

PROCUREMENT STRATEGY Supporting Information

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Step 1 – Data Gathering

The following table describes the key characteristics of the Level Crossing Removal Project.

Characteristics	Description
Unique characteristics of each level crossing removal site	Each of the level crossing removals has its own challenges from a design, construction and local environment perspective (including urban design). These include different council groups, different local conditions and some different objectives for the outcome of the grade separations relating to their contribution to the local economy and liveability. These considerations will impact the timing and constructability of the level crossing removals as well as the solution that is ultimately chosen. The interface with the existing rail network presents a number of challenges to the constructability, none more so than the safety aspects of both working in a live rail environment and the general level of activity to be undertaken within constrained working sites.
Commonality across multiple level crossing removal sites	Notwithstanding the uniqueness of each site, there are some common characteristics across multiple level crossing removal sites that can lead to cost efficiencies with respect to works packaging and continuous improvement opportunities.
Time and budget constraints	The Government has set the delivery of 50 level crossing removals in the next eight years, with a net budget impact of \$6 billion. Timely delivery presents a challenge to this Program given the expected lengthy stakeholder consultation process, planning and approvals process and restrictions on construction periods.
Large range of stakeholders	This Program requires significant management of interfaces across various stakeholders and access to different transport networks managed by the different parties. There are a wide range of project stakeholders, with a correspondingly large range of issues and competing interests. Stakeholders include the general public, VicRoads, MTM, Councils, Service Authorities, VicTrack, PTV, contractors, Yarra Trams, VLine, bus companies, Melbourne Planning Authority, ARTC, land owners and toll road operators. Stakeholder consultation will be a lengthy process and will continually put pressure on meeting Program timeframes.
Occupations and access regimes	The occupations and access regimes are complex, particularly where multiple level crossing removals will be delivered concurrently and thereby competing for their own requirements. In addition, the occupations and access regime will require coordination across multiple rail operators (e.g. MTM, VLine (including freight), PTV, Australian Rail Track Corporation, Pacific National) to effectively manage the staging of works. Given this Program is set to be delivered in the next eight years, the opportunity for longer occupations are potentially limited. As such, the coordination of the occupations and access regimes, in light of other factors such as disruption to the rail and road network, will be complex. The ability to manage the occupations and access regimes, particularly when unexpected changes occur, will be heavily reliant on MTM's involvement as rail operator of the network.
Planning approvals	Obtaining project planning approvals for such a large number of level crossing removals will be complex for the Program, given the number of stakeholders involved and the varying size, scope and delivery timeframes of the remaining level crossing removals.. Unlocking new development opportunities (whether through value capture or otherwise) adds further complexity to the planning

Characteristics	Description
	approval process which could increase the risks around Program delivery and benefit realisation.
Impact on the different infrastructure operating environments	VLine, VicRoads, VicTrack and freight operators all have different operational needs, specifications and asset management requirements that will need to be effectively managed. The planning and design of the level crossing removals will have to factor in the impact on the different infrastructure operating environments, presenting a challenge to the physical solutions.
Market capacity and capability constraints	This Program competes for skilled resources and various materials with significant Victorian and Interstate projects such as the Cranbourne Pakenham Rail Upgrade, CityLink Tullamarine Widening Project, Mernda rail extension, NSW's North West Rail Link and WestConnex projects, to name a few. This is particularly so for rail specific skill sets given the amount of rail work being undertaken here in Victoria and in NSW and Western Australia.
Network wide impact on transport system	This Program will place a significant burden on the existing rail and road networks to manage and adapt to any potential disruptions as they occur. Engagement and collaboration with public transport operators, local government agencies and broader State government stakeholders to manage network disruptions will be key to this Program. The ability to manage the network wide impact on transport networks will be particularly important in a time when other road and rail network projects are in the delivery phase such as Melbourne Metro, Mernda rail extension, CityLink Tulla Widening and M80 upgrade works.
Value capture opportunities	The extent of value capture is highly dependent on the up-front strategic planning and availability to invest in enabling those mechanisms (e.g. land acquisition along the rail corridors) at a site by site basis. In addition, understanding the geography of activity clusters is important to identify if value capture opportunities exist and whether there is a market for that opportunity worth pursuing. Value capture has the potential to optimise value through value capture mechanisms to reduce the overall cost to Government and the potential creation of future revenue streams.
Franchise agreement	The franchisee, as operator of the rail network, will play a significant role in this Program given the requirement for occupations and access regimes during delivery phase, as well as the likely changes to the rail operations after the delivery phase. In addition, the current packages in the market are being delivered as an alliance and MTM have multiple roles as a non-owner participant and stakeholder. The ability to manage MTM's requirements and preferences will be complex and it requires dedicated resources within LXRA to effectively manage these interactions. The current franchise agreement was not necessarily intended to be responsive to large scale disruptions that will occur in this Program. As the asset will revert back to the franchisee to operate and maintain, their role throughout the planning and delivery phases of this Program is critical.
Continuous improvement	Given the scale and complexity of this Program, a defined process to enable continuous improvement is important to realise cost efficiencies at the Program level. The constrained timeline to deliver 50 level crossing removals in eight years will rely on the ability to leverage lessons learnt from individual packages delivered (within the Program) to realise cost efficiencies in future packages (within the Program).

