

Level Crossing Removal Project

Project detail

DURATION

LXRP was established in 2015. LXRP has removed 38 level crossings to date and is forecast to remove all 75 committed level crossings by 2025

PROJECT PARTNERS/STAKEHOLDERS

Lead agency:

Major Transport Infrastructure Authority

Main contractors:

- South Eastern Program Alliance (Laing O'Rourke, Jacobs & Metro Trains Melbourne (·MTM))
- Metropolitan Roads Program Alliance (Fulton Hogan & MTM)
- North Western Program Alliance (John Holland, Kellogg Brown and Root & MTM)
- Western Program Alliance (McConnell Dowell, Arup & MTM)
- Southern Program Alliance (Lendlease Engineering, Acciona Coleman, WSP Australia & MTM)

CONTRACT VALUE

\$13.4B AUD (level crossing removals)

\$5.5B AUD (other projects)

CONTRACT TYPE

Primarily Program Alliances

DESCRIPTION

LXRP was established by the Victorian Government to oversee one of the largest rail infrastructure projects in the state's history. Central to the project is the elimination of 75 level crossings across metropolitan Melbourne. LXRP is also delivering other rail network upgrades such as new train stations, track duplication and train stabling yards. A workforce of over 5000 people is engaged in the delivery of the LXRP.

LXRP's Program Alliance framework is the primary delivery mechanism for its portfolio of works. This framework provides for the development and delivery of multiple work packages, on a fully allocated and staged basis, across five Program Alliances.

The 'program' approach has driven a longer-term manufacturing or production mindset to development and delivery, rather than a bespoke approach to single-site projects.

The certainty created through the full allocation of work packages to the Program Alliances enables them to attract and retain large-scale, high-performing teams; driving continuous improvement.

It also enables the Program Alliances to make greater investment in skills development, plant, longer term supply chain agreements, workplace conditions and solution standardisation and reuse. Importantly, up-front investment is offset by efficiencies realised across subsequent packages and between Program Alliances.



Procurement process

The Program Alliance model allows LXP to break mega-projects into smaller more manageable packages, enabling more time and effort to be applied in front-end engineering, planning and development. This is augmented by an integrated collaborative approach to project planning and development, with a single-team comprising LXP, the private-sector and network owner/operators which:

- reduces the client's tendering costs (estimated to be half that of traditional models)
- virtually eliminates duplication of effort by not having two or more teams doing essentially the same work
- avoids unsuccessful bidder costs
- achieves submission of binding proposals and boots-on-the-ground for delivery much earlier (estimated to be half that of traditional models).

Project delivery

The extensive front-end planning and development provides orders of magnitude more engineering and delivery certainty at the time of contract award for a work package. As a result, LXP's Program Alliances have reliably delivered projects on time and often ahead of committed timeframes.

The Program Alliances have also achieved strong value-for-money outcomes, backed by a robust benchmarking database with standardised work breakdown structures; generating clearer visibility around costs and why there may be variances (both up and down) to the benchmark rates. Notably, LXP has seen a progressive reduction in typical risk allowances, indirect costs, design costs and variability between the actual outturn cost and target outturn cost because of early clear scope definition, risk mitigation and design re-use and standardisation.

The Program Alliances have also demonstrated exceptional performance across other metrics such as continuous improvement and innovation, safety, community engagement/sentiment, sustainability, diversity and social procurement. This has been supported by the Program Alliance commercial and governance frameworks which incentivise performance in these key areas. Examples include:

- sharing of knowledge between the Program Alliances and strong standardisation across the broader program (e.g. development and adoption of

a standardised 'u-trough' rail viaduct design across all Program Alliances), driving efficiency gains in design and delivery

- creation and support of industry wide capability and inclusion initiatives such as the Victorian Governments Rail Industry Capability Project, Engineering Pathway Program and Women in Transport Program
- outperforming Total Recordable Injury Frequency Rate targets and program-wide sharing of safety and wellbeing initiatives
- use of new materials and products (eg. utilising recycled glass fine aggregate in concrete and recycled plastic sleepers)
- program-wide identification and communication of best practice benchmarks regarding community consultation.

