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Comparative Study of Contractual Clauses to Provide for the Smooth Adjustment of Physical Infrastructure and Services through the Lifecycle of a Public-Private Partnership (PPP) Project

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1 Executive Summary

1.1 Purpose of this Report

This report has been prepared by Foster Infrastructure for the APEC Business Advisory Council. It presents the findings of a desktop research study of standard public-private partnership (PPP) contracts and contractual principles from economies with well-developed PPP programs, comparing the contractual clauses that provide for changes in the physical infrastructure and services through the life-cycle of a PPP project. These findings are intended to provide guidance for government officials from APEC economies on good practice in the drafting of PPP contracts so as to provide flexibility over the life of PPP projects.

1.2 PPP Frameworks compared in this Report

This report compares variation clauses in PPP Frameworks from Australia, the United Kingdom, South Africa and India. These jurisdictions have PPP Frameworks that have been tested through successfully delivered PPP projects and have a variety of levels of economic development. The PPP Frameworks selected apply to a range of different infrastructure sectors and to the range of common PPP models.

1.3 The need for flexibility in PPP contracts

Jurisdictions with well-developed PPP Frameworks have, through experience, developed contractual mechanisms that introduce sufficient flexibility through the life of PPP contracts and allow for variations in the physical infrastructure and the services.

The need for flexibility to implement variations in a PPP typically arises due to one of the following causes:

1. government wishes to implement a new policy initiative
2. government's project-specific needs change.

The types of variations required by government depend upon the nature of the infrastructure. Issues arising due to the project forming part of a wider network are a common driver for variations in economic infrastructure PPPs, whereas issues associated with the interface between public and private sectors are a common driver for variations in social infrastructure PPPs operated by government.

1.4 Features of variation clauses in PPP contracts

The common features of variation clauses in the PPP frameworks examined in this report are as follows:

- Government has a right to request variations to the works and services provided under the contract
- The contract includes limits on the size or nature of variations that government can request or require the private party to implement
- The contract includes a process for the private party to consider and respond to variation requests

- The variation process includes mechanisms by which government can determine whether variation costs represent value for money
- The contract specifies how government will pay for variations
- In some PPP Frameworks, streamlined processes are provided for small variations
- Some PPP Frameworks contemplate the parties agreeing the terms of foreseeable variations at the time the original PPP contract is agreed.

PPP contracts also contain other clauses that provide flexibility, for example, change in law clauses and government voluntary termination clauses.

1.5 Recommendations

Based on the analysis of PPP Frameworks in this report, Foster Infrastructure has identified the following recommendations for the inclusion of flexibility in PPP contracts:

1. **PPP contracts should include a right for government to request changes to both the physical infrastructure delivered by the private party and the services provided by the private party.**
2. **The contractual variation process should allow the private party sufficient time to consult with its subcontractors and financiers before responding to a variation request from government.**
3. **Government should consider including in PPP contracts an obligation to compensate the private party for a percentage of its verifiable third party costs if government requests a significant variation but later decides not to proceed with it after it has been assessed by the private party.**
4. **PPP contracts should prescribe the limits on the size or nature of the variations that government can require, or preserve the private party's risk/reward outcome if the contract does not prescribe direct limits on the size or nature of the variations that government can require.**
5. **The variation process under a PPP contract should include a mechanism to enable government to satisfy itself that the variation costs represent value for money.**
6. **If small and common variations can be foreseen, the parties to a PPP contract should agree a schedule of rates for those variations and include a streamlined "minor works" variation process in the contract.**
7. **For small and medium sized variations, the PPP contract should fix the margin that the private party can charge on top of its costs.**
8. **For larger variations, PPP contracts should include a mechanism for establishing that the variation costs reflect market prices.**
9. **PPP contracts should provide for independent expert resolution of disputes in relation to variation costs.**
10. **In PPP contracts under which government makes unitary payments, it should consider including an option for government to pay for variations by increasing**

the amount of the unitary payments, provided the private party can finance the capital costs of the variation.

- 11. If a significant future variation can be foreseen at the time a PPP project is initially tendered, government should consider asking bidders to price it as a pre-agreed variation during the tender process.**
- 12. Where government proposes a significant policy change that can be implemented through either the variation process or the change in law process in a PPP contract, government should consider the relative merits of using each process, including the impact upon value for money and the long term PPP relationship.**
- 13. Voluntary termination rights can provide some additional flexibility in PPP contracts, but are significantly constrained by compensation obligations and sovereign risk considerations, and should only be used where other mechanisms cannot provide a satisfactory outcome for government.**
- 14. In addition to including appropriate clauses in its PPP contracts to provide flexibility, government should establish appropriate contract management arrangements to effectively manage the variation process.**

2 Methodology

Jurisdictions with well-developed PPP Frameworks have, through experience, developed contractual mechanisms that introduce a degree of flexibility and allow for variations in the physical infrastructure and the services. To varying degrees, modern PPP contracts may allow government or the contractor to initiate specific variations, and may also provide for variations in the infrastructure and services in response to general changes in laws or government policies that are applicable to the project.

This report documents the outcomes of a desktop research study of PPP contracts and contractual principles from jurisdictions with well-developed PPP Frameworks, comparing the contractual clauses and principles that provide for variations in the physical infrastructure and services through the life-cycle of a PPP project.

2.1 PPP Frameworks Compared in this Study

For the purposes of this study, a number of PPP Frameworks have been selected for comparison. The frameworks have been selected on the following criteria:

- The jurisdictions represented should have PPP Frameworks that have been tested through successfully delivered PPP projects.
- The jurisdictions represented should have a variety of levels of economic development.
- The PPP Frameworks selected should apply to a range of different infrastructure sectors, and to PPP models in which the infrastructure is designed, built, financed and maintained by the private sector but operated by government, as well as those models in which the private sector is responsible for operation of the infrastructure.
- The PPP Frameworks selected should, collectively, be designed for use both in projects where the private party's revenue consists of government payments to the private party and in projects where the private party derives its revenue from user charges (for example, tolls).

The PPP Frameworks selected consist of the following:

- Australia's National Public Private Partnership Guidelines, Volume 3: Commercial Principles for Social Infrastructure (referred to in this study as the "Australian Social Infrastructure Principles"), issued by Infrastructure Australia.
- Australia's National Public Private Partnership Guidelines, Volume 7: Commercial Principles for Economic Infrastructure (referred to in this study as the "Australian Economic Infrastructure Principles"), issued by Infrastructure Australia.
- The United Kingdom's Standardisation of PFI Contracts Version 4 (referred to in this study as the "UK SOPC 4"), issued by HM Treasury.
- South Africa's Standardised Public-Private Partnership Provisions (referred to in this study as the "South African Standardised PPP Provisions"), issued by the National Treasury's PPP Unit.

- The National Highways Authority of India's Concession Agreement for projects Rs.100 Crores and above: Updated version as on 23.03.2000 (referred to in this study as the "NHAI Toll Road Contract").
- The National Highways Authority of India's Model Concession Agreement for Annuity Based Project - developed as a sample for Panagarh - Palsit project (referred to in this study as the "NHAI Annuity Road Contract").

Each of these documents is available on the Internet. The relevant websites are listed in Appendix 1.

Key features of the selected PPP Frameworks are summarised in Table 1 on page 8. They apply to a range of different infrastructure sectors. Some are intended for use in projects where the private party's revenue consists of government payments to the private party, others are intended for use in projects where the private party's revenue consists of user charges levied by the private party. Three of the Frameworks are primarily intended for use in projects in which the infrastructure is designed, built, financed and maintained by the private sector but operated by government. The other three Frameworks include infrastructure operation as a private sector responsibility.

Each of the Frameworks other than the NHAI Toll Road Contract and the NHAI Annuity Road Contract are guidance documents, rather than standard contracts. They identify, as commercial principles, how particular matters should be dealt with in PPP contracts. However, each of the Frameworks includes appropriate detail of the contractual approaches used in the various jurisdictions to provide for variations over the life of PPP projects.

Table 1: PPP Frameworks compared in this Study

	Australian Social Infrastructure Principles	Australian Economic Infrastructure Principles	UK SOPC 4	South African Standardised PPP Provisions	NHAI Toll Road Contract	NHAI Annuity Road Contract
Date Released	December 2008	February 2011	March 2007	March 2004	March 2000	2003
Infrastructure Sectors	Social Infrastructure	Economic Infrastructure	All except Information Technology	All	Roads	Roads
Private Party's revenue source	Government Payments	User Charges	Government Payments	Government Payments	User Charges	Government Payments
Infrastructure Operator	Government	Private Party	Government	Government	Private Party	Private Party

2.2 A Consistent Terminology

Each of the PPP Frameworks examined in this study uses its own terminology for common PPP concepts. Table 2 sets out the terminology used in each jurisdiction for concepts that are particularly relevant to this study. For each concept, the terminology used in this report has been highlighted in bold text.

Table 2: Terminology used by each Jurisdiction

	Australia	United Kingdom	South Africa	India
The private sector party to the PPP contract	Private Party	Contractor	Private Party	Concessionaire
The public sector party to the PPP contract	Government	Authority	Institution	NHAI
A change in the services or infrastructure provided by the private sector party	Modification	Change in Service	Variation	Change of Scope / Capacity Augmentation
Small changes that can be implemented through a simplified mechanism	Minor Works	[No equivalent terminology]	Small Works Variation	[No equivalent terminology]
Regular payments made by government through the operational phase of the PPP contract for the services provided by the private party	Service Fee	Unitary Charge	Unitary Payment	Annuity

3 Background – The Need for Flexibility in PPPs

A potential criticism of PPPs is that they do not provide long-term flexibility and can impose significant costs on government if there is a need to modify the physical infrastructure or vary the services provided by the private party at some point during the life-cycle of the project. This risk has been widely recognised¹:

Several recent reports on PPP contracting highlight the need for enhanced contractual flexibility, in particular aimed at taking into account possible changes in user needs that – in the presence of rigid contracts – have sometimes triggered very costly contract renegotiation processes. Enhanced flexibility, in particular directed to accommodate changes in user needs, is important for the long-term projects typical of PPP, and may be achievable through well designed change-management contractual clauses necessary to limit potential abuses. However, enhanced flexibility will inevitably come at the cost of lower predictability and higher risk for the investing private-sector party, and of reduced effectiveness of the competitive selection process.

3.1 Why does government need flexibility in PPPs?

The need for flexibility to implement variations in a PPP typically arises due to one of the following causes²:

1. government wishes to implement a new policy initiative
2. government's project-specific needs change.

Examples of variations arising as a result of government wishing to implement a new policy initiative include changing food standards, which may require a variation to the catering services provided by the private party in a social infrastructure PPP, and changes in road surfacing standards, which may require a variation in the private party's maintenance obligations in a highway PPP project. Some policy initiatives are enacted in legislation, and take effect through the "change in law" clause in a PPP contract, rather than being implemented as a variation. "Change in law" clauses are discussed in section 4.2.1 below.

Examples of variations arising as a result of a change in government's project-specific needs include installing additional electrical sockets in a government operated school or hospital to enable government to use additional equipment in the building, and altering cells in a prison PPP to enable the prison to accommodate different categories of prisoners.

3.1.1 The need for flexibility in Economic Infrastructure PPPs

In economic infrastructure PPPs, such as those in the roads and water sectors, variations most commonly arise because the PPP forms part of a wider infrastructure network. When government seeks to make improvements to the wider network, variations to the PPP component may be necessary to ensure that the network as a whole operates effectively and efficiently. Such changes may be relatively infrequent, but can be important to maximise

¹ Iossa, Spagnolo and Velez, "Contract Design in Public-Private Partnerships – Report prepared for the World Bank" (September 2007), page 57. (Available at <http://www.gianca.org/PapersHomepage/Contract%20Design.pdf>.)

² See National Audit Office, "Making Changes in Operational PFI Projects" (17 January 2008), page 9. (Available at http://www.nao.org.uk/publications/0708/making_changes_operational_pfi.aspx.)

the economic benefits of the network. Appendix 2 provides a case study of variations in a toll road project.

3.1.2 The need for flexibility in Social Infrastructure PPPs

In social infrastructure PPPs that are designed, built, financed and maintained by the private sector, but operated by the public sector, such as many hospital and education PPPs, variations most commonly arise because of the close interface between the private sector's provision of the infrastructure and the public sector's operation of that infrastructure to deliver public services. As government's operational needs change, variations to the PPP may be necessary to ensure that the infrastructure enables government to deliver services effectively and efficiently. Small variations may be frequently required, while larger variations are less common. The small variations often involve a change in the physical infrastructure without any change in the services provided by the private party. Appendix 3 provides a case study of variations in government operated social infrastructure PPPs.

In social infrastructure PPPs that are operated by the private party, such some PPPs in the prisons sector, variations are less frequent than for government operated social infrastructure PPPs, and often arise as a result of changes in government's service requirements.

3.2 The importance the contractual variation process

When the private party undertakes a variation requested by government through the contractual variation process, the whole of life risk transfer under the PPP contract applies to that variation. Part of the cost of a variation therefore reflects the benefit of this risk transfer. To ensure that the risk transfer remains effective, it is important to utilise the contractual variation process.

It might be possible for government to engage tradespeople such as carpenters and electricians to make minor changes to the infrastructure outside of the PPP contract. However implementing such changes outside of the PPP contract potentially results in government taking risk back from the private party. An example of how this this might occur is included in Appendix 3.

4 Comparison of Contractual Clauses

4.1 Variation Clauses in PPPs

All of the PPP Frameworks examined in this study include a right for government to request variations. However the PPP Frameworks differ significantly in a number of aspects, particularly the limits placed upon government's right to require variations, the means of ensuring that variation costs represent value for money for government, and the process by which government pays for the variation.

4.1.1 Government's right to request variations

Under each of the PPP Frameworks examined in this study, government has a right to request variations to both the physical infrastructure delivered by the private party and the services provided by the private party³, subject to limits described in section 4.1.3 below.

4.1.2 Processing variation requests

Generally, the contractual process by which government may initiate a variation is as follows:

1. Government proposes the variation to the private party⁴
2. The private party provides a response, setting out the basis on which it is willing to undertake the variation⁵
3. Government can either accept the private party's response (in which case the private party then proceeds to implement the variation), or government can reject the private party's response.

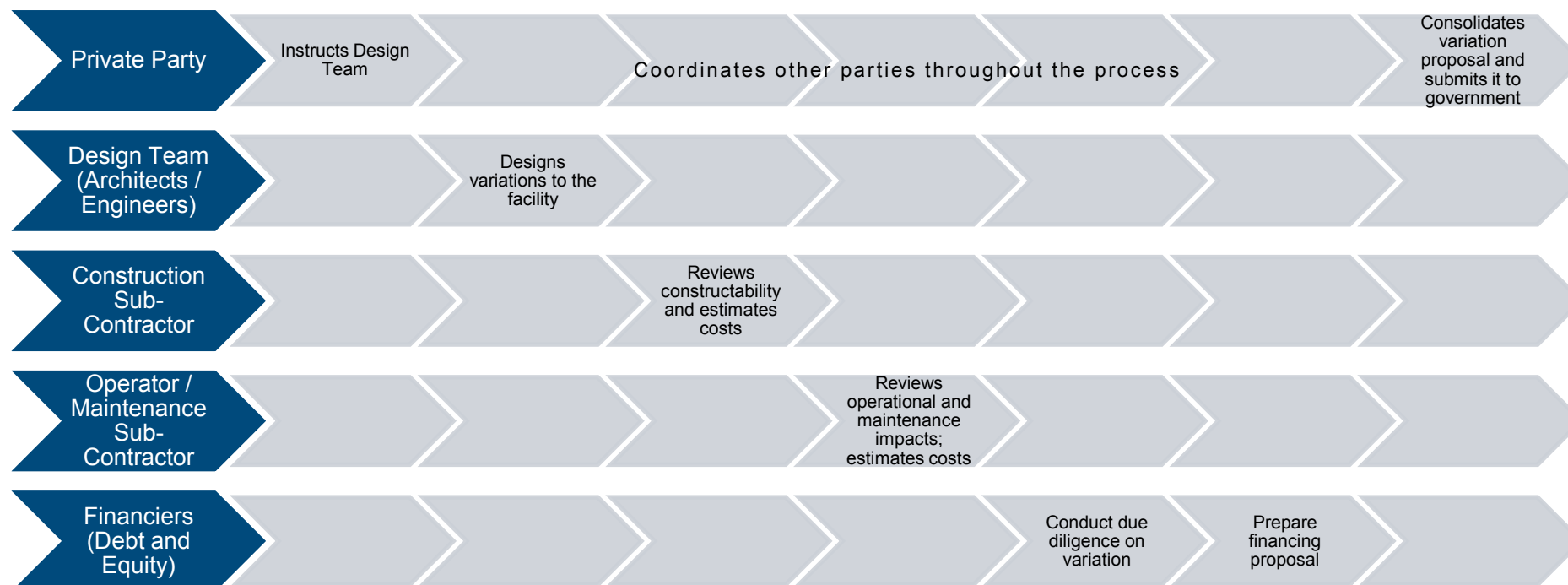
It is important that the private party is allowed sufficient time to prepare its response to government's initial proposal. If the variation involves any significant changes to the physical infrastructure, the private party will generally need to consult with design advisers and a construction sub-contractor. For all material changes to the infrastructure or the services, the private party's operations or maintenance sub-contractor will need to consider the impact upon the services that it provides, and the private party's financiers will need to consider any risk and financing implications. The interaction between the private party, its sub-contractors and its financiers in assessing a variation request from government is set out in Figure 1.

³ Australian Social Infrastructure Principles, section 19.1; Australian Economic Infrastructure Principles, section 18.1; UK SOPC 4, section 13; South African Standardised PPP Provisions, section 50.2.1; NHAI Toll Road Contract, clause 17.1; NHAI Annuity Road Contract, clause 7.2(b)(i).

⁴ Australian Social Infrastructure Principles, section 19.3.1; Australian Economic Infrastructure Principles, section 18.3.1; UK SOPC 4, section 13.3.3; South African Standardised PPP Provisions, section 50.3.5; NHAI Toll Road Contract, clause 17.2(a); NHAI Annuity Road Contract, clause 7.2(a).

⁵ Australian Social Infrastructure Principles, section 19.3.2; Australian Economic Infrastructure Principles, section 18.3.2; UK SOPC 4, section 13.3.4; South African Standardised PPP Provisions, section 50.3.5; NHAI Toll Road Contract, clause 17.2(b); NHAI Annuity Road Contract, clause 7.2(b).

Figure 1: Assessment by the Private Party, its Sub-Contractors, and its Financiers of a variation request from government



As the private party needs to consult with its sub-contractors and its financiers to understand all of the impacts of a variation upon the PPP, assessment of variation requests can be costly for the private party. In projects in which the private party's revenue is received in the form of unitary payments, the private party has little capacity to bear these costs. Consequently, the private party may be reluctant to receive and assess variation requests from government. To prevent this situation arising, some PPP Frameworks require government to compensate the private party for the costs of assessing a variation request. For example, under the Australian Social Infrastructure Principles, UK SOPC 4 and the NHAI Annuity Road Contract, if government chooses not to proceed with a variation it must compensate the private party for some or all of its costs in assessing the variation⁶.

4.1.3 Limits on the size or nature of variations

A key question that arises in relation to government's right to request variations is whether there should be some limit on the size or the nature of variations that government can request. Government may wish to retain a high degree of flexibility so that it can request any variations necessary to meet increases in the demand for use of the infrastructure or changes in operational requirements. In contrast, the private party may wish to deliver and operate or maintain the infrastructure with as little disruption or change as possible. The private party's financiers are likely to see variations as a source of potential risk.

Table 3 on page 8 summarises the recommended limits on the size or nature of variations that government can require under each of the PPP Frameworks. There are significant differences in the approaches taken. At one end of the spectrum, the Australian Social Infrastructure Principles and the Australian Economic Infrastructure Principles theoretically enable government to require the private party to implement any variations, regardless of their size or impact upon the project. At the other end of the spectrum, the NHAI Toll Road Contract and the NHAI Annuity Road Contract significantly limit government's right to require the private party to implement variations. The NHAI Toll Road Contract imposes a relatively low cap on the cost of variations, while the NHAI Annuity Road Contract imposes a cost cap and also only allows variations during the construction stage. The UK SOPC 4 and the South African Standardised PPP Provisions take intermediate positions, allowing the private party to refuse to implement a variation if, for example, it materially changes the nature of the project or its risk profile.

In its practical operation, the Australian approach is not as unfavourable to the private party, as might first appear. It assumes that, in responding to government's initial variation request, the private party will consider any adverse impacts of the variation upon the project or its risk profile, and the private party's response to government will incorporate the cost of managing or mitigating these impacts and risks. Therefore, in theory, the terms on which the variation will be implemented should offer an acceptable risk/return outcome for the private party. Australian PPP contracts typically include detailed modification compensation principles that protect the private party's risk/return outcome.

⁶ Australian Social Infrastructure Principles, section 19.3.2(f); UK SOPC 4, section 13.4.5; NHAI Annuity Road Contract, section 7.2(d).

Table 3: Recommended limits on the size or nature of variations that government can require

Australian Social Infrastructure Principles	Australian Economic Infrastructure Principles	UK SOPC 4	South African Standardised PPP Provisions	NHAI Toll Road Contract	NHAI Annuity Road Contract
There are no limits on the size or nature of variations that government can require. The private party must provide government with a proposal as to how the private party would implement the variation. If the proposal is unacceptable to government, the issue is referred to an independent expert (section 19.5.3-4).	There are no limits on the size or nature of variations that government can require. The private party must provide government with a proposal as to how the private party would implement the variation. If the proposal is unacceptable to government, the issue is referred to dispute resolution (section 18.3.2(f)). However the private party is given some protection against adverse revenue effects (section 18.3.5).	Government should consider the need for monetary limits on the size of variations (section 13.2.8). The private party should be entitled to refuse to implement a variation in certain circumstances, including if it would materially and adversely change the nature of the project (section 13.3.4).	The private party should be entitled to veto any variation that adversely affects the risk profile of the project for the private party (sections 50.2.3; 50.3.6-8).	Variations must not exceed 5% of the total project cost and must not affect the commercial operation date (clause 17.1).	A monetary limit is specified to restrict the size of variations during the construction stage (clause 7.1). During the operations stage of the project, a "capacity augmentation" process applies, under which government invites bids for augmentation of the project (clause 10.1). The private party is not required to bid, but if it is not the successful bidder for the augmentation, its concession is terminated and it receives a termination payment (clause 10.2).

As noted in section 3 of this report, the need for variations is generally greater in social infrastructure projects than in economic infrastructure projects. This provides one indication as to why the NHAI Toll Road Contract and the NHAI Annuity Road Contract place more restrictive limits on the size and nature of variations that government can require compared to the Australian Social Infrastructure Principles, the UK SOPC 4 and the South African Standardised PPP Provisions.

The Australian Economic Infrastructure Principles adopt a very different approach to the NHAI Toll Road Contract, despite both these frameworks having specific application to toll road projects. The difference may be due to differences in the use of the toll road PPP model in these countries. PPP toll roads in Australia have been concentrated in urban areas, where they form parts of metropolitan motorway networks. In contrast, India's national highway network links the individual urban areas across the country. It is possible that the need for variations is greater in Australia's metropolitan motorway networks, compared to India's national highway network.

In summary, the limits on the size or nature of variations that government can require under the selected PPP frameworks reflect the following principles:

1. The need for government to have flexibility to request variations over the life of a PPP project can depend upon the nature of the project, and is generally greater in social infrastructure projects than in economic infrastructure projects.
2. The need for government to have flexibility to request variations can depend upon the setting in which the project is undertaken. For example, toll roads in metropolitan areas may require more frequent and more significant variations as the surrounding road network develops, compared to national highways.

4.1.4 Ensuring that variation costs represent value for money

It is good practice for government to require that any procurement be undertaken through processes that ensure value for money is received and the outcome is transparent. Where procurement takes the form of a variation under a PPP contract, it is often not possible or not appropriate to apply government's more general procurement processes. Nevertheless, the variation process under the PPP contract should enable government to satisfy itself that the variation costs represent value for money.

Government's general procurement requirements in many jurisdictions vary depending upon the cost of the goods or services being procured. For example, if the costs exceed a particular threshold, a public tender process may be required. For lower cost procurements, a public tender process may not be required, but other measures will be used to ensure that government receives value for money.

Some PPP Frameworks also recognise that less complex processes may be appropriate for low-cost variations. In these Frameworks, minor works variations can be implemented outside of the general variation process. Minor works variations are discussed in more detail in section 4.1.6.

For variations other than minor works variations, a variety of approaches are adopted to ensure that the variation costs represent value for money for government. Table 4 on page 17 summarises the approaches under each of the PPP Frameworks.

Table 4: Pricing of variations

Australian Social Infrastructure Principles	Australian Economic Infrastructure Principles	UK SOPC 4	South African Standardised PPP Provisions	NHAI Toll Road Contract	NHAI Annuity Road Contract
Variations must be priced on a "fully transparent basis" (section 19.3.2(b)). The private party is not entitled to charge a margin if the variation cost is below a specified threshold (section 19.6(b)). If the parties do not agree upon the cost of the variation, it is determined by an independent expert (during the construction stage of the project) or by conducting a tender for the variation works (during the operations stage) (section 19.3.2(d)).	Variations must be priced on an open book basis. If the parties do not agree upon the cost of the variation, it may be determined by an independent expert (section 17.1). During the operations stage, government may require the private party to price a variation through a tender process (section 18.3.1(c)). The private party's margins for variations are fixed in the contract (section 18.6(a)).	For medium value variations, there should be pre-agreed standard allowances for professional fees, overheads, contingencies and profit margins, a schedule of rates for specialist labour services, market rates for materials and open-book pricing of any specific risks (section 13.4.4.5). Large value variations may be priced through benchmarking, competitive tendering, or by an independent technical adviser.	Pricing of variations must be transparent. If a variation will be implemented by a sub-contractor, the private party must conduct a competitive quotation process. If a variation will be implemented by the private party itself, the cost must be benchmarked (section 50.3.10).	Variations are priced through negotiation based on the National Highway Authority of India's current schedule of rates (clause 17.2(c)), with resort to a dispute resolution process if necessary (clause 17.3).	The cost of a variation is estimated by the private party (clause 7.2(b)(ii)) and settled by an independent engineer (clause 7.2(c)).

The various approaches adopted to ensure that variation costs represent value for money for government utilise a number of concepts:

- **Open book pricing**, under which the private party must provide government with full details of the costs it will incur in implementing the variation

Open book pricing provides transparency of the private party's costs but does not provide an indication of the reasonableness of the costs and whether they reflect market prices. Consequently, PPP Frameworks generally require another process such as benchmarking, market testing or independent expert determination to verify whether government is receiving value for money for larger variations.

- **Schedules of rates**, which provide pre-agreed standard prices for specific cost components

A schedule of rates is an efficient way of ensuring costs are reasonable for small and common variations, but its effectiveness depends on the extent to which the schedule can be validated at the point of its creation and reviewed regularly through the life of the contract⁷. A schedule of rates can only anticipate the most common variations, and where variations are not included in the schedule, government must use other means of checking costs⁸.

- **Regulation of the margin that the private party can add** to the variation costs

The private party often sub-contracts the work required to deliver a variation. Government faces a risk that the private party will add an excessive margin to the sub-contractor costs in order to derive additional revenue. To mitigate this risk, some PPP Frameworks recommend specifying in the PPP contract a fixed (or zero) margin for small and medium sized variations.

- **Benchmarking** of prices, under which costs are compared with market rates

Benchmarking provides a means of testing whether costs reflect market rates, without the added costs and potential delays that might occur if the variation works are put out to competitive tender by the private party. Benchmarking is particularly applicable during the construction phase of a project, as there is already a construction sub-contractor on site, hence competitively tendering the variation works would be inefficient and potentially risky due to the possibility of introducing a second construction contractor onto the site.

- **Competitive tendering**, under which the private party is required to put the variation works out to tender in order ensure competitive pricing of the variation

Requiring the private party to put the variation works out to tender uses competitive pressures to obtain a value for money outcome for government. However, as the tender process results in additional tendering costs and may delay implementation of the variation, it is generally only suitable for variations that require significant

⁷ National Audit Office, "Making Changes in Operational PFI Projects" (17 January 2008), page 15. (Available at http://www.nao.org.uk/publications/0708/making_changes_operational_pfi.aspx.)

⁸ National Audit Office, "Making Changes in Operational PFI Projects" (17 January 2008), page 16. (Available at http://www.nao.org.uk/publications/0708/making_changes_operational_pfi.aspx.)

construction activity. Competitive tendering is generally inappropriate for variations during the construction phase (as noted above, there is already a construction sub-contractor on site) or for smaller variations during the operations stage of the project, which can be undertaken more efficiently by the private party's maintenance sub-contractor.

- **Independent expert determination**, under which the parties accept an independent expert's calculation of the costs of the variation.

Many PPP Frameworks provide for an independent expert to determine the cost of variations, either following estimation of the costs by the private party or in circumstances where government and the private party disagree as to the costs. In practice, an independent expert will rely on other techniques such as benchmarking to determine the costs. Use of an independent expert is therefore best regarded as a means of avoiding or resolving disputes in relation to costs, rather than a measure of value for money.

Table 4 shows that the PPP Frameworks examined in this study use a variety of combinations of these approaches to ensuring value for money. The Australian Social Infrastructure Principles, Australian Economic Infrastructure Principles, UK SOPC 4 and South African Standardised PPP Provisions provide a number of options for confirming the variation costs, including benchmarking and competitive tendering. In contrast, the NHAI Toll Road Contract and NHAI Annuity Road Contract each adopt one approach and do not provide for benchmarking or competitive tendering. Possible reasons for this include the following:

- the NHAI Toll Road Contract and NHAI Annuity Road Contract are intended for use only for national highway projects, while the other PPP Frameworks must provide flexibility for a wider range of projects
- the processes specified in the NHAI Toll Road Contract and NHAI Annuity Road Contract may be well established and tested in India.

4.1.5 Paying for variations

Table 5 on page 21 sets out how government pays for variations under each of the PPP Frameworks.

The Australian Social Infrastructure Principles, UK SOPC 4, South African Standardised PPP Provisions and NHAI Annuity Road Contract are each intended for use in projects in which government makes unitary payments to the private party. These Frameworks therefore provide the possibility of government paying for a variation by increasing the amount of the unitary payments. However any capital costs required for the variation will have to be paid by the private party at the time the variation is implemented. Therefore, if government intends to reimburse the private party for the capital costs by increasing the unitary payments, the private party will have to raise additional finance to pay the capital costs at the time they are incurred.

The Australian Social Infrastructure Principles, UK SOPC 4 and South African Standardised PPP Provisions all allow or require the capital costs to be reimbursed to the private party through the increases in the unitary payments (provided the private party can finance the capital costs). In contrast the NHAI Annuity Road Contract only allows for a variation to be paid for through the unitary payments if the variation does not affect capital costs. In practice, the capital element of nearly all variations in the United Kingdom is funded directly by government through a lump sum or staged payments without altering the existing unitary

payments⁹. This suggests that the practical operation of the UK SOPC 4 is little different from the NHAI Annuity Road Contract when it comes to payment for variations.

The Australian Economic Infrastructure Principles and the NHAI Toll Road Contract are intended for use in projects in which the private party receives revenue from user charges, such as tolls. These Frameworks are less specific as to how the private party will be paid for variations, compared to the other Frameworks that apply to projects in which government makes unitary payments. This reflects the fact that variations in projects with user charging may positively or negatively affect the private party's revenue, leading to a need for negotiation between the parties in relation to this impact and consideration by government as to whether it should pay for the variation or allow the private party to increase the user charges.

⁹ National Audit Office, "Making Changes in Operational PFI Projects" (17 January 2008), page 8. (Available at http://www.nao.org.uk/publications/0708/making_changes_operational_pfi.aspx.)

Table 5: How does government pay for variations?

Australian Social Infrastructure Principles	Australian Economic Infrastructure Principles	UK SOPC 4	South African Standardised PPP Provisions	NHAI Toll Road Contract	NHAI Annuity Road Contract
Government can elect to either pay through the unitary payment, or the capital costs can be paid as a lump sum and the operating / maintenance costs are paid through the unitary payment (section 19.6(a))	Government can make progressive payments, or pay as otherwise agreed (section 18.6(b))	The default position is for government to pay the capital costs as a lump sum and the operating / maintenance costs through the unitary payment, but it is possible for the capital costs to also be paid through the unitary payment (section 13.3.7)	The capital costs are paid through the unitary payments if the initial cost can be financed by the private party; otherwise government must pay the capital costs as a lump sum (section 50.4.1)	The form of payment is not specified	Government can elect to either pay a lump sum or up to 4 half-yearly payments, or can pay through the unitary payments if the variation only affects operating and maintenance costs (not capital costs) (clause 7.2(e))

4.1.6 Minor works

Appendix 3 illustrates the need for government to efficiently implement large numbers of small variations in those social infrastructure PPPs in which government operates a facility designed, built, financed and maintained by a private party. The standard variation processes set out in PPP Frameworks are cumbersome for such small variations. Consequently, the Frameworks that apply to this category of social infrastructure PPPs contain separate streamlined processes for small variations that are classified as minor works.

The minor works processes in the PPP Frameworks included in this study enable the parties to quickly and efficiently request, price and approve these small variations. However, as set out in Table 6, the Australian Social Infrastructure Principles adopt an open book pricing approach whereas the UK SOPC 4 and South African Standardised PPP Provisions adopt a schedule of rates approach.

As noted above in section 4.1.4, a schedule of rates is an efficient way of ensuring costs are reasonable, but its effectiveness depends on the extent to which the schedule can be validated at the point of creation and reviewed regularly through the life of the contract¹⁰, and it can only anticipate the most common variations¹¹. The UK SOPC 4 and South African Standardised PPP Provisions therefore provide greater efficiency for common and predictable variations, but not for those variations that have not been identified in advance and included in the schedule of rates. The South African approach requires the parties to agree on new prices each year. This solves the problem of keeping prices up to date, but requires government to negotiate prices outside a competitive process.

By adopting an open book pricing approach, the Australian Social Infrastructure Principles do not provide government with the efficiency of pricing common variations that would be provided by a schedule of rates. However, by including within the unitary payment a provisional sum for minor works variations, the Australian Social Infrastructure Principles provide government with a pre-identified pool of funding for minor works variations and provide the private party with an expectation that the provisional sum will be expended on such variations. As a result, government can request minor works variations without sourcing the funds from elsewhere to meet the costs and the private party is able to plan and resource implementation of minor works with more certainty and efficiency.

¹⁰ National Audit Office, "Making Changes in Operational PFI Projects" (17 January 2008), page 15. (Available at http://www.nao.org.uk/publications/0708/making_changes_operational_pfi.aspx.)

¹¹ National Audit Office, "Making Changes in Operational PFI Projects" (17 January 2008), page 16. (Available at http://www.nao.org.uk/publications/0708/making_changes_operational_pfi.aspx.)

Table 6: Pricing of minor works

Australian Social Infrastructure Principles	Australian Economic Infrastructure Principles	UK SOPC 4	South African Standardised PPP Provisions	NHAI Toll Road Contract	NHAI Annuity Road Contract
Minor works are priced on an open book basis, with no margin payable to the private party. The unitary payment includes a provisional sum for minor works, which is rolled over at the end of each year, with any unused amount paid to government at the expiration of the contract (section 19.8).	Not applicable – no minor works regime.	Minor works are priced through a catalogue of fixed costs (that is, a schedule of rates), with costs indexed for inflation over the term of the contract (section 13.3.3).	Minor works are priced through a schedule of rates (agreed at start of each year), plus a pre-agreed margin (section 50.5.2).	Not applicable – no minor works regime.	Not applicable – no minor works regime.

4.1.7 Pre-agreed variations

In some PPP projects, a possible future variation can be identified at the time the project is initially tendered. By asking bidders to offer a fixed price for the variation at the time they lodge their tenders for the project, government can benefit from pricing the variation in a very competitive environment and can then request the private party to proceed with the variation at a later date. The Australian Social Infrastructure Principles, Australian Economic Infrastructure Principles, UK SOPC 4, and South African Standardised PPP Provisions each provide for such variations to be included in the PPP contract¹².

4.2 Other Clauses that Provide Flexibility in PPP Contracts

Although variation clauses are the primary means by which PPP Frameworks introduce flexibility into PPP contracts and allow for changes in the physical infrastructure or the services, a number of other clauses found in PPP contracts can also provide flexibility in some circumstances. Common examples include change in law clauses and government voluntary termination clauses.

4.2.1 Change in Law clauses

Governments commonly change laws that affect the cost to the private sector of doing business without compensating private sector businesses for this impact. However, in a PPP, the private party generally cannot unilaterally increase its prices or diversify its business so as to offset the cost impact of the change in law. Consequently, each of the PPP Frameworks examined in this study provides some protection for private parties against the impact of changes in law, either through a specific “change in law” clause or (in the case of the South African Standardised PPP Provisions) through more general provisions concerning risks that the private party can face as a result of government actions¹³.

Where government proposes a significant policy change that will affect a PPP project, it may be possible to implement that change through either the variation process or the change in law process. In these circumstances, government should consider the relative merits of each process, including the impact upon value for money and the long term PPP relationship.

4.2.2 Government Voluntary Termination clauses

The intention of all parties to a PPP contract should be that it will run its full course. There may be circumstances, however, in which government is no longer able to continue the PPP relationship. For example, there may be a policy change which makes further provision of the services specified in the contract redundant¹⁴. For this reason, it can be argued that government should have a right to voluntarily terminate a PPP contract (also known as termination for convenience), even if the private party has fully complied with its obligations.

¹² Australian Social Infrastructure Principles, section 19.7; Australian Economic Infrastructure Principles, section 18.5; UK SOPC 4, section 13.1.4; South African Standardised PPP Provisions, section 50.3.2.

¹³ Australian Social Infrastructure Principles, section 20; Australian Economic Infrastructure Principles, section 19; UK SOPC 4, section 14; South African Standardised PPP Provisions, section 49; NHA1 Toll Road Contract, clause 36; NHA1 Annuity Road Contract, clause 11.

¹⁴ UK SOPC 4, section 21.5.1.

Allowing voluntary termination of a PPP contract introduces a significant risk for the private party, which has entered into the PPP expecting a long term business opportunity and not wanting this to be cut short. Over-use by government of voluntary termination rights may create perceptions of sovereign risk, leading to the private sector losing confidence in the PPP Framework and not bidding competitively for future projects. There is therefore a tension between government's desire for voluntary termination rights to provide flexibility and the need to strictly control use of such rights in order to give certainty to the private sector.

The Australian Social Infrastructure Principles, Australian Economic Infrastructure Principles, and UK SOPC 4 permit government to voluntarily terminate the PPP contract¹⁵, but oblige government to fully compensate the private party, its subcontractors and investors for doing so¹⁶. As a practical matter, these compensation obligations make voluntary termination unattractive for government from a value for money perspective in all but the most extreme circumstances.

In contrast, the South African Standardised PPP Provisions give greater weight to contractual certainty, prohibiting voluntary termination:

*[Government] should not be entitled to terminate the PPP Agreement for convenience even if it is of the view that it is better equipped to render the Services itself.*¹⁷

The NHA Toll Road Contract and NHA Annuity Road Contract do not include voluntary termination rights for government, and hence are consistent with the approach advocated in the South African Standardised PPP Provisions.

In summary, voluntary termination rights can provide some additional flexibility in PPP contracts, but should only be used where other mechanisms cannot provide a satisfactory outcome for government. The need to compensate the private party for voluntary termination by government and the sovereign risk associated with voluntary termination significantly constrain the usefulness of these rights.

¹⁵ Australian Social Infrastructure Principles, section 25.3; Australian Economic Infrastructure Principles, section 24.1.4; UK SOPC 4, section 21.5.

¹⁶ Australian Social Infrastructure Principles, section 26.3; Australian Economic Infrastructure Principles, section 25.2; UK SOPC 4, section 21.5.2.

¹⁷ South African Standardised PPP Provisions, section 60.1.2.

5 Managing Variations

Although PPP contracts allow flexibility for changes in the physical infrastructure or the services, this flexibility is only effective if government appropriately manages the variation process.

Key principles applicable to managing variations (and PPP contract management more generally) include¹⁸:

- **Understand the contract:** Government's contract management team should ensure that they understand the PPP contract. This is essential not only to ensure that rights and obligations in relation to variations are being honoured, but also to verify that a variation request is actually a change and not covered under the existing agreement and pricing structures.
- **Adopt a strategic approach to variations:** Government should adopt a strategic approach to variations and control the flow of variations to avoid overstressing resources on either the government side or private party side of the contract. For example, government can consider bundling similar variations together to reduce costs, or planning a variation programme based on anticipated needs.
- **Ensure variation requests are clear and comprehensive:** Government should provide its private sector partners with proper briefs to make it clear what government wants done. This is especially important for larger, more complex variations. For complex variations, government should consider initially having informal non-binding discussions with the private party in order to better understand the private party's ability to implement the variation, prior to issuing a formal variation request. These informal discussions can enable government to then prepare a formal variation request that gives the private party the information it needs to enable it to fully evaluate the variation and provide a detailed plan for its implementation.
- **Establish clear and appropriate roles and responsibilities for requesting and assessing variations:** Government should ensure that appropriate staff have the authority to request and authorise variations, and that staff who do not themselves have the authority to request variations understand this. Potential variations should be assessed thoroughly by suitably experienced personnel, who should consult with relevant stakeholders.
- **Maintain good record keeping practices:** Government should keep good records of the variations and payments made, and ensure that agreed variations are clearly documented with the private party.
- **Maintain a spirit of partnership:** Both government and the private party should comply with their obligations under the PPP contract, but in doing so they can achieve better outcomes by maintaining a spirit of partnership:

¹⁸ See generally Infrastructure Australia, "National PPP Guidelines: Volume 2 – Practitioners' Guide" (April 2011), section 7 and appendix H. (Available at http://www.infrastructureaustralia.gov.au/public_private/files/Vol_2_Practitioners_Guide_Mar_2011.pdf) ; National Audit Office, "Making Changes in Operational PFI Projects" (17 January 2008), pages 20-21. (Available at http://www.nao.org.uk/publications/0708/making_changes_operational_pfi.aspx.)

We found examples of a genuine partnership ethos displayed by private sector contractors in relation to change requests. A simple example is the practice of not charging for every change request. Some [private parties] were willing to waive fees for small changes where they felt the request was minimal and a normal part of the day-to-day operation of the building.¹⁹

¹⁹ National Audit Office, “Making Changes in Operational PFI Projects” (17 January 2008), page 24. (Available at http://www.nao.org.uk/publications/0708/making_changes_operational_pfi.aspx.)

6 Conclusions and Recommendations

Economies with well-developed PPP Frameworks have, through experience, developed contractual mechanisms that introduce sufficient flexibility through the life of PPP contracts and allow for variations in the physical infrastructure or the services.

The need for flexibility to implement variations in a PPP typically arises due to one of the following causes:

1. government wishes to implement a new policy initiative
2. government's project-specific needs change.

The types of variations required by government depend upon the nature of the infrastructure. Network issues are a common driver for variations in economic infrastructure PPPs, whereas interface issues are a common driver for variations in social infrastructure PPPs operated by government.

Based on the analysis of PPP Frameworks in this report, Foster Infrastructure has identified the following recommendations for the inclusion of flexibility in PPP contracts:

- 1. PPP contracts should include a right for government to request changes to both the physical infrastructure delivered by the private party and the services provided by the private party.**

Some variations affect only the physical infrastructure (for example, installation a new electrical socket in a classroom); some variations affect only the services provided by the private party (for example, a change in the acceptable range of temperature that the private party must maintain in a classroom); some variations affect both the physical infrastructure and the services.

- 2. The contractual variation process should allow the private party sufficient time to consult with its subcontractors and financiers before responding to a variation request from government.**

The assessment of variation requests can be a complex process. If the private party is not given sufficient time to consult with its subcontractors and financiers, its response to the variation request is unlikely to be acceptable to government.

- 3. Government should consider including in PPP contracts an obligation to compensate the private party for a percentage of its verifiable third party costs if government requests a significant variation but decides not to proceed with it after it has been assessed by the private party.**

Sharing costs in this way rather than fully compensating the private party provides an incentive for government to refrain from requesting variations if it is not committed to proceeding, and an incentive for the private party to contain the costs of assessing the variation.

- 4. PPP contracts should either directly prescribe the limits on the size or nature of the variations that government can require, or preserve the private party's risk/reward outcome if the contract does not prescribe direct limits on the size or nature of the variations that government can require.**

Government should consider the likelihood and nature of variations that may be required, and assess whether prescribed limits on the size or nature of the variations are acceptable, or whether it requires greater flexibility but is willing to preserve the private party's risk/reward outcome when it requires variations.

5. The variation process under a PPP contract should include a mechanism to enable government to satisfy itself that the variation costs represent value for money.

It is good practice for government to require that any procurement be undertaken through robust processes to ensure that value for money is received and the outcome is transparent. Where procurement takes the form of a variation under a PPP contract, the variation process should enable government to satisfy itself that the variation costs represent value for money.

6. If small and common variations can be foreseen, the parties to a PPP contract should agree a schedule of rates for those variations and include a streamlined "minor works" variation process in the contract.

A schedule of rates is an efficient way of ensuring costs are reasonable for small and common variations, but can only anticipate the most common variations.

7. For small and medium sized variations, the PPP contract should fix the margin that the private party can charge on top of its costs.

Fixing the private party's margin mitigates the risk that the private party will add an excessive margin to the sub-contractor costs in order to derive additional revenue.

8. For larger variations, PPP contracts should include a mechanism for establishing that the variation costs reflect market prices.

Benchmarking is a mechanism that is particularly appropriate during the construction phase of the project, while requiring the private party to put the variation works out to competitive tender can be appropriate during the operating phase.

9. PPP contracts should provide for independent expert resolution of disputes in relation to variation costs.

Use of an independent expert can efficiently avoid or resolve disputes in relation to costs.

10. In PPP contracts under which government makes unitary payments, it should consider including an option for government to pay for variations by increasing the amount of the unitary payments, provided the private party can finance the capital costs of the variation.

Paying for variations through the unitary payments provides a similar level of risk transfer in respect of the variation as that applicable to the original construction of the infrastructure.

11. If a significant future variation can be foreseen at the time a PPP project is initially tendered, government should consider asking bidders to price it as a pre-agreed variation during the tender process.

By asking bidders to offer a fixed price for the variation at the time they lodge their tenders for the project, government can benefit from pricing the variation in a very

competitive environment and then request the private party to proceed with the variation at a later date.

- 12. Where government proposes a significant policy change that can be implemented through either the variation process or the change in law process in a PPP contract, government should consider the relative merits of using each process, including the impact upon value for money and the long term PPP relationship.**
- 13. Voluntary termination rights can provide some additional flexibility in PPP contracts, but are significantly constrained by compensation obligations and sovereign risk considerations, and should only be used where other mechanisms cannot provide a satisfactory outcome for government.**
- 14. In addition to including appropriate clauses in its PPP contracts to provide flexibility, government should establish appropriate contract management arrangements to effectively manage the variation process.**

Appendix 1 – Source documents compared in this study

Australia

National Public Private Partnership Guidelines, Volume 3: Commercial Principles for Social Infrastructure (the "Australian Social Infrastructure Principles")

http://www.infrastructureaustralia.gov.au/public_private/files/National_PPP_Guidelines_Vol_3_Commercial_Principles_Social_Infrastructure_Dec_08.pdf

National Public Private Partnership Guidelines, Volume 7: Commercial Principles for Economic Infrastructure (the "Australian Economic Infrastructure Principles")

http://www.infrastructureaustralia.gov.au/public_private/files/Vol_7_Commercial_Principles_Economic_Infrastructure_Feb_2011.pdf

United Kingdom

Standardisation of PFI Contracts Version 4 (the "UK SOPC 4")

http://www.hm-treasury.gov.uk/d/pfi_sopc4pu101_210307.pdf

South Africa

Standardised Public-Private Partnership Provisions (the "South African Standardised PPP Provisions")

Part 1:

http://www.ppp.gov.za/Legal%20Aspects/Standardised%20PPP%20Provisions/National%20Treasury%20PPP%20Practice%20Note%20No%201%20of%202004;%20Standardised%20PPP%20Provisions;%20First%20Issue;%2011%20March%202004_1.pdf

Part 2:

http://www.ppp.gov.za/Legal%20Aspects/Standardised%20PPP%20Provisions/National%20Treasury%20PPP%20Practice%20Note%20No%201%20of%202004;%20Standardised%20PPP%20Provisions;%20First%20Issue;%2011%20March%202004_2.pdf

India

National Highways Authority of India Concession Agreement for projects Rs.100 Crores and above: Updated version as on 23.03.2000 (the "NHAI Toll Road Contract")

<http://www.nhai.org/fvb.pdf>

National Highways Authority of India Model Concession Agreement for Annuity Based Project - developed as a sample for Panagarh - Palsit project (the "NHAI Annuity Road Contract")

<http://www.nhai.org/annuity.pdf>

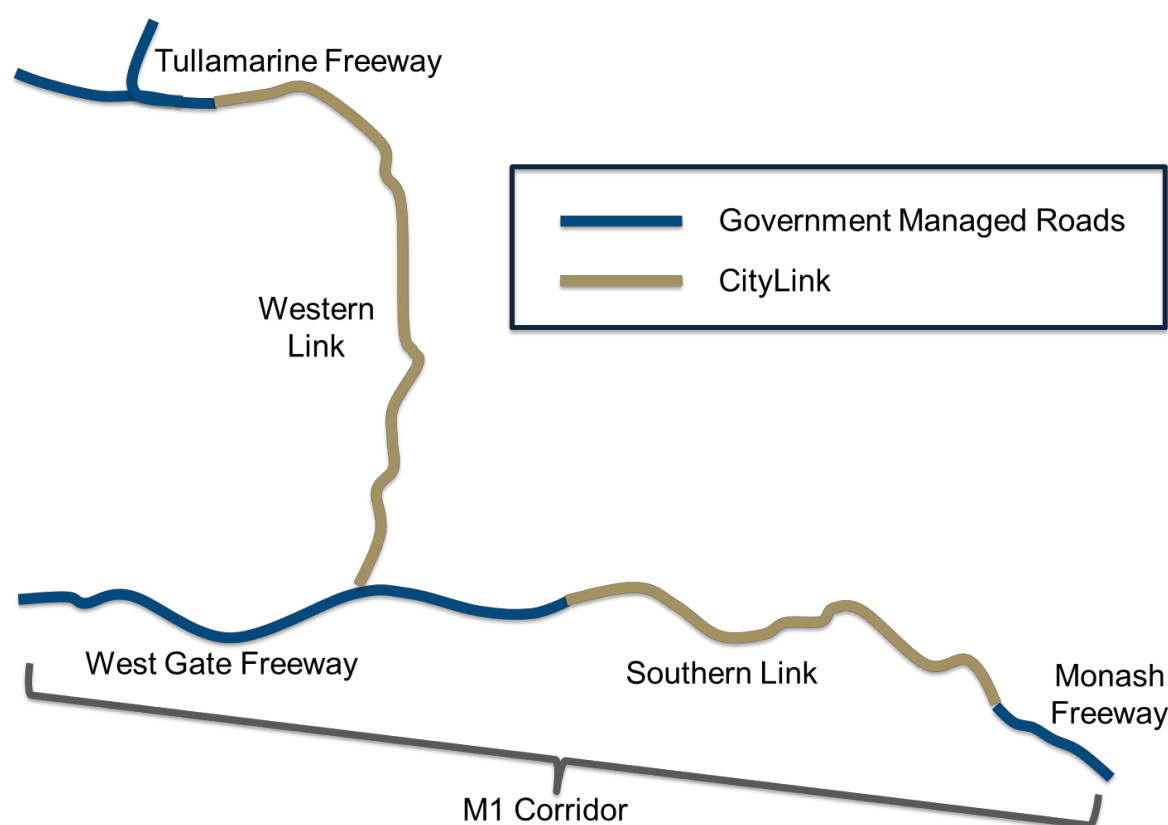
Appendix 2 – Case Study 1: Flexibility in a toll road PPP²⁰

CityLink is a privately-funded toll road that connects three major freeways in Melbourne, the largest city in the State of Victoria, Australia.

The Victorian State Government and the private developer Transurban CityLink, now known as CityLink Melbourne Ltd (CML), are the parties to a Concession Deed. Under this Deed, CML is required to design, build, finance, operate, levy tolls and maintain City Link for a period of 34 years, ending on 14 January 2034. Construction of the A\$2 billion project commenced in May 1996 and the road was fully opened and tolled in December 2000. At the end of the concession period the toll road is to be transferred to the State in a fully maintained condition.

The Project comprises two parts: the Western Link, which connects the Tullamarine Freeway to the West Gate Freeway; and the Southern Link, which connects the West Gate Freeway to the Monash Freeway. The West Gate Freeway, Southern Link and Monash Freeway together comprise the M1 Corridor.

Figure 2: The CityLink Project and the M1 Corridor



Since entering into the Concession Deed, the State and CML have agreed numerous changes to both the works (that is, the physical toll road infrastructure) and the services (for example, how CML must manage electronic tolling accounts for road users). Two significant variations illustrate the importance of allowing appropriate change over the life of a toll road PPP in order to manage the ongoing development of the broader road network.

²⁰ Sources: VicRoads website (www.roads.vic.gov.au); Foster Infrastructure.

M1 Corridor Redevelopment

In 2006 the State and CML reached agreement on a program to add two new lanes (one in each direction) to the Southern Link and adjoining sections of the Westgate and Monash Freeways. This agreement, known as the M1 Corridor Redevelopment Deed, sets out the responsibilities of the parties in respect of matters such as traffic management and project coordination during the construction works to add the new lanes. For example, clause 8.6(b) states that:

The parties agree to use their best endeavours to consult and co-operate with each other in relation to lane closures in order to produce a result that, to the extent reasonably practicable, maximises traffic flow during construction on the Link and the general road transport network.

Freeway Management System

Technology to better manage traffic flow and incidents is being implemented across Melbourne's freeway system. The Active Freeway Management System uses the latest technologies (for example, electronic signs over each lane advising of speed limits and lane closures) to provide reliable journey times, improved safety, quicker response to incidents, and enhanced information for drivers.

The Active Freeway Management System was first implemented on the M1 Corridor.

The State and CML reached agreement that CML would design, construct and operate certain components of the Active Freeway Management System within the Southern Link section of the M1 Corridor, and the parties would work together to integrate these elements with the broader Active Freeway Management System implemented across the corridor by the State.

The M1 Corridor Redevelopment and implementation of the Active Freeway Management System illustrate that appropriate variation mechanisms can be used during the life of an economic infrastructure PPP to ensure that the relevant network is improved over time to better meet the needs of the community, while preserving the risk allocation and value for money outcomes of the original PPP contract.

Appendix 3 – Case Study 2: The need for flexibility in social infrastructure PPPs

As noted in section 3 of this report, in social infrastructure PPPs that are designed, built, financed and maintained by the private sector, but operated by the public sector, variations most commonly arise because of the close interface between the private sector's provision of the infrastructure and the public sector's operation of that infrastructure to deliver public services. These variations generally:

- Are small;
- Involve a change in the physical infrastructure without any change in the services provided by the private party; and
- Ensure that the infrastructure enables government to deliver services effectively and efficiently as its operational needs change.

The United Kingdom's National Audit Office conducted a survey of variations made to PPP projects during 2006, and found 82 per cent of variation requests cost £5,000 or less, reflecting the importance of small variations to the day-to-day running of serviced buildings (for example hospitals and schools delivered through PPPs but operated by government)²¹. Common variation requests included supplying and fitting electrical sockets and door locks²².

Variations in social infrastructure PPPs in the United Kingdom have been the subject of criticism in the tabloid media, such as the following:

Hospitals have been forced to shell out £242 just to change a padlock and £13,704 to install three lights as a result of Labour's botched [PPP] deals... As part of the deals, hospitals had to sign contracts under which they agreed to pay hyper-inflated prices for maintenance work²³.

In reading such criticism, some key contextual factors should be borne in mind:

1. The costs referred to generally relate to contracts that were drafted prior to the development of the current PPP Frameworks²⁴. These contracts may have contained less sophisticated mechanisms for government to ensure it receives value for money from variations.

²¹ National Audit Office, "Making Changes in Operational PFI Projects" (17 January 2008), page 10. (Available at http://www.nao.org.uk/publications/0708/making_changes_operational_pfi.aspx.)

²² National Audit Office, "Making Changes in Operational PFI Projects" (17 January 2008), page 15. (Available at http://www.nao.org.uk/publications/0708/making_changes_operational_pfi.aspx.)

²³ Daniel Martin, "£466 to replace a light, £242 for a new padlock and £75 on an air freshener: Labour's botched PFI deals have sent NHS costs soaring... and there's a £60 BILLION bill for taxpayers", Daily Mail (23 December 2011). (Available at: <http://www.dailymail.co.uk/news/article-2077784/Labours-botched-PFI-deals-sent-NHS-costs-soaring.html>.)

²⁴ Data on United Kingdom PPPs, including financial close dates for each project, can be downloaded at http://www.hm-treasury.gov.uk/ppp_pfi_stats.htm.

2. When the private party undertakes a variation, the whole of life risk transfer under the PPP contract applies to the variation. Part of the cost of a variation therefore reflects the benefit of this risk transfer. It might be possible for government to engage tradespeople such as carpenters and electricians to make minor changes to the infrastructure outside of the PPP contract. However implementing such changes outside of the PPP contract potentially results in government taking risk back from the private party. For example, if government engages an electrician to install lights in a PPP hospital and faulty installation results in a fire and damage to the facility, government may have to meet the costs of repairing the damage. In contrast, if the lights were installed by the private party as a variation under the contract, the private party would generally be liable for any costs and damage resulting from faulty installation.