

---

Report of the Waterview Connection  
Procurement Steering Group

# Progressing the Waterview Connection as a public private partnership

An investigation of the value of a public private partnership

---

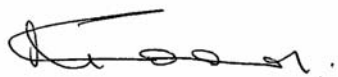
26 June 2008

**To:**

The Hon Dr Michael Cullen, Minister of Finance, and the Hon Annette King, Minister of Transport.

The Waterview Connection Procurement Steering Group is pleased to present our Report into progressing the Waterview Connection as a public private partnership as requested in the Terms of Reference released on 7 February 2008.

Dated: 26 June 2008



---

Sir Brian Elwood

**Independent Chair**



---

Elizabeth Anderson

**Ministry of Transport**



---

Michael Barnett

**Auckland Chamber of Commerce**



---

Mike James

**Deputy Secretary, The Treasury**



---

Stephen Selwood

**New Zealand Council for Infrastructure Development**



---

Phil O'Reilly

**Business New Zealand**

# Contents

<b>Foreword</b> .....	2
<b>1. Executive summary</b> .....	5
<b>2. Introduction</b> .....	8
Steering Group membership .....	8
The Waterview Connection project .....	8
<b>3. The investigation</b> .....	9
Legislative framework .....	9
Land Transport Management Act 2003 .....	9
Resource Management Act 1991 .....	10
Assessment criteria and the public sector comparator .....	11
Public sector comparator .....	11
<b>4. Procurement options</b> .....	14
Conventional procurement .....	14
Design and Construct .....	14
Alliance .....	15
Fixed-price/Turnkey .....	16
PPP procurement .....	18
PPP Payment Mechanisms .....	19
<b>5. Conclusions</b> .....	21
Comparing conventional procurement to a PPP .....	21
Critical success factors .....	21
The most efficient conventional procurement method .....	23
The most suitable form of PPP .....	24
Risk allocation .....	25
Payment mechanisms .....	26
<b>6. The case for a PPP for the Waterview Connection</b> .....	29
Whole of life cost savings .....	29
Benefits for road users .....	30
Access to additional revenue sources .....	31
Cost estimation .....	32
Benefits to the wider community .....	33
Contracting costs .....	34
Cost of contract variations .....	34
Contract enforcement .....	35
The Waterview Connection by 2015 .....	35
The value of private sector finance .....	37
Legal feasibility of a PPP for the Waterview Connection .....	38
Market appetite and capacity .....	38
Price and cost certainty .....	39
<b>Appendix 1: Terms of reference</b> .....	41
<b>Appendix 2: Summary assessment table</b> .....	45
<b>Appendix 3: Other approaches to assessing value for money</b> .....	47

# Foreword

A public private partnership (PPP) is a long-term contract between the public sector and the private sector covering planning, design, construction, operation and financing of public infrastructure and services. The Waterview Connection Procurement Investigation has created the opportunity to consider generally the use of PPPs in other jurisdictions to procure the construction and management of large-scale infrastructure projects.

This opportunity arose from the decisions to:

- establish an investigation to assess the viability of procuring the Waterview Connection as a PPP; and
- assess the PPP approach against a public sector comparator, with a focus on value for money.

The investigation departs from precedent in that the Waterview Connection Procurement Steering Group (the Steering Group), consisting of members from both the public and private sectors, was asked to provide advice on the procurement of a major public infrastructure project; something that would normally be the prerogative of the sponsoring public agency, in this case Transit New Zealand (Transit).<sup>1</sup>

Whether or not, and in what form, the Waterview Connection proceeds is not for the Steering Group to determine. Those are decisions that rest firmly with government and its agencies (referred to collectively as 'the public sector' throughout this report). Accordingly, Transit has continued with the parallel process of public consultation on its preferred option for completing the Waterview Connection.

This report will, however, be relevant in the taking of any final decisions about the procurement of the Waterview Connection. Also relevant is the February 2007 report 'Achieving public sector outcomes with private sector partners' published by the Office of the Auditor-General.<sup>2</sup>

The Steering Group notes and endorses the Auditor-General's observations that:

- public entities choosing to use partnering will need a high level of expertise and a sound business case to support their decision;
- the business case should clearly show how the chosen partnering arrangement fits with, and helps to achieve, the vision and policy objectives of the public entity. It should also show how a partnering approach would result in better value for money than other procurement options; and

---

<sup>1</sup> The investigation took account of work already undertaken by Transit on design options and alignment; and economic assessments, including cost-benefit analysis.

<sup>2</sup> <http://www.oag.govt.nz/2006/public-private/>

- a value-for-money assessment should consider the benefits of opting for a partnering approach against the costs of doing so. A key issue will be the value for money achieved by the proposed division of risks between the parties.

While time was limited, our approach was to engage as openly as possible with interested parties. This enabled us to identify and understand all the issues relevant to the investigation. Written submissions were invited through public advertisements and meetings were held with New Zealand transport sector organisations, local authorities from the Auckland region, potential tenderers, expert advisers and individuals. We also met in Australia (Melbourne, Sydney and Brisbane) with organisations and individuals involved in PPP procurement, from both the public and private sectors.

We received a total of 76 written submissions from 54 individuals and 22 organisations.

Some members of the public and others who made written submissions also met with Steering Group members to speak in support of, or to elaborate on, their written submissions. All submissions have been carefully considered and, as appropriate, reflected in this report.

The procuring of major infrastructure projects in New Zealand by way of PPPs has rarely been used. In part this may have been the consequence of there being a limited range of projects suitable for that means of procurement. With the Waterview Connection, there is now a major project which could be procured by other than conventional, for New Zealand, contracting methods.

The Steering Group approached its task with the aim of providing the best advice it could to assist the public sector in making the decision on how best to procure the completion of the Waterview Connection and obtain value for money. We set out not to advocate any particular outcome but to look at options and identify the issues which would need to be considered in reaching a decision to proceed to procurement.

What we have found is that internationally the PPP method of procurement is being widely used and increasingly so where the public sector seeks to complete needed infrastructure assets ahead of the time conventional methods of procuring and financing would achieve. New Zealand stands to benefit from the experience gained overseas and particularly in Australia should it decide to use the PPP method for major infrastructure procurement. We found a ready willingness to share those experiences and provide assistance.

This Report represents the unanimous views of the Steering Group members. Given the early stage of the process to determine whether a PPP procurement is best for the Waterview Connection we have not been able to address all the issues which will be required before a final commitment is made. We have however highlighted what we believe are the matters to be decided and the critical factors to underpin a successful outcome.

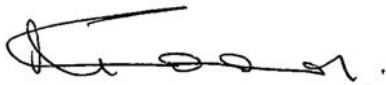
We have focused upon arriving at a qualitative assessment of the advantages and disadvantages of utilising the PPP method of procurement alongside the conventional Design and Construct method.

The end result is a 'qualitative business case'. To arrive at a quantitative assessment or business case would have required the making of too many assumptions, which would not have been helpful in coming to a view on the primary issue – the opportunities that might be present from utilising an innovative method of infrastructure procurement for the Waterview Connection.

The Steering Group wishes to acknowledge the excellent assistance provided by the Working Group established to support our investigation. Working Group members included Treasury and Ministry of Transport analysts; Andrew Bowman (Hyder Consulting Limited); and an independent project manager, Henry Dowler (Monarch Consulting Limited). We also engaged expert assistance from PricewaterhouseCoopers.<sup>3</sup>

We also acknowledge the advice and practical assistance provided by a number of other parties who met with us and the Working Group, made submissions and responded to our many and varied information requests. There are too many to name here, but special mention must be made of:

- Kensington Swan for hosting our initial 'open forum' meetings in Auckland;
- Transit for the time and effort spent producing and explaining the great deal of information we needed from them to be able to complete our task as effectively as possible; and
- Deloitte, Macquarie Bank, ABN AMRO and Leighton Contracting for their generous assistance with arrangements for our Australian visits.



---

Sir Brian Elwood

**Independent Chair**

**Waterview Procurement Project Steering Group**

---

<sup>3</sup> Deloitte's Brisbane office also provided assistance in preparing the case study of the North South Bypass Tunnel in Brisbane, Australia.

# 1. Executive summary

- 1.1 It is increasingly accepted internationally that public private partnership (PPP)<sup>4</sup> procurement of major transport infrastructure projects:
  - is a means of securing earlier completion of such projects with the assistance of private finance; and
  - provides greater value for money over the lifecycle of the project.
- 1.2 The Waterview Connection Procurement Steering Group has concluded that procuring the proposed Waterview Connection as a PPP is feasible under existing legislation, although meeting some of the legislative requirements will be challenging. Subject to critical success factors being satisfied (see below), a PPP is likely to deliver greater value for money when compared with the most efficient conventional procurement method.
- 1.3 In seeking to prepare a qualitative assessment of the potential to gain greater value for money through a PPP method of procurement for the Waterview Connection, the Steering Group has also concluded that:
  - the project is of sufficient scale;
  - the desired outputs can be clearly specified;
  - there are opportunities for risk transfer;
  - market players have the capability and have expressed an appetite for involvement;
  - over the lifecycle of the project, there is opportunity for value for money to be achieved, and private finance is available for investment.
- 1.4 The Steering Group found that PPPs offer value for money through disciplines around costing, defining objectives and risk allocation (together with the sharper performance incentives that arise from having private finance at stake). The value comes particularly in the form of better cost control and more innovative solutions.
- 1.5 The primary drivers of value for money in a PPP are:
  - the use of private finance which provides stronger and more focused performance incentives;
  - the use of output specifications which creates incentives for the private sector partner to innovate and consider savings across the life of the project; and
  - risk transfer over what happens under conventional procurement.

---

<sup>4</sup> A public private partnership is a long-term contract between the public sector and the private sector covering planning, design, construction, operation and financing of public infrastructure and services.

- 1.6 The likely value for money from a PPP must be balanced against the disadvantages of being tied into a long-term contract and higher contracting costs. Being tied into a long-term contract may constrain opportunities for significant public policy changes, or decisions to use the asset for a different purpose or in a different way. Proceeding with a significant change may result in a costly contract renegotiation.
- 1.7 Further work is needed to develop the public sector comparator to provide a benchmark that is as robust as possible for any tender process. This needs to reflect the outcome of Transit's considerations around the Design and Construct and Alliance procurement methods.
- 1.8 Work to date by Transit shows that completion of the Waterview Connection will offer a number of benefits to road users including shorter and more reliable travel times. These benefits will be delivered regardless of the procurement method chosen. Delivering the Waterview Connection through a PPP, however, is likely to offer some additional benefits to road users, primarily because of the way that the private sector partner is paid for their services.
- 1.9 In the event that a decision is taken to proceed with a PPP for the Waterview Connection the following factors (discussed in more detail in the body of this report) are considered to be critical to ensure a successful outcome:
  - unequivocal public sector commitment to the project in terms of funding, process and timeline;
  - clear project objectives to guide the development of tender documentation and bids;
  - adequate public sector resources and clearly defined roles; and
  - confirmation that there will be sufficient bidders to ensure adequate competition in bidding for the project, despite the strong market interest in the project to date.
- 1.10 There are a number of decisions that need to be made by the public sector to define relevant aspects of a PPP for the Waterview Connection, such as funding and a payment structure, before finally committing to this method of procurement.
- 1.11 The Steering Group concluded that design, build, finance and operate (DBFO) is the most suitable form of PPP for the Waterview Connection. This approach transfers the primary responsibility for construction and operational risk to the private sector partner. There are significant risks, such as obtaining resource consents and land purchase, that the public sector is best placed to manage.

Table 1 | Assessment summary

Assessment criteria	PPP	Explanatory comment
Value for money criteria		
Likely to reduce whole of life costs – i.e. the combination of construction and ongoing operating and maintenance costs	✓	A PPP achieves these benefits due to greater disciplines around defining objectives, risk allocation, opportunities for innovation and sharper performance incentives as a result of having private finance at stake.
Greater user benefits – Such as greater on-going road availability, reduced accidents, better design of ancillary features such as tunnel management systems or off-ramps, etc.	✓	
Likely to access additional revenue sources – Creative ideas for extracting more value from the infrastructure, e.g. property development or advertising, etc.	✓	Likely to be small relative to the size of the project.
Better cost estimation – By the public sector	✓	PPPs require the public sector to rigorously estimate the cost of risks as part of the public sector comparator. This leads to improved disciplines around the allocation and costing of project risks.
Greater community benefits – i.e. works undertaken for the benefit of the surrounding community.	✓	There are examples that show that private sector partners have gone beyond their contractual requirements with social and environmental aspects of their facilities; and have provided ancillary community benefits in order to improve public relations or attract more users.
Low tendering and contracting costs	✗	A PPP involves higher initial tendering and contracting costs because long term contracts require more effort to consider contingencies and financing requirements. There are also more parties involved in tendering for a PPP.
Low contract change costs – i.e. the additional cost of changing contractual provisions above and beyond what it would cost if change was negotiated competitively.	✗	The need for contract variation may arise from a policy change if it has a material adverse effect on the private sector partner. The longer the term of a contract, the higher is likely to be the cost.
Easy contract enforcement – Difficulties with contract enforcement and specification of performance dimensions.	✗	The longer the term of a contract, the harder and therefore the more costly it is to deal with such issues.
<b>Overall value for money assessment</b>	✓	<b>On balance the PPP offers value for money over conventional procurement</b>
Other assessment criteria		
Completion by 2015	✓	The project could be completed by 2015 as a PPP, although this would depend upon the timing of any decision to proceed and other related decisions (e.g. on public sector funding).
Feasibility under existing legislation	✓	A PPP is feasible under existing legislation.
Market capability and appetite	✓	There is market capability and appetite for delivering the project as a PPP.
Price certainty	✓	A PPP is likely to provide more cost certainty. If there are ongoing public sector payments over the term of the contract and they are linked to performance or to traffic levels, however, there will be uncertainty about the actual level of payments made on an annual basis.

## 2. Introduction

- 2.1 The Waterview Connection Procurement Steering Group (the Steering Group) was established on 7 February 2008 by the Minister of Finance and the Minister of Transport to investigate whether procuring the Waterview Connection as a public private partnership (PPP) could deliver value for money.
- 2.2 The terms of reference for the investigation are in Appendix 1.

### Steering Group membership

- 2.3 Steering Group members, drawn from both the public and private sectors are:
- Sir Brian Elwood, Independent Chair.
  - Elizabeth Anderson, Group Manager Land Transport Investment and Development, Ministry of Transport.
  - Michael Barnett, Chief Executive, Auckland Chamber of Commerce.
  - Mike James, Deputy Secretary, The Treasury.
  - Phil O'Reilly, Chief Executive, Business New Zealand.
  - Stephen Selwood, Chief Executive, New Zealand Council for Infrastructure Development.

### The Waterview Connection project

- 2.4 The Waterview Connection is a proposed extension of the Auckland motorway network from State Highway 20 at Mt Roskill to State Highway 16 at Waterview. Transit New Zealand (Transit) is proposing twin bored tunnels with associated portals adjoining the Mt Roskill Extension and Northwestern Motorway through interchanges on the surface. Construction of the Waterview Connection will complete the Western Ring Route.
- 2.5 Transit's current estimate of the project outturn cost, in 2015 dollars, is \$1.89 billion.<sup>5</sup>
- 2.6 Preliminary traffic modelling forecasts that by 2026 approximately 90,000 vehicles will use the Waterview Connection each day.<sup>6</sup>
- 2.7 Further information about the Waterview Connection and the Western Ring Route can be found on the Transit website at [www.transit.govt.nz](http://www.transit.govt.nz)

---

<sup>5</sup> An outturn cost is the final cost of building a project after all claims have been resolved.

<sup>6</sup> Based on an untolled scenario.

## 3. The investigation

- 3.1 The purpose of the investigation is to assess whether procuring the Waterview Connection as a PPP could deliver value for money. In order to make this assessment, our investigation has entailed:
- determining the characteristics of the most efficient conventional procurement method for the Waterview Connection;
  - identifying the most suitable form of PPP for the Waterview Connection;
  - analysing how the two procurement methods compare in terms of value for money; and
  - providing a generic description of the most effective process for developing and assessing PPPs.
- 3.2 At this early stage, in the consideration of the possible use of a PPP procurement for the Waterview Connection, it has not appeared practicable to directly address the last bullet point. That issue will be better addressed in the light of the outcome of any decision to proceed with the Waterview Connection as a PPP. This report, however, provides some insights into the potential for projects other than the Waterview Connection to be delivered as PPPs. For example, critical success factors, discussed later in relation to the Waterview Connection, will apply more broadly. We also draw attention to the approach taken in Victoria, Australia, through Partnerships Victoria. We believe that the Victorian model for assessing PPPs is a good starting point for the consideration of other PPPs in New Zealand.<sup>7</sup>
- 3.3 The following sections outline our understanding of the legislative framework, relevant procurement options and our approach to this assessment.

### Legislative framework

- 3.4 The terms of reference require the investigation to be completed within the context of existing legislation. In particular, the investigation has considered the Land Transport Management Act 2003 (LTMA) and the Resource Management Act 1991 (RMA). These Acts are outlined below. Account has also been taken of the LTMA Amendment Bill (Amendment Bill) currently before the House of Representatives.

#### Land Transport Management Act 2003

- 3.5 The LTMA and the Amendment Bill set out the framework by which land transport activities, including State highway projects, are planned and funded. This legislation contains provisions for a concession agreement, defined as a series of arrangements between a public road controlling authority and one or more third persons that involves the leasing of land for roading purposes.<sup>8</sup>

<sup>7</sup> [http://www.partnerships.vic.gov.au/domino/web\\_notes/PartVic/PVWeb.nsf](http://www.partnerships.vic.gov.au/domino/web_notes/PartVic/PVWeb.nsf)

<sup>8</sup> A concession agreement primarily allows for the lease of land by the private sector partner, thus facilitating rights of access required for the PPP.

- 3.6 In summary, the circumstances under which a concession agreement for roads can be entered into are:
- the ownership of public roads remains with the public sector;
  - a concession agreement does not automatically allow the levying of a toll;
  - before entering into a concession agreement, the road controlling authority must obtain the in principle approval of the Minister of Transport and satisfy any specified conditions;
  - a concession agreement must not include any provision that provides a disincentive for a person to pursue other sustainable transport options;
  - the term of a concession agreement must not exceed 35 years, unless there are exceptional circumstances justifying an extension of no more than 10 years; and
  - a road controlling authority, such as Transit, is the public sector's contracting agency.
- 3.7 One of the methods by which a road may be funded in New Zealand is a road tolling scheme. The existence of the common law rule of right of passage means a road controlling authority cannot simply place a toll gate or its modern successor across a road. Given that road tolling schemes have monopoly characteristics, even where there is a feasible alternative route, the LTMA sets out requirements to protect the public interest that must be met before a road tolling scheme can be approved.

#### Resource Management Act 1991

- 3.8 The RMA sets out the process for obtaining resource consents for projects. Consents include land use planning, water permits and discharge permits to water and air. Land use consent is usually issued by the local authority through a designation. Water permits and discharge permits to water and air are granted by the regional council.
- 3.9 The RMA also provides for the Minister for the Environment to intervene in the consents process for projects which are considered to be of national significance. The Minister can either choose to intervene, or be requested to do so. The Minister's intervention options are:
- decline to intervene (if requested to consider the matter);
  - make a submission to the consent authority(ies) on behalf of the Crown;
  - direct consent authority(ies) to hold joint hearings;
  - appoint a Project Co-ordinator to advise the consent authority(ies);
  - appoint a Hearings Commissioner to preside over hearings; or
  - 'call in' the matter.
- 3.10 The 'call in' option is the strongest intervention, seeing the matter referred directly to an independent Board of Inquiry or the Environment Court, however, it does not change the criteria

under which the final decision is made. The 'call in' process is a one-step process – it is not intended to be a fast-track mechanism.

- 3.11 Transit has indicated it will be able to progress the Waterview Connection through the standard resource consent process and still complete the project by 2015, provided that there are neither delays nor significant opposition to the resource consent applications. Consequently, early in the project we expressed a view that Transit should continue to advance the work necessary to obtain a designation and apply for resource consents to avoid the possibility of delaying the project. In doing so it is important that Transit ensures the designation and consents remain as flexible as possible so that any private sector innovation is not constrained.<sup>9</sup>

#### **Assessment criteria and the public sector comparator**

- 3.12 The focus of our assessment is on value for money. The definition of value for money adopted for this investigation is 'the most effective outcome at the least cost' – that is, value for money is not simply the lowest cost option. Determining value for money requires consideration of the following three broad concepts:

- Effectiveness – selecting an option that best achieves the desired outcomes;
- Efficiency – maximising what is achieved within the available resources; and
- Economy – ensuring the inputs are provided at the lowest cost.

- 3.13 Consequently, any assessment of value for money needs to consider a combination of qualitative and quantitative measures. Our assessment is qualitative given the early stage of development of the Waterview Connection. We employed an assessment framework, shown in Table 1 in the Executive Summary, which is based on the pros and cons of project procurement by way of a PPP compared with conventional procurement.<sup>10</sup>

- 3.14 If a decision is taken to procure the Waterview Connection as a PPP, further work is necessary to ensure a full and robust assessment of value for money. This includes the detailed development of a public sector comparator (the Comparator) and ultimately a competitive tender process that ensures PPP tenders are subject to competitive pressure until a contract is signed.

#### **Public sector comparator**

- 3.15 The Comparator is a tool used at the tender stage to provide a consistent benchmark that tenders can be evaluated against. The Comparator represents the estimated cost to the public sector of procuring a project conventionally. One of the tests to determine value for money is to compare the Comparator against PPP tenders once they are received. The most efficient conventional

<sup>9</sup> This view was endorsed by a range of potential tenderers through the submissions process.

<sup>10</sup> A brief description of the approach taken to assessing value for money in PPP procurement in other jurisdictions is contained in Appendix 3.

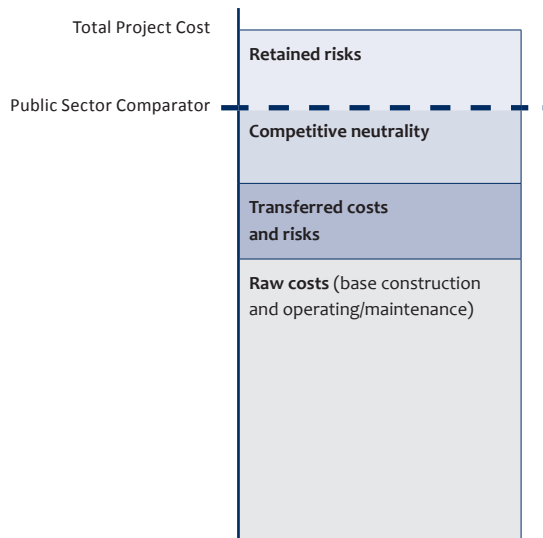
procurement method should be used as the basis for the development of the Comparator to allow for a comparison to be made between a PPP and conventional procurement.

3.16 The Comparator is made up of:

- the construction and operating costs of a project; plus
- provision for competitive neutrality adjustments to remove any advantages or disadvantages that accrue to a public sector procurer by virtue of its public ownership; plus
- provision for any additional costs and risks that would be transferred to the private sector partner under a PPP. These risks need to be added as a cost to the Comparator because the public sector party would bear the cost of any risks that occur under conventional procurement.

3.17 The concept of the Comparator is illustrated in the diagram below. The dashed line represents the value of the Comparator. It excludes the value of retained risks and costs because these are not passed to the private sector and would therefore not be priced in a tender.

Figure 1 | The public sector comparator



3.18 As this investigation is not assessing tenders, the key role of the Comparator is to act as a checklist to ensure that our assessment has taken account of all the broad categories of risks that apply to the Waterview Connection. Once the risks have been identified we are then able to make a judgement about which party is best placed to manage them (either the public or private sector). These risks are discussed further in the Risk Allocation section.

3.19 Transit's project costings to date have assumed a Design and Construct procurement method. Our work regarding the development of a Comparator has also been based on these costings. Transit has yet to determine the best form of contracting for the maintenance and operation of the Waterview Connection. Nevertheless, we have added an allowance for the inclusion of maintenance costs in order to develop a Comparator because maintenance would be included in a PPP contract. Effectively this ensures that the Comparator includes a Design, Construct and Maintain function.

## 4. Procurement options

### Conventional procurement

- 4.1 To identify the most efficient conventional procurement method, we considered Transit's procurement strategy for large projects. While Transit's strategy includes other methods, the Design and Construct and Alliance methods were acknowledged to be the most common for projects approaching the size and scale of the Waterview Connection. Although not currently used by Transit, we also considered Fixed-price/Turnkey contracts because PPPs usually involve the private sector partner using fixed-price contracts for the construction component of the project.
- 4.2 It is noted that roading projects in New Zealand are usually built and maintained separately, with maintenance (and any associated operations) undertaken through a separate contract with the private sector.<sup>11</sup> The following descriptions therefore focus on the construction portion of procurement.

### Design and Construct

- 4.3 The Design and Construct method is the traditional form of public sector procurement, where a contractor is engaged to deliver on project specifications without having involvement in the development of those specifications. Contractors are appointed on the basis of price and quality.
- 4.4 The Design and Construct method is best suited to projects where the public sector party's requirements are able to be clearly specified and do not change. Changes to requirements will be priced on a non-competitive basis.
- 4.5 The process for the Design and Construct method is generally:
- the public sector party engages expert advisers to assist its internal project team with project specification;
  - the project is specified based on input requirements and a concept design;
  - a competitive tender process is run to select a contractor:
    - expressions of Interest process to select a shortlist;
    - request for tender process to select a preferred tenderer from the shortlist;
  - a contractor is appointed and the parties enter into a fixed price, fixed time contract to

---

<sup>11</sup> Transit typically uses performance based contracts of up to 10 years to maintain State highways. Transit has recently entered into an Alliance to maintain the Auckland State highway network.

undertake the design and to construct the project. Most design and construction risks are transferred to the contractor;

- the contractor prepares a detailed design that meets the requirements of the public sector party through a consultative review process and constructs the project based on the final agreed design; and
- the contractor is paid on the basis of progress during construction.

4.6 An example of a State highway project procured using the Design and Construct method is the Manukau Extension in Auckland, from State Highway 1 at Manukau City joining State Highway 20 at the Puhinui Interchange.

#### Alliance

4.7 The Alliance method is a collaborative approach to contracting where all participants work in an open manner to deliver the project, sharing the risk and rewards of completing the project on time and on budget. The Alliance relationship is based on the following principles:

- emphasis on the business outcomes of all parties (i.e. win - win);
- clear understanding of individual and collective responsibilities and accountabilities;
- 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 all the parties; and
- commercial basis which offers the opportunity to achieve reward commensurate with exceptional performance.

4.8 The Alliance method is best suited to projects where:

- 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 quantified and easily allocated to only one party, and are therefore best managed collectively;
- there are complex stakeholder issues or external threats or opportunities that are best managed collectively;
- there are tight timeframes (driven by project risk rather than organisational capacity); and
- there is a need for owner involvement or significant value adding during construction.

4.9 The commercial goal of contractors is to maximise revenues and minimise risk. This is achieved in an Alliance by locking in a profit margin, avoiding major downside risk and retaining opportunity for upside risk. Downside risk sharing by the contractor is typically limited to the profit margin. The impacts of cost overruns are borne by the public sector party and the private sector, having its margin at risk.

4.10 The process for the Alliance method is generally:

- the public sector party engages expert advisers; however, the private sector partner is likely to provide experts as well;
- under a **Pure Alliance** the public sector party develops the project design and negotiates the Target Outturn Cost (the target cost) collaboratively with the selected private sector party;
- under a **Competitive Alliance** the public sector party develops the project design and negotiates the target cost in parallel with two potential private sector contractors. The target cost is finalised with the preferred contractor. A Competitive Alliance attempts to provide a better balance between ensuring a competitive price and improving project outcomes through early contractor involvement, which provides the opportunity for design innovation;
- the public sector party engages an external auditor to verify the target cost and to confirm the amount was developed in accordance with the agreed principles;
- 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;
- an ongoing audit program is used to ensure what items are reimbursable and what items are deemed to be covered by the gain/pain share arrangement; and
- the contractor is paid on the basis of progress (generally on a cost of work completed, rather than a cost to complete basis).

4.11 An example of a State highway project procured using the Pure Alliance method is ALPURT B2 in Auckland, an extension of the Northern Motorway from Albany to Puhoi. An example of a Competitive Alliance is the Manukau Harbour Crossing project, which duplicates the existing Manukau Harbour Bridge in Auckland.

#### Fixed-price/Turnkey

4.12 The Fixed-price/Turnkey method can contain features of both conventional and PPP procurement and are most commonly used between private sector parties.

- 4.13 The public sector party enters into a contract with the contractor, typically supported by a consortium of firms, to design and build the project to agreed performance criteria.<sup>12</sup> The contractor commits to a fixed price and timeframe to deliver the asset ready for operation ‘at the turn of a key.’
- 4.14 The Fixed-price/Turnkey method is best suited to projects where there is an opportunity for innovation and where the public sector party has little experience.
- 4.15 The public sector party must complete some preliminary engineering and project specification in order to tender the project.
- 4.16 Under the Fixed-price/Turnkey method, the contractor is usually paid at the end of the contract on a cost to complete basis, as opposed to progress. Consequently, the contractor usually requires private finance to cover costs during the construction period. The impact of finance is similar to, but not the same as in a PPP, however, because the construction period is significantly shorter than a concession agreement.
- 4.17 The process for the Fixed-price/Turnkey method is generally:
- the public sector party engages expert advisers to assist its internal project team with preliminary engineering and project specification;
  - the project is specified based on output requirements;
  - a competitive tender process is run to select a contractor;
    - expressions of Interest process to select a shortlist;
    - request for tender process to select a preferred tenderer from the shortlist;
    - a contractor is appointed and the parties enter into a contract to undertake the design and to construct the project. Most design and construction risks are transferred to contractor; and
  - the contractor prepares a detailed design that meets the requirements of the public sector party through a consultative review process and constructs the project based on the final agreed design.
- 4.18 As noted above, Fixed-price/Turnkey contracts are not currently used to procure State highway projects in New Zealand.

---

<sup>12</sup> There are examples of transport projects delivered through the Fixed-price/Turnkey method that have included an operating component, thus demonstrating that the asset can operate to the performance criteria specified. These are called “super-turnkey” contracts and are considered to be very close to Design, Build, Operate and Maintain (DBOM) contracts.

### PPP procurement

- 4.19 As noted above, a PPP is a long-term contract between the public sector and the private sector covering planning, design, construction, operation and financing of public infrastructure and services.
- 4.20 PPPs are common in the European Union (including the United Kingdom and Ireland), Canada, Australia and Japan. PPPs are also, increasingly, being used in the United States of America. Internationally, PPPs have primarily been used to bring forward the provision of desired infrastructure projects so as to:
- deliver best value for money; and/or
  - secure project funding without breaching self-imposed fiscal constraints.
- 4.21 The key characteristics that distinguish PPPs from conventional procurement are:
- private finance – PPP projects are usually financed by the private sector partner;
  - risk transfer – more risk is transferred to the private sector partner under a PPP than is the case under conventional procurement; and
  - whole of life considerations – PPPs provide strong incentives for the private sector partner to consider potential cost savings over the life of the project.
- 4.22 Five basic components (design, build, operate, finance and ownership) in different combinations make up the common forms of PPPs.<sup>13</sup> Under a PPP most or all of these components are undertaken over an extended period of time by a concession company which includes designers, builders, operators and financiers. At the end of a PPP, the partnership ends and ongoing responsibility for the asset is usually returned (or transferred) to the public sector partner.
- 4.23 The design, build and operate (including maintenance) components are usually combined and project requirements are usually specified in terms of outcomes or outputs to create incentives to achieve cost savings over the life of the project. The combination of these components also allows the effective transfer, under a single contract, of design, construction and operating risk to the private sector partner during the term of the concession.
- 4.24 As noted above, the LTMA requires that ownership of public roads remains with the public sector partner.
- 4.25 We noted New South Wales Treasury advice that projects that have the potential to deliver value for money through PPP procurement typically include characteristics such as:<sup>14</sup>
- **scale:** generally projects with a total contract value greater than \$50 million;

<sup>13</sup> Such as DBFO (design, build, finance and operate) and BOOT (build, own, operate and transfer).

<sup>14</sup> Adapted from New South Wales Government (2006) *Working with Government: Guidelines for Privately Financed Projects*.

- **duration:** long service delivery periods, up to 25 years or more;
- **service focus:** the services desired from the infrastructure should be capable of being specified in measurable output terms, for inclusion in the contract;
- **innovation:** the project is sufficiently complex that innovative approaches can be brought to bear in terms of delivering value for money;
- **risk allocation:** the risks inherent in the project can be specified well; some of which can consequently be appropriately transferred to the private sector due to its ability to manage them most efficiently; and
- **market appetite:** a real market opportunity exists that will attract a number of competent bidders.

#### PPP Payment Mechanisms

4.26 PPP procurement involves ongoing payments over the term of the concession once the asset is built and open, as opposed to progress payments made during construction under conventional procurement.

4.27 Many roading PPPs in Australia have advanced because direct user charges, such as tolls, have been sufficient to cover the full cost of the project. Where projects overseas have not been fully funded by direct user charges (for example in the United Kingdom and Ireland), public sector contributions have been provided as a lump sum or as payments over the period of the contract using the mechanisms outlined in Table 2.

Table 2 | PPP Payment Mechanisms

Payment Mechanism	Description
Direct user charges	Tolling is the most common direct user charge for roading infrastructure. The two main objectives of tolling are revenue generation and demand management.
Lump sum contributions	Lump sum payments towards the cost of the project are used in both conventional and PPP procurement. Such payments are usually paid upon completion of construction.
Shadow tolls	A shadow toll is a payment based on traffic volumes made by the public sector partner rather than users paying directly through a toll. In the United Kingdom traffic is divided into bands representing different levels of annual traffic volumes with different per-vehicle payments attached to each. Banding is intended to cap the public sector partner's liability.
Availability payments	Availability payments are based on the availability of infrastructure and/or services to an acceptable standard. Payments typically vary for on-peak/off-peak periods and additional features such as cycle ways or bus lanes. Effective availability payments need to be easily measurable, take into account factors affecting availability and define unavailability.
Active traffic management payments	Active traffic management payments are based on a combination of traffic volumes, average traffic speed and availability. This payment mechanism can be used to create incentives or drive desired outcomes.

- 4.28 It is important to note that the mechanisms outlined in Table 2 are not mutually exclusive. These mechanisms can also be used in conjunction with performance measures or Key Performance Indicators to create incentives or drive desired outcomes, with deductions to the payment to the private sector for non-compliance.<sup>15</sup>
- 4.29 The terms of reference establish that funding for the Waterview Connection, including consideration of whether the Waterview Connection should be tolled and the source of public sector funding, will be determined outside this investigation. We therefore do not provide advice on a specific payment mechanism for a PPP for the Waterview Connection.

#### **CASE STUDY ONE – EASTLINK, VICTORIA, AUSTRALIA<sup>16</sup>**

The AU\$2.5 billion EastLink motorway has as its primary source of revenue direct tolls on users. In a world-first for a PPP project of this type, the EastLink concessionaire has committed to an abatement regime of key performance indicators (KPIs) that ensure a level of service delivery for the users. The regime covers a wide range of service delivery measures: customer service and satisfaction, road condition, landscape and architectural features, maintenance, and tolling accuracy. The regime is supported by a quantitative program with specific targets and a system that ultimately results in potential toll credits to users for non-performance. Examples of the KPI measurable targets are all customer service calls being answered within 20 seconds, or a 90 percent success rate in accident response times of less than 10 minutes.

---

<sup>15</sup> Performance measures and Key Performance Indicators are usually employed around safety, quality, customer service and/or incidents/accidents.

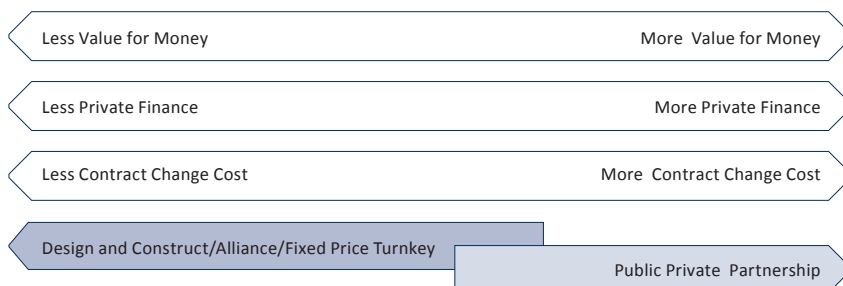
<sup>16</sup> Source: PricewaterhouseCoopers.

# 5. Conclusions

## Comparing conventional procurement to a PPP

- 5.1 Our investigation leads us to conclude that, subject to certain conditions, PPPs can offer greater value for money than conventional procurement. Conditions we consider are critical to the success of a PPP are discussed in more detail below.
- 5.2 PPPs offer value for money through disciplines around costing, defining objectives and risk allocation, together with the sharper performance incentives that arise from having private finance at stake. The value comes particularly in the form of better cost control and more innovative solutions.
- 5.3 The likely value for money from a PPP must be balanced against the disadvantages of being tied into a long-term contract and higher contracting costs. Being tied into a long-term contract may constrain opportunities for significant public policy changes, or decisions to use the asset for a different purpose or in a different way. Proceeding with a significant change may result in a costly contract renegotiation.
- 5.4 While we have reached our conclusions from a consideration of longer term PPPs, we have noted examples of shorter term PPPs. Shorter forms of PPPs may lessen the potential costs of contract variation and could be appraised at the time of any commitment to a PPP procurement process. Figure 2 below places procurement options along a continuum to illustrate our conclusion in relation to the Waterview Connection.

Figure 2 | Illustration of our findings for the Waterview Connection



## Critical success factors

- 5.5 During our investigation, PPP participants spoke of factors critical to the success of a PPP. We list the most relevant factors here for future reference in considering whether to proceed with a PPP for the Waterview Connection.

- **Unequivocal public sector commitment to the project in terms of funding, process and timeline** – For the Waterview Connection, bidding costs for each bidder could be in the order of \$20 million.<sup>17</sup> Market appetite could be affected if a PPP tender process is initiated while funding (including tolling) questions remain unanswered, or if tendering and decision-making processes and timelines are not clearly communicated at the beginning of the process.
- **Clear project objectives** – During our investigation many stakeholders noted that the objectives for the Waterview Connection have not been clearly defined. The public sector will need to clearly communicate its broad objectives for the project, and their relative priority, to guide the development of tender documentation and bids. For example, whether priority is to be given to decongestion of the State highway network, the local road network; or both. Objectives can be specified in tender documentation in terms of outputs or inputs. Evidence suggests that output specification allows for greater innovation and cost savings, resulting in increased value for money.<sup>18</sup>
- **Adequate resources and clearly defined roles** – The organisation of the public sector has a significant bearing on the success of any PPP. The public sector will need to determine the best structure for its delivery agency for a PPP for the Waterview Connection. International evidence suggests that the structure needs to define the roles of all of the parties involved and set out a clear decision making process. Evidence also suggests that a dedicated public sector team that can focus on project delivery, has the necessary authority to deliver the project, and ready access to decision makers is most successful. The following resources are considered critical to the success of this team:
  - experienced staff with a range of specialist skills in fields such as policy, economics, technical road building, finance, legal and contract negotiation;
  - highly experienced advisors who have delivered successful PPPs; and
  - an experienced independent reviewer.
- **Ensuring competitive tension** – The public sector will need to make certain that competition is maintained in any PPP process to optimise the potential for value for money at all stages of the procurement process:
  - confirming availability of sufficient, experienced bidders through informal market soundings will help to ensure a competitive outcome and drive value for money;
  - competition should be maintained throughout the bidding process and an interactive approach will assist in clarifying and confirming the public sector’s objectives with the private sector; and

<sup>17</sup> Submissions from potential tenders asserted that it usually costs each bidder around 1 percent of the total cost of the project to bid for a PPP project.

<sup>18</sup> It is noted that output specification is not intended to be prescriptive but establish behaviours or incentives which leave the detail to the private sector partner to determine.

- private sector parties in Australia suggest that care needs to be taken that the eight to twelve month bidding period does not overlap with that of other Australasian PPP projects. Value for money is less likely to be achieved if the Waterview Connection is competing with other PPP proposals for bidding, finance and other resources.<sup>19</sup>
- **Network optimisation** – Consideration of how to effectively manage the relationship between a PPP for the Waterview Connection and the existing network is needed, especially given the short distance of the project. Congestion issues outside the Waterview Connection, notably on SH16, could also impact on the operation of the Waterview Connection. Evidence suggests that PPP contracts can be drafted to establish an effective working relationship between a PPP project and the existing network. Memoranda of Understanding can also be used to establish protocols between operators.

#### CASE STUDY TWO – NORTH-SOUTH BYPASS TUNNEL, BRISBANE, AUSTRALIA<sup>20</sup>

The North-South Bypass Tunnel (NSBT) provides a bypass of the Brisbane Central Business District. NSBT consists of two separate parallel two-lane bypass tunnels of approximately 4.7km length, at a construction cost of some AU\$2 billion. NSBT reached financial close in August 2006 after a tender process that took 15 months from the initial registration of interest phase. A key feature of the tender process was the significant amount of open dialogue between the government and the private sector throughout the tender period, which is thought to have reduced the time to reach a preferred bidder.

One example of the successful communication was the clear indication of government objectives for the NSBT project. In its Invitation for Expressions of Interest document, the Brisbane City Council clearly stated its intention that tolls be the main source of funding for the project. The design and construction objectives emphasised design solutions that enhanced opportunities for public transport, reduced congestion in the CBD, and met environmental air and noise quality goals. The service obligations focused upon objectives to improve traffic congestion through accident management, the provision of traffic information to users, and electronic tolling. The tender process included a strong bidding field from John Holland, Hochtief, Macquarie Bank, Thiess Contractors, Bouygues, Egis Projects, MacMahon, McConnell Dowell, ABN Amro, Baulderstone Hornibrook, Bilfinger Berger Concessions and Leighton Contractors.

#### The most efficient conventional procurement method

- 5.6 We concur with Transit's view that the Design and Construct method would be the most efficient conventional procurement method for the Waterview Connection if timing is not constrained.
- 5.7 We note that there are two procurement methods Transit is considering for the Waterview Connection: an Alliance and a Design and Construct contract. Transit has not yet made a final

<sup>19</sup> The Steering Group notes that access to tunnelling expertise could be a constraining factor.

<sup>20</sup> Source: PricewaterhouseCoopers.

decision on their preferred conventional procurement method. However they have indicated that if time is not a limiting factor they would lean towards the Design and Construct method. If timing is constrained they would consider an Alliance model which allows work to begin sooner.<sup>21</sup>

- 5.8 The assessment between an Alliance and a Design and Construct contract is not clear cut. If a PPP is not pursued, Transit as road controlling authority would determine the best procurement method based on an assessment to determine the best value for money option. In determining this method, Transit considers the specific project characteristics and delivery objectives, and matches those against the inherent characteristics of the available procurement methods. This assessment includes consideration of factors such as: flexibility of the procurement method to deal with change; project complexity and scope for innovation; scale; quantum and nature of risk; programme constraints; and the competitiveness of the market.

#### **The most suitable form of PPP**

- 5.9 The Steering Group considers the most suitable form of PPP for the Waterview Connection is design, build, finance and operate (DBFO).
- 5.10 We reached this conclusion by considering the impact of legislative requirements and the definition of a PPP adopted for this investigation on the combination of PPP components. We also considered the appropriate allocation of risk, possible payment mechanisms, and market appetite and capability. We note that some submissions from the public expressed an 'in principle' objection to PPP procurement as they saw it as *de facto* privatisation of roads.
- 5.11 We found that the provision of private sector finance was the most significant driver of value for money in PPP procurement, because it creates incentives for innovation and/or cost savings. Submissions from contracting and financing companies consistently asserted that the involvement of private sector financiers reduces project costs, driven by the scrutiny provided by debt equity markets. Private sector financiers are seeking a financial return on their investment therefore they can reasonably be expected to bring a strong commercial focus and rigour to the preparation of bids and contract negotiations. Private sector finance allows for effective risk transfer of cost overruns.
- 5.12 Whereas debt providers tend to look at security of debt cover and cost containment, the investment of private sector equity in a PPP was seen to drive innovation to maximise revenue streams that tend not to be capitalised by the public sector under conventional procurement. Typically, initial equity investment in transport PPPs ranges between 10 – 50 percent of the capital cost of a project, which represents a form of capital injection that is not available under conventional procurement.<sup>22</sup> The equity level is primarily dependent on the payment mechanism, with schemes funded through availability payment mechanisms tending to have a relatively low

<sup>21</sup> Memo from Transit, 5 March 2008.

<sup>22</sup> The amount of equity put into Australian transport PPPs has tended to be around the 30 percent level because of the upside potential (and downside risk) of user toll funding predominant in that market. The Lane Cove Tunnel, Cross City Tunnel and EastLink projects in Australia had 32%, 27% and 46% equity respectively (Source: PricewaterhouseCoopers).

percentage equity funding component compared to projects funded through tolling because this payment mechanism puts less financial risk to the private sector concessionaire.<sup>23</sup>

### Risk Allocation

- 5.13 We endorse the principle that each risk should be allocated to the partner that is best able to manage the risk. Doing so will mean that if the risk eventuates, its cost will be lower than it would be if it were held by the partner who could not manage it as well.
- 5.14 The effectiveness of risk transfer is shown by the receivership and subsequent sale of the Cross City Tunnel in Sydney, Australia, following the failure of the expected traffic demand to materialise. The transfer of demand risk in this case ensured that the public sector partner faced no financial cost from the original inaccurate assessment of demand, and the facility remained available to traffic throughout the period of receivership and subsequent sale. See Case Study Three on the Cross City Tunnel below for further information.
- 5.15 The broad risk categories we have identified for the Waterview Connection are outlined below.

**Table 3 | Description of risk categories**

Risk category	Description
Site risk	Risks such as the availability of the site and planning and consenting risks.
Design, construction and commissioning risks	Risks such as ensuring the design is fit for purpose, unforeseen ground conditions, and construction cost escalation.
Operating risks	Risks such as higher than expected operating costs, the risk that refinancing increases or decreases the cost of borrowing.
Demand risk	The risk that traffic demand is more or less than anticipated.
Market risks	Risks such as market competition, availability of finance and inflation.
Policy change risk	The risk of general policy changes that affect the profitability of the PPP as well as specific changes that have a material adverse effect on the private sector partner.
Force majeure risk	This includes uninsurable risks such as war and terrorism.

- 5.16 If the Waterview Connection were to be procured as a PPP it appears that the majority of risks could be transferred to the private sector partner to manage. The following are the key risks that would best be managed by the public sector partner, because of legislative requirements or because they are directly controlled by the public sector partner:
- obtaining a designation and resource consents;
  - the development and approval of any tolling scheme;
  - land purchase; and
  - discriminatory law change directed specifically at the PPP.

<sup>23</sup> For example, Canada's Sea-to-Sky Highway, the revenue for which derived from availability payments, was 85% debt financed. For more information on this project, please see Case Study Four.

- 5.17 Internationally, it is common for PPP contracts to include provisions for profit sharing in order to avoid the perception that the private sector partner is making excessive profits. This also explains why the public sector partners share in the gains that result from the restructuring of debt that occurs once a project is considered to have reached maturity. For a road, this would typically occur once it has been operating for enough time to allow better estimates of ongoing traffic demand. The public sector will need to consider the implications of profit sharing before entering any PPP negotiations.

#### **CASE STUDY THREE – CROSS CITY TUNNEL, SYDNEY, AUSTRALIA<sup>24</sup>**

Cross City Tunnel is a 2.1km tunnel located in Sydney, Australia. The tunnel was financed and procured under a DBFO procurement model, with financial close reached on 18 December 2002. The Concession was awarded to Cross City Motorway Ltd, comprising of Cheung Kong Infrastructure Holdings Ltd (50 percent), DB Capital Partners (30 percent) and Bilfinger Berger (20 percent).

The Cross City Tunnel opened in August 2005 (two months ahead of schedule) but by 27 December 2006, Cross City Motorway Ltd had filed for receivership with potentially massive losses to equity and debt providers. The AU\$1 billion tunnel drew about 35,000 vehicles a day, just over a third of the 90,000 predicted to be using it after an initial two-year ramp-up period. This over-estimation was the major reason for the financial collapse of the initial concessionaire company. A consortium of ABN AMRO and Leighton Contractors announced on 27 September 2007 the completion of their acquisition of the Cross City Motorway for approximately AU\$695 million. The bailout by a private sector consortium was completed at no cost to the public sector and without any road closures or disruption to users. The project's equity investors received between 10 cents and 20 cents back for every dollar of the AU\$220 million invested in the tunnel. This example of extreme contractual stress is evidence of effective demand risk transfer to the private sector.

#### **Payment Mechanisms**

- 5.18 As noted above, we do not provide specific advice on possible payment mechanisms for the Waterview Connection because consideration of some relevant matters is outside the scope of this investigation. Nevertheless, careful consideration will need to be given to the advantages and disadvantages of PPP payment mechanisms so that any payment structure provides the right incentives to drive desired project outcomes and increase value for money.
- 5.19 The Steering Group has considered the impact of tolling on a PPP but has not considered whether the Waterview Connection should be tolled. Some submitters expressed opposition to tolling in principle. This is consistent with international experience around the initial public resistance to tolling to pay for road construction, although we noted examples of public acceptance where it was clear that new roads would not be constructed without toll revenue.

<sup>24</sup> Source: PricewaterhouseCoopers.

5.20 Tolling could apply to all procurement methods discussed in this report and is therefore not a discriminatory factor in choosing a procurement method. Furthermore, responses from some submitters and potential tenderers indicate that tolling in itself does not affect market appetite for a PPP. Other payment mechanisms are considered to be equally viable mechanisms for the Waterview Connection from a market appetite perspective.

5.21 The Steering considers that, if a decision is taken to toll the Waterview Connection, coupling the tolling operation with a PPP would provide more value for money than if tolling is coupled with conventional procurement. This value is driven by:

- **the transfer of demand risk to the private sector partner.** There are risks to both the public sector and the private sector in forecasting traffic volumes and toll revenue, especially over a long period of time. It is considered that the desire to maximise toll revenue incentivises the private sector partner to configure, operate and promote the asset optimally if the opportunity for tolling passes to the private sector. The public sector, in such circumstances, can transfer the demand risk based on vehicle movements to the private sector partner.
- **more likely public acceptance** of a toll levied by the private sector than a public sector toll.
- **an increased focus on customer relations.** Tolling in a PPP creates incentives for the private sector partner to manage the relationship with its 'customers' more effectively. This customer focus can drive innovation in the private sector partner's approach to tolling and the development of toll products.
- **access to potential economies of scale.** Where a PPP toll operator operates a number of toll roads there are potential savings through economies of scale. Evidence suggests, however, that these savings are likely to be relatively small.<sup>25</sup>

5.22 A decision about whether tolling is part of any PPP for the Waterview Connection is needed before entering a tender process. The Steering Group consider that the following matters need further consideration before this decision is taken:

- **the best process for meeting the requirements of the Land Transport Management Act 2003**  
– As noted above, the public sector is best placed to manage the risk of developing and approving a road tolling scheme for the Waterview Connection. While we do not consider there are any legal requirements that could prevent the development of such a scheme, it is anticipated that the process for meeting these requirements as part of a PPP will present a number of challenges for the public sector. Careful consideration will need to be given to the balance between providing the private sector with sufficient information and guidance to prepare competitive bids and allowing for private sector innovation around tolling through the bid process.

---

<sup>25</sup> Evidenced from discussions with private sector operators about toll road operating costs.

- **objectives for tolling the Waterview Connection** – Consideration also needs to be given to the public sector’s objectives for tolling the Waterview Connection as this could impact on the level of revenue raised and/or have ramifications for the wider roading network. Preliminary modelling and information provided by potential tenderers indicates that between 12 and 40 percent of the total cost of the project could be raised through tolling.<sup>26</sup> Preliminary modelling also indicates the redistribution of vehicles onto untolled roads could be high. It is not, however, imperative to manage demand on the Waterview Connection until 2026.

5.23 Further modelling should be undertaken by the public sector before any tender process in order to understand the impact of tolling the Waterview Connection; and to ensure revenue and traffic forecasts are as developed as possible to provide a good comparison with PPP bids.

---

<sup>26</sup> This range is consistent with Australian experience that suggests there can often be variability between public sector and private sector estimates of traffic demand, and the resulting toll revenue.

## 6. The case for a PPP for the Waterview Connection

- 6.1 The following summary analysis constitutes the policy case for the procurement of the Waterview Connection as a PPP.<sup>27</sup>
- 6.2 This analysis supports our conclusions that:
- a PPP for the Waterview Connection can deliver value for money;
  - the value would most likely come from more effective cost control and more innovative solutions that provide additional benefits for road users;
  - the cost of contract variations in PPPs is likely to be greater than under conventional procurement; and
  - on balance a PPP for the Waterview Connection will deliver net benefits over conventional procurement.
- 6.3 The key pros and cons of PPPs were outlined in Table 1 in the Executive Summary. The following analysis includes an assessment of the extent that these advantages and disadvantages are present theoretically, in the empirical literature and in international examples. Our conclusions are based on a balanced assessment of these factors as applied to the Waterview Connection.

### **Whole of life cost savings**

- 6.4 We conclude that procuring the Waterview Connection as a PPP is likely to deliver whole of life cost savings because of the incentive for the private sector partner to innovate and pay close attention to controlling costs.
- 6.5 In a PPP the project requirements are typically written in terms of the outcomes/outputs desired from the project rather than the inputs needed to complete the project. As a result the private sector partner has an ability to innovate to deliver the desired outcome at lower cost, for example through the use of new design, construction and/or maintenance techniques and equipment.
- 6.6 The incentive to pay close attention to controlling costs is created by transferring the risk of cost escalation to the private sector partner. Effectively the private sector partner is faced with a fixed price contract for completing the work and must therefore meet any additional costs themselves.

---

<sup>27</sup> Appendix 2 contains a summary of the Steering Group's assessment of the case for a PPP.

- 6.7 The Australian and UK empirical literature regarding cost savings suggests that, compared to conventional procurement, PPPs can deliver cost savings in the order of 10-20 percent of total project costs.<sup>28</sup> The findings of these studies are, however, contested and it is difficult to draw definitive conclusions from the empirical evidence alone.
- 6.8 There are a number of examples of PPPs that have achieved cost reductions. The PPP delivering the North South Bypass Tunnel in Brisbane employed two tunnel boring machines instead of the one machine envisaged in the public sector design. This resulted in faster completion of the project which reduced the financing costs. The private sector partner also built a desalination plant at no cost to the public sector partner to avoid water restrictions that would have delayed project progress. The Airport Link Project in Brisbane has recently been tendered at a cost to the Queensland Government of AU\$1.5 billion, compared to the AU\$2.37 billion that was budgeted for.
- 6.9 Cost savings may also be made during the maintenance and operation of the asset under a PPP. The private sector partner has a greater incentive to optimise these whole-of-life costs because they are responsible for the long term operation and are therefore able to consider the best balance between construction and operational costs. By comparison, under conventional procurement, operating costs are not necessarily considered by the construction firm.
- 6.10 The tender documents should require the private sector partner to carefully consider whole-of-life costs and the contract should include measures to assess performance in managing these costs. However whole-of-life costs may not always be considered to the extent the theory suggests. For example it was noted that in some PPPs, the operations and maintenance contractor has not had a significant influence in the project design and construction which would limit the opportunities for whole of life optimisation. In other cases, operation and maintenance contractors have also been employed on short term contracts rather than for the full period of the PPP.

#### **Benefits for road users**

- 6.11 Completion of the Waterview Connection will offer a number of benefits to road users including shorter and more reliable travel times. These benefits will be delivered regardless of the procurement method chosen.
- 6.12 We conclude that delivering the Waterview Connection through a PPP is likely to offer some additional benefits to road users, primarily because of the way that the private sector partner is paid for their services.
- 6.13 As payment does not begin until the asset is operational, the private sector partner will want to complete the construction of the asset as quickly as possible. Early opening will be of benefit to road users, as long as the additional benefits are not outweighed by the additional financing costs

---

<sup>28</sup> National Audit Office (2003), PFI: Construction Performance, HC 371, Session 2002-2003 (The Stationery Office, London). Arthur Andersen and LSE Enterprise (2000), Value for Money Drivers in the Private Finance Initiative (HM Treasury, London). Fitzgerald, P. (2004), Review of Partnerships Victoria Provided Infrastructure (Review of Partnerships Victoria, Melbourne).

of building the road earlier. Payment is generally based on either use (tolls or shadow tolls) or availability, which means there is an incentive for the private sector partner to make sure the road is safe and other disruptions to road users are minimised (e.g. disruptions due to road works).

- 6.14 International empirical literature contains evidence that, relative to conventional procurement, PPPs deliver on time or early. For example, one report found that PPPs were completed 3.4 percent ahead of time on average, while conventionally procured projects were completed 23.5 percent behind time.<sup>29</sup>
- 6.15 There are also a number of examples of PPP contracts that have included incentives (bonuses) for early completion and/or penalties for late delivery. We heard that a number of projects have been opened on time or earlier than was expected at the time the contract was signed.
- 6.16 Australian experience also points to additional benefits to road users. For example the EastLink project in Melbourne incorporated an additional bypass to relieve congestion for road users because it generated extra demand for the tolled road. The North South Bypass Tunnel was reconfigured by the winning bidder to attract more traffic and toll revenue by adding in a western connection at the north end.

#### **CASE STUDY FOUR – SEA-TO-SKY HIGHWAY IMPROVEMENT, BRITISH COLUMBIA, CANADA<sup>30</sup>**

The C\$790 million Sea-to-Sky highway improvement project in British Columbia is a 95km improvement of the highway that runs from West Vancouver to Whistler. The project was financed and procured under a DBFO procurement model and reached financial close in June 2005. One of the key objectives of the public sector was for the project to be completed by late 2009 to assist the hosting of the 2010 Winter Olympics. Despite the significant pressure to complete the project on time, the successful bidder added numerous design features to that originally planned by the public sector agency, including: 20km of additional passing lanes, 16km of additional median barriers, 10km of wider shoulders for cyclists, and improved recreational facilities on a nearby mountain trail. This example of design innovation is an outcome of a competitive PPP tender process.

#### **Access to additional revenue sources**

- 6.17 There may be an opportunity to generate revenue from sources other than road users if the Waterview Connection is procured as a PPP.<sup>31</sup> The benefit is a reduction of the total project cost to the public sector. In practice any additional revenue associated with roading projects tends to be small relative to the total cost of the project.

<sup>29</sup> Allen Consulting Group (2007), Performance of PPPs and Traditional Procurement in Australia, Final Report to Infrastructure Partnerships Australia.

<sup>30</sup> Source: PricewaterhouseCoopers.

<sup>31</sup> This does not include revenue from tolling, which can be obtained whether or not a PPP is used.

- 6.18 Under a PPP there are incentives for the private sector partner to find additional revenue sources to contribute to meeting the overall cost of the project. The long term nature of the contract means that they have an opportunity to earn revenue that can be used to offset project costs. Such additional revenue is not earned directly from the road and may, for example, include advertising signs or developments (e.g. commercial premises) on surplus land adjacent to the road. For example, we heard that the North South Bypass Tunnel in Brisbane is expected to generate annual advertising revenue in the order of AU\$2 - 3 million.
- 6.19 At the Waterview Connection site, there may be an opportunity to develop commercial land at the southern end of the proposed tunnel. Under conventional procurement there is less of an incentive to generate such revenue.

#### **Cost estimation**

- 6.20 A PPP for the Waterview Connection is likely to result in improved cost estimation compared to conventional procurement. This results in better decision-making due to decision-makers being provided with better information. For a project the size of the Waterview Connection, even a small percentage increase in cost is likely to have a large dollar effect. Accurate cost estimation is therefore likely to be of significant value to the public sector.
- 6.21 A PPP incorporates a fixed price contract between the public sector and private sector partners where most risks, such as cost escalation, tend to be transferred to the private sector partner. This creates a strong incentive for the private sector partner to prepare robust cost estimates that include monetary valuations of all the risks it is required to manage. With more of the project risks quantified, the final project cost is less likely to differ from the cost expected when contracts are signed. In one Australian example the private sector partner employed the same traffic modeller as the public sector partner but spent four times as much on developing a model. This gave the private sector partner a greater degree of confidence about traffic volumes and they were therefore able to be more confident about traffic demand risk before tendering.
- 6.22 There may also be flow on benefits from the use of PPPs by way of improving cost estimation under conventional procurement. We have heard that in the UK, processes such as improved risk quantification in PPPs have been adapted to conventional procurement and are helping to reduce the tendency to underestimate costs of conventionally procured projects.
- 6.23 The fixed price nature of the contract also means that the project scope is clearly defined in the contract. This reduces the likelihood of cost increases due to scope changes and the better cost estimation enables the public sector to make better decisions about whether the project should proceed.

6.24 The empirical literature shows that compared to conventional procurement, PPPs are more likely to be delivered within budget.<sup>32</sup> We have heard that it is difficult for the public sector to obtain fixed price contracts in conventional procurement; and additional costs are most often met by the public sector rather than the private sector.

#### **Benefits to the wider community**

6.25 A PPP for the Waterview Connection could result in some improved environmental or social outcomes for the community. The long-term nature of a PPP contract creates incentives for the private sector partner to build and maintain positive relationships with communities living near, or who are affected by, the creation and ongoing operation of the asset. That is because the private PPP partner will need to interact with the community for the full period of the concession agreement.

6.26 Consequently, the private sector partner may deliver better social and/or environmental outcomes than would be the case with conventional procurement because the private sector partner will benefit from improved relationships with its customers and from being seen as a 'good neighbour', especially where the operator earns greater profits from greater use of the asset.

6.27 Outcome or output based project specifications used in PPP procurement do allow the private sector partner to innovate, consider the widest number of possible solutions and to select solutions that provide wider community benefits. It is difficult to predict the value of such potential benefits over what a public authority might have delivered and so the benefits should not be overstated.

6.28 We heard that the EastLink project in Melbourne provides examples of behaviours that can deliver additional community benefits:

- the private sector partner has redeveloped and extended natural wetland areas that EastLink will pass through, in order to deliver improved water quality in surrounding rivers that act as the catchments for road surface runoff. The private sector partner has delivered treatment facilities superior to those required by environmental standards.
- the private sector partner further consulted with the community to create more visually attractive noise barriers along suburban sections of the road, and changed its design in response to community feedback. This action was additional to the mitigation required under environmental consents.

6.29 We also heard of examples where private sector partners in PPPs have only delivered the minimum required to meet the terms of their contract. Consequently, the potential for enhanced community outcomes from procuring a project through a PPP should be viewed as a potential additional benefit, rather than a guaranteed outcome.

---

<sup>32</sup> Allen Consulting Group (2007).  
National Audit Office (2003).

- 6.30 In general, additional community benefits beyond those mitigation measures required by the RMA are more likely to occur when the private sector partner has a direct relationship with users (i.e. if it were tolled, or where the private sector partner both maintains and operates the facility, because being a good neighbour will be more essential to encouraging wider use of the facility).
- 6.31 In the case of the Waterview Connection, wider community benefit beyond that required to achieve compliance with the RMA might include, for example:
- measures to improve venting of vehicle emissions from the tunnel; or
  - improvements to the aesthetics of the portals and/or amenities in surrounding areas, which might be considered by the private sector partner as desirable community benefits to provide.

#### **Contracting costs**

- 6.32 Procuring the Waterview Connection as a PPP is likely to result in higher contracting costs compared with conventional procurement. Submitters, financiers and contractors spoken to during our investigation have consistently indicated that tendering costs for a PPP are:
- generally in the order of one percent of the total project cost, for each bidder; and
  - considerably higher than for conventional procurement.<sup>33</sup>
- 6.33 Higher costs arise from the need for more detailed tender preparations, complex financing arrangements, more involved negotiation activities and the number of expert advisors required during the process. The benefit of incurring these costs is more accurate risk and cost assessment which improves cost certainty for the public sector partner.
- 6.34 When considering the contracting costs of PPPs it is important, however, to assess only the additional cost over and above that of conventional procurement. Any comparison also needs to consider the costs of the periodic re-tendering for operations and maintenance works required under conventional procurement.

#### **Cost of contract variations**

- 6.35 A PPP for the Waterview Connection means that any significant, unforeseen contract variations may be costly for the public sector partner, because any such variation would be negotiated in a non-competitive environment.
- 6.36 These costs would arise if the public sector partner wishes to implement a contract change that has a material adverse effect on the private sector partner's profit. The likelihood of a contract change occurring increases with the length of the PPP contract. The cost of any contract variation

---

<sup>33</sup> We were advised that tendering costs of conventional procurement are in the order of 0.5 percent of the total project cost, per bidder.

could be large or small, depending on the nature and the timing of the change (i.e., whether the change is early or late in the term of the PPP contract). Such costs should be measured as the costs beyond those that would be incurred if the contract variation was priced competitively.

- 6.37 The high cost of contract variation may mean that some policy changes are not pursued. For example, in Sydney there has been some recognition of the fact that toll road pricing is not consistent across all toll road operators. There has been a suggestion that a per-kilometre charge would be a more effective and consistent means of pricing these roads. However any move to coordinate the tolls would be difficult because the necessary negotiations with incumbent operators means the public sector is likely to have to compensate the incumbents more than they would have done in a competitive environment.<sup>34</sup>

#### **Contract enforcement**

- 6.38 A PPP for the Waterview Connection creates potential for some contract enforcement difficulties. As with any contract, there are incentives for the private sector partner to deliver to the terms of the contract. It can, however, be difficult to specify or measure all of the desired performance indicators in a long term contract, for example, handling of public relations and other community interactions.
- 6.39 To the extent that these factors cannot be clearly specified, there is a risk that the private sector partner will not perform to the standard desired by the public sector partner. It is the long term nature of the PPP contract that creates this problem (i.e. because the public sector partner cannot re-tender for operations if it is not satisfied with performance).
- 6.40 The cost of under-performance could, for example, be reduced user benefits compared with the benefits that would be obtained if the public sector partner could exercise direct control over the operation of the asset.
- 6.41 Partially balancing this effect are factors such as the reputational concern of the private sector partner. Its shareholders may not wish to risk damaging their chances of obtaining future similar contracts if their consortium is perceived as being a poor performer. Australian examples suggest that issues such as communications and public relations are often managed jointly in a PPP by the public sector and private sector partners and they use performance indicators to measure performance as far as possible. Such a joint approach is taken to reduce the risk of mixed or conflicting messages and helps to reduce the potential for disputes.

#### **The Waterview Connection by 2015**

- 6.42 Our investigation led us to conclude that a PPP can deliver the Waterview Connection by 2015. This assumes timely decisions, consistent with Transit's current timetable for the Waterview

---

<sup>34</sup> <http://www.smh.com.au/articles/2003/12/25/1072308627127.html?from=storyrhs> (accessed on 23 June 2008).

Connection, on whether to proceed; and on other matters such as public sector funding and whether tolling would be part of the funding mix.

- 6.43 Comparable international projects have been completed within timeframes similar to what would be available if a decision to proceed was made during 2008 – 2009 and the 2015 target was confirmed.
- 6.44 While PPPs tend to be time intensive during the tendering phase, the incentives on the private sector partner to deliver on-time or early make it reasonable to expect that some lost time can be made up during the construction phase. New Zealand would also be able to draw on international resources such as standardised contract documents which would help to reduce preparation time.
- 6.45 The time taken to implement PPPs around the world varies significantly depending on matters such as the process for decision making, the number of parties involved and resource allocations. Quoted timelines often only cover the tender and negotiation phase.
- 6.46 For the Waterview Connection it is important to also consider the preparation phase. Accordingly, the indicative timeline in Table 4 below has been developed to include provision for possible public sector reporting and decision-making processes.

Table 4 | Indicative timeline for a PPP

PPP Phase	Approximate time
<i>Preparation Phase:</i> Finalise business case and public sector comparator, develop Expression of Interest and Request for Tender documentation	Up to 12 months
<i>Tender and Negotiation Phase:</i> Stage 1 -Seek Expression of Interests, evaluate and short-list	3 – 4 months
<i>Tender and Negotiation Phase:</i> Stage 2 - Seek tenders, evaluate and select preferred bidder, reach contractual close	8 – 12 months
<i>Tender and Negotiation Phase:</i> Stage 3 - Negotiate to financial close	3 – 12 months
<b>Total</b>	<b>26 – 40 months</b>
<i>Construction Phase</i>	To be confirmed for the Waterview Connection (possibly in the range of 3 to 5 years). <sup>35</sup>
<i>Monitoring and Evaluation Phase:</i> Ongoing contract and performance monitoring	Term of the PPP (i.e. up to 35 years).

6.47 There are a number of statutory processes that also need to be worked through:

- designation and resource consenting;
- in-principle agreement from the Minister of Transport to a concession agreement; and
- a tolling application and Order in Council (if a decision is taken to pursue tolling for the Waterview Connection).

6.48 It will be necessary for these processes to be completed by financial close of a PPP, however, there needs to be further consideration of when in the PPP timeline they occur.

#### The value of private sector finance

6.49 The use of private sector finance in a PPP delays the need for direct public sector funding. Future public sector payments to the PPP consortium are nevertheless as much a liability on the Crown's balance sheet as the debt repayments that would be due if the project was procured conventionally.<sup>36</sup> Private sector finance does not, therefore, increase the affordability of roading projects.

6.50 The public sector will need to determine whether a privately financed PPP project meets the definition of 'total debt' under the Fiscal Responsibility provisions in the Public Finance Act. If it does not, then a privately financed PPP could arguably be presented as being more 'affordable' than conventional procurement.

<sup>35</sup> As we noted in our section above on 'Benefits for road users', the private sector partner in a PPP is incentivised to complete the project as quickly as possible, therefore there may be scope to reduce the construction period from the current estimate of 5 years.

<sup>36</sup> Note, however, that any portion of the project cost that is financed from toll revenue will reduce the liability of a PPP on the Crown's balance sheet.

- 6.51 The main value of private sector finance is the intensification of performance incentives discussed elsewhere in this report.
- 6.52 The Steering Group has noted that it is sometimes suggested that private sector finance is more expensive than public sector finance. This is not necessarily the case. Whilst it is true that the public sector can borrow more cheaply than the private sector, this is so because the taxpayer guarantees the debt. The 'cost' of the taxpayer guarantee is not normally measured, but it nevertheless must be added to the cost of debt to arrive at the total public sector cost of finance. The true risk of the project itself is the same regardless of whether it is procured by the private sector or the public sector if the cost of the guarantee is taken into account.

#### **Legal feasibility of a PPP for the Waterview Connection**

- 6.53 We have not identified any legal requirements that would prevent delivery of the Waterview Connection as a PPP. Meeting the overall timeframe will depend on the effective coordination of the various statutory processes involved. We note that, to date, no PPP project has been considered under the LTMA, which may make implementation of the Waterview Connection as a PPP less than straightforward because the provisions have yet to be tested in practice.
- 6.54 It will be important for the public sector to develop the likely conditions to be inserted into the concession agreement as early as possible in order to give potential bidders sufficient comfort to invest the millions of dollars required to participate in the tender process. Internationally, a draft concession agreement is commonly released as part of the tender documentation.

#### **Market appetite and capacity**

- 6.55 Information received in the course of our investigation indicates that there will be sufficient interest and capacity in the construction and finance industries to deliver a competitive process should the Waterview Connection be procured as a PPP. It is likely that some specialist resources and expertise will need to be engaged internationally (for example, in relation to bored tunnels).<sup>37</sup> The recent credit crisis has increased the cost of finance generally; however it does not seem to have dampened enthusiasm for investment in sound infrastructure projects that can earn reasonable returns.
- 6.56 There is likely to be a high degree of competition between financiers because they are relatively mobile and operate in an international environment. If there is any competitive constraint, it is more likely to be in the capacity and size of the local construction market. The first opportunity to formally test the market will be when expressions of interest are sought, however, it is common practice in Australia to undertake informal market soundings prior to requesting expressions of interest. This gives the public sector confidence that the proposal will be attractive to the market

---

<sup>37</sup> A project the size of the Waterview Connection will consume a large amount of resources from within the New Zealand construction market, which may impact on other construction activities.

at that point in time. This gives an indication of the degree to which there may be competitive tension in the market at each stage of the procurement process.

#### **CASE STUDY FIVE – WIJKERTUNNEL RANDSTAD, THE NETHERLANDS<sup>38</sup>**

The Wijkertunnel Randstad project in the Netherlands is a PPP procurement example generally considered to have had major deficiencies in its tender process. The national audit court concluded that the tendering process begun in 1991 and concluded in September 1992 should not have proceeded once it became clear that the tendering process would only include one bidder (ING Bank). The national audit court calculated that the procurement cost was 41 percent more expensive than a public sector alternative. Moreover, the maximum revenue to the private party from shadow tolls was not capped, leading to substantial costs to the public sector. The result was recognition of the problems that can arise if the public sector lacks experience of a PPP tender process, and has not developed the analytical framework required to make an estimate of the true costs of public sector provision and the value for money assessment of a PPP solution. The solution pursued by the Netherlands was to centralise a national PPP competence centre in the Department of Finance, with objectives to develop a public sector comparator framework, create standard contracts, and effect knowledge transfer through other relevant government departments.

- 6.57 New Zealand PPP projects should be viewed as part of an Australasian PPP market because PPPs are resource intensive and there is limited capacity to develop several bids at one time. During our investigation we were informed that New South Wales, Victoria and Queensland have large transport infrastructure developments planned for the near future. For example, the M4 Extension in Sydney, and the three stage AU\$9 billion East-West Link in Melbourne. A PPP for the Waterview Connection will therefore be competing for the expertise required to prepare bids, labour and investors.
- 6.58 Public sector procurers and other PPP participants we spoke with in Australia were clear that: if the Waterview Connection is to be advanced as a PPP, then the procurer must be aware of and take into account other projects which are also proposed in the Australasian market (i.e. so as not to compete for attention at a time when bids are being developed for other projects).<sup>39</sup>

#### **Price and cost certainty**

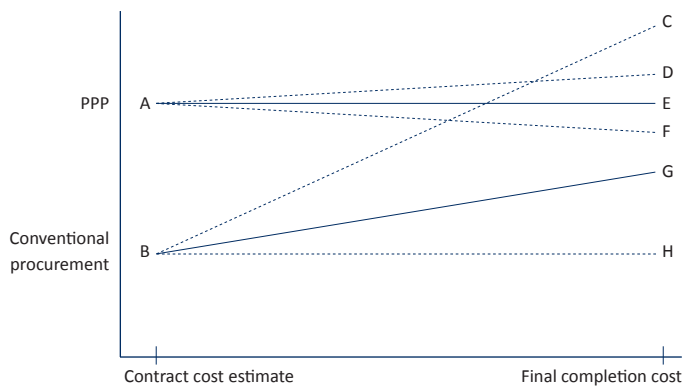
- 6.59 The fixed price contract imbedded in a PPP offers considerable certainty that the final construction cost will be close to the tender price. The empirical evidence shows, for PPPs, that there are few cost increases after contracts are finalised. For example one study of Australian projects

<sup>38</sup> Source: PricewaterhouseCoopers.

<sup>39</sup> Failure to do so would likely lead to less market interest in the Waterview Connection, and to a failure of key players in the PPP market to be able to allocate their best bid team to the Waterview Connection project. This could lead to inferior outcomes and/or bids than if it were procured paying heed to general market activity at the time of seeking tenders.

found that for PPPs, the value of cost overruns between contract signing and project completion was negligible, at an average of 1 percent. The same study, however, found that conventionally procured projects experienced cost overruns of an average of 15 percent.<sup>40</sup>

**Figure 3 | Estimated cost and outturn cost compared – conventional vs PPP procurement<sup>41</sup>**



6.60 As can be seen in Figure 3, under a PPP the anticipated cost at contract close is given by point A and the range of possible final outturn costs is D to F. Under conventional procurement the initial estimate is represented by point B and the range of possible costs is between C and H. Under traditional procurement, point H is likely to be the best outcome possible; however, the actual outcome is likely to lie somewhere between points C and H. This represents a much wider distribution of outcomes than that likely under a PPP because of the transfer of risks such as cost escalation to the private sector.

6.61 A PPP improves cost certainty but it does not necessarily translate into price certainty for the public sector partner because payment is made over time on the basis of uncertain factors such as traffic volumes or road availability. For example, if the private sector partner performs well and meets all its performance indicators, payment would be higher than if it performed poorly. The cost to the public sector partner tends to have an upper limit; however the final cost within this limit is uncertain until the end of the PPP period.

<sup>40</sup> Allen Consulting Group (2007).

<sup>41</sup> Source: PricewaterhouseCoopers.

# Appendix 1: Terms of reference

- 1 The following terms of reference for the Waterview Connection Procurement Project were confirmed by the Project Steering Group meeting held in Wellington on Tuesday 19 February 2008.

## Background

- 2 On 17 December 2007, Cabinet agreed to  
*'investigate progressing the Waterview Connection as a Public Private Partnership.'*
- 3 Cabinet also  
*'agreed to establish a joint public sector-private sector Steering Group to lead this investigation, reporting directly to the Ministers of Finance and Transport.'*
- 4 These Terms of Reference give effect to Cabinet's decisions.
- 5 The process being undertaken to consider progressing the Waterview Connection as a Public Private Partnership (PPP) would normally be undertaken by the public agency sponsoring the development of the project. Given the lack of a tested framework for the consideration of PPPs in New Zealand, however, private sector engagement is being sought to help ensure that any future PPP process, including one for the Waterview Connection, meets the needs of both the public and private sector.

## Objective

- 6 The objective of the investigation is to determine whether there is a viable business case for delivering the Waterview Connection as a PPP. This entails:
  - 6.1 Determining the characteristics of the most efficient conventional procurement method for the Waterview Connection (this would be established as the "Public Sector Comparator")
  - 6.2 Identifying the most suitable form of PPP for Waterview
  - 6.3 Analysing how the two procurement methods compare in terms of value for money
  - 6.4 Providing a generic description of the most effective process for developing and assessing the Waterview Connection as a PPP.

### Steering Group

- 7 The investigation will be overseen by a joint Public Sector / Private Sector Steering Group, which will report to the Ministers of Finance and Transport. The role of the Steering Group is to direct the investigation, to test and approve the deliverables outlined below; to resolve any escalated issues; to ensure that all key parties are appropriately engaged; to oversee external communications; and to report to Ministers as appropriate/required.
- 8 The Steering Group will be led by an independent Chairperson, appointed by the Ministers of Finance and Transport. Officials will attend meetings of the Steering Group, and the Steering Group may also invite other parties to attend meetings where appropriate. It is anticipated that the Steering Group will need to be available for approximately three to four days per month throughout the investigation.

### Working Group

- 9 A Working Group will be established to generate the analysis required to achieve the investigation's objectives, for the Steering Group's and ultimately the government's consideration.
- 10 The Working Group will include a Project Manager, representatives from the Treasury, Ministry of Transport, and, as necessary, Land Transport New Zealand, and Transit New Zealand (Transit). It may be appropriate for the private sector organisations represented on the Steering Group to contribute to the Working Group. This will be determined during the course of the investigation. The Working Group will also be able to engage consultants to provide expert advice as required.

### Context

#### The route

- 11 The Waterview Connection is a proposed State Highway extension in Auckland that runs from Mt Roskill to the North-western Motorway. The route effectively completes the Western Ring Route by connecting State Highway 20 to State Highway 16.

#### Work to date

- 12 Work already undertaken by Transit has narrowed down the range of possible alignments and design options for the Waterview Connection. Transit will be undertaking public consultation on its preferred design option and alignment whilst the business case for delivering the Waterview Connection by way of a PPP is developed. It is not anticipated that this consultation will impact on the development of the business case.

### Deliverables

- 13 The primary deliverable will be a business case that assesses whether procuring the Waterview Connection through a PPP could deliver value for money. The report will make this assessment

by undertaking the broad components listed below. It is expected that the Steering Group will consider existing frameworks used internationally for developing PPPs and the lessons learnt from their application.

#### **Preliminary Public Sector Comparator**

- 14 A detailed understanding of the conventional public sector procurement method for the Waterview Connection will be essential, as this will be used as the benchmark (the Public Sector Comparator (PSC)) against which any PPP will be assessed. The PSC should include, inter alia:
  - 14.1 The projected cost of the project (provided by Transit)
  - 14.2 An analysis of the risks associated with the standard public procurement of the project
  - 14.3 Adjustments to ensure competitive neutrality between public and private sector procurement

#### **Waterview as a PPP**

- 15 The business case for progressing the Waterview Connection as a PPP should include the following:
  - 15.1 Definition of the services to be delivered by the PPP (for example, project planning, construction and ongoing maintenance, etc)
  - 15.2 The likely PPP project structure
  - 15.3 The optimal allocation of all risks between the Crown and the private party
  - 15.4 Possible performance measurement and payment mechanisms
  - 15.5 Market capability and appetite
  - 15.6 Project timetable and resourcing
  - 15.7 Design and form of a PPP procurement process
  - 15.8 Opportunities for innovation
  - 15.9 An assessment of how a PPP would compare with conventional procurement in terms of value for money
- 16 In addition to the broad components listed above, the Steering Group may consider any other matters related to the progression of the Waterview Connection through a PPP as the Steering Group sees fit.

#### **Timeframe**

- 17 The investigation is to be completed by the end of June 2008 with the delivery of a report to the Ministers of Finance and Transport. A final decision on the most appropriate way to progress the

Waterview Connection will be determined by Cabinet on the recommendation of the Ministers of Finance and Transport. Ministers may take into consideration any other advice and material in making their recommendation. In addition to the completed report, the Steering Group will provide Ministers with progress reports at appropriate times during the project.

### **Assumptions**

#### **Legislation**

- 18 The business case for a PPP for the Waterview Connection should be developed and assessed under existing legislation, including the Land Transport Management Act Amendment Bill currently before the House.

### **Funding**

- 19 Decisions on funding for the Waterview Connection will be made outside of this investigation.

#### **Work undertaken to date**

- 20 Transit has already undertaken a significant amount of work to bring the Waterview Connection to its current point of development. The outputs of this work will be provided to the Steering Group and the Working Group as inputs to the consideration of the procurement of the Waterview Connection as a PPP. The two main inputs are:
  - 20.1 The preferred design options and alignment for the Waterview Connection
  - 20.2 The economic assessment, including Benefit / Cost Analysis

### **External Engagement**

- 21 During the investigation, interested central government departments, Auckland local authorities and external parties as appropriate will be consulted so that their views may be taken into account. Some engagement between the Steering Group and the Working Group and firms that may be potential tenderers for the Waterview Connection may be necessary to ascertain market capability and appetite for a PPP. However, for probity reasons any such engagement will need to be managed openly and even-handedly.

### **Reporting**

- 22 The Working Group will provide progress reports approximately fortnightly to the Steering Group, identifying progress and any key issues or risks arising in the course of the project. The reports and minutes generated during the investigation will be kept confidential to enable a free and frank discussion of the issues. The Steering Group's investigation will be completed with the delivery of a report to the Ministers of Finance and Transport. The Steering Group will provide periodic updates on progress for Ministers as required. The Ministry of Transport and the Treasury may also independently report to their respective ministers where appropriate.

# Appendix 2: Summary Assessment Table

## Pros

PPP assessment:	Theory	Literature	Anecdotal evidence
Likely to reduce whole of life costs?	Yes, due to greater disciplines around defining objectives, risk allocation, leaving room for innovation and having sharper performance incentives from having private finance at stake.	There are studies that find cost reductions, but their validity is contested.	<ul style="list-style-type: none"> <li>• More risks are transferred than is typical under conventional procurement, but it does not usually go as far as would be suggested by the principle that 'risks should be allocated to the party that can best manage them'.</li> <li>• PPP invitations to tender are typically specified more in output terms than is common under conventional procurement, thereby leaving more scope for innovative and efficiency-enhancing solutions.</li> <li>• Private sector partners tend to find more ways of extracting value from assets, for example by finding ways to increase traffic flow, maximising land value, and other commercial services.</li> <li>• PPPs tend to deliver on or ahead of time, driven by a desire to reduce financing costs during the construction period and to get revenue flowing earlier.</li> <li>• The more recent PPP contracts include detailed penalty/bonus regimes for key performance indicators, in addition to the more general financial incentives.</li> <li>• We also heard, however, of instances where the contractors responsible for ongoing operation and maintenance were not involved in the design of the facility, raising questions about the extent to which a whole of life perspective was taken.</li> </ul>
Achieve greater user benefits? e.g. earlier completion, increased safety.			
Likely to extract additional revenue sources? e.g. advertising, property development.			
Provide better cost estimation?	Yes, due to greater disciplines around risk allocation and cost estimation. There is often also greater cost certainty.	Yes, there are several studies that bear this out.	<ul style="list-style-type: none"> <li>• PPPs are effectively fixed price contracts and indications are that it has been easier under PPPs to make the agreements stick (i.e. to resist calls for increased public sector partner contributions).</li> <li>• Private sector partners invest considerably more in risk assessment, e.g. traffic forecasting, than a public agency would.</li> <li>• By establishing a public sector comparator, Australian and United Kingdom public sector agencies invest more in risk assessment than they typically do under conventional procurement.</li> </ul>
Achieve greater community benefits?	Yes, to the extent it leads to more revenue or fewer conflicts with the community	Not applicable	<ul style="list-style-type: none"> <li>• There are indications that private sector partners have gone beyond their contractual requirements with aesthetic and environmental aspects of their facilities; and have provided ancillary community benefits in order to improve their public relations.</li> </ul>

**Cons**

PPP assessment:	Theory	Literature	Anecdotal evidence
Low tendering and contracting costs?	No. Because contract is for a long term, more effort is needed to consider contingencies.	Not applicable	<ul style="list-style-type: none"> <li>We heard that PPP bidding costs are around 1 percent of the project cost per bidder, and that this is around twice the cost of bidding for a Design and Construct contract.</li> </ul>
Low contract change costs?	No, in the sense that unanticipated changes to the contract could cost a premium.	Not applicable	<ul style="list-style-type: none"> <li>While recent PPP contracts are more accommodating of policy changes, there is still evidence that policy changes have been or are likely to be inhibited by the costs or difficulties of renegotiating PPP contract terms.</li> </ul>
Easy contract enforcement?	No, due to the length of the contract and difficulties with specifying all performance dimensions.	Not applicable	<ul style="list-style-type: none"> <li>There are numerous examples of contracts not specific enough, or not covered by effective enforcement mechanisms (such as bonuses and penalties), giving rise to ongoing disputes.</li> </ul>
Balance of pros and cons:	PPPs have advantages and disadvantages. Our qualitative evaluation is that, on balance, the likely value for money advantages of PPPs outweigh the disadvantages.		

**Other Criteria**

Can the project be completed by 2015?	Yes, although this would be dependent, to some extent, upon the timing of any decision to proceed and other related decisions (e.g. on public sector funding and whether tolling would be part of the funding mix).
Is a PPP feasible under existing legislation? i.e. Are there legal impediments?	Yes, a PPP is feasible under existing legislation.
Is there market capability and appetite?	Yes, there is market capability and appetite for delivering the project as a PPP.
Will a PPP provide more cost certainty?	Yes, a PPP is likely to provide more cost certainty. If there are ongoing public sector payments over the term of the contract and they are linked to performance or to traffic levels, however, then there will be uncertainty about the actual level of those payments.

# Appendix 3: Other approaches to assessing value for money

## United Kingdom

Her Majesty's Treasury in the United Kingdom provides detailed guidance on value for money assessment of 'Private Finance Initiative' projects.<sup>42</sup> For the purpose of this report, the term 'Private Finance Initiative' is synonymous with the term PPP.

The United Kingdom guide requires both quantitative and qualitative assessments.

The quantitative assessment involves quantifying the various benefits, costs and risks of both a Private Finance Initiative and the conventional procurement alternative. It covers the same costs and benefits discussed in this report, but also includes the full construction costs. Identification of assumptions such as optimism bias and likely scope changes are required.

While the United Kingdom approach is commendable for its completeness, rigour and apparent level of sophistication, the result would appear to be heavily dependent on the assumptions made.

In particular, assumptions made about:

- the extent to which construction and operational expenditure costs for projects advanced through the Private Finance Initiative are lower or higher than under conventional procurement; and
- the probability, size and premium to be paid for future contract variations.

Accordingly, more information is provided about the analyst's assumptions than about the comparison between a Private Finance Initiative and conventional procurement.

The United Kingdom approach to a qualitative assessment has three parts to it – Viability, Achievability and Desirability.

Viability and Achievability essentially assess whether:

- the project is well specified;
- there is likely to be market appetite;

---

<sup>42</sup> See [http://www.hm-treasury.gov.uk/media/4/44/vfm\\_assessmentguidance061006opt.pdf](http://www.hm-treasury.gov.uk/media/4/44/vfm_assessmentguidance061006opt.pdf)

- it can be implemented without unduly impeding future policy flexibility; and
- there are any regulatory or other impediments.

Desirability questions, which are the heart of the assessment, are intended to assess whether the benefits of procuring the project as a Private Finance Initiative outweigh the disadvantages compared with conventional procurement. We note, however, that the two main disadvantages of Private Finance Initiatives, namely contracting costs and the costs of policy inflexibility (ie, the premium paid for future contract variations) are not included here.

Desirability questions are also not framed as ‘benefits and costs’, ‘advantages and disadvantages’ or ‘compare and contrast’. It is therefore not clear how an adverse conclusion could be drawn from these questions. They seem to encourage the analyst to come to a conclusion in favour of Private Finance Initiatives.

In theory, the quantitative assessment is useful; but it is difficult to see how it can be credible, in practice, without a qualitative evaluation of it. The qualitative assessment provided by the guidance material is not, however, directly linked to the quantitative assessment and does not ask questions necessary to provide an overall balanced assessment.

### **Victoria, Australia**

Chapter 7 of a practitioner’s guide published by Partnerships Victoria discusses the appraisal of alternative procurement options. The approach taken through the Partnerships Victoria programme has set the standard for PPP assessment in Australia.

The Victorian guide suggests consideration of whether:

- the project is of sufficient scale;
- the outputs are capable of clear specification;
- there are opportunities for risk transfer; and
- there is market capability and appetite.

If the project meets these criteria, the guide then proposes that the options report should discuss why a PPP is expected to deliver value for money. It provides no specific guidance on how the choice between a PPP and conventional procurement is to be made.