Step 2 – Packaging Analysis Approach

The procurement objectives were agreed in a procurement workshop on 17 September 2015. These procurement objectives articulate the key outcomes that the selected packaging and delivery method approach should achieve.

Given the scale and complexity of the LXRP, procurement objectives have been defined at a strategic level. Each Package Procurement Strategy will apply these objectives in determining the detailed procurement approach for each package. The strategic nature of this framework allows consideration of specific issues and differences in characteristics at the package level. This enables flexibility at the package level to ensure that the ultimate delivery model selected is well tailored to the specific characteristics of that package.

Procurement Objective	Description
Price	The extent to which the procurement approach supports low cost delivery of capital works (whilst meeting specification), efficient risk pricing and maximises economies of scale.
Time	The extent to which the delivery model is able to deliver the Program within the Government's time constraints and provide time certainty.
Continuous Improvement	The extent to which the procurement approach is able to leverage knowledge gained during the Program (continuous improvement and productivity improvement) and potentially apply the learnings to (and from) each package in the Program.
Management of disruption	The extent to which the procurement approach minimises disruption to the transport network and community, including efficient management of the occupations and access schedules.
Value capture	The extent to which the procurement approach delivery model maximises net revenue opportunities from identified value creation or capture opportunities or keeps available value creation or capture opportunities.
Industry capacity and capability	The extent to which the procurement approach optimises LXRA and industry's capacity and capability, including providing clarity for industry to plan and prepare for resource needs.
Risk management	The extent to which the procurement approach supports effective risk management with risk allocated to the party(ies) best placed to manage the risk.

When considering how best to package the sites across the network, the following packaging value drivers have been identified and outline the different methods for packaging. These should be considered in line with the procurement objectives to ensure achievement of key objectives.

Table 1 Value Drivers

Packaging value driver	Description
Geographic location	Packaging sites which are located close together and/or on the same metropolitan rail lines may drive cost efficiencies, economies of scale, minimise disruption and effectively manage occupation schedules.
Construction technique	Packaging sites based on the expected construction technique (e.g. rail under road etc) may drive delivery and cost efficiencies by facilitating economies of scale in design development, technical expertise (including opportunities to apply continuous improvement learnings), construction methodology and plant/materials supply. This value driver aims to maximise industry capability and capacity.
Development potential	Packaging sites which are assessed as having high development potential may provide opportunities to efficiently pursue these opportunities and may increase the attractiveness of the package, driving innovation by the private sector.

Packaging value driver	Description
Interface with broader transport network	There may be synergies in disruption management in packaging works/sites with a high impact on the road or rail network together, streamlining stakeholder consultation processes. Packaging works/sites with low impacts on the broader transport network together may also facilitate optimising industry capability and capacity (e.g. by providing effective opportunities for Tier 2 providers).
Level of development	Packaging sites based on a varied level of development allows continuous improvement techniques to be employed by leveraging knowledge from more developed sites to lesser developed sites
Size & scale	Consideration of the size and scale of packages is important to develop options which are attractive to the market and provide opportunities for economies of scale, which reduce industry bid costs and optimise industry capacity and capability. This includes consideration of taking to market packages of varying sizes.

The table above outlines various approaches to packaging the works, based on the value drivers there are two strategic level packaging approaches that have been considered within the procurement strategy approach:

- Corridor-based approach that seeks to package works along rail corridors to achieve occupation efficiencies, this can encompass a range of the packaging value drivers (geographic, interface with broader transport network, size and scale).
- A discipline-based approach that seeks to package like work types across the network to achieve economies of scale (e.g. Stations, Power and Signalling works or rail track works).

When considering these two approaches, it is important to consider the impact they will have on achieving the procurement objectives. There are several procurement objectives that will directly impact the ability for works to be completed effectively and should be carefully considered. This includes the following:

- Time
- Management of Disruptions
- Risk Management

The procurement objectives of time is heavily reliant on the ability to manage disruptions and manage interface risks to ensure the works are delivered in line with planned time commitments. The brownfield rail environment across the network, live operating environment and interface risks raised due to the spread of sites across metropolitan Melbourne will directly impact on the ability to deliver the works.

The following table demonstrates how best the two approaches align with facilitating the achievement of the procurement objectives. The following rating has been used to demonstrate the alignment of approach with objective:

Rating	Description
✓✓✓	Approach is extremely effective in satisfying the requirements of the objective
✓✓	Approach is effective in satisfying the requirements of the objective
✓	Approach just satisfies the requirements of the objective
✗	Approach is ineffective in satisfying the requirements of the objective
✗✗	Approach is extremely ineffective in satisfying the requirements of the objective

Procurement Objective	Rationale	Corridor Approach	Discipline-based approach
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Procurement Objective	Rationale	Corridor Approach	Discipline-based approach
Price	- Corridor approach – Economies of scale and synergy opportunities can be realised when grouping sites/works in close proximity, allowing for efficiencies in cost. Similarly, familiarity over site conditions and constraints of a rail line would reduce risk premiums that may be priced when working across various rail lines that all have differing risk profiles. There is also the opportunity for greater innovation due to the ability to manage all aspects across the corridor creating price efficiencies in design. - Discipline-based approach – Enables strong opportunity for economics of scale given the similarity of discipline. Price premiums may occur depending on the unknown differences across the rail corridors and spread of works.	✓✓✓	✓✓
Time	- Corridor approach – Effective in achieving time imperatives, as packaging via corridors limits interface risks and enables efficient scheduling of occupations to achieve delivery commitments. Also eliminates the requirement for re-works caused by poor alignment of works via a discipline approach. - Discipline-based approach – The limited ability to manage disruptions would directly impact the achievement of committed timelines. The interdependent nature of some of the works of different disciplines may be stalled by mismanagement of timing in delivery, causing delays in completion of works.	✓✓✓	✓
Continuous Improvement	- Corridor approach - Ability to apply continuous improvement is enhanced due to greater opportunities to influence change across the wider network and leverage lessons learnt across a broader scope of sites. - Discipline-based approach – While continuous improvement opportunities may be realised, it is unlikely to be as great as a corridor wide approach as it is less likely that innovative solutions across integrated designs will be realised and put into effect.	✓✓✓	✓✓
Management of disruption	- Corridor approach – Enables logical and planned management of disruptions, in line with MTM requirements. The corridor approach provides visibility over all works therefore allowing for better planning and thus a more sensible approach to disruptions. - Discipline-based approach - A discipline based approach increases the complexities in managing disruptions, given MTM manages occupations from a rail line perspective to minimise impacts to rail and road commuters. There rail line approach is critical in ensuring occupations are not occurring on parallel lines, understanding what level captive running is available. It would be difficult to effectively manage the required	✓✓✓	✗

Procurement Objective	Rationale	Corridor Approach	Discipline-based approach
	occupations across the network for a range of disciplines.		
Value capture	- Corridor approach – Visibility gained over all scope of works enables stronger design approach and ability to determine what value capture opportunities would best suit the area with limited interface risk. No separation between station rebuild, signalling requirements and level crossing removals provides the opportunity to develop integrated development opportunities. - Discipline-based approach – The division between disciplines increases the difficulty of developing integrated development opportunities which may sit across several disciplines, which may either make the process more difficult or could result in integrated development opportunities not being realised.	✓✓✓	✓
Industry capacity and capability	Both approaches would be an attractive offering to the market, however it is dependent on how the packages are determined within the approach that will determine the size and scale of works and thus their attractiveness to different players in the market.	✓✓	✓✓
Risk management	- Corridor approach – Reduces interface risks that would be seen between disciplines. There is also the potential that further works be added at a later stage, a corridor approach better enables interface with other network upgrades that may be implemented. A corridor approach allows for visibility over all scope within that area, allowing for a unified approach with regards to managing key stakeholders and consulting with the community. - Discipline approach – High interface risk between various disciplines and the interface risk with key stakeholders and the community that would be exacerbated by the various packages working alongside each other.	✓✓✓	✗

As such, significant benefits are best achieved via packaging the level crossings in based on geographic locations (i.e. corridors). The potential benefits include:

- Rail lines operate geographically via rail corridors, thus working on different corridors will enable MTM to schedule occupations effectively with minimum disruption to the transport network.
- Corridor-wide approach creates opportunities for better rail and amenity solutions and efficiency in operations
- The sites are spread across Melbourne, packaging via corridors allows efficiencies in stakeholder and communications management.
- To best manage resources, achieve economies of scale (in design and delivery) and synergy opportunities, geographically packaging enables a logical flow of packages to achieve time commitments, this is linked to the management of occupations across the lines.
- Ability to apply innovation to the design and construction across the broader corridor.
- In some cases, eliminates the potential cost of re-work where level crossing removals on the same corridor are delivered in separate packages at different times.

Using a corridor approach for packaging, the following packaging solutions have been determined across the network.

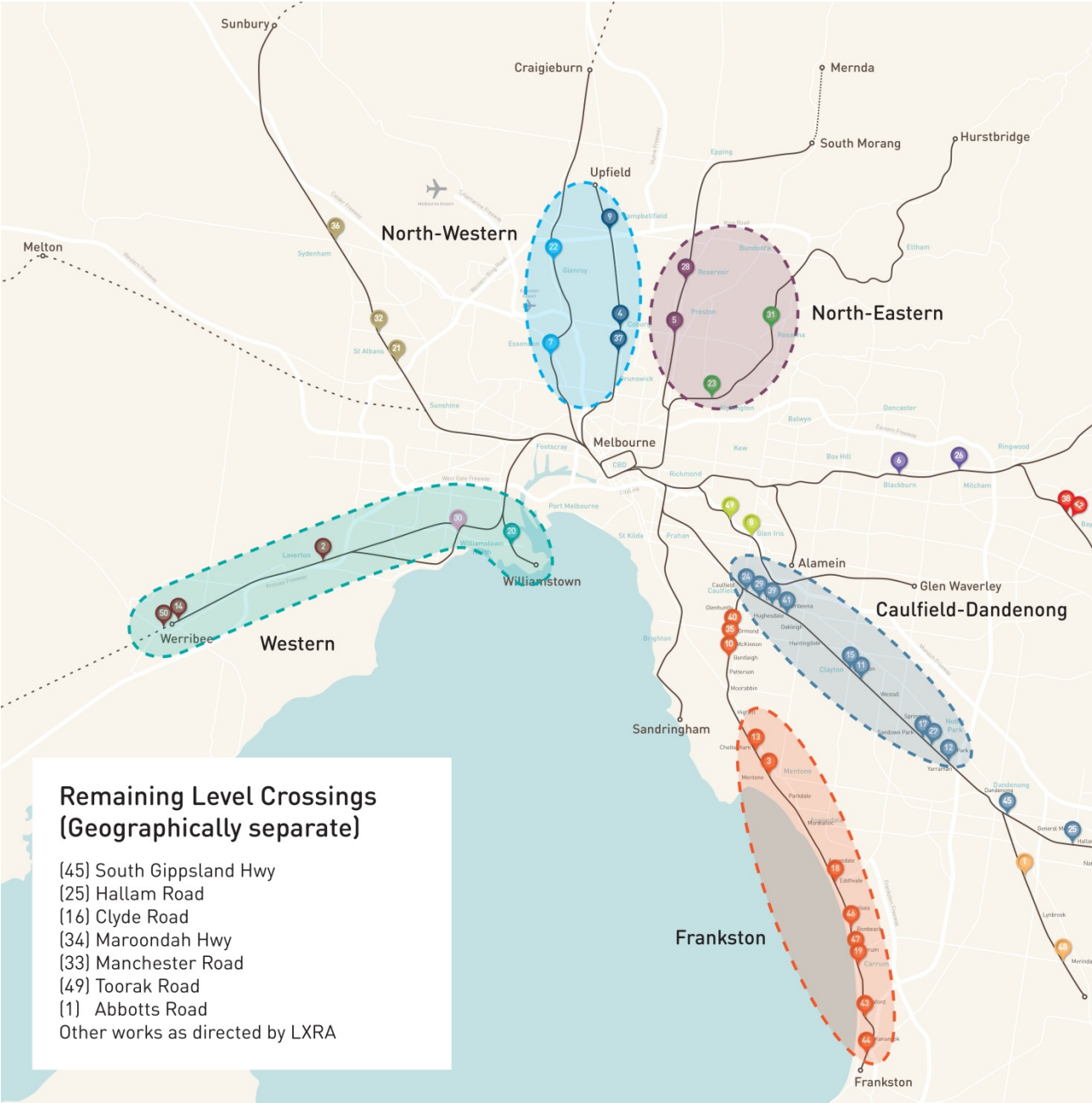
Summary

The following table provides a summary of the packages and the considerations for further packaging analysis to be undertaken in the Package Procurement Strategies.

Package	Level Crossing Sites	Packaging considerations

Package	Level Crossing Sites	Packaging considerations

Figure 1 Map of Packaging



Step 3 – Delivery Model Shortlisting

Level crossing removals can be delivered under various models. Delivery models that are widely recognised and/or recently used in the transport sector and which are consistent with the Department of Treasury and Finance's procurement guidelines are outlined in the table, together with their advantages and disadvantages.

Delivery model description	Advantages	Disadvantages
Construct only (also sometimes referred to as Design then Construct, or Lump Sum or Fixed Price Contracting)		
The State is responsible for the design of the project and will either develop the design internally or engage an external design team to develop the design documentation. A tender process is then run for the construction phase. The design documentation forms part of the tender specification for this procurement process and the contractor delivers the works for a fixed price (subject to variations).	▪ The State retains control of the design process	▪ May expose the State to scoping and interface risks ▪ Limited ability for the construction contractor to provide any input ▪ Price certainty is dependent on the completeness and accuracy of the design • The State's control over stakeholder interactions during the construction phase is limited (compared to more relationship-based models)
Design and Construct (D&C) – Traditional		
The State prepares a design brief outlining the functional specifications and key user requirements for the works. This is less fully developed than the design documentation required for a construct-only contract. Proponents then nominate a fixed price for detailed design and construction works that is based on this functional specification.	▪ Greater potential for innovation when the contractor is involved in both the design and construct of the project ▪ Generally there is a shortened period of time between 'contract award' to 'construction' (approximately 3 months) compared to PPP or Alliance models although not as short as Construct Only ▪ Transfers time and cost risk to the private sector	▪ The proponents may quote a risk premium to cover risks that they are not best placed to manage or where project risks are not fully understood ▪ The State has less involvement and control in the detailed design process than in a relationship-based model. Where the State's scope is not well specified or understood by the Contractor this can lead to contract claims and variations ▪ The State's control over stakeholder interactions during the construction phase is limited (compared to more relationship-based models)
D&C – Risk Allocated		
Same as above, except that during the tendering phase proponents nominate certain risks as being either shared risks between the State and Contractor, or risks retained by the State.	▪ There is a level of flexibility where risk sharing occurs and is best managed in a more collaborative environment. This limits the quotation of a risk premium under the initial contract	▪ If there are significant unknown risks associated with the project, the proponent may include assumptions/exclusions in the contract that can effectively undermine the value of this model and the fixed price for risk transferred
D&C – Collaborative		
Variant on the traditional or risk allocated D&C model with an increased focus on interaction and collaboration, with bidders during the procurement phase building on some of the interactive tendering processes used in other	▪ Provides for earlier contractor input to the design development process than under a traditional D&C model to add value to project planning and constructability analysis and potentially save time	▪ More resource intensive tendering process than a traditional D&C requires careful planning and management of probity issues and stakeholder engagement ▪ Increased tendering costs relative to

Delivery model description	Advantages	Disadvantages
delivery models such as dual TOC (target outturn cost) alliancing. This greater emphasis on collaborative planning and scope determination prior to contract award is intended to provide a mechanism for contractor input earlier in the design process and also to increase the level of certainty around the State's specification at contract award to reduce the likelihood of claims or contract variations.	Increases the level of certainty around the State's specification at contract award to reduce the likelihood of claims or contract variations	traditional D&C
Design, Construct and Maintain (DCM)		
A DCM includes an ongoing maintenance obligation from the contractor in addition to the initial D&C delivery.	- Some of the asset lifecycle risk is transferred to the contractor - Encourages efficiency and effectiveness from the beginning of the project to reduce long term life-cycle costs	- Relies on a well-defined functional and service specification - Can create interfaces with existing system wide maintenance and lifecycle approaches
Managing Contractor		
A managing contractor is selected via a tender process and engaged by the State to manage design, documentation and construction delivery. For this to work, the managing contractor is paid actual sub-contractor costs and the tendered management fee, which can either be a lump sum or a percentage of actual costs. They may also receive incentive payments for achieving costs and schedule targets. The managing contractor is engaged early in the process to provide constructability input. The State collaborates with the managing contractor on the design and delivery aspects of the project. The State has the ability to provide input into the design development and the opportunity to influence the design and construction process. There are many variants of the managing contractor form of delivery. The common variable elements are degree of design, the type of tender process and how the fee and the estimate of the works (that is, the guaranteed maximum price) are finalised.	- The State has the ability to provide input into the design development and the opportunity to influence the design and construction process - Suitable for projects where early contractor involvement is beneficial	- A single design is produced which may not lead to the most effective and Value for Money design option - The construction price is typically negotiated, not competitively tendered - Risk of cost overruns is generally borne by the State (depending on the structure of the managing contractor agreement – for example, a Guaranteed Maximum Price) - Generally requires a high level of resourcing and strong expertise from the client to effectively manage all aspects of the project
Early Contractor Involvement (ECI)		
ECI is comprised of two phases: 1. ECI phase 2. Construction phase The ECI phase involves the early engagement of a contractor(s) to provide input into the design process. Selection for the ECI phase is based primarily on	- High level of contractor input starting in the design development phase and the design and construction phase, typically leading to shortened delivery time - Project risk is appropriately allocated before construction commences and	- Greater costs through the initial phase due to 'optioneering' by designer and contractor through initial idea process, particularly where two contractors are taken through the ECI phase in parallel - Fixed lump sums for the D&C phase

Delivery model description	Advantages	Disadvantages
non-price criteria, although limited price criteria such as preliminaries and margin may also be considered. The ECI phase may be undertaken with a single contractor or two contractors in parallel. The construction phase involves the selected contractor delivering the project under a more traditional D&C style contract	- may provide a better value for money outcome than risk sharing throughout the whole construction phase - It provides the State with greater flexibility to retender the 'design and construction' stage to the open market if it is deemed that the ECI phase does not result in a competitive price. - High degree of collaboration	- may lead to risk premiums being quoted or significant exclusions - Development of a fixed price in a non-competitive environment (under a single ECI model) can detrimentally impact Value for Money
Alliance		
An alliance approach involves both the State and key stakeholders sharing the risks and rewards of the project. It creates a 'no blame' situation and attempts to create a collaborative approach through strong group culture. The alliance model includes two parties undertaking a collaborative interactive tender process with the successful proponent being selected based on non-price criteria and a target outturn cost (TOC). A Program Alliance is a long term relationship between LXRA, the Franchisee and the Contractor/Designer working on the same principles as an alliance, where responsibility and risks are shared within the Alliance. Risk amount/Reward amount mechanisms are utilised and subject to overall risk caps for private sector participants. Under a Program Alliance scope may be added at later stages and some scope elements may not be fully defined from the onset.	- Allows for greater collaboration ensuring both parties are present in the early project scoping and design process, and also throughout the construction phase. This can encourage a 'best for project' approach from multiple involved stakeholders - Flexibility with the design and a collaborative environment allows for design changes to be incorporated into construction - Construction can start sooner due to the advanced design work undertaken during the TOC phase - Program Alliance - enables streamlining and acceleration of procurement and approval processes - Program Alliance - reduces bid costs - Program Alliance - enables successful proponent to allocate and commit organisational resources to LXRA program - Program Alliance - allows LXRA to structure commercial model to streamline industry participations and eliminate joint venture structures - Program Alliance - provides LXRA with enhanced flexibility to accelerate the program rollout through enhanced early design capability - Program Alliance - provides LXRA with enhanced flexibility to demonstrate value for money for future work packages TOCs	- Parties may act for their own interests instead of acting in good faith. The State ultimately bears significant price risk under the risk sharing regime which means there may be weaker incentives on contractors than under a fixed time and cost contract - Resource intensive as State needs to support the development of two TOCs which may also result in an additional time requirement - Requires ongoing involvement of senior staff during delivery which can be costly - Program Alliance - requires LXRA to provide commitment (albeit with discretion) to successful proponent for future work packages. However, committed resources are an objective of the program alliance structure - Program Alliance - risk, if not managed by LXRA, then the program alliance structure may generate additional management overhead within the successful proponent which will be included in the TOCs - Program Alliance - risk, if not managed by LXRA, that inefficiencies creep into TOCs - Program Alliance - criticism from industry that market participation opportunities are reduced - Program Alliance - risk that if LXRA cannot maintain "flow" of future work packages that the program alliance structure does not achieve the desired efficiencies - Program Alliance - Demonstrating additional work packages are Value for Money in absence of prince competition

Delivery model description	Advantages	Disadvantages
Public Private Partnership (PPP)		
A PPP involves a consortium of parties, which is engaged to design, build, finance and operate/maintain the project over a set period of time. The private sector finances construction and is then paid a service payment by the State over the operating phase.	▪ Encourages efficiency, high quality construction and the potential for greater value for money given a transfer of whole of life costs to the consortium ▪ Encourages innovation within the detailed design ▪ The contract value is known before construction begins ▪ Creates strong incentives on the private sector for on-time and on-budget delivery	▪ Can be difficult to establish when there are a large number of varied stakeholders groups ▪ A lack of flexibility during the design, construction and operating phases ▪ More difficult to implement in a brownfields environment where full information on existing conditions may not be known

The rationale and possible project options to be delivered under these models, in light of the procurement objectives for the LXP are outlined in the table below. Final assessment of the delivery models for each package have occurred within the Program Packaging and Procurement Strategy for the North western, North Eastern and Western corridors, as well as the relevant Project Proposals for the remaining packages.

Delivery Model	Suitable for shortlisting	Rationale	Possible project options
Construct only	X	- As LXRA would retain all of the design risk with little ability for the construction contractor to provide any input, this model would provide limited flexibility to manage stakeholder issues or risks such as site related issues. - The lack of flexibility in design is not congruent with project options that require an occupations and access regime. - An inability to draw innovation from the constructor reduces value management and value capture opportunities.	n/a
D&C (traditional)	✓	- D&C models are well suited to project options in brownfield environments that are less complex. - This model is suited to project options with less significant unknown risks, enabling risk positions to be defined to achieve efficient risk transfer and pricing. - D&C delivery models generally lead to shortened periods from 'contract award' to 'construction', providing more time certainty. - Higher potential for innovation in the preliminary design compared to 'construct only' models, enabling value capture opportunities to be explored.	Road over, rail over and road under options where there are less complex interfaces with stakeholders, fewer disruptions to the transport network and the occupations and access regime are known. Any risks associated with the above characteristics are known and can be appropriately defined and quarantined.
D&C (risk allocated)	✓	- A D&C risk allocation delivery model is fundamentally the same as a traditional D&C model but allows for flexibility in the allocation of risk, promoting effective risk management and efficient risk pricing. - This may include risk sharing principles with genuine risk transfer to the private sector where they are best placed to manage the risk.	
D&C (collaborative)	✓	The collaborative tendering process provides opportunity to realise value from early constructor engagement and interaction. This includes constructor input to the design creating opportunities for early value management and increased certainty due to joint testing of the specification, reducing the risk of contractor claims.	
DCM (design, construct, maintain)	X	This model has limited value in the context of level crossing removals given the pre-existence of a rail maintenance franchise agreement between the State and MTM, which includes handover of the Program works to the franchisee to operate and maintain.	n/a
ECI	✓	- This model allows for a high degree of innovation between LXRA and the contractor at the design development phase. This may be beneficial were constructor input is expected to drive value in further developing the project at this early phase. - Project risks can be appropriately allocated, promoting	Suitable to all construction models (i.e. road over, road under, rail over, rail under) where early engagement with the

Delivery Model	Suitable for shortlisting	Rationale	Possible project options
		effective risk management with genuine risk transfer to the private sector. ▪ Early engagement with the contractor can facilitate greater understanding of key project risks enabling efficient risk pricing. ▪ This model allows for flexibility in scope, maximising value capture opportunities. ▪ The ability to engage a contractor in the early phases of the project also maximises opportunities to engage with various stakeholders, initiate planning approvals and effectively manage disruption. ▪ This model diminishes in value if significant unknown risks exist, as it may lead to quotation of risk premiums and therefore inefficient risk pricing.	contractor is critical and significant risks are relatively known and defined.
Managing contractor	X	▪ The LXRA has been established by the Department of Economic Development, Jobs, Transport and Resources to deliver the LXRP. ▪ Given the large number of integral stakeholders for the Program, the role of the managing contractor would be to manage these contractors. It is likely that the managing contractor approach would add an additional layer of complexity and margin on top of the existing LXRA delivery team, diminishing cost efficiencies.	n/a
Alliance Alliance Contracting Options for LXRA include: ▪ Project Alliance - as utilised for Packages 1-4 (refer Table 9-2 above); and ▪ Program Alliance¹ - considered by LXRA to be an option to be utilised for the major works packages (North Western, North Eastern, Western and Frankston)	✓	▪ The alliance model is suited to project options that are complex, with network wide impacts on the transport network. ▪ The model is suited to project options with a large number of stakeholder interfaces, often with competing interests. ▪ The model allows for high flexibility and innovation across all aspects of design and delivery, allowing for value capture opportunities to be maximised. ▪ The model is suited to project options that have unknown or complex occupations and access regimes as it is better able to manage disruption and respond to changes in the rail operations network. ▪ This model is best suited to project options that are not well defined, with significant risks largely unknown (e.g. contamination risk). ▪ The ability to vary scope and requirements of the solution during design and delivery phases is maximised under this model, enabling continuous improvement and productivity improvements to be implemented.	Project options such as rail under road that are complex and not well defined, requiring innovative design solutions and flexibility during the design and delivery phases to vary the scope and requirements.

¹ "Program Alliance" incorporates multiple projects under an alliance framework, with a specific number, scope, duration and budgets of projects maybe unknown and the same Participants are potentially delivering all projects. These are usually in long-term arrangements in the order of 5-10 years. A Program Alliance can be effectively a pre-qualified panel of potential alliancing parties that an Owner establishes so it can expeditiously and conveniently select and form an alliance for a specific project or for a package of related works. In this environment the parties involved would likely be LXRA, the Franchisee and the Contractor/Designer. Where an Owner intends to establish a program alliance, there should still be a demonstration of the superior case for alliance contracting for the program on a project-by-project basis in the Business Case. National Alliance Contracting Guidelines, Guide to Alliance Contracting, section 2.6, September 2015.

Delivery Model	Suitable for shortlisting	Rationale	Possible project options
		- Program Alliance - allows LXRA to streamline the procurement process for the remaining work packages thereby improving efficiency and reducing the bid costs for LXRA and industry; - Program Alliance – allows for LXRA to lock in market capacity over the medium term which is critical given current market constraints; - Program Alliance - allows early engagement of contractor/designer organisational resources necessary to deliver the program allowing for earlier identification and mitigation of risks and alignment of design elements with constructability; - Program Alliance - will provide LXRA with additional flexibility and capacity to develop early design solutions for future work packages; - Program Alliance – provides the ability to apply continuous improvement opportunities to deferred sites within a package, aiming to improve value for money outcomes; - Program Alliance – the long-term relationship enables flexibility to allow additional works due to broader program or network to be added to the package or to adjust package delivery timeframes to facilitate these other projects;	
PPP	✓*	* The suitability of this model for the remaining level crossing removals is reliant upon a holistic change to the scope of the project which could, for example, include overhaul changes to the operations of the rail network. - PPPs delivered under the Partnerships Victoria framework typically assume a long-term maintenance and operation relationship to incentivise the contractor to deliver whole of life outcomes for the State. In the existing rail environment, works would be handed over to the franchisee to operate and maintain. - The inherent complexity and strong interfaces associated with managing transport network environments between the road and rail network are unlikely to be able to be transferred to private sector financiers. In this context, under a PPP it is difficult to ring-fence the asset and establish long-term operation and maintenance responsibilities. - The large number of different stakeholder groups also adds complexity, which may be difficult to manage for a PPP.	n/a