

Western Distributor Delivery options report

Cabinet in Confidence

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Executive summary

This report forms an integral part of the Western Distributor business case dated October 2015 and should be read in conjunction with Chapter 13 of that document.

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1 Introduction

1.1 Overview

This document identifies the preferred procurement solution for the delivery of the Western Distributor project (the “Project”) for the purpose of the Western Distributor business case dated October 2015. The delivery options assessment considers the different strategic pathways for the procurement and funding of the Project that vary in terms of the degree of involvement from the State and Transurban. The focus of this document is on the pathway for delivery of the Project by the State (State delivery), without the direct involvement of Transurban.

The Project comprises new road assets (Western Distributor) and upgraded road assets (West Gate Freeway, Webb Dock and the Monash Freeway). Tolls have been proposed for the Western Distributor (cars, motorbikes, and light commercial vehicles only) and the West Gate Freeway widening (High Capacity Vehicles (HCV) and High Productivity Freight Vehicles (HPFV) only) as a source of revenue to fund the project. Toll revenue from the extension of tolling on CityLink beyond Transurban’s existing concession has also been considered as a funding source.

In the first instance, the assessment of the State delivery pathway requires consideration of whether to procure the Project either as a whole or a combination of work packages. The unique funding sources available also then requires consideration as to how demand risk, that is the risk associated with patronage and therefore toll revenues on the roads, should best be allocated between the State and the private sector. The allocation of demand risk influences significantly the development of the funding solution that is best able to support the preferred procurement approach.

This document sets out the assessment of the State delivery pathway as follows:

- **Project scope and packaging** – identifies the scope of works and the extent to which it should be delivered as a whole or as a combination of work packages.
- **Procurement options** – identifies the preferred procurement model (eg D&C, DBOM or PPP) for each package of works.
- **Demand risk allocation** – considers the allocation of demand risk (as applicable) to the State or the private sector in the light of market perspectives towards the acceptance of demand risk.
- **Funding solution** – identifies the funding structure that makes the most efficient use of tolling revenues and government funding for the procurement of each package of works.

A range of options to tender the chosen delivery model for the Project are likely to exist. These options will be explored further following the State’s consideration of the business case.

1.2 Background

1.2.1 Assessment Framework

The business case identifies the following Assessment Framework which has been developed based on the Project objectives as well as Project objectives which inform the State's framework for determining the preferred strategic response:

- 1 Improve transport performance in the M1 Corridor:
 - to meet increased travel demand due to future population and economic growth trends
 - to enhance connectivity between economic clusters
 - to enhance safety along the corridor
 - to enhance access to jobs and services.
- 2 Reduce reliance on the West Gate Bridge
 - to improve network resilience and redundancy
 - to mitigate strategic risks to the State and national economies
 - to provide travel reliability.
- 3 Improve freight access to the Port of Melbourne and greater Melbourne
 - to improve reliability of access to the Port of Melbourne and on the freight network
 - to meet travel demand arising from the future freight task
 - to enhance state and national competitiveness through freight productivity improvements.
- 4 Improve amenity and safety for communities in the inner west
 - to reduce freight on local streets
 - to improve safety on local streets.
- 5 Maintaining sufficient long term flexibility to manage the road network as required.
- 6 Achieving value for money outcomes for the State and road users, whilst leveraging alternative funding sources that help limit the impact of the Project on the State balance sheet.

5 and 6 from the Assessment Framework are the most relevant for the delivery options assessment set out in this report.

1.2.2 Project characteristics

In addition to the relevant parts of the Assessment Framework, the delivery options assessment has been undertaken in the context of the following Project characteristics:

- The Project comprises:
 - New assets, being the connection from the West Gate Freeway to a tunnel connecting to the elevated section over the Maribyrnong River and along Footscray Road connecting to CityLink and the city (referred to as the “Western Distributor”)
 - Upgrades to existing assets, being the West Gate Freeway from the M80 and Princes Highway interface in the West to Williamstown Road (referred to as the West Gate Freeway widening).
- This business case assumes that tolls will be imposed on users of the Western Distributor including on all non-HCV classified vehicles using the tunnel and elevated sections of the Project and on HCVs using the upgraded WGF. Accordingly, this business case considers:
 - how demand risk should best be allocated between the State and the private sector, and the overall funding structure developed to reflect the preferred risk allocation; and
 - the extent to which such a tolling strategy creates the need to set higher levels of operating performance on the WGF – so that the proposed toll charges are associated with benefits realised by road users relative to other non-tolled options. In this respect it is worth noting that higher levels of operating performance are likely to require a greater amount of investment in the WGF over the life of the concession than may be normal State practice for a non-tolled road.
- The Project scope also includes ancillary network upgrades to the Monash Freeway and CityLink ramp M (to provide additional access to Webb Dock). The timing and location of these components of the Project are distinct from the Western Distributor scope of works. As such, consideration has been given as to whether these components should be procured separately or as part of the core Project.
- The Project is proposed to be partially funded by the extension of tolling on the current CityLink assets. The funding structure has been developed to allow the most efficient leveraging of this revenue stream for the State.
- Whilst there is likely to be benefit in balancing toll pricing across the Project and the CityLink concession (including where appropriate above CPI escalation of toll prices), the implementation of such a strategy requires an agreement with Transurban. The revenue that might result from such an agreement is not certain and has therefore not been included as a source of funding for the purposes of the business case. This option would be subject to further consideration post business case.

1.3 Approach

1.3.1 Delivery options

The Project team has identified three strategic pathways to deliver the Project, including:

- 1 Transurban delivery (in accordance with Transurban’s Stage 2 market-led proposal)
- 2 State delivery
- 3 Combination of Transurban and State delivery.

These delivery options vary in terms of the degree of involvement from Transurban and the State towards the procurement and funding of the Project. Figure 1 illustrates these delivery options in the context of the Project packaging, procurement and funding dimensions.

Figure 1: Delivery options

	Option 1 Transurban delivery	Option 2 State delivery	Option 3 Shared delivery
Packaging	Transurban scope includes WD + Webb Dock; State works for WGF and Monash Freeway	Project as a whole or as a combination of work packages for WD, WGF upgrade, Webb Dock and Monash Freeway upgrades	Project as a whole or as a combination of work packages for WD, WGF upgrade, Webb Dock and Monash Freeway upgrades
Procurement	Transurban delivers WD + Webb Dock under PPP; State separately procures WGF and Monash Freeway (e.g. D&C)	Procurement of each package of works (e.g. D&C, DBOM and PPP)	State tender of WD and WGF upgrade as PPP
Funding	[REDACTED]	WD tolls, WGF tolls, CityLink tolls beyond concession, Govt funding	Private Finance raised against WD, WGF, and / or CityLink tolls, Govt funding

* Note sub-options for the form of the concession exist

WD – Western Distributor

WGF – West Gate Freeway

D&C – Design and Construct

DBOM – Design Built Operate and Maintain

PPP – Public Private Partnership

The rationale behind each of the strategic pathways is discussed below.

- **Transurban delivery:** The Transurban proposal provides an existing reference point and clear pathway to deliver the Project. The Stage 3 Market-led proposal assessment process will determine whether the Transurban proposal represents a unique value proposition for the State. This assessment is ongoing.

Given the status of the assessment the State cannot proceed with certainty in respect of the Transurban delivery option.

- **State delivery:** In order to evaluate the value of Transurban’s proposal the State is developing an appropriate benchmark. The State has sought to develop a delivery structure absent of any agreement with Transurban, whilst seeking to realise value from the same funding sources. Given Transurban is not involved in this option, the commercial context for negotiating access to funding from raising the toll prices on the CityLink significantly differs to the Transurban delivery option. As such, CityLink toll price escalation has not been included as a funding source for this option.
- **Shared delivery:** The evaluation may conclude that only some aspects of the Transurban proposal are considered to provide value to the State. In these circumstances the State may seek to combine valuable aspects of that proposal with elements of the alternative approach identified in this business case.

In the above context, the State delivery option has been considered as the default pathway for the business case (in essence acting as a public sector comparator), unless and until the Transurban Proposal is assessed as offering value for money (either in whole or in part).

1.3.2 Approach to assessment of State delivery option

The approach to identify the preferred solution for the State delivery option has been based on consideration of the Project background, including:

- Project key characteristics and objectives.
- Information provided by State advisors for the Project scope, scale, risk, interfaces and potential market appetite (on a whole of life basis).
- Proposed route options and network connections as outlined in the Business Case.
- Assessment of the Project’s financial feasibility, including a limited market sounding undertaken by the Project Team and Macquarie Capital.

The approach to assess the delivery options comprises a number of steps as illustrated in the diagram below:

Figure 2: State delivery option assessment approach



The steps undertaken are explained below.

- 1 Identify and assess packaging of the Project works, including:
 - a Identification of criteria that influence the packaging of Project works.
 - b Identification of the key functional works comprising the Project scope (ie West Gate Freeway widening, Western Distributor, Port of Melbourne Access, Webb Dock Works, CityLink Connection & Inner Urban Access and Monash Freeway Upgrade) as outlined section 2.3.
 - c Identification of potential packaging options and assessment against defined criteria.
 - d Determining the preferred package(s) of works.
- 2 Identify and assess options for the procurement of each package of works, including:
 - a Identification of criteria to assess procurement options.
 - b Identification of potential options for procurement of the asset delivery and operation services for each package of works (eg D&C, Alliance, DBOM or PPP).
 - c Assessment of procurement options and determining a preferred option.
- 3 Consider the allocation of demand risk between the State and the private sector, including:
 - a Identification of toll revenue sources (ie toll revenues from tolls on the Western Distributor, West Gate Freeway widening, and the continuation of tolling on CityLink beyond Transurban's existing concession period and associated demand risk profiles.
 - b Consideration of models to allocate full demand risk to the State (ie availability PPP) or the private sector (ie economic PPP).
 - c Consideration of the market perspective towards the acceptance of the demand risk for the Project.
- 4 Determine the funding solution, including:
 - a Identification of demand risk allocation that makes the most efficient use of the tolling revenues.
 - b Identification of the form of State funding that will support the objective of delivering the most value from the toll revenues whilst minimising the impact on the State balance sheet.
 - c Describes the overall funding structure for the procurement of the Project works packages.

2 *Project scope and packaging*

2.1 *Overview*

This section:

- Identifies key criteria that influence the packaging strategy ('packaging criteria'), for example how the combination of scope elements might interface with other packages or impact the market's appetite for the package.
- Describes the key functional work elements that comprise the Project scope.
- Identifies potential packaging options and assesses key linkages between the different Project scope elements in the context of the packaging criteria.
- Identifies the preferred packaging approach.

2.2 *Approach*

The approach to identifying potential packaging options for the Project draws on an understanding of the Project characteristics, the market and precedent road transport projects. This accumulated understanding is used to determine potential packaging options that deliver value to the State in procuring the Project. The assessment considers the functional scope items, in the context of the packaging criteria (described below), to determine the potential for works to be procured separately. A preferred method for the packaging of the Project works has been identified through this process.

The procurement of each package of works is considered in section 3.

2.2.1 *Packaging criteria*

There are a variety of factors that could influence how the Project could be 'packaged' and offered to the market, driving value that can be achieved through the package. The following criteria were used to assess the potential for functional scope items within the Project to be procured separately:

- **Functional interdependence** – The extent to which the elements of the Project scope have inherent functional interdependencies that need to be managed through the construction and operations. The existence of significant interdependencies tends to limit the extent to which elements of Project scope could be procured separately and efficiently through the contractor market.
- **Independent Project benefits** – The extent to which elements of the Project scope can achieve Project benefits (eg improved traffic and amenity outcomes) independently and thus could be delivered on a 'stand-alone' basis.
- **Defined area to deliver project works** – The extent to which the relevant Project works present significant planning issues including any timing, legal or commercial implications presented by the planning approval pathway.
- **Land availability** – The extent to which private land acquisition is required, and whether there will be significant loss of public assets. The need to acquire private land or reduce access to public assets in order to deliver the Project is likely to impact on the timeframe and nature of the planning approval pathway.
- **Market capacity** – The extent to which the scale of the Project scope will limit the market's ability to provide a competitive process.

The packaging of construction and operation works will have a significant impact on the level of disruption and inconvenience experienced in the transport network. As such, the scheduling of works and multiple interfaces between functional works will be key risks to be managed through the package of works. As a general rule, larger packages of work can be a driver of innovation and better management of interface risks by the private sector that can drive better value for the Project.

2.3 Project scope summary

The following table summarises the functional scope items of the Project.

Table 1: Project scope summary

Scope item/functional requirement	Components
1 West Gate Freeway widening	<ul style="list-style-type: none"> • Separated carriageways (collector-distributors) with braided connections between Millers Road and the West Gate Bridge • Princes Freeway and West Gate Freeway/Western Distributor carriageway • Overall capacity of 6 lanes each direction between Williamstown Road and M80 (3 lanes on each of the separated carriageways) • New off-ramp for eastbound vehicles to access Hyde Street • Managed motorway system along the West Gate Freeway and surrounding roads • Strengthening of bridges along the West Gate Freeway to carry loads up to 110 tonnes to accommodate High Performance Freight Vehicles (HPFV) at higher mass limits. • Eastbound connection from Princes Freeway West to the West Gate Freeway (in the vicinity of the Grieve Parade interchange) via the eastbound Geelong Road ramp • Replacement pedestrian bridges over the West Gate Freeway.
2 Western Distributor	<ul style="list-style-type: none"> • New three lane road connecting the West Gate Freeway to CityLink, with connections to Hyde Street, the Port of Melbourne, and inner urban access via connections to Footscray Road, Wurundjeri Way and Dynon Road • 3 lane 1.6km tunnel each-way from just north of Stony Creek to just west of the Maribyrnong River • Single span bridge across the Maribyrnong River • Managed Motorways on the Western Distributor • Grade separated shared user facility at Appleton Dock Road, Footscray Road and Mackenzie Road intersections.
3 Port of Melbourne Access	<ul style="list-style-type: none"> • Viaducts above Footscray Road • Direct access to the Port of Melbourne at Mackenzie Road (to/from West Swanson Dock) • Appleton Dock (to/from West Swanson Dock, Victoria Dock, Appleton Dock).

Scope item/functional requirement	Components
4 Webb Dock Works	<ul style="list-style-type: none"> • Widening of Cook Street from Todd Road (Eastbound) to the entrance of the M1 • Dedicated new connection to CityLink (northbound) • Upgrade to Ramp M (the West Gate Freeway-to-Bolte Bridge ramp) including ramp metering.
5 CityLink Connection & Inner Urban Access	<ul style="list-style-type: none"> • North-facing connections to CityLink via the existing Dynon Road ramps • Access to Docklands, West Melbourne and the central/inner City via ramps onto Footscray Road • Additional connections to Dynon Road and Wurundjeri Way through the construction of a new CBD Bypass road extending between Wurundjeri Way and Dynon Road and connecting with the Western Distributor.
6 Monash Freeway Upgrade	<ul style="list-style-type: none"> • Additional lane (in each direction) on the Monash Freeway from EastLink to South Gippsland Freeway and on Hallam Bypass to Clyde Road • Extended ramp metering on M1 to Koo Wee Rup Road including the EastLink connections to the Monash Freeway • Improved incident response between Toorak Road and Koo Wee Rup Road.

2.4 Project packaging considerations

2.4.1 Packaging options

Packaging options can range from a single package for the full Project scope through to separate packages for each of the functional scope elements summarised in Table 1 (including multiple packages for certain elements), with any number of packaging options in between. The Project Team prepared a separate paper, 'Western Distributor Project – Scope packaging issues paper' ("Scoping Packaging paper"), which is included in Appendix B. Through this paper the following factors were considered to identify appropriate packaging options:

- Discrete components of works – As discussed in section 2.3 above, the Project scope was conceptualised to consist of a number of discrete components of works, including the Webb Dock Works (scope item 4), Monash Freeway Upgrade (scope item 6) and Western Distributor Works (scope items 1, 2, 3 and 5). These discrete components of works are considered to have the potential to be procured separately.
- Inter-linkages between functional scope items – The paper provides an assessment of the potential for the Western Distributor and West Gate Freeway widening scope items to be procured separately. Technical and planning requirements for the Western Distributor scope limited the opportunity for this section to be packaged separately and only the West Gate Freeway widening scope was identified as having potential to be procured separately. This was tested by the paper and the results are summarised below.

Accordingly, a number of options have been identified for the potential packaging of the Project scope. Table 2 provides a summary of the packaging options.

Table 2: Packaging options

Packaging Option 1	Packaging Option 2	Packaging Option 3	Packaging Option 4
<ul style="list-style-type: none"> Whole Project scope as single package 	<ul style="list-style-type: none"> Webb Dock (item 4) Monash Freeway Upgrade (item 6) Western Distributor and West Gate Freeway widening (items 1, 2, 3 and 5) 	<ul style="list-style-type: none"> Webb Dock (item 4) Monash Freeway Upgrade (item 6) Western Distributor (items 2, 3 and 5) West Gate Freeway widening (item 1) 	<ul style="list-style-type: none"> Webb Dock (item 4) Monash Freeway Upgrade (item 6) Western Distributor (items 2) West Gate Freeway widening (item 1) Port of Melbourne Access (item 3) CityLink Connection & Inner Urban Access (item 5)

Packaging Option 1 is for the whole Project scope to be offered to the market as a single package. Packaging Options 2 and 3 are based around the separate procurement of the discrete components of works (Packaging Option 3 is a variation on Packaging Option 2 in that it includes the separate procurement of the West Gate Freeway widening works). Packaging Option 4 is the separate procurement of all of the distinct functional scope items.

2.4.2 Assessment of packaging options

The key points of differentiation between packaging options in respect of the packaging criteria are discussed below.

Functional interdependence

The Webb Dock Works (scope item 4) and Monash Freeway Upgrade (scope item 6) have been identified as works packages that can be potentially procured separate to the Western Distributor Works for the following reasons:

- the works are located in a different area to each of the other functional scope items;
- there are no significant construction or operating interfaces with the other functional scope items; and
- the relevant functional scope items realise Project benefits independently.

The Western Distributor functional scope items 2, 3 and 5 are new assets that will form an integrated end to end infrastructure solution that joins the West Gate Freeway to CityLink and the CBD at the Eastern end of the Project. Procuring these scope items as separate packages will create significant design, construction and operational interfaces (in relation to which the State would likely be exposed to greater risk). These interfaces are also likely to reduce the opportunity for contractors to innovate and deliver a fully integrated solution. For these reasons the Western Distributor scope items are considered appropriate for delivery as one package.

The West Gate Freeway widening works functional scope item 1 will upgrade the existing West Gate Freeway assets. The Scoping Packaging paper concludes that there is a significant level of design interdependency between the West Gate Freeway widening works and the broader Project. Further the paper concludes that

separate procurement of the West Gate Freeway widening works would introduce a significant construction interface at the eastern end of the West Gate Freeway widening works near Williamstown Road.

For these reasons the West Gate Freeway widening scope is not considered to deliver sufficient functional independence to be delivered as a separate scope of works in the absence of the remaining Project.

Independent Project benefits

Users of the West Gate Freeway currently experience significant weaving movements on the main carriageways. The West Gate Freeway widening scope is capable of providing improved traffic outcomes (by elimination of dangerous weaving movements on the main carriageways) independent of the broader Project. Without the connection to Hyde Street or the Western Distributor tunnels, there is little value or benefit in proceeding with the West Gate Freeway widening scope as a single package in the absence of the remaining Project because:

- the additional capacity is unlikely to be beneficial without the ability to connect to new or modified connections to be provided by the broader Project; and
- although the scope is capable of providing improved traffic outcomes (by elimination of significant weaving movements on the main carriageways) independent of the broader Project, it is difficult to justify the West Gate Freeway widening scope on its own as it could be seen as an over-specified treatment for an existing traffic issue (in the absence of the broader Project).

For these reasons the West Gate Freeway widening scope is not considered to deliver sufficient project benefits to be delivered as a separate scope of works in the absence of the remaining Project.

Defined area to deliver project works

There are minimal planning approval implications arising from separating the Webb Dock and Monash Freeway Upgrade from the Western Distributor Works and both are of sufficient scale and provide enough benefits independent of the Western Distributor Works to warrant a separate dedicated planning approval process.

The majority of the West Gate Freeway widening scope will be undertaken in the existing freeway reserve and is unlikely to require comprehensive planning assessments. Whilst this is the case for the West Gate Freeway widening scope, the remaining Western Distributor scope items will require comprehensive planning assessment. Procuring the West Gate widening works as a separate package has the potential to prejudice the outcome of the planning assessment for the broader project. For these reasons the West Gate Freeway widening works are not considered to meet this criterion.

Land availability

The West Gate Freeway widening scope is expected to require minimal private land acquisition, but will require minor amendments to the existing Planning Schemes that currently apply.

The remaining Western Distributor scope will require considerable land acquisition and a comprehensive planning assessment to recognise the impacts of the new assets outside the existing road reserve.

Market capacity

The Monash Freeway Upgrade are expected to cost in the range [REDACTED] and will form a package of works that will be highly attractive to the market. A package of works of this size should not impact potential market capacity.

The Webb Dock Works are expected to cost [REDACTED] to deliver. A package of works of this size should not impact potential market capacity.

A package of works including the remaining functional scope items including the West Gate Freeway widening, Port of Melbourne Access and CityLink Connection & Inner Urban Access has been estimated to cost [REDACTED]. The participants of the targeted market sounding undertaken for the business case were comfortable that a project of this size could be delivered as a single package. This finding is supported by the procurement strategy currently being undertaken by Sydney Motorways for WestConnex. The WestConnex project will be procured under 2 packages of similar size [REDACTED].

The scale of the Project is not expected to require the project to be broken into packages in order to achieve a competitive bidding process from the market.

2.4.3 Conclusion

In summary, the packaging options assessment has identified that Packaging Option 2 best satisfies the packaging criteria. The preferred response to procure separately the Western Distributor, Monash Freeway and Webb Dock scope items minimises the extent of interfaces and planning issues and provides opportunities for the private sector to deliver innovative solutions for the separate works packages.

The reasons that the other packaging options were not considered appropriate is discussed below.

- Packaging Option 1 is not considered appropriate, as:
 - there are minimal planning approval implications arising from separating the Webb Dock and Monash Freeway Upgrade from the Western Distributor Works
 - both the Webb Dock and Monash Works are of sufficient scale and provide enough benefits independent of the Western Distributor Works to warrant a separate dedicated planning approval process
 - the three proposed work packages are physically independent
 - separate packaging allows the transport network benefits of the Webb Dock and Monash Freeway Upgrade to be realised earlier than if construction completion was aligned with that of the Western Distributor Works under a single package approach.
- Packaging Option 4 is not considered appropriate as significant functional interdependencies exist within the Western Distributor functional scope items 1, 2, 3 and 5 that will give rise to technical and commercial interface risks if procured separately
- Packaging Option 3 is not considered appropriate as the West Gate Freeway works is not expected to provide significant standalone benefits and is likely to cause design, construction and planning issues for the broader project if procured on its own.

It should be noted that the Scoping Packaging paper also tested opportunities for separate elements of the identified packages to be delivered separately. Two elements of the West Gate Freeway widening scope of works were identified as being able to be procured as separate packages, independently of the remainder of the Project. These elements are:

- Eastbound connection from Princes Freeway West to the West Gate Freeway (in the vicinity of the Grieve Parade interchange) via the eastbound Geelong Road ramp
- Replacement pedestrian bridges over the West Gate Freeway.

Given the scale and nature of these elements of the scope we do not consider there is a compelling reason to deliver these elements separately and recommend they continue to be delivered as part of the Western Distributor package of works.

2.5 Preferred packaging approach

Based on the packaging assessment undertaken, the Project would best be delivered under Packaging Option 2 as three separate packages of works, as described in the table below.

Table 3: Preferred packaging approach

Delivery package	Functional scope items
Western Distributor Works	<p>This package consists of:</p> <ul style="list-style-type: none"> • West Gate Freeway • Western Distributor – Tunnel and viaduct • Port of Melbourne Access • CityLink Connection & Inner Urban Access.
Monash Freeway Upgrade	<p>This package consists of:</p> <ul style="list-style-type: none"> • Widening of the Monash Freeway between EastLink and Clyde Road • Ramp metering and storage capacity upgrades along the Monash Freeway out to Koo Wee Rup Road.
Webb Dock Works	<p>This package consists of:</p> <ul style="list-style-type: none"> • Cook Street widening • CityLink northbound connection and Ramp M works

3 Procurement options

3.1 Overview

The process to identify the procurement model that best meets the delivery objectives for the works packages is outlined as follows:

- define the criteria and methodology used to identify and assess procurement options
- identify and assess relevant procurement options in the context of the Project characteristics and each package of works
- identify the preferred procurement model for each package of works.

Assessment of the allocation of the toll revenue entitlement attached to the Western Distributor Works is considered in section 4. The funding solution for the Project is considered in section 5.

3.2 Assessment criteria

The following procurement option assessment criteria have been identified based on the key Project characteristics and objectives.

Table 4: procurement assessment criteria

Market appetite and capacity	The extent to which an option is likely to attract broad market interest (and therefore drive a competitive process and optimal outcomes) without resulting in inflated risk pricing.
Effective and efficient risk management	The extent to which an option provides a sound basis for allocating, pricing and managing design, construction, financing, operation, maintenance and revenue risks on a whole of life basis (noting the significance of such risks for a project of this scale and complexity).
Innovation and whole-of-life	The extent to which an option allows for the introduction of new ideas and approaches that generate additional value to the State (through cost savings, optimising toll revenues, additional sources of revenue, enhanced user experience, innovative technical solutions, improved social amenity and environmental outcomes).
Budget certainty	The extent to which an option allows the State to confidently predict its contribution to the whole of life costs of the Project.
Transport network integration	The extent to which an option allows for sufficient flexibility to: <ul style="list-style-type: none"> • Manage the new assets as part of the existing transport network (including flexibility to implement operational changes to the network over time) • Optimise the technical scope of the Project and future connectivity • Accommodate the technical requirements of other transport projects as required (including public transport initiatives).
Simplicity	The extent to which an option helps minimise the need to implement overly complex or internationally unprecedented commercial structures and the extent to which it allows for genuine transparency over the true cost of the bid and fair comparison of bidder proposals.

3.2.1 Assessment criteria ratings

The following ratings system has been used to rank the procurement options in terms of how they perform in the context of the Project:

Rating	Description
✓✓✓	Option is extremely effective in satisfying the requirements of the criterion
✓✓	Option is effective in satisfying the requirements of the criterion
✓	Option satisfies the requirements of the criterion
×	Option is ineffective in satisfying the requirements of the criterion
××	Option is extremely ineffective in satisfying the requirements of the criterion

3.3 Procurement of Western Distributor Works

3.3.1 Procurement options

Section 2 identifies that the Western Distributor Works will be procured as a single package. The Project team considered a number of options for the procurement of the design, construction, operation and maintenance activities and the opportunity for introducing private finance. The options that were considered appropriate include:

- Traditional Design and Construct (D&C)
- Alliance
- Design, Build, Operate and Maintain (DBOM)
- PPP (ie privately financed).

Analysis of procurement models for the delivery and operations of road infrastructure (distinct from the issues associated with demand risk) is a common feature of DTF business cases. In the context of the Western Distributor package, the options identified are well understood and considered potential procurement models. Each of the models is described in Table 5 below. Detailed descriptions of the procurement models are in Appendix A.

Table 5: Potential procurement options

Model	Description
Traditional procurement	<p>The D&C contract and the operation and maintenance (O&M) contracts are procured separately, as follows:</p> <ul style="list-style-type: none"> • Government sets clear and specific input based specifications for delivery of the required physical infrastructure or operating services. • These specifications are then put out to tender. • A contractor is engaged to deliver the specifications without having involvement in the development of those specifications, although is involved in detailed design. • Contractors are appointed on the basis of price and quality.
Alliances (D&C and/or O&M)	<p>The Alliance model seeks to establish a framework within which parties collaborate in an incentive driven collaborative method of contracting. Some of the key elements of alliance contracting include:</p> <ul style="list-style-type: none"> • A joint alliance management team, which deals with the day-to-day administration of the alliance. • Participants agreeing to cost the project on an open-book basis. • A gainshare or painshare based remuneration structure. • An express obligation to act in good faith.
DBOM	<p>The DBOM model extends the traditional D&C model into the operating phase of the Project by including the procurement of road operations and maintenance services at the time of procuring the design and construction of the road. Whilst responsibility for the construction, operation</p>

Model	Description
	<p>and maintenance of the road to the private sector, legal and economic ownership of the asset is retained by the government.</p> <p>Operations and maintenance arrangements can be medium (rather than long) term, opening up the possibility of transferring operations and maintenance into the public sector following an initial commissioning and training phase.</p>
PPP	<p>The private sector proponent is responsible for the design, construction, operation, maintenance and finance (DBFOM) of the road infrastructure necessary to provide the service required by the State (based on the State's output specifications). The service is provided over an extended period of time (30 to 35 years), at the end of which the road reverts back to the State in a pre-agreed condition.</p> <p>The PPP-DBFOM model is based on output specifications and the procurement of a service over the life of an asset rather than simply the construction of the asset. The private sector is responsible for the whole of life performance and quality of the asset.</p> <p>Road PPPs can take a number of different forms in terms of the allocation of demand risk between the State the private sector, ranging from economic PPPs (under which the private sector bears demand risk) to availability PPPs (under which the private sector recovers its investment in delivering the infrastructure via service payments during the operations period from the State), to hybrid options which provide for demand risk to be shared between the State and the private sector.</p>

The above descriptions only provide a general picture of each option and do not account for the range of different commercial principles, risk allocation profiles and tendering strategies that could be adopted. Following selection of a preferred model, more detailed consideration will need to be given to the procurement strategy and commercial principles to ensure the preferred procurement option is optimised.

3.3.2 Procurement options assessment

The table below provides a summary assessment of the selected procurement models for the Western Distributor package.

Table 6: Procurement options assessment

Assessment criteria	D&C/O&M	Alliance/O&M	DBOM	PPP
Market appetite and capacity	✓✓✓	✓✓✓	✓✓✓	✓✓✓
Risk management	✓	✗	✓✓	✓✓✓
Innovation (whole of life)	✓	✓	✓✓	✓✓✓
Budget certainty	✓	✗	✓✓	✓✓✓
Transport network integration	✓✓✓	✓✓✓	✓✓	✓✓
Simplicity	✓✓✓	✓✓	✓✓	✓

The key points of differentiation between procurement models have been identified as follows:

Market appetite and capacity

- The market is familiar with all these procurement models for a project of this nature and scale. Whilst a number of road projects are currently in the pipeline, such as the WestConnex and Toowoomba Second Range Crossing, the level of interest in these tenders suggests that there is a healthy level of appetite and capacity in the market to undertake the works. This view is bolstered by the increasing level of interest from international consortiums to participate in mega road projects in Australia, as demonstrated on these tenders.
- Given the history of tunnelling projects in Victoria being delivered as PPPs, we expect that the market would assume that the Western Distributor package – which includes tunnelling within the functional scope – would be delivered as some form of PPP.

Risk management and innovation (whole of life)

- In relation to risk management, the State has relatively limited experience in delivering large (\$5 billion+) and complex road infrastructure projects under any of the traditionally funded models, and no direct experience in delivering a tunnel project of this scale and complexity.
- Tunnelling projects in Victoria typically are subject to significant risk relating to geotechnical conditions and ground contamination. Minimal geotechnical investigations have been undertaken to date of the ground condition in the Project area. As such, the ground condition is a significant risk for the tunnelling works that will need to be managed.
- Transurban's experience in delivering the CityLink tunnels highlights the size of the challenge that arise in delivering tunnelling projects and suggests the risks are best managed by the private sector.

Case Study: The challenges in delivering tunnelling in Victoria

Transurban's experience with the Burnley Tunnel demonstrated the effectiveness of the PPP model in transferring risk on tunnelling projects in Victoria. The model allocated design risk (and accordingly construction and operating risks based on the geotechnical nature of the ground conditions) to the concessionaire.

During excavation of the tunnel excessive water inflows drove a design change from a drained to a tanked tunnel. This accounted for a significant cost increase (the floor slab increased in thickness from about 200 mm to 1.8m) and was resolved as between the concessionaire and its downstream counterparties.

Furthermore, shortly prior to commissioning, the tunnel floor heaved, requiring the removal of the asphalt already laid, a detailed technical investigation of the cause (which proved the design was inappropriate to deal with ground water pressure in the tunnel at that depth), and the implementation of an expensive solution (extensive use of rock anchors in the tunnel).

The entire cost of this event (both rectifying the defect, and the delay in collecting toll revenue) remained with the concessionaire.

Anecdotally it is believed the rectification cost was well in excess of \$100 million (based on public announcements issued subsequently when the consequent claims were settled).

- Traditional procurement (D&C) provides the State with a relatively low level of protection (although potentially more than the alliancing model) against construction and operating risk and generally does not incentivise an approach which delivers minimum whole of life cost, or drive value through innovative design and construction approaches (all of which have the potential to drive significant value for a complex tunnelling project of this nature)
- The Alliance model is most suited to projects where material delivery risks cannot be identified, allocated and priced up front on an efficient basis or where a project's scope is not able to be clearly defined at the outset. Under this model the risks can be shared between the State and the private sector contractor on an as needs basis
- Whilst significant, the risks and scope on this Project are likely to be well understood prior to procurement and therefore, the alliance model is not considered appropriate. Furthermore, given the private sector's greater ability and experience in managing key project risks, there is little value in the State's involvement during design, construction and/or operation of the Project (and certainly not enough to warrant the significant retention of risk by the State that occurs under this model)
- Whilst the DBOM model bundles operating risk, it provides relatively little incentive for the concessionaire to manage construction risk associated with ground conditions to drive whole of life outcomes due to the lack of financial exposure to the Project
- The inclusion of private finance and the relative significance of the long term financial exposure (relative to that from any commitment to simply operate the assets) that results for the concessionaire under the PPP model drives rigour in the development of whole of life costing. Further, the model enables a robust risk allocation framework which provides enhanced protection for the State from the implications of construction time and budget overruns (which are significant for the Project given the State is dependent on the collection of toll revenue as a key funding source).

Budget certainty

- Traditional procurement models tend to be prone to delays and cost overruns particularly in cases where:
 - Projects are large scale
 - Projects are highly complex
 - Changes in scope occur after the contract is let.

Whilst risks are often "transferred" under fixed time, fixed cost contracts, experience suggests that the State's direct involvement in project funding (and the difficulty associated with recovering that funding when projects are not completed) means the State may have little option but to support budget overruns.

- Whilst PPP projects are not immune to delays or cost overruns, there are extremely strong financial incentives to complete on time, or early so that the concessionaire obtains the benefit of a revenue stream (by way of toll revenue or service payments) prior to or when its debt financing costs become payable. In any event, the State's financial position (and associated budget commitment) benefits from rigorous risk transfer to the private sector and payments (where applicable) being linked to the provision of services to defined service standards. Furthermore, with the interests of third parties such as financiers being aligned with the State's objectives in this respect (and actively monitored through delivery), the PPP option gives the best opportunity for the State to achieve on time delivery and the highest degree of certainty over delivery cost over the whole of life of the Project.

Transport network integration

- Under traditionally funded models, the State can retain control over the network, including the implementation of changes to both the new infrastructure and the existing network that may be required to respond to shifting traffic flow patterns in the future
- Under a PPP model where the State retains demand risk, the State may have additional obligations to collaborate with the concessionaire on network changes that impact the operational performance of the project road depending on the nature of the performance regime used in the PPP. However, this is not considered to represent a material point of differentiation between the models.

Simplicity

All models present different areas of complexity but are equally well understood and have precedent in the Australian market.

3.3.3 Preferred procurement model

Based on the nature of the Western Distributor package and the analysis of the suitability of the procurement models provided above, it has been determined that the Western Distributor is best delivered as a PPP (the Western Distributor PPP). The key attributes of the PPP model that support the recommendation of a PPP are provided below.

Table 7: Western Distributor PPP summary assessment

Criteria	Key attributes
Risk management	<p>The Project scope is large and complex and includes significant interfaces. A PPP provides the opportunity for the State to manage the risks associated with the Project and reduce the likelihood of these risks being realised by the State.</p> <p>Previous large scale roads projects of a similar technical scale (CityLink and EastLink) were delivered using the PPP model – the State has limited experience of delivering complex roads projects of this size that include an element of tunnelling and exposure to ground condition risk. Transurban’s experience in delivering the CityLink tunnels highlights the size of the challenge and suggests the risks may be best managed by the private sector.</p> <p>The introduction of private finance offers a high level of protection from risk for the State and provides for multiple extra levels of discipline and scrutiny of risk compared to traditional procurement (eg credit and investment reviews associated with private sector debt and equity funding).</p> <p>Competition between bidders is based on minimising whole-of-life costs and the private sector is at risk for integrating design, construction, operations and maintenance to achieve forecast costs on a whole of life basis (reflecting a substantial degree of risk transfer).</p> <p>The State will have to retain certain risks which the private sector cannot manage as effectively [REDACTED] and a degree of residual risk is unavoidable. However, these represent risks which are common to all options, not additional risks specific to the PPP approach.</p>
Scope for innovation	<p>The scale and location of the Project provides significant opportunities for innovative solutions. A PPP will allow the State to access these solutions.</p> <p>The PPP model provides significant scope for D&C and whole of life innovation.</p> <p>The presence of long term private finance results in very significant incentives to drive value through an integrated, whole of life approach to design and costing.</p>
Budget certainty	<p>Realisation of the Project’s benefits will require significant investment of capital. A PPP provides the State with the opportunity to manage the costs of the Project over the life of the asset.</p> <p>The impact on the State budget will depend on the degree of demand risk exposure that is retained by the State. Further consideration of the demand risk allocation and State funding implications is in section 5.</p> <p>Whilst PPP projects are not immune to delays or cost overruns, there are extremely strong financial incentives to complete on time, or early so that the concessionaire obtains the benefit of a revenue stream (by way of toll revenue or service payments) prior to or when its debt financing costs become payable. In any event, the State’s financial position (and associated budget commitment) benefits from rigorous risk transfer to the private sector and payments (where applicable) being linked to the provision of services to defined service standards (depending on the allocation of demand risk).</p> <p>Furthermore, with the interests of third parties such as financiers</p>

Criteria	Key attributes
	being aligned with the State's objectives in this respect (and actively monitored through delivery), the PPP option gives the highest degree of certainty over delivery.
Transport network integration	<p>Completion of the Project will significantly augment a critical area of the existing transport network.</p> <p>The State may some have additional obligations to collaborate with the private sector on network changes that impact the operational performance of the project road. This will depend on the nature of the performance regime used in the PPP and how demand risk is allocated between the State and the private sector.</p>

3.4 Procurement of Monash Freeway Upgrade

3.4.1 Procurement options considerations

Section 2 identifies that the Monash Freeway Upgrade will be procured as a separate package of works. The Project team considered a number of options for the procurement of the design, construction and maintenance works and the opportunity for introducing private finance.

Operation activities have not been included in the procurement options for this package. This decision was made on the basis that the Monash Freeway falls within VicRoads' current scope of network management activities and that the upgrade works is a relatively minor augmentation to the existing network.

The following procurement options have been considered for delivery of the Monash upgrade and ongoing maintenance:

- Construct only and separate maintenance (M)
- Traditional design and construct (D&C) and separate maintenance (M)
- Alliances for design and construction (All. D&C) and maintenance (All. M)
- Design, build and maintain (DBM)
- PPP – (ie privately financed).

These models are well understood and are commonly used in DTF business cases for road projects. A summary of the common features of these models is provided in Table 5. Detailed descriptions of the procurement models in provided in Appendix A.

3.4.2 Procurement options assessment

The Project team considered the nature of the Monash upgrade and ongoing maintenance to determine the suitability of the potential procurement options. The assessment of the procurement models against the criteria in section 3.2 is provided in the table below.

Table 8: Procurement options assessment

Assessment criteria	Construct only/M	D&C/M	All. D&C/All . M	DBM	PPP
Market appetite and capacity	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓
Risk management	✓	✓✓	×	✓✓	✓
Innovation (whole of life)	×	✓	✓	✓	✓
Budget certainty	✓	✓	×	✓	✓✓✓
Transport network integration	✓✓✓	✓✓✓	✓✓✓	✓✓	✓
Simplicity	✓✓✓	✓✓✓	✓✓	✓✓	✓

The assessment of Innovation and whole of life reflects the nature of the scope of works and the limited opportunity for any model to deliver material benefits in this area. The key points of differentiation between the above models are discussed below.

Market appetite and capacity

- The market is familiar with these procurement models for road projects. The relatively low scale of works should enable a competitive field of bidders as a significant capital commitment will not be required.
- Whilst PPPs have been used for most of the toll roads and tunnel projects, the use of the model for projects with smaller scale operations and maintenance activities is limited. The relatively smaller scale of the Monash operations and maintenance activities are likely to restrict the appetite of investors as there would be less opportunity to drive value.

Risk management and innovation (whole of life)

- The integration of the Monash Freeway Upgrade with the existing network is considered to add complexity to the functional design and delivery of the works. Private sector input would benefit the design process through the opportunity to deliver innovation to the technical solution in respect of bridge design, drainage and integration with the network. As such, the construct only option is not considered appropriate.
- The Monash Freeway Upgrade does not include any tunnelling or similar complex construction techniques. As a result the risk associated with the construction and whole of life management is considered to be relatively low when compared to the Western Distributor Works and other large PPP projects.
- The construction risks associated with the Monash Freeway Upgrade are likely to be well understood prior to procurement and less significant compared to the Western Distributor Works due to the absence of any tunnelling. The State has the capability and experience to manage the key risks from a project of the nature and scale of the Monash Freeway Upgrade, and therefore a traditional D&C contract was considered to provide the State with sufficient level of control to manage the key risks. The alliance model (which is most suited to projects with material and unknown delivery risks) was not considered appropriate.
- The inclusion of maintenance in a DBM contract is unlikely to drive additional value on a whole of life basis due to the small scale of the maintenance works that is expected. Similarly, it is unlikely that value can be realised from

inclusion of private finance in a PPP model as the likely small scale of the maintenance activities provides limited opportunities for innovation and pricing of risk.

Budget certainty

- Traditional procurement models (construct only and D&C) are typically provided to the State on a fixed time and cost basis. However, there may be scope to vary the provisions in the contract to account for changes in design, leading to higher costs. This may require the State to support budget overruns. As the Monash Freeway Upgrade is relatively straight forward and of a lower scale, it is considered that the risk of budget overruns is relatively low and can be appropriately managed through a traditional contract.
- The Alliance contract exposes the State to the underlying project delivery costs and the resultant costs of the occurrence of all project risks. The risk sharing nature of these contracts reduces the incentive to achieve on time and on budget outcomes.
- PPPs are not immune to delays or cost overruns, but the private finance incentivises on-time completion so as to maximise the benefit of the revenue stream (by way of service payments or tolls) prior to or when debt financing costs become payable. The State's financial position (and associated budget commitment under a service payment regime) benefits from rigorous risk transfer to the private sector.

Transport network integration

- The Monash Freeway Upgrade will interface with EastLink. This creates increased complexity in relation to network integration. The traditional procurement models allow the State to retain control over the network and make changes to both the new infrastructure and the existing network that may be required to respond to shifting traffic flow patterns in the future.
- The DBM model includes a long term maintenance contract, which potentially creates inefficiencies for the State in managing maintenance activities across the network. Similarly a PPP model adds complexity for the State to implement network changes as the State would need to go work with the concessionaire. This could add to the cost and efficiency of managing the network and impact the operational performance of the Monash Freeway depending on the nature of the performance regime used in the PPP. The constraints on transport network integration under the DBM model and the PPP model, in particular, is considered to represent a material point of differentiation to the traditional models.

Simplicity

- The identified procurement models contain varying degrees of complexity. The traditional models are considered to be relatively simpler to implement given the lower risk and scale of the Monash Freeway Upgrade and have precedent for these types of works.

3.4.3 Preferred procurement model

The D&C model has been identified as preferred to procure the Monash Freeway Upgrade based on the analysis of procurement options undertaken. Maintenance activities in respect of the upgrades are expected to be incorporated into VicRoads' existing roads maintenance contracts.

The key attributes of the D&C model that support the recommendation is provided below.

Table 9: D&C procurement for Monash upgrade

Criteria	Key attributes
Market appetite	<ul style="list-style-type: none"> Projects of similar scale have been delivered as a D&C. Sufficient market appetite is expected under a D&C tender to drive a competitive tension. The smaller scale and risk of the Monash Freeway Upgrade would be less attractive to investors in a PPP model.
Risk management	<ul style="list-style-type: none"> The risks associated with the Monash Freeway Upgrade are likely to be well understood prior to procurement mainly due to the absence of any tunnelling. The State has the capability and experience to manage the key risks from a project of this nature and scale. A traditional D&C contract should provide the State with sufficient level of control to manage the key risks.
Scope for innovation	<ul style="list-style-type: none"> This model provides opportunity for private sector input into the design process compared to a construct only contract. The level of innovation would benefit the technical solution in respect of drainage, bridge design and integration with the network. Whilst the PPP model fosters a more rigorous approach to whole of life risk management, it is not considered to be able to drive further value for money for the Monash Freeway Upgrade.
Transport network integration	<ul style="list-style-type: none"> The D&C contract allows the State to retain control over the management of the network and especially the integration of the upgraded road with the EastLink (noting that this integration will need to be managed in the context of the Concession Deed under which ConnectEast operates, maintains and tolls that road). Given the likely scale of maintenance activities (associated with the works) it is considered more efficient (financially and practically) to incorporate them into existing maintenance contracts rather than creating a separate arrangement (As would be implicit in a PPP or DBM style model).
Simplicity	<ul style="list-style-type: none"> The traditional models are considered to be relatively simpler to implement given the lower risk and scale of the Monash Freeway Upgrade. The history of using traditional models for similar works reduces the execution risk for the State.

3.5 Procurement of Webb Dock Works

A separate submission (Webb Dock Works: Project Submission, 17 July 2015) has been prepared that considers amongst other things, the procurement and delivery of the Webb Dock Works. The submission was prepared in the context of the Transurban proposal and relevant parts of it are summarised below.

As part of the assessment of Transurban's market led proposal and the business case development, the Project team has undertaken a procurement options analysis for delivery of the Webb Dock Works. [REDACTED]

[REDACTED]

[REDACTED]

The table below provides a summary of the works that are proposed to be undertaken by Transurban and the State and the reasoning behind the chosen procurement method.

Table 10: Procurement of Webb Dock Works as outlined in the Webb Dock Works Project Submission

Scope item	Procurement consideration
1. Widening of Cook Street from the Todd Road (eastbound) to the entrance to the M1	VicRoads is considered best placed to deliver the works based on the following: <ul style="list-style-type: none"> • These works are an upgrade to the existing arterial road network and interface with work currently being procured for the Port of Melbourne Corporation at Todd Road. • The preferred design does not have a direct physical interface with the connection to CityLink.
2. Dedicated new connection to CityLink (northbound) and an upgrade to Ramp M	[REDACTED]

4 Demand risk allocation

Section 3 identifies a PPP as the preferred procurement model for the Western Distributor Package of works. A central feature of the PPP model in a road project is the opportunity to allocate toll revenue rights between the State and the private sector. The party responsible for toll revenue typically bears the risk associated with recovery of the capital investment in the road if traffic numbers differ from forecasts. Potential toll revenue sources (referred to as “third party revenue” in this report) have been identified to help fund the Western Distributor PPP.

4.1.1 Elements of demand risk

The key elements of demand risk that typically apply to toll road projects are described below:

- **Base demand** – the risk associated with predicting the number of vehicles that will use a new road once usage levels have reached a consistent level for a given toll charge (ie once the ramp up phase has been completed). Forecasting base demand for new urban roads presents particular challenges where there are multiple alternatives (in terms of both route and transport mode).

If the prediction for base demand is incorrect it is likely to impact all long term forecasts (as has been experienced in a number of recent toll road financial failures in Australia including Cross City Tunnel, Lane Cove Tunnel and Clem7).

- **Ramp up phase risk** – the risk that is associated with predicting how long it will take a new road to achieve the base demand level.

If this takes longer than expected, the shortfall in revenue during the ramp up phase could lead to an inability to meet expenditure requirements (including operating and maintenance costs, toll collection costs and, in the case of a PPP, financing costs in the form of debt service and returns to equity).

- **Long term growth risk** – the risk associated with how general traffic volumes (on the project road and the network generally) will grow in the medium to long term. This forecast reflects the fact that once a base traffic level has been achieved the volume of traffic on the new road generally will grow in a manner consistent with growth on the network as a whole (all other things being equal).

In relative terms, this is normally the lowest risk aspect of the traffic forecast to predict as there is a relatively large body of data that exists in relation to the existing network. However, where growth is lower than expected this may cause longer term cash flow issues for a toll road.

The diagram below shows the typical toll revenue profile over the different phases of a toll road.

4.1.3 Allocation of toll revenue risk

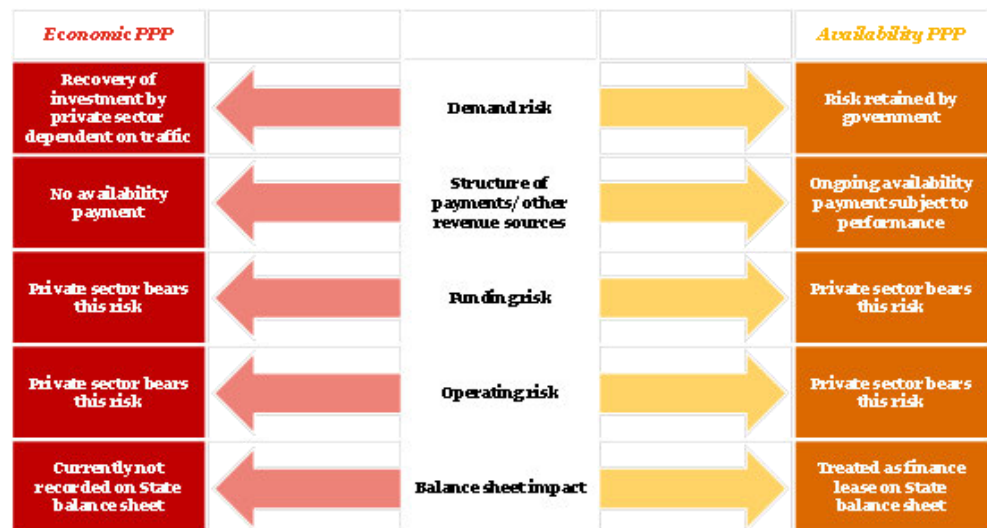
Traditionally, road PPP projects in Australia have been delivered as privately financed toll roads such as CityLink and EastLink (Economic PPPs). Under this model the private sector funds the Project in return for toll revenues (and bears demand risk) taking responsibility (and substantially all risks) for the design, construction, finance and maintenance of the road.

In more recent times, several toll road projects, most notably the Toowoomba Second Range Crossing in Queensland, have been delivered using the availability style PPP model (Availability PPP). For these projects government collects toll revenue (retaining demand risk) and is responsible for making service payments to the concessionaire regardless of the level of traffic. Under this model the private sector still remains responsible for (and bears substantially all the risk) associated with design, construction, finance, operation and maintenance. Peninsula Link in Victoria is also an availability PPP, however there are no toll revenues collected in that project.

The accounting treatment for economic PPPs and availability PPPs differs for the State. Under the economic PPP no asset or liability is recorded on the State’s balance sheet as the private sector bears full responsibility for toll revenues and exposure to demand risk. There are proposed changes to accounting standards (as early as 2017) that would, if adopted, bring an asset and liability onto the State’s balance sheet for privately operated toll roads. Under the availability PPP the State has a financial obligation to make service payments. This results in a finance lease being recorded on the State balance sheet.

The figure below illustrates the distinction between the economic PPP and availability PPP depending on the allocation of key risks. The diagram also illustrates the impact on the State balance sheet under each model.

Figure 4: Economic PPP versus Availability PPP



Victoria’s two existing toll roads (CityLink and EastLink) have successfully been delivered under an economic PPP model. This precedent forms a natural starting point to consider how to allocate the toll revenues in the funding structure.

The model was also adopted for the majority of toll roads delivered around Australia since CityLink (with the exception of the Gateway Upgrade Project and the recent Legacy Way project in Queensland). However, in recent years there have been a number of high profile financial failures of these traditional toll road projects, including Cross City Tunnel, Lane Cove Tunnel (in Sydney) and Clem7 (in Brisbane) due to overly optimistic traffic volume forecasts.

4.1.4 *Consideration of market perspective*

The value that can be realised from the Project toll revenues under the economic PPP model will depend on how efficient the market is in being able to form a view on the future traffic on the toll roads. In order to inform this assessment, the Project team has reviewed the extensive market soundings undertaken for previous business cases for similar large scale road projects over the last 3 years and has updated this with a targeted engagement process to assess the potential for the State to realise value from the toll revenue streams associated with this specific Project [REDACTED]

[REDACTED]

[REDACTED]

Traffic risk

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Construction risk

[Redacted text]

O&M and Tolling Risks

[Redacted text]

[Redacted text]

4.1.5 Analysis of financing costs

A benchmarking study and market analysis has been undertaken by Macquarie Capital in the context of the Transurban proposal to determine the debt and equity financing costs that would be applied to the different elements of the proposal. The analysis distinguishes between the different elements of the proposal as follows:

- Western Distributor – demand risk associated with revenue on tolling of a greenfield road development
- West Gate Freeway widening – demand risk associated with revenue on tolling of an existing (brownfield)/upgraded (khakifield) road
- CityLink – demand risk associated with an existing tolled road (brownfield).

Detail of the analysis undertaken is provided in Appendix C. A summary of the weighted average cost of capital (WACC) analysis undertaken is provided in the table below.

Figure 5: WACC analysis for Project

Element	WACC
Western Distributor (greenfield)	[Redacted]
West Gate Freeway widening (brownfield/khakifield)	[Redacted]
CityLink extension (brownfield)	[Redacted]

4.1.6 Conclusion

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

In conclusion, whilst it has been determined that the Western Distributor Works is best delivered as a PPP, from a simple risk allocation perspective, it is not yet possible to be definitive on whether an economic or availability PPP will deliver the best value for money outcome.

As previously noted, the focus of this business case is on the development of a delivery option that facilitates efficient implementation of the Project (including realising the value of toll revenues to fund some or all of the works). In this context, whilst both economic and availability PPP models remain feasible, they provide different opportunities to realise the value of the toll revenue. The impact of this on the structure is considered further in the Funding solution section of this report, below.

5 Funding solution

5.1 Overview

Section 3 identifies that the State should deliver the Western Distributor Works through a PPP model. This section considers how the Project toll revenues could be leveraged to fund the Western Distributor PPP. The following toll revenue sources have been identified:

- Revenues from tolling users of the Western Distributor and West Gate Freeway widening
- Revenues from the extension of tolls on users of the CityLink assets beyond expiry of the current concession with Transurban.

As identified in section 4 there is considerable precedent for government using the private sector to raise capital against toll revenues equivalent to those from the Western Distributor and West Gate Freeway widening. The deferred nature of the toll revenues from the extension of CityLink tolling is a unique revenue source that arguably has greater certainty, due to the long history of existing toll revenues, but it cannot provide any yield in the period prior to 2035. [REDACTED]

To overcome this uncertainty, this section of the paper considers the State's ability to realise value from the cash flows from the extension of CityLink tolling. This is consistent with the need to achieve the following Project objective:

“Achieving value for money outcomes for the State and road users, whilst leveraging funding alternative sources that help limit the impact of the Project on the State balance sheet.”

[REDACTED]

Additionally, section 3 identifies that the Webb Dock and Monash packages of works should be procured under separate contracts. The funding for the Webb Dock and Monash packages of works is also considered in this section.

5.2 Allocation of the CityLink toll revenues

The Project Team recognised the opportunity for the State to manage the deferred demand risk associated with the CityLink toll revenue beyond 2035. The State is likely to be able to be manage this risk efficiently given:

- [REDACTED]
- [REDACTED]
- [REDACTED]

To achieve this outcome the CityLink toll revenues beyond 2035 are proposed to be allocated to the State. This in turn will reduce the revenue available to the Private sector to fund the Project. To make up the shortfall, the State will be required to make payments to the Project over the life of the PPP. In order to fund these

payments through the Project, the State will be required to provide funding secured against the future value of revenues in 2035.

After considering a number of alternatives that allowed the State to retain the Western Distributor and West Gate Freeway revenues, the Project Team concluded that allocating all toll revenues from the Project, CityLink, Western Distributor and the West Gate Freeway to the State is likely to provide the State the opportunity to better manage the deferred demand risk. The Project Team recommends that an availability PPP will provide the most certainty for delivery.

The next section of this report identifies how best to leverage the funding sources available to the Project and deliver an availability PPP.

5.3 Funding an Availability PPP

Under an availability PPP the State enters into an agreement with a private consortium for the design, construction, operation, maintenance and finance of the Western Distributor and West Gate Freeway widening toll roads. The State pays the availability PPP SPV during the operation period based on the provision of services (ie availability of the roads).

All else being equal, this availability PPP structure would result in the liability to fund all construction works residing on the State's balance sheet and impacting the State's net debt. In this sense, it does not immediately allow the State to offset the revenue it will earn from tolling (from the Western Distributor, West Gate Freeway and extension of CityLink tolling) against the upfront construction costs.

An alternative structure has been identified involving the establishment of a State Owned Entity (SOE) that is responsible for the Western Distributor PPP. In simple terms, the SOE would be structured as a self-sustaining entity (able to support its own capital raising), similar in commercial substance to other State owned entities such as the Port of Melbourne Corporation or Melbourne Water Corporation. The SOE is expected to be classified as a Public Non-Finance Corporation (PNFC).

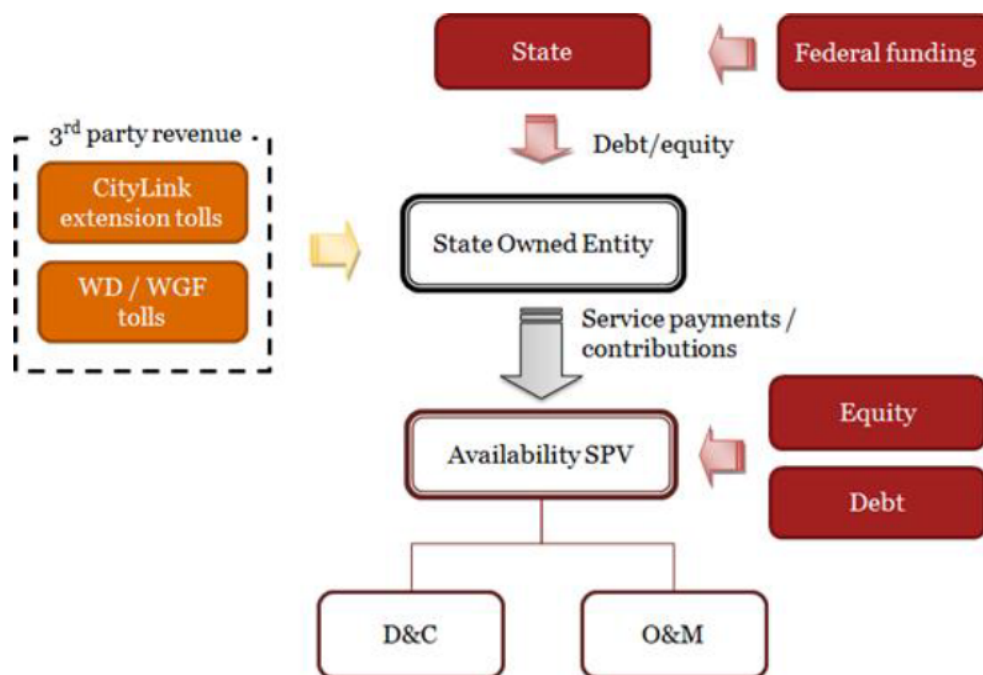
In respect of the Western Distributor Works the SOE would:

- be responsible for toll revenue collection on Western Distributor, West Gate Freeway and on CityLink assets (beyond the expiry of Transurban's current concession)
- be responsible for making all payments in respect of the availability PPP
- be capitalised (on an arms-length basis) through a combination of upfront debt and equity from the State, with an amount sufficient to cover future payments to the availability PPP, including potential milestone (not covered by the Commonwealth contribution) and availability payments
- use future toll revenues from the West Gate Freeway widening, Western Distributor and the extension of CityLink tolling to repay the State over the life of the concession.

The benefits of this structure are twofold:

- 1 the State will be in a position to realise the value of the toll revenues (in a manner which does not limit the impact on the State's balance sheet) to fund the construction costs of the Project. The diagram below illustrates the funding flows of an SOE in an availability PPP funding model
- 2 the availability PPP SPV investors will be able to gain confidence that the SOE is able to meet its Availability payments irrespective of the traffic performance on the road and deliver an availability PPP risk profile.

Figure 6: Availability PPP model via SOE



5.3.2 Assessment of availability PPP model (via SOE)

The following table summarises how the model performs against the assessment criteria identified in section 3.2.

Table 12: Assessment of availability PPP (via SOE)

Criteria	Key attributes
Market interest	<ul style="list-style-type: none"> There is expected to be strong market appetite for an availability PPP based on the level of interest expressed on recent tenders such as the Toowoomba Second Range Crossing. However, there may be some level of resistance from equity providers that prefer an element of demand risk exposure to create upside potential in the investment. Service payments will come from the SOE rather than direct from the State. As a result, the appetite of debt and equity providers will be dependent upon the ability of the capital structure of the SOE to provide security over the service payments.
Risk management	<ul style="list-style-type: none"> The Western Distributor Works includes a greenfield element (for the Western Distributor scope items) and a brownfield/khakifield element (for the West Gate Freeway widening) which does not have toll history. Further, the extension of CityLink tolls are not available to the SOE until 2035. The market should be able to more efficiently value toll revenue streams once traffic volumes are proven. Thus, the State retaining demand risk represents the more efficient risk management solution, when compared to a model where it is transferred (under the economic PPP model).
Innovation	<ul style="list-style-type: none"> An availability payment combined with an appropriate Key Performance Indicator (KPI) regime will allow similar commercial incentives for the private sector to develop an innovative Project solution (both in terms of construction and

Criteria	Key attributes
	ongoing operation and maintenance) when compared to an economic PPP model.
Budget certainty	<ul style="list-style-type: none"> The impact to the State budget will be tied to the level of upfront funding that is provided to the SOE in the form of debt and equity. Ongoing budget appropriations would be minimised provided that the SOE is sufficiently capitalised based on robust forecasting of the toll revenues.
Simplicity	<ul style="list-style-type: none"> Successful precedents exist for availability PPPs both in Australia and internationally. The State will have to setup the SOE to manage the toll collections and the availability PPP SPV.

5.4 Accounting considerations

As indicated in section 4, the availability PPP model generally results in a finance lease being recorded in the State’s balance sheet for accounting purposes. The finance lease also impacts the calculation of the State’s net debt, which is a key consideration in the assessments performed by Standard & Poor’s (S&P’s) and Moody’s Investor Services (Moody’s) of the State’s credit rating.

It should be noted that the accounting treatment for the Project and consequential impact on the State’s net debt and credit rating will ultimately depend on the final arrangement that is entered into between the relevant parties. As such, the accounting considerations for the State will need to be reconsidered in light of the final arrangement that is used to deliver the Project.

The Accounting Treatment Guidance paper attached to the business case contains an analysis of the accounting considerations for the SOE and the State under the proposed structure to deliver the Western Distributor PPP and the potential impact on the State’s net debt and credit rating. The key considerations are discussed below.

5.4.1 Accounting impacts for the State and SOE

The proposed structure to deliver the Western Distributor PPP is expected to have different accounting impacts in the standalone accounts of the SOE and the State. These are summarised as follows:

- The State will need to account for its equity and debt investment in the SOE as assets, with a corresponding reduction in cash (or increase in borrowings)
- The SOE will be the entity directly responsible for the Western Distributor PPP, and thus is the entity that will record the associated finance asset and finance lease liability
- As the SOE is deemed to be State controlled, it will be consolidated into the ‘whole of State’ accounts for accounting purposes. This will mean that the finance lease (together with other assets and liabilities in the SOE, excluding inter-entity transactions) will be included in the consolidated balance sheet of the State.

A high level summary of the key accounting impacts for the SOE is provided in the table below.

Table 13: High level accounting impacts in SOE

Item	Likely accounting impact
State debt and equity investment in the SOE	<ul style="list-style-type: none"> • The loans entered into with the State will be recorded as financial liabilities (ie loan payables) by the SOE. The loans will be recorded during the construction phase when the funds are received from the State. The loan is amortised over the life of the loan • The SOE will record equity reflecting the equity investment from the State. This will be recorded during the construction phase when the funds are received from the State.
Availability PPP	<ul style="list-style-type: none"> • The arrangement with the PPP consortium represents an in-substance finance lease as the majority of the risks and rewards of ownership (including economic benefits of ownership, residual interest in the asset etc) lie with the State. The State is deemed the lessee as it makes lease payments (ie availability payments) for the asset during the lease term (ie Project term) • The SOE will recognise a finance lease asset and lease liability at the lease commencement date, typically the date of construction completion • The finance lease asset is recorded at 'fair value' in accordance with accounting standards and depreciated over its useful life • A corresponding finance lease liability is recognised at lease commencement at a broadly equivalent value to the finance lease asset. Any construction payments made by the SOE to the PPP consortium during the construction phase will be recorded as a prepaid asset when the payment is made. The prepaid asset will be allocated against the finance lease liability upon lease commencement. The lease liability is amortised during the Project period • The SOE will recognise interest expense in relation to the loan payables to the State and the finance lease liability to the PPP consortium.
Toll revenues	<ul style="list-style-type: none"> • The SOE will recognise toll revenue during the concession period once the road is operating and tolls are effective. Revenue will be recognised as customers utilise the toll roads.

5.4.2 Impact on the State's net debt and credit rating

The ability of the State to repay future financial obligations is the primary focus of S&P and Moody's in assessing the State's credit rating. The State's net debt, among other quantitative and qualitative factors, is a key factor that is considered in the assessments performed by the credit rating agencies.

Net debt is defined in the Government Financial Statistics prepared by the Australian Bureau of Statistics as follows:

"It is equal to (deposits held plus proceeds from advances plus borrowing) minus (cash and deposits plus investments plus advances outstanding)."

The net debt that is reported in the State's consolidated balance sheet includes the debt of PNFC entities in accordance with accounting requirements. However, it is understood that the credit rating agencies could make adjustments to exclude the

debt of PNFC entities deemed 'self-supporting' from the calculation of the State's net debt. Whilst the mechanisms by which this is achieved vary between agencies, the overall effect in each case is understood to be broadly equivalent to excluding the SOE from the State's consolidated accounts.

In general, self-supporting is defined by S&P and Moody's as a government related entity that generates sufficient funds to support their operations without the need for financial support from the government budget. Typically, historical performance of an entity is required to demonstrate that the entity is not budget dependent. Some factors that may support the case that the SOE is self-supporting include:

- Reliability of cash flow forecasts for the SOE to fully service debt through toll revenue
- Positive operating cash flow during operations
- Transactions with the State and SOE are at market terms.

More detail on these factors is contained in the Accounting Treatment Guidance attached to the business case.

Self-supporting classification is ultimately determined by the credit rating agencies. It is a case-by-case assessment whereby the credit rating agencies will take into consideration both quantitative and qualitative factors reflecting the individuality of the arrangement. As such, satisfying the factors above does not guarantee that the proposed SOE will be considered self-supporting by the credit rating agencies.

It has been assumed in this business case that if the State is able to demonstrate that the proposed SOE is self-supporting then the credit rating agencies could potentially exclude the debt held by the SOE from the calculation of the State's net debt. It is recommended that the State engages with the credit rating agencies to discuss the likely impact on the State's net debt and credit rating assessment as a result of the proposed structure.

5.4.3 Future accounting requirements

A new accounting standard that will apply to PPPs is expected to become effective from 1 January 2017. This new standard is expected to result in some minor changes to how the proposed arrangement is accounted for by the SOE. Detail of the likely differences in the accounting treatment under the new standard is contained in the Accounting Treatment Guidance paper included in the Attachments to the business case.

5.5 Establishment of SOE

As outlined in the business case, it is expected that the SOE would need to be established prior to financial close so that it can execute the project documentation at contract close.

If the State also wishes to use the toll revenue streams to fund some or all of the procurement and planning costs (as an alternative to direct budget funding) or separate packages of works procured during the procurement phase, then it is likely the SOE will need to be established prior to any costs being incurred or execution of any associated contracts. Accordingly, the timing of the establishment of the SOE will impact on the level of Project costs that can be funded through the proposed funding structure.

Prior to the establishment of the SOE, further consideration will need to be given to the necessary legislation framework to ensure it has the relevant project delivery and operational functions.

5.6 Funding options for the Webb Dock and Monash Freeway Upgrade

The funding of the Webb Dock and Monash Freeway Upgrade will depend on the timing of the establishment of the SOE. In the event that the SOE is established prior to contract close, then it is likely that the works will be delivered by the SOE and funded through the funding structure. However, in the event the works are delivered prior to the establishment of the SOE, then it is expected that direct State payments will be made under the respective contracts.

6 Preferred delivery solution

6.1 Outcome of delivery options assessment

Based on the analysis undertaken as part of the delivery options assessment it is proposed that the Project be delivered through three separate packages: Western Distributor PPP, Monash Freeway Upgrade D&C and Webb Dock Works D&C. The delivery of these work packages is described below.

Western Distributor PPP

The Western Distributor package comprises a number of toll road connections:

- new toll road, being the connection from the West Gate Freeway to a tunnel connecting to the elevated section over the Maribyrnong River and along Footscray Road connecting to CityLink and the city
- upgraded West Gate Freeway from the M80 and Princes Highway interface in the West to Williamstown Road that will have tolls applied to HCVs.

The Western Distributor package is proposed to be procured as an availability PPP. The PPP will be funded using a State Owned Entity that will have rights to collect toll revenues on the West Gate Freeway, the Western Distributor and CityLink beyond Transurban's current concession.

The State Owned Entity will be expected to procure the necessary toll collection assets through a separate procurement process. The nature of this procurement process will be investigated further following the approval of the business case.

The analysis undertaken indicates that there is potential to procure the Western Distributor package as an economic PPP. In the event the State proceeds with the Project under the State delivery option then it is recommended that the procurement of the Western Distributor as an economic PPP is explored further.

Monash Freeway Upgrade D&C

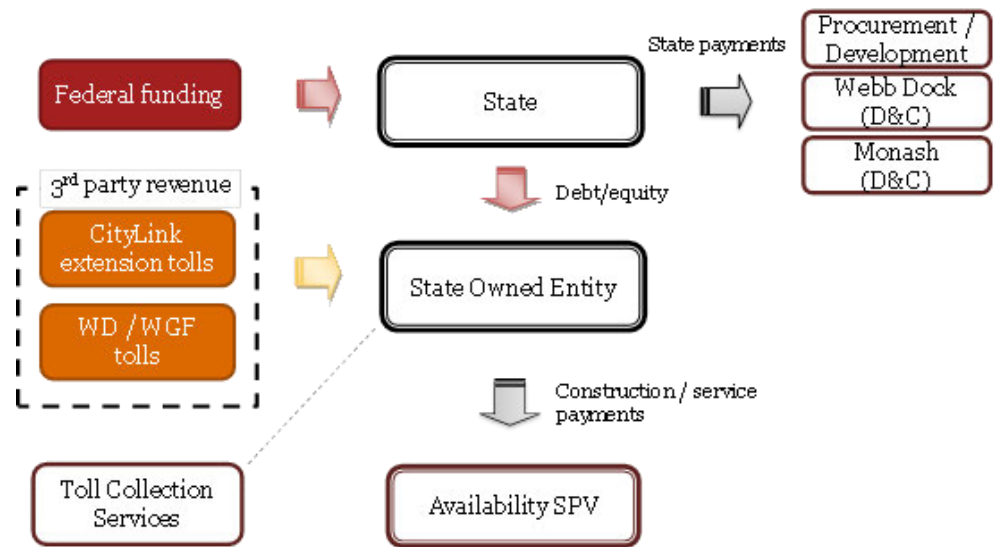
The Monash Freeway Upgrade are proposed to be delivered as a single package of works. The package is proposed to be procured as a D&C contract that is expected to be funded by direct construction payments from the State.

Webb Dock Works D&C



Figure 7 below illustrates the proposed delivery structure.

Figure 7: Preferred delivery solution



Appendices

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Appendix A Procurement models descriptions

The following section summarises the key features of each of the procurement approaches identified for consideration in procuring the shortlisted packages:

- Traditional procurement (Construct only and Design and Construction (D&C))
- Alliance
- Design, Build, Maintain (DBM)
- Design, Build, Operate, Maintain (DBOM)
- Public Private Partnership (PPP).

Traditional procurement (Construct only and D&C)

Overview

Traditional procurement is a common form of procurement used by Government. Government sets clear and specific input based specifications for delivery of the required physical infrastructure. These specifications are then put out to tender. A contractor is engaged to deliver the specifications/concept design without any involvement in the development of those specifications. Contractors are generally appointed on the basis of price and quality.

In the D&C model (relative to the construct only model) the contractor is responsible for the development of the detailed design which must be compliant with all the specifications.

When the infrastructure is completed it is handed over to Government, which then operates and maintains the infrastructure, either using its own staff or by means of a separate operating contract(s) with a private sector provider. Under such a model, the operating and maintenance contracts (if any) would generally be for a relatively short period of time, say five to ten years, with options to extend or retender on expiry.

Procurement process

The process for running a traditional procurement is generally as follows:

- The State engages expert advisers such as designers (as applicable), cost estimators, construction engineers, and programme and schedule managers amongst others, to assist its internal project team
- The State prepares a specification (including input based requirements and concept design)
- A tender process is run to select a contractor, resulting in the parties entering into a contract for the private sector to carry out works in accordance with the specification provided by the State. In a D&C model the contractor prepares detailed design through a consultative review process and undertakes construction to the final detailed design.

Approach to payment

Under traditional procurement, the contractor is paid on the basis of progress (generally on a cost of work completed, rather than a cost to complete basis) or upon achieving specified milestones. That is, the State pays the construction cost of the Project in full over the construction period. Traditional contracts are normally priced as fixed lump-sum contracts.

When is it best suited?

The traditional procurement model is best suited to projects where:

- The State's requirements are tightly specified before tender and are unlikely to change and are used mainly (although not exclusively) where there has been a history of tendering similar types of projects
- There are limited (if any) opportunities to drive value through innovation in design
- There is limited benefit in developing a whole of life approach to design, construction, operation and maintenance
- The State is best placed to manage all non-construction project risks.

It is most effectively used to procure relatively uncomplicated projects, of relatively lower value.

Design, Build, Operate and/or Maintain (DBM/DBOM)

Overview

The DBM and DBOM models extend the traditional D&C model into the operating phase of the project by including the procurement of operations and/or maintenance services at the time of procuring the design and construction. Whilst the State funds construction and takes ownership of the asset once it's complete, the successful tenderer is responsible for maintenance under DBM or both maintenance and operations under DBOM over the term of the arrangements.

The inclusion of operations and maintenance arrangements in the procurement opens up the possibility of transferring operations and/or maintenance risk to the private sector, thereby incentivising a whole of life approach.

Procurement process

The procurement process for DBM and DBOM models broadly reflect the approach taken for the traditional D&C, but with an extension to the required scope of services to include the operating phase.

Approach to payment

As with the traditional D&C approach, under DBM and DBOM procurement the contractor is paid for design and construction on the basis of progress (generally on a cost of work completed, rather than a cost to complete basis) or achieving milestones towards completing the work. That is, the State pays the construction cost of the Project in full over the construction period. Again, as for D&C, DBM and DBOM contracts are normally priced as lump-sum contracts (for D&C) and annual Operations and Maintenance fees, and aim to lock in an agreed price for a defined contract period.

When is it best suited?

The DBM and DBOM models are best suited to projects where the State's requirements are able to be clearly specified before tender and are not likely to

change and are mainly (although not exclusively) used where there has been a history of tendering similar types of projects and where the private sector is better placed to manage operating and maintenance risks than the State.

Alliance

Overview

The alliance model is essentially a collaborative, incentive driven method of contracting where all the participants work co-operatively and in an open manner, to deliver the project with the optimum cost/performance balance, sharing the risk and rewards of bringing in the project within time and under cost, based on the principles of good faith and trust.

Generally, the key elements of alliance contracting include:

- An alliance dispute resolution board
- An alliance management team, which deals with the day-to-day administration of the alliance
- Surrender of rights to commerce arbitral or court proceedings
- Participants agreeing to cost the project on an open-book basis
- A gainshare/painshare based mechanism
- An express obligation to act in good faith.

The alliance relationship is built on the following principles:

- A primary emphasis on the business outcomes from all parties (ie win – win)
- Clear understanding of individual and collective responsibilities and accountabilities
- An equitable balance of risk and reward for the parties (including sharing of pain/gain in terms of outcomes)
- Encouragement of openness and co-operation between the parties
- Encouragement to develop and apply innovative approaches and achieve continuous improvement
- Access to and contribution of the expertise and skills of the parties
- A commercial basis which offers the opportunity to achieve reward commensurate with exceptional performance.

Procurement process

The process for delivering a project as an alliance is generally as follows (but would be tailored depending on whether it was a 'competitive' or 'pure' alliance):

- The State would engage expert advisers to support its involvement in the process. However, the private sector partner is likely to also provide experts such as design consultants, cost estimators, construction engineers, and programme and schedule managers, amongst others to lead project development.
- Training workshops would be held for the State parties involved in the alliance
- A tender process is undertaken to select (usually) two potential alliance partners, based on non-price criteria applicable for the project. The selection process may include workshops to be undertaken with the bidders to consider their suitability in working with the State. The primary commercial parameters

for the alliance are then agreed in a series of structured commercial meetings and workshops supported by financial audits.

- Together the State with each alliance partner prepares the functional specification, handover and commissioning arrangements, preliminary design (which is more extensive than a concept design, but less complete than a detailed design), principles for developing the Target Outturn Cost (TOC) and a gain/pain share mechanism for allocating cost overruns/underspend
- Each potential alliance then develops the TOC on an open book basis
- The State would engage an external auditor to verify the TOC and to confirm the amount was developed in accordance with the agreed principles
- At this stage one alliance partner is selected to go forward
- The alliance agreement is finalised and funding approval is obtained/confirmed
- Detailed design work is undertaken
- The private sector partner leads the construction of the project on a cost reimbursement basis. As the project develops, the TOC may need to change
- The gain/pain share mechanism applies to all parties in the alliance where total construction cost is less than/more than the final TOC
- An ongoing audit program to ensure what items are reimbursable and what items are deemed to be covered by the gain/pain share arrangement.

Approach to payment

Under an alliance, the contractor is typically paid on a schedule of rates/open book basis for all work completed and will also share in any payment/loss as a consequence of the gain/pain share mechanism.

When is it best suited?

The alliance model is best suited to projects where:

- The infrastructure is complex and delivery is high risk, such that output specifications cannot be clearly defined upfront and/or there is a high likelihood of significant scope changes
- There are numerous complex and/or unpredictable risks which cannot be readily identified or quantified, nor easily allocated to only one party, and are therefore best managed collectively
- There is a need for owner involvement (and where the owner has the capacity and capability to be involved) or can add significant value adding during design, construction and/or operation.

In the transport sector, alliances are seen of particular benefit where projects involve the upgrade of existing infrastructure, which is required to remain in service throughout (particularly in the rail sector where rolling stock operations are centrally managed).

Public Private Partnership (PPP)

Overview

A PPP approach may take many forms and provide a range of underlying risk allocations. Generally, a private sector proponent (or consortium) is responsible for the design, build, maintenance, finance and in some instances, operation, of the infrastructure necessary over a long term (typically 25-35 years) ie a DBFM or DBFOM. Shorter term models have been used, for example the Gold Coast Rapid Transit Project's term was 15 years, which provides the State flexibility to extend

the system, obtain fixed operational pricing for the duration of the contract and mitigate refinancing risk.

Unlike the traditional and relationship based models, the PPP model is a long term, whole of life approach to infrastructure delivery. Price and risk allocation is determined up front for the period of the contract, including all refurbishment, upgrade and maintenance costs.

The level of detail and specification required of the State is substantial in these approaches. However, as specifications are expressed in output terms, with a whole of life focus in the PPP models, there is often substantial opportunity for innovation. Further, contractual incentives to deliver on time are higher than in other models as the private sector does not start to receive any payment until construction completion.

Procurement process

The process for delivering a PPP is generally as follows:

- Define required output specification and develop contractual documents
- Hold competitive tender, including expressions of interest phase to shortlist bidders to participate in a subsequent request for proposals phase to select preferred bidder/consortium (bids are on a fully financed basis and provide fixed pricing for the full contract term)
- The successful tenderer designs, constructs and commissions facilities and delivers operational services (with service payments typically only commencing when service has commenced, however, recent PPP projects have tended to include a State capital contribution to the private sector party during the construction phase)
- The private sector party applies service payments received to repayments of finance and meet ongoing project costs.

Approach to payment

Under an availability PPP, payments for the Project by the State are made by way of service payments once the Project commences operations (eg the road is open to users). Ongoing payments are then based on delivery of the service against defined performance/availability indicators and are wholly at risk for non-delivery (in line with “no service, no fee” principles).

The precise structure of this service payment, and the nature of the performance standards, are central to the allocation of risks between the parties and add a significant degree of discipline to compliance with the output specifications for the Project.

Under this model, service payments are made by the State depending on the degree and quality of availability of the road to be used by the public. For example, 100% of the service payment will only be made when 100% (or very close to 100%) of the road is available under normal operating conditions and there are no other specified performance breaches. Conversely, where some or all sections of the road are unavailable, the payment made is proportionally reduced (based on the timing and duration of the non availability).

This payment structure provides a direct incentive to the private sector party to have the road fully operational at the required standard at all times.

When is it best suited?

PPP models are best suited to projects:

- where there is a clear measurable service output against which performance can be measured
- where there are opportunities for significant effective risk transfer to the private sector;
- where there is opportunity for private sector innovation in any or all aspects of the project (design, build, finance, maintenance and operation) to add value
- where benefits can be realised through a whole of life approach to design and costing, ie there is a strong connection between the design, construction materials used and the level and type of maintenance and operating costs.

Appendix B Western Distributor Project – scope packaging issues

Appendix C Cost of capital analysis