A key feature of the Program Alliance framework is the promotion of a "no-blame" culture in relation to disputes. This has enabled each Alliance Leadership Team, comprising representatives from the relevant Alliance's participants, to work promptly and collaboratively to resolve any potential disputes prior to them being escalated. As result, there have been no program disruptions arising from disputes.

Outcomes and achievements

LXP's Program Alliances have achieved excellent performance in the delivery of a complex portfolio of works, by adopting a longer-term manufacturing or production mindset, rather than a bespoke approach to single-site projects. To date, the Program Alliances have demonstrated industry-leading cost and time outcomes; in a heated transport infrastructure market. Key outcomes of the program approach include:

- procurement efficiency
- realising lower overall risk profiles in proposal pricing
- delivering optimal scope and quality outcomes
- a culture of innovation and continuous improvement; with the application of lessons learnt from package to package and investment in solution standardisation and reuse
- optimal time and value-for-money outcomes
- minimising claims and disputes.





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To whom it may concern

Demonstrating the benefits of delivering a program of works

In 2015 the Level Crossing Removal Project (LXRP) embarked on an ambitious program to remove 50 (now 75) level crossings throughout the Melbourne Metropolitan road and rail network. To enable this it was evident that we needed a very different approach to traditional forms of procurement and contracting. With the backing of the State Government we introduced an adapted form of alliancing called LXRP Program Alliances. While there were positive signs early on it became evident that “feeding” the alliances one project at a time subject to good performance was not achieving all that we aspired to achieve. As such we refined the contracting model to fully allocate all known work packages (approx. \$10billion in capital work) through to 2025 to each of our five Program Alliances. The Program Alliance teams must meet LXRP’s benchmark figures, continue to deliver efficiently and meet minimum standard of performance across Program Key Result Areas, to ensure they keep their allocation of work, essentially establishing a “theirs to lose” approach.

There have been a number of significant benefits to the State through all parties having confidence of the workload ahead. These benefits include but are not necessarily limited to:

- Reducing risk and opportunity allowances due principally to better planning of the work as planning starts very early;
- Reducing the client’s tendering costs (estimated to be half that of traditional forms);
- Virtually eliminating waste by not having two or more teams doing essentially the same work;
- Getting works on the ground much earlier (estimated to be half that of traditional forms);
- Providing orders of magnitude more engineering and delivery certainty due to the increased investment in planning and front-end engineering & design;
- Providing the client with a robust benchmarking database with standardised work breakdown structures, generating clearer visibility of value for money;
- Providing the client with certainty around costs and why there may be variances (both up and down) to the benchmark rates;
- Narrowing the variability between the actual outturn cost and target outturn cost
- Decreasing indirect costs;

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- Decreasing design costs with a focus on design re-use and standardisation;
- Offsetting increasing direct costs with superior value engineering;
- Enabling the alliance teams to focus on other policy outcomes such as social procurement, diversity and recycling;
- Increased efficiency as teams stay together, repeating similar projects which enables effective transfer of learnings and avoids redevelopment of delivery systems and processes;
- Sharing knowledge across the alliances teams and being rewarded for adopting good ideas from other alliance teams resulting in greater efficiencies across the broader program;
- Supporting the teams to make greater investments in skills development, plant, longer term supply chain agreements, and workplace conditions, and contributing to making the industry more attractive to all involved;
- Reducing turnover as employees see a longer-term pipeline of work and career path;
- Reducing adverse events as projects have been undertaken many times, are so well planned and all parties are aware of the risks and opportunities.
- Supporting strong standardisation across the network.

I am confident we will continue to build on the benefits of the Program Alliance approach as all parties continue to further focus on whole of program efficiencies, design standardisation, adopting new technologies and using real time data to drive improved decision making.

My team and I would be happy to share our experiences with anyone who is looking to contribute to making our industry a better place to work.

Yours sincerely



Kevin Devlin
Chief Executive Officer

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