



Government of **Western Australia**
Department of **Treasury**

Public Private Partnerships

Public Sector Comparator Policy

Additional Policy Guidance

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Overview and Purpose

The purpose of this document is to supplement the National Public Private Partnerships Guideline – Volume 4: Public Sector Comparator (PSC) Guidance (The Guidelines).¹

The aim is to provide additional policy guidance to enable consistent calculation of the PSC for Western Australian Public Private Partnerships (PPP) projects. It also provides clarification and greater emphasis where considered necessary.

Application

The users are expected to be those preparing or verifying a PSC for a specific PPP project, including Government Departments, external commercial advisors and the PPP Unit of the Department of Treasury (Treasury).

The document does not replace the National Public Partnerships Guideline – Volume 4: Public Sector Comparator (PSC) Guidance and should be used in conjunction with the Guidelines which provide detailed guidance on the preparation of a PSC.

Structure

The Guidelines are the reference point for preparing a PSC. This paper provides additional guidance to aid clarification, illustrate divergences and provide greater emphasis where it is needed.

This paper is structured so as to take each major component of the Raw and Risk Adjusted PSC, consistent with the Guidelines, provide a brief summary then provide additional policy guidance where necessary.

Guidance is also included on the calculation of discount rates for both the PSC and bids received.

The PSC Timeline section details when the PSC should be finalised, how to allow for amendments and what is generally disclosed at the Request for Proposal (RFP) stage to shortlisted interested parties.

There is also an Appendix which outlines several sources for forecasting the escalation rates to be used in a PSC.

¹ (http://www.infrastructureaustralia.gov.au/public_private/files/National_PPP_Guidelines-Vol_4_PSC_Guidance_Dec_08.pdf)

Updates

Treasury has the sole discretion to amend or update this document as and when it considers it necessary.

1. What is a Public Sector Comparator?

Assessment of whether a PPP offers value of money is an essential part of a PPP procurement process. This entails comparing the proposed PPP with the cost of the public sector undertaking the project on a like-for-like basis, the public sector comparator (PSC).

The PSC is an estimate of the net present cost to government if it was to deliver the project under a more traditional procurement method, for example design and construct. The PSC contains forecast lifetime cash flows for a government delivered reference project based on the infrastructure and service specifications provided to bidders, i.e. on a like-for-like basis to the PPP. The PSC incorporates allowances for project risks, for example construction price cost increases.

Once final bids are received from the private sector, the whole of life cost of these bids can be compared to the PSC to determine whether the bids provide value for money to the taxpayer.

Key attributes of a PSC include:

- It is forecast based on the reference project – reflecting the cost to government of delivering the infrastructure and services to the same standards as being procured from the private sector under the most likely traditional procurement model if not a PPP;
- It is expressed in net present cost (NPC) terms;
- It is based on life-cycle costing – i.e. the whole of life cost of providing the services and maintaining the infrastructure to standard prescribed for the PPP; and
- It is risk-adjusted.

A PSC is not:

- An estimate of the cost of private sector delivery or potential savings associated with a PPP;
- Adjusted for innovation that the private sector may achieve; or
- Based solely on the current cost delivery of similar services by government.

2. Components of a PSC

A PSC comprises cashflows associated with:

- The raw PSC;
- An adjustment for competitive neutrality; and
- An adjustment for project specific risks (retained and transferred).

All future project cashflows are converted to a net present cost by applying the appropriate discount rate.

These elements are discussed further below.

3. The Raw PSC

The raw PSC includes the expected capital and operating costs to government of delivering the reference project over its full term before any risks are taken into account.

i. General Assumptions

Input Assumption	Summary of National Guidelines	Additional Policy Guidance
Inflation	General inflation rates should be obtained from projections provided in the State Budget papers.	<p>The Budget papers contain projections for general inflation rates. The Perth Consumer Price Index (CPI) is used to measure General Inflation. The final out-year in the Budget papers is usually the long run average price increase and this should be used as the Inflation rate to use beyond the last period in the budget papers.</p> <p>Where a more appropriate escalation than CPI is available, use this. (See below for escalations of Input Assumptions).</p>

ii. Direct Capital Costs

Input Assumption	Summary of National Guidelines	Additional Policy Guidance
<p>Construction and commissioning</p> <p>Raw Materials</p> <p>Design Allowance and Planning</p>	<p>These costs should be based on the best available information and prevailing best practice. The Reference Project should reflect the most likely and achievable procurement approach by the relevant department to satisfy all elements of the output specification if the project were to proceed on a traditionally procured basis – and provide same level of quality of service.</p>	<p>This should total the expected capital cost of the project under the most likely traditional procurement model if not a PPP. Capital costs should be checked against the infrastructure specification to ensure they are consistent. Include any indirect costs like construction overheads if applicable.</p>
<p>Upfront Consultancy Costs</p>	<p>Include, but PSC should not include transactions costs and any contract management issues. The PSC should only include transactions costs directly relevant to government delivery of the reference Project.</p>	<p>As per guidelines – Bidders’ transactions costs should not be included in PSC. Design and construction and other consultancy costs are to be included where these are a normal expected part of the traditional procurement approach.</p> <p>The State’s PPP procurement specific consultancy costs should not be included in the PSC.</p>
<p>Contingencies</p>	<p>PSC should exclude risk and contingencies. All forecasts in the PSC should be prepared on basis of everything going well.</p>	<p>The raw capital cost estimate included in the PSC should contain all contingencies normally expected under a traditionally procured contract. For example, a design contingency where the design is not highly developed should be included in the raw capital cost estimate if this is normal practice under traditional procurement. In order to calculate these amounts, the quantity surveyor should be asked to prepare a full expected capital cost estimate as if the project was procured traditionally, not under a PPP.</p> <p>Care should then be taken in the later calculation of transferred risk not to ‘double count’ any contingencies already included in the raw capital cost.</p>

iii. Capital Receipts

Input Assumption	Summary of National Guidelines	Additional Policy Guidance
Residual Value	Where Reference Project involves the disposal of assets, the present value of the income less disposal cost, must be deducted from the Raw PSC (but only where the same opportunity is given to bidders).	As per Guidelines.

iv. Maintenance and Lifecycle Costs

Input Assumption	Summary of National Guidelines	Additional Policy Guidance
Capital and Maintenance Costs	Care should be taken to ensure that the level of maintenance and lifecycle costs assumed is consistent with capital costs, operating cost forecasts and residual value requirements.	Whole of life cost of maintaining the asset to the same standards required from the private operator. Estimates should be consistent with best practice and industry standards.
Lifecycle Costing	Maintenance costs are generally recurrent and are associated with maintaining the capability and quality of the existing asset rather than upgrading, improving or expanding the asset.	Use appropriate internal and external expert advice where required to ensure these costs are fully costed.
Labour required for maintenance	Labour costs are wages and salaries	For each input, where the labour cost component is identifiable, the escalation to apply is the Labour Price Index to that portion or, if the majority of the cost is labour (e.g. cleaning), apply Labour Price Index to all of it.

v. Direct Operating Costs

Direct operating costs include the cost of services to be delivered by the private partner as part of the project. The PSC should be checked against the service specification to ensure that all costs of government delivering services to the prescribed standard are included. This may mean that the cost of delivery in the PSC may be different from government’s current cost of delivering similar services.

Input Assumption	Summary of National Guidelines	Additional Policy Guidance
Cost of Inputs	Typically include: Raw Materials, Utilities and Direct Management Costs. Forecasts of expected direct operating costs should reflect reasonably foreseeable improvements in service delivery or efficiency savings.	As per Guidelines. Efficiency savings only to be included if reasonably expected under non-PPP delivery, eg as a result of the new infrastructure.
Employee Costs (directly involved in the service provision)	Employee costs should be all inclusive of: wages and salaries, entitlements, superannuation, employee insurance, training and development, annual leave, long service leave, expected redundancy and travel.	As per Guidelines.
Insurance	Insurance should be looked at in conjunction with the Risk Analysis Sections 7.3 and 8.3 of the PSC Guidelines.	RiskCover should be consulted to determine relevant cost.

vi. Indirect Costs

Input Assumption	Summary of National Guidelines	Additional Policy Guidance
Corporate Overhead	Costs incurred not directly related to the provision of services use allocation methods such as: Traditional overhead cost allocation or Activity based costing.	A percentage of indirect departmental costs attributable to the Reference Project should be estimated. Estimate based on general departmental FTEs required to support delivery of the contracted infrastructure and services under traditional procurement plus reasonable allocation of on-costs.

vii. Third Party Project Revenues

Input Assumption	Summary of National Guidelines	Additional Policy Guidance
Third Party Demand for Infrastructure Government Allowed Third Party Utilisation	Expected third party revenue ² over life of the Reference Project reduces the net cost to Govt and should be deducted from total operating costs of the raw PSC.	If third party revenue is likely to be achievable under traditional procurement then forecast revenue net of forecast expenses associated with the collection of that revenue should be included in the PSC. If included, risks to this revenue should be included in the risk assessment.

² For example a schools project could have the potential to generate revenue through child care revenue.

4. Competitive Neutrality

Competitive neutrality adds to the PSC the net competitive advantage that accrues to government by virtue of its government status. This ensures a like for like comparison with bids received.

Input Assumption	Summary of National Guidelines	Additional Policy Guidance
Rates Land Tax Payroll Tax Stamp duty	Only include advantages that accrue to a Government business which are not equally available to a bidder.	As per Guidelines. No adjustