Infrastructure Program value (a 7 percentage point decrease from FY21, driven by project completions and cancellation). Regional transport and roads increased from 15% of the portfolio in FY21 to 22% in FY22 and urban transport, trains and roads decreased from 59% in FY21 to 45% in FY22.

Figure 1 — Portfolio percentage value by type



⁴ Infrastructure NSW, Infrastructure Investor Assurance Framework, NSW Government, updated September 2022.

The performance of the NSW Infrastructure Program is stable despite significant challenges

Project performance monitoring and reporting is completed at regular intervals to inform Government of progress and risks. These reports rate the status of projects as either 'On-Track', 'At-Risk' or 'Not-on-Track'.⁵

Overall, the per cent of projects On-Track marginally decreased, from 80% in FY20 to 74% in FY22, see Figure 2. The proportion of projects Not-on-Track remained stable year on year.

Project delivery confidence ratings from Assurance reviews are also stable.⁶ Since FY20, there is no change in the per cent of high ratings and only a small increase in low ratings, see Figure 3.

This performance has been achieved despite significant challenges, including:

- Rapid and unexpected inflation and cost escalation.
- Supply chain and labour force disruptions from COVID-19 and the war in Ukraine, which were exacerbated by strong global demand for infrastructure projects.
- More large projects moving into delivery, further straining the capacity of the Australian Construction industry. As large and complex projects move into delivery, they are also more likely to encounter issues and report Not-on-track.

Figure 2 – Project status

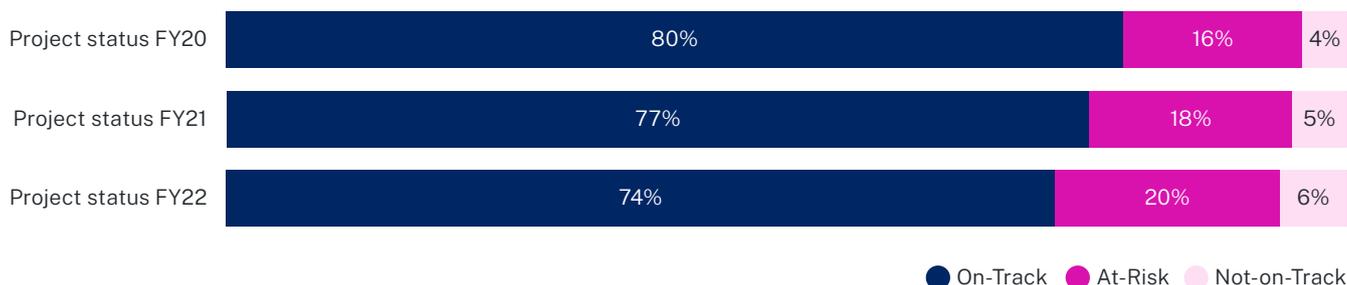


Figure 3 – Project delivery confidence



⁵ On-Track refers to no major unmitigated risks identified, At-Risk refers to major risks identified but appropriate mitigating actions being taken, and Not-on-Track refers to major unmitigated risks identified with further action required.

⁶ Projects developed and delivered in accordance with the NSW Government's objectives are given a high 'delivery confidence' rating in Assurance reviews.

Update on previous trends

An update on trends highlighted in earlier reports is summarised below.

The size and sequencing of the megaproject pipeline increases risks to the NSW Infrastructure Program

Previous reports highlighted that megaprojects (\$1 billion of capital cost or more) are more likely to be At-Risk compared to projects with a value under \$1 billion. This trend is continuing. Throughout FY22, 13% of megaprojects were Not-on-Track compared to 5% for all other projects.⁷ This highlights the greater risk profile of these large and complex projects, see Figure 4.

Megaprojects in the delivery phase are more likely to be Not-on-Track compared to earlier phases. Megaprojects are large and complex, and are often built in areas with pre-existing infrastructure which require extensive early investigations to mitigate risks.⁸ On average, 26% of Megaprojects in the delivery phase have a Not-on-Track status, compared to 8% for the development and procurement phases. Some of the root causes of the increased risk relate to inadequate risk management, lack of clarity of roles and responsibilities and inadequate procurement strategies offering value for money and accounting for market capabilities.⁹

Being Not-on-Track is a significant concern in the delivery phase as project outcomes are unlikely to be achieved within budget or on-time. In contrast, projects in the development phase do not yet have an approved budget, scope or timeline. For these projects, there are more opportunities to mitigate risks and issues.

Figure 4 — Project status by project size (yearly average)



Megaprojects are typically Tier 1 or Tier 2 projects. As such, they are subject to a higher level of review and Assurance activities than other projects. Because of this higher level of oversight, risks are more likely to be identified.

⁷ Periodic reporting is not compulsory for the lowest profile-lowest risk category (Tier 4).

⁸ Infrastructure NSW, Trends and Insights Report 2021, NSW Government.

⁹ Infrastructure NSW, Trends and Insights Report 2020, NSW Government.

Insufficient identification of alternative investment options in the development phase curtails long-term value creation

Assurance reviews assess project performance and make recommendations to assist project teams to develop and deliver projects successfully. These recommendations are grouped into ‘themes’.

In FY21 and FY22, the lowest performing theme relates to the quality of business cases, see Table 1 below (accounting for 17% of all critical recommendations in FY22).

This means that the identification of options and the associated analysis of benefits in the development phases remain insufficient. There are opportunities to expand the investment options considered, particularly in strategic business cases, to a range of infrastructure and non-infrastructure solutions prior to a preferred option being identified.

Establishing effective oversight and risk management, at the project and portfolio level, requires continued effort by executives

Program oversight and risk management underpins all trends discussed in this and previous reports. ‘Governance’ and ‘Risk Management’ Key Focus Areas (KFA) are assessed in Assurance reviews at both the project and program level.¹⁰

Risk management and governance remain the second and third most common sources of critical recommendations after the quality of business cases, see Table 1.

Table 1 – Ranking of critical recommendation themes made in Assurance reviews

Ranking	FY20	FY21	FY22
1	Risk management	Quality of business case	Quality of business case
2	Governance	Risk management	Risk management
3	Project management and planning	Governance	Governance
4	Procurement	Program/project management	Program/project management
5	Quality of business case	Project resourcing	Procurement
6	Options analysis	Procurement	Options analysis

¹⁰ Infrastructure NSW, Infrastructure Investor Assurance Framework, NSW Government, updated September 2022.

FY22 trends and insights

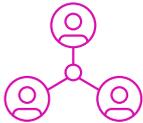
While the previous trends discussed above remain highly relevant to the current performance of the NSW Infrastructure Program, this report focuses on the below 3 trends that emerged in FY22.



TREND 1 – Inflation and cost escalation is challenging investment decisions and budgets

If cost estimations are based on unrealistic cost escalation assumptions, the evidence base supporting investment decisions, including value for money and affordability assessments, will be misleading. This could result in misinformed investment decisions, suboptimal prioritisation of projects, and cost overruns in delivery.

In FY22, unexpected and rapid cost escalation put significant pressure on budgets and challenged investment decisions. Up to 15% of underperforming Tier 1 projects reported cost escalation as a major contributing factor. This trend emerged in March 2021 and has since accelerated. With inflationary pressures expected to continue into 2024, project teams must implement measures and contingencies to mitigate the impact of rising costs.



TREND 2 – Not adequately engaging owners and operators increases risk

Considering the needs of asset owners and operators early in the lifecycle is critical to the success of capital projects. This is especially true for projects adopting innovative technologies and processes that disrupt existing operating models. Insufficient management of change and transition to new operating models is the fastest growing issue across the NSW Infrastructure Program. Related risks, such as industrial action, contributed to more than a third of underperforming Tier 1 projects in FY22.

To mitigate these risks, project teams must identify affected stakeholders at the earliest possible stage and document the approach for engaging with them early in the design and development phases. By default, project teams should include asset owners and operators in decision-making processes and governance forums.



TREND 3 – Procurement practices are improving

Assurance reviews show a substantial increase in the implementation of good practice in procurement processes. The proportion of projects receiving a high delivery confidence rating at procurement gates has doubled 2 years in a row. To ensure this positive trend is sustained, NSW Government should incorporate all best practice procurement principles into business-as-usual processes.

Trend 1

Inflation and cost escalation is challenging investment decisions and budgets

In FY22, unexpected and rapid cost escalation put significant pressure on budgets and challenged investment decisions. Up to 15% of underperforming Tier 1 projects reported cost escalation as a major contributing factor.¹¹ With inflationary pressures expected to continue into 2024,¹² project teams must implement measures and contingencies to mitigate the impact of rising costs.

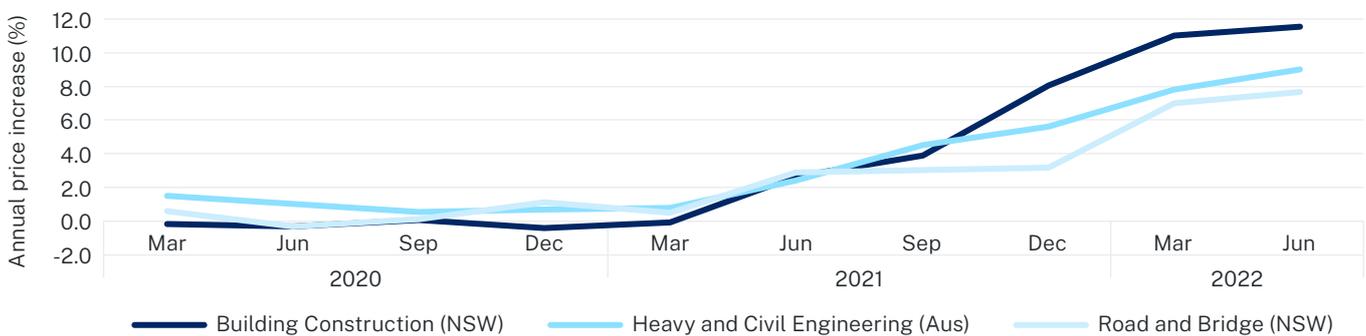
Context

Between July 2021 to June 2022, prices in the NSW building construction sector increased by 11.5%,¹³ see Figure 5. This unexpected annual price increase was the biggest on record.

Cost increases are the result of local and global supply chain instabilities, strong global demand for building materials, in particular timber, steel and crude oil, and ongoing skilled labour shortages.¹³ These market factors were intensified by the 2022 flooding events in the NSW Northern Rivers region and global events such as the war in Ukraine.

Cost escalation is critical to evaluating future project costs and assessing value for money and affordability. If cost escalation assumptions do not reflect actual market conditions, project prioritisation and investment decisions can be misinformed. For projects in delivery, it can challenge budgets, erode project scope or lead to additional funding requests, leading to reduced benefits or additional costs.

Figure 5 – Construction sector annual price increase¹³



11 Project under-performance is defined as having a Red or Amber status within Assurance periodic reporting.

12 Bis Oxford Economics, *Labour & Materials Escalation Costs in NSW: Forecasts to 2026/27*, unpublished, issued to Infrastructure NSW 16 February 2023.

13 Australian Bureau of Statistics, *Producer Price Indexes*, June 2022, Australian Government.

Trends and insights

Inflation and cost escalation is challenging project budgets

In quarter 2 of FY22, cost escalation began to negatively affect the portfolio as a whole. For projects in delivery, cost escalation places more pressure on the infrastructure budget, or affects the sustainability of the industry where cost escalation risk is passed onto contractors. For projects in development and procurement, quotes may exceed approved budgets, challenging value for money and affordability assumptions in business cases.

As the year progressed, cost escalation became a contributing factor to projects being Not-on-Track or At-Risk for 15% of Tier 1 projects, see Figure 6.

Figure 6 – Tier 1 projects At-Risk or Not-on-Track with cost escalation



NSW Treasury, as part of the 2022–23 Half Yearly Review, expected inflation to peak in the December 2022 quarter, but the outlook to remain volatile.¹⁴ If high cost escalation continues throughout FY23, contingency budgets may not be sufficient to absorb these pressures. For instance, Assurance reviews found that only 47% Tier 1 projects in delivery were on budget and had an acceptable contingency in place.

Continued cost escalation will intensify the current poor performance in value for money and affordability assessments

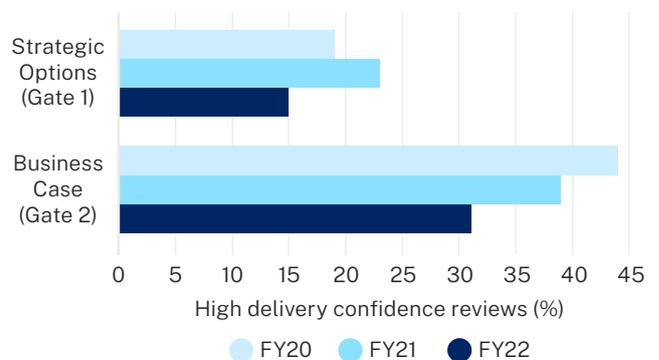
Value for money and affordability are assessed early in a project’s lifecycle and are used to inform investment decisions. If cost escalation is underestimated, initial value for money and affordability assessments (such as Cost Benefit Analysis, project scoping and options analysis) may potentially misguide investment decisions, project prioritisation and result in poor outcomes.

Projects’ poor performance against the value for money and affordability KFA is already the primary driver of low delivery confidence. 92% of projects with reduced delivery confidence had issues or significant issues identified under this focus area.¹⁵ For these projects, 75% of reviews at Gate 3 (Readiness for Market) found that project funding available is partially or not consistent with the project budget and that project scope is not aligned with the pre-tender cost estimate.

The Strategic Options and Business Case gates are critical to assessing value for money and affordability and ensuring that investment decisions maximise outcomes for communities. After a fall in performance, these gates have the lowest per cent of high delivery confidence ratings, see Figure 7.

If cost escalation is not adequately considered in these gates, risks are created as projects progress to later phases and delivery confidence would fall.

Figure 7 – Ratio of high delivery confidence ratings by gateway stage



¹⁴ NSW Treasury, 2022–23 Half-Yearly Review, 2023, NSW Government.

¹⁵ The ‘value for money and affordability’ Key Focus Area focusses on maximising benefits with the project funding available and ensuring a project delivers a net economic benefit.

Progress

Infrastructure NSW published a series of principles and guidelines on how Government agencies are to reduce and mitigate risk, including cost escalation risks in contracts. This includes:

- *Commercial Principles on Escalation Risk for Infrastructure Projects*¹⁶ (2022) – Sets the principles to encourage NSW Government agencies to mitigate cost escalation on their projects by engaging early with industry. The guidance helps to mitigate cost escalation risks for projects in planning and procurement.
- *Cost Control Framework for the Infrastructure Program*¹⁷ (2022) – Aims to establish consistent and effective cost control processes across all capital infrastructure projects. It provides minimum requirements and guidance for agencies to apply to existing oversight processes and decision making arrangements. The framework prescribes that cost escalation must have regard to the nature of the project, the likely time frame for delivery and reference NSW Treasury guidance and Australian Bureau of Statistics indices as appropriate.

Transitional arrangements are in place for Clusters to begin reporting to Infrastructure NSW on risk exposure and retained contingency as required by the Cost Control Framework. Monthly updates will be provided for Tier 1 projects in procurement where the agency expects NSW Government to accept escalation risk on specific inputs.

Infrastructure NSW is progressing a range of actions to reduce inflationary pressure exacerbated by market conditions, including:

- Realigning projects to ease the strained capacity of the industry. Large infrastructure projects are recommended to be re-sequenced and/or separated into multiple smaller projects. This advice was provided in the 2022–23 NSW State Budget, 2022 State Infrastructure Strategy and the NSW State Infrastructure Plan.
- Sharing lessons learnt and best practices on the management of inflationary pressures through a specific sub-committee of the Construction Leadership Group.
- Building capacity in the construction labour market over the long-term by delivering the NSW Government's \$20.2 million commitment to increase the number of women working in the construction industry, in partnership with the Department of Education and Training, infrastructure delivery agencies and industry representatives.
- Supporting long-term industry planning and transparency, by regularly updating the 'Major Projects Pipeline Portal'. This portal outlines when projects (valued \$50 million or higher) are expected to come to market.

¹⁶ Infrastructure NSW, *Commercial Principles on Escalation Risk for Infrastructure Projects*, 2022, NSW Government.

¹⁷ Infrastructure NSW, *Cost Control Framework for the Infrastructure Program*, 2022, NSW Government.

Opportunities

Despite the progress made to date, there are further opportunities to improve the way inflation and cost escalation are managed. These opportunities are summarised in the table below.

Table 2 – Trend 1 opportunities

1	Infrastructure NSW to review and report to NSW Government on the application and ongoing need for the <i>Commercial Principles on Escalation Risk for Infrastructure Projects</i> .
2	Agencies to include the following in all Cabinet submissions for investment decisions: <ul style="list-style-type: none">• an estimated cost range aligned to lower and upper range escalation forecasts reflecting current economic conditions• scope options within business cases to deal with unexpected cost escalation• risk sharing options on the price of specific construction inputs expected to be susceptible to high escalation.
3	Infrastructure NSW to develop an ‘Assurance best practice knowledge library’ that collates all best practice requirements and guidance to support project teams to improve the delivery confidence of their projects.
4	NSW Government to continue to manage the NSW Infrastructure Program to meet industry capacity constraints.
5	Infrastructure NSW to undertake Deep Dive reviews on Cluster’s implementation of the <i>Cost Control Framework</i> , on selected Clusters.

Powerhouse Parramatta



Powerhouse Parramatta is the largest investment in cultural infrastructure since the Sydney Opera House, and the first major cultural institution to be established in Western Sydney. It is one of the largest structural engineering and architecturally complex projects underway in Australia.

The museum is designed so that the superstructure is a celebrated architectural feature that is used to articulate the building façades. The buildings are designed with 3 types of steel lattices as an exoskeleton to the buildings.

Once completed, 18,000sqm of exhibition and public space will make Powerhouse Parramatta the largest museum in NSW and the leading science and technology museum in the Southern Hemisphere. Two million people are expected to visit the museum annually.

Best practice

Powerhouse Parramatta's construction contract was executed on 16 September 2021 as a guaranteed maximum price (GMP) contract. The GMP is fixed for the duration of the works which is forecast to be completed by the end of 2024.

The contract did not include any specific mechanisms to address cost escalation (such as 'rise and fall' clauses). Price escalation is the Contractor's risk and a matter for the Contractor to resolve.

When the inflationary pressure began mid-2022, a large proportion of the structure and service trades had already been procured, mitigating some of the escalation issues. However, the façade and finishing trades have been subject to cost escalation, creating concern for the Contractor.

Applying the Commercial Principles on Escalation Risk for Infrastructure

The Project team adopted a collaborative approach to managing cost escalation, by working with the Contractor to resolve cost escalation risks, with the objective of maximising project outcomes.

This approach is consistent with the principles outlined in the *Commercial principles on escalation risk for infrastructure projects*, by collaboratively and proactively minimising and mitigating the impact of cost escalation on the project while ensuring the best value of money is achieved.

This was in contrast to maintaining a strict contractual approach, which had the potential to result in a vicious circle of claims and disputes that could lead to suspension of works, termination of contract, lengthy dispute resolution processes, and/or project delays.

Maintenance of contractual rights and obligations

Working collaboratively with the Contractor did not forego the project team's contractual rights under the contract.

Pragmatically assessing cost escalation risks and working with the Contractor to understand and determine the pressure points allowed the project team to structure a support package to assist the Contractor in the case of unavoidable loss.

Outcome

The approach adopted by the project team had the following positive outcomes:

- Improved identification and understanding of the potential impact of escalation risks which informed mitigation strategies.
- An increased focus on project delivery and outcomes during a time of high price uncertainty, by reducing uncertainty on how cost escalation issues and claims will be resolved.
- Improved relationships, collaboration and decision making between the Contractor and the project team.
- Increased confidence that the project will complete on time and on budget.

Trend 2

Not adequately engaging owners and operators increases risk

Insufficient management of change and transition to new operating models is the fastest growing issue across the NSW Infrastructure Program. Related risks, such as industrial action, contributed to more than a third of underperforming Tier 1 projects in FY22.

To mitigate these risks, project teams must identify affected stakeholders at the earliest possible stage and document the approach for engaging with them early in the design and development phases.

Context

A growing trend in recent years has been for infrastructure assets to integrate increasing amounts of operational technology. Examples include intelligent traffic systems, digital systems and automated trains.

Although these types of projects often have remarkably high benefit-cost ratios, they can disrupt the asset owners' and operators' ways of working. Affected staff will need to be supported through the change which may require them to gain new skills. The impact on business processes must be clearly understood upfront allowing teams to plan for the transition and to ensure the new assets perform optimally.

Because of this, engaging early with asset owners and operators is critical to the long-term success of such capital projects. Change requires commitment from all stakeholders and must be supported by a workforce and organisational transition plan.

This is even more important when considering the skills shortages in the industry which hinders both the delivery and operation of assets.¹⁸ Unemployment in NSW fell from 5.1% in June 2021¹⁹ to 3.3% 12 months later²⁰ and Transport sector job vacancies increased 135% since the start of the COVID-19 pandemic.²¹

¹⁸ Infrastructure Australia, Infrastructure Market Capacity, 2021, Australian Government.

¹⁹ Australian Bureau of Statistics, Labour Force, June 2021, Australian Government.

²⁰ Australian Bureau of Statistics, Labour Force, June 2022, Australian Government.

²¹ Australian Bureau of Statistics, Job Vacancies, August 2022, Australian Government.

Trends and insights

Insufficient change management is the fastest growing issue

Assurance reviews assess the management of change, issues and risks for asset managers, operators and end users using the ‘Asset Owner’s Needs and Change Management’ KFA.

Assurance activities show a significant decline in the performance of this KFA, see Figure 8. Following a 19 percentage point increase in issues being identified, it is the fastest growing driver of reduced delivery confidence.

Assurance reviews in projects with reduced delivery confidence found that:²²

- Project teams do not sufficiently investigate and document affected organisations and their response to change in 82% of Gate 1 (Strategic Options) Reviews which reported an overall reduced delivery confidence.
- Project teams did not sufficiently consider the operational benefits and impacts in 69% of Reviews in the development phase which reported an overall reduced delivery confidence.
- Project teams did not adequately consider the likely response from affected organisations in 43% of Gate 2 (Business Case) Reviews which reported a reduced delivery confidence.

An example of the importance of change management on project success is in relation to industrial action in the rail sector. Although industrial action is an extreme outcome and the causes are complex and multifaceted, the impact on the NSW Infrastructure Program is significant. Industrial relations matters are linked to 36% of Tier 1 projects reporting ‘Not-on-Track’ or ‘At-Risk’, predominantly in the rail sector. Assurance activities highlighted the lack of early consultation and collaboration as a contributing factor.

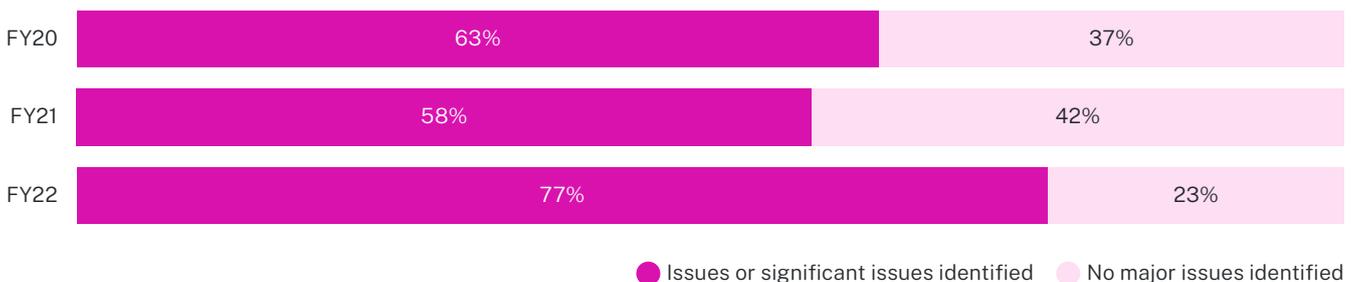
Improved asset owner and operator consultation, collaboration and change management is needed from an early stage to avoid scope changes and negotiations late in the project lifecycle which can result in major delays and cost overruns.

Insights from individual Assurance reviews:

“Asset owners were not clearly identified whilst the project was in the procurement stage, therefore the asset owner may not participate in the planning and procurement stages and their needs may not be considered.”

“The asset owner’s role was not defined and/or understood within project governance structures. Therefore, the asset owner may not be engaged in decision making and/or acceptance of the asset.”

Figure 8 — Performance of the Asset Owner’s Need and Change Management KFA in projects with reduced delivery confidence ratings



²² Note: The following points are relevant only to projects with reduced delivery confidence, not the entire portfolio.

Progress

There have been a number of initiatives progressed by NSW Government to improve the way stakeholders are engaged, including the *Oversight Framework and Guide*²³ (2021). The *Oversight Framework and Guide* sets the minimum requirements and best practice guidance for overseeing Tier 1 projects. The framework defines how to effectively engage and collaborate with stakeholders and recommends the inclusion of broad representation on key governance groups (project steering committee / project board, project control group, change management group), which covers the asset manager and operator. The framework makes decision-making transparent, clarifies accountability and ensures governance structures embrace diverse views and are open to challenge and scepticism.

Opportunities

Despite the progress made, there are further opportunities to improve collaboration with asset owners and operators throughout a project's development, procurement and delivery. These opportunities are summarised in the table below.

Table 3 – Trend 2 opportunities

1	Infrastructure NSW to strengthen the Assurance Review Workbooks in relation to opportunities 2, 3, 4 and 5 below.
2	Project teams to identify impacted stakeholders at the earliest possible stage (Gate 0 – Needs Analysis) and document the approach for engaging with them early in the design and development phases of projects.
3	By default, project teams to include asset owners and operators in decision-making processes and governance forums. The roles and responsibilities of asset owners and operators in such forums is to be defined and documented.
4	Where relevant, agencies to develop workforce strategies that identify and plan for the transition and skills required for the future, particularly for services that are impacted by digitalisation, automation and modernisation.
5	Agencies to document and formalise best practice principles for their stakeholder engagement and managing the transition of new assets into operation.

²³ Infrastructure NSW, *Oversight Framework for the NSW Infrastructure Program*, 2021, NSW Government.

Wagga Wagga Special Activation Precinct



First train through the Riverina Intermodal Freight and Logistics Hub in the Wagga Wagga Special Activation Precinct. Courtesy of Wagga Wagga City Council.

Special Activation Precincts are a new way of planning and delivering industrial and commercial infrastructure projects in dedicated areas in regional NSW, by bringing together planning and investment support services.²⁴

²⁴ For more information, see <https://www.planning.nsw.gov.au/Plans-for-your-area/Special-Activation-Precincts>

The Wagga Wagga Special Activation Precinct will bring investment to regional NSW by providing streamlined planning approvals and removing first mover barriers with \$157.5 million committed to deliver stage 1 enabling infrastructure. The 40 year vision will see the 4,500 hectare precinct developed to create up to 6,000 new jobs in renewable energy and recycling, advanced manufacturing, agribusiness and value-add agriculture, and freight and logistics.

Investment into key enabling infrastructure such as roads and utilities are funded by the \$4.2 billion Snowy Hydro Legacy Fund which is set up to deliver transformational critical infrastructure and priority initiatives identified in the 20-Year Economic Vision for Regional NSW, NSW State Infrastructure Strategy 2022–2042 and other long-term government plans.

The project is underway with stage 1 of the project being delivered in partnership with Wagga Wagga City Council.

Best practice

Engagement with impacted stakeholders

Active engagement and collaboration with local community members, traditional owners, local government, current and potential business owners and many other local stakeholders was sought early in the master planning process.

This informed changes to the locations, types and scale of development to reduce conflict and uncertainty for the local community. For example, early landscaping to screen future development in 20 years was provided and sub-precincts were relocated to meet community expectations.

Early engagement also reduced risks and uncertainty for future investment and development decisions and importantly informed future land use and development that will be supported and encouraged.

A diverse governance structure

Key government agencies are brought together throughout the development of the project using regular Project Control Groups and Enquiry by Design workshops. Representation from agencies such as Environmental Protection Agency, Transport for NSW, Office of Environment and Heritage, as well as close collaboration and engagement with Wagga Wagga City Council reduces risk in design, planning and investment decisions in the future.

Long-term precinct demand forecasting

The precinct considers the potential land use and forecasts the potential infrastructure demand and staging over the 40 years. The NSW Government's investment provides enabling infrastructure for third parties and forecasting for staging of future infrastructure needs so they can be planned and delivered by the relevant authority.

Outcome

This highly collaborative precinct approach to economic development and infrastructure delivery in regional NSW drives better outcomes for investors, community and local stakeholders like council. Inclusive governance and collaboration during development stages with all stakeholders ensures agreement on long-term planning and delivery outcomes.

This approach ensures the enabling assets developed through the Special Activation Precinct are responsive to the asset owner's needs (such as the Local Government) and aligned to the needs of the current and future business owners, and the broader community.

The Wagga Wagga Special Activation Precinct is already attracting interest from business owners looking to invest or expand in the precinct and take advantage of government planning.

Trend 3

Procurement practices are improving

Assurance reviews show a substantial increase in projects implementing good practice in procurement processes. The proportion of projects receiving a high delivery confidence rating at procurement gates has doubled 2 years in a row. To ensure this continues, Government should incorporate all best practice procurement principles into business-as-usual processes.

Context

Successful procurement processes refine commercial terms to allocate risks in alignment to commercial interests and select a partner that provides value for money and delivers the outcomes required whilst minimising risks to NSW Government. Effectively identifying, sharing and mitigating project risks that may eventuate in the delivery phase is key to realising the above.

In previous years, reviews within the procurement gates had the lowest proportion of high delivery confidence ratings, which prompted the NSW Government to focus on procurement practices.

Trends and insights

Procurement practices are significantly improving

Assurance reviews include 2 gates focused on the procurement phase:²⁵

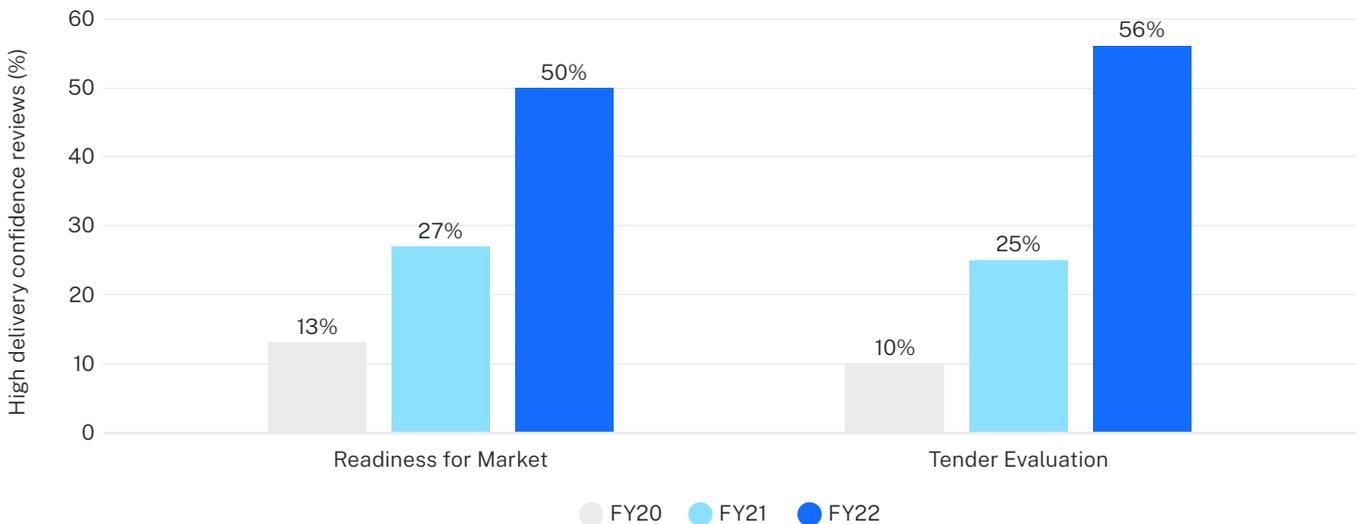
1. The Readiness for Market Gate (Gate 3) assesses project's procurement and delivery approach to realise the benefits outlined in the final business case.
2. The Tender Evaluation Gate (Gate 4) assesses whether the scope being procured will deliver the benefits outlined in the final business case and if the project is ready to proceed to delivery.

A high delivery confidence rating in these reviews indicate that good practice procurement processes are being implemented. The proportion of high ratings doubled 2 years in a row since FY20, see Figure 9.

High delivery confidence in the Readiness for Market gate increased from 13% in FY20 to 50% in FY22 and high ratings in the Tender Evaluation gate increased from 10% to 56% over the same period.

The proportion of high delivery confidence ratings doubled 2 years in a row since FY20

Figure 9 — Per cent of projects with high delivery confidence ratings



²⁵ Although procurement activities are considered in other gates, procurement activities are not the primary focus.

Progress

Project teams and agencies are increasingly focused on mitigating procurement risks and more consistently applying principles supporting sustainable and equitable procurements and contracting. These include applying the principles from the following guidelines:

- *The Premier’s Memorandum M2021-10 Procurement for Large, Complex Infrastructure Projects*²⁶ (2021) – Sets out expectations for the procurement for large, complex infrastructure projects, to enable sustainable delivery of the infrastructure pipeline. The defined approach is default for Agencies. Reasons must be documented when practices are not followed. The memorandum has reference to the *Framework for Establishing Effective Project Procurement*.
- *Commercial Principles for Infrastructure Projects*²⁷ (2022) – Includes expectations for how Government agencies determine various contractual terms to optimise risk allocation.
- *Interactive Tendering Guidelines*²⁸ (2019) – Informs government and industry of best practice interactive tendering. The guidelines outline key principles to structuring and managing interactives and guidance on when and how to use interactives.
- *NSW Government Action Plan: A ten point commitment to the construction sector*²⁹ (2018) – Includes 10 commitments made by member agencies, all of whom are engaged in the delivery of a large long-term pipeline of infrastructure investment. These commitments recognise that the NSW Government can only achieve its infrastructure objectives in partnership with the private sector, and that this depends on healthy ongoing competition between a capable field of construction firms, sub-contractors and the industry supply chain.

Opportunities

Further action is needed to reinforce this positive trend and ensure procurement processes continue to improve. To support this continuous improvement, 4 opportunities are summarised in the table below.

Table 4 – Trend 3 opportunities

1	Project teams to implement the <i>Commercial Principles for Infrastructure Projects</i> and develop contractual measures to provide transparency and support bidders’ participation during procurement.
2	Government to extend the <i>Premier’s Memorandum M2021-10 Procurement for Large, Complex Infrastructure Projects</i> .
3	Government to extend the <i>Premier’s Memorandum M2022-06 Information on infrastructure projects</i> .
4	Infrastructure NSW to complete a Deep Dive review on the implementation of the above 3 opportunities, on selected Agencies.

²⁶ Department of Premier & Cabinet, M2021-10 Procurement for Large, Complex Infrastructure Projects, NSW Government.

²⁷ Infrastructure NSW, *Commercial Principles for Infrastructure Projects*, 2022, NSW Government.

²⁸ Infrastructure NSW, *Interactive Tendering Guidelines*, 2019, NSW Government.

²⁹ Infrastructure NSW, *NSW Government Action Plan: A ten point commitment to the construction sector*, 2018, NSW Government.

More Trains More Services



The More Trains, More Services (MTMS) program will simplify and modernise NSW's rail network creating high capacity, turn up and go services for many customers. The program will provide more frequent train services, with less wait times, and less crowding on a simpler and more reliable network.

The MTMS Stage 2 South project includes infrastructure modifications and upgrades across multiple sites from Mortdale to Shellharbour. These works include station and maintenance upgrades and network modernisations (such as new track equipment, overhead wiring and signalling technologies).

Most construction work has been completed, apart from the procurement and construction of new stabling at Waterfall Station and minor works elsewhere.

Best practice

MTMS Stage 2 South is a Program Alliance (Alliance) contract comprising Transport for NSW and 2 private sector organisations. The Alliance is in line with the National Alliance Contracting Guidelines and as such uses the principles of targeted budgeting, risk sharing and sharing of 'gain and pain'.

Being an alliance has greatly assisted in navigating the project through the impacts of Protected Industrial Action (PIA) and COVID-19 in an efficient and cost effective manner, as outlined below. Many of these practices are aligned to the *Premier's Memorandum M2021-10 Procurement for Large, Complex Infrastructure Projects* and the *Commercial Principles for Infrastructure Projects*.

Preservation of critical skills during PIA

The impact of PIA has been extensive, including considerable delays to the project schedule.

The Alliance has been able to maintain its critical resources by reducing project workforce on some parts of the program and reallocating them to other parts of the program. This means project knowledge and skills have not been lost, but preserved for future work.

Incentivising cost savings and innovation

Through an alliance structure, all parties of the contract equitably share in increased savings and costs from the performance of the contract (i.e. 'gainshare' and 'painshare').

The Alliance partners agreed to an innovative framework where the actual impacted costs of PIA and COVID-19 will be isolated and evaluated at the conclusion of the project. This approach incentivised gainshare behaviours and acknowledges risk sharing across the partnership.

Increased resource flexibility

The Alliance rapidly instigated best practice COVID-19 controls, minimising risk to workers, but still maintaining work on site. Where the schedule was affected, the flexible nature of the contract enabled rescheduling and reallocating of work and resources to minimise impact and the open-book nature of the contract clearly demonstrated consumable and staff cost savings.

Collaboration and integration

The project team for MTMS Stage 2 South are members of the wider MTMS program alliance and have team members embedded within the Alliance. Going forward, project budgets are benchmarked against past actual performance ensuring value for money is improved with each stage of the program.

Outcome

Through the collaborative approach embraced as a part of the contract framework, Transport for NSW has been able to reduce the negative impacts of PIA and COVID-19. This includes minimising the impact of external factors on the project schedule, enabling construction to continue, and ensuring that skilled resources are retained.

References

Australian Bureau of Statistics, Labour Force, June 2021, Australian Government

Australian Bureau of Statistics, Job Vacancies, August 2022, Australian Government

Australian Bureau of Statistics, Producer Price Indexes, June 2022, Australian Government

Department of Premier & Cabinet, M2021-10 Procurement for Large, Complex Infrastructure Projects, NSW Government

Infrastructure Australia, Infrastructure Market Capacity, 2021, Australian Government

Infrastructure NSW, Commercial Principles on Escalation Risk for Infrastructure Projects, 2022, NSW Government

Infrastructure NSW, Commercial Principles for Infrastructure Projects, 2022, NSW Government

Infrastructure NSW, Cost Control Framework for the Infrastructure Program, 2022, NSW Government

Infrastructure NSW, Infrastructure Investor Assurance Framework, 2022, NSW Government

Infrastructure NSW, Oversight Framework for the NSW Infrastructure Program, 2021, NSW Government.

Infrastructure NSW, Trends and Insights Report 2021, 2021, NSW Government

Infrastructure NSW, Interactive Tendering Guidelines, 2019, NSW Government

Infrastructure NSW, NSW Government Action Plan: A ten point commitment to the construction sector, 2018, NSW Government

NSW Treasury, 2022-23 Half-Yearly Review, 2023, NSW Government

Glossary

Term	Definition
Assurance review	Refers to gateway, health checks and deep dive reviews.
At-Risk	Project with a red RAG status overall, or in cost or time.
Cluster agency	The lead Government agency tasked with developing and/or delivering a project applicable under this framework and the NSW Gateway Policy.
Delivery confidence	<p>The assessment of the project performance against 7 Key Focus Areas during reviews. Delivery confidence is rated as either high, medium or low.</p> <p>Reduced delivery confidence is considered when a rating of 'low' or 'medium' has been provided.</p>
ETC	Estimated total cost.
Health checks	Independent reviews conducted by a team of experienced practitioners seeking to identify issues in a project/program which may arise between gateway reviews.
HPHR	High profile high risk.
HPHR projects	High profile high risk projects. These are also classified as Tier 1 projects
IIAF	Infrastructure Investor Assurance Framework
NSW Infrastructure Program	The total NSW state capital infrastructure investment across all government agencies.
Key themes	Key topics highlighted during assurance reviews. Key themes are categorised when review recommendations are made.
KFA	Key focus area.
KFA requirements	189 requirement statements assessed by expert reviewers during Reviews across the Key Focus Areas. The requirements are assessed as either Yes, No or Partial assessment in meeting the requirements.

Term	Definition
Megaprojects	Projects with an Estimated Total Completion (ETC) of \$1 billion or more.
Mitigation measures	Feasible measures, actions, or features that are to be incorporated into the project to avoid or substantially reduce the project's significant risk impacts.
NSW Gateway Policy	The NSW Gateway Policy sets out the key points along the project lifecycle important for providing confidence to the NSW Government that projects are being delivered to time, cost and in-line with government objectives.
Periodic reporting	Monthly reports submitting by agencies to Infrastructure NSW providing project updates. Periodic reporting is completed monthly for Tier 1 projects and quarterly for Tier 2 and Tier 3 projects.
Phase	The phase of a project in its lifecycle. Project phases include needs confirmation, needs analysis, investment decision, procure, deliver and initial operations, and benefits realisation.
Portfolio	The totality of an organisation's capital investment program.
Project	Includes Infrastructure projects or programs that are in scope of the Infrastructure Investor Assurance Framework.
Project tiers	Tier-based classification of project profile and risk potential based on the project's estimated total cost and qualitative risk profile criteria (level of government priority, interface complexity, procurement complexity, agency capability and whether it is deemed as an essential service). The project tier classification is comprised of 4 project tiers, where Tier 1 encompasses projects deemed as being the highest risk and profile (Tier 1 – high profile/high risk projects), and Tier 4 with the lowest risk profile.
Projects with issues or significant issues	7 Key Focus Areas (KFA) are assessed through Assurance Reviews. A rating of 'satisfactory' is provided if the review team identifies issues that require timely management attention or 'weak' when significant issues are identified that may jeopardise the successful delivery of the project. Projects with 'satisfactory' or 'weak' KFAs are considered projects with issues or significant issues.
RAG status	A traffic light system of red/amber/green highlighting the risk status of projects being on-track, at-risk or not-on-track.

Term	Definition
Reviews/gateway reviews	A review of a project/program by an independent team of experienced practitioners at a specific key decision point (Gate) in the project/program's lifecycle. A gateway review is a short, focused, independent expert appraisal of the project that highlights risks and issues, which if not addressed may threaten successful delivery. It provides a view of the current progress of a project and assurance. The Infrastructure Investor Assurance Framework defines the following gateway reviews; Gate 0 (Go/No Go), Gate 1 (Strategic Options), Gate 2 (Business Case), Gate 3 (Readiness for Market), Gate 4 (Tender Evaluation), Gate 5 (Readiness for Service), and Gate 6 (Benefits Realisation).
Root cause	The primary causes of risk on projects as identified through assurance reviews and periodic reporting.
State	State of New South Wales.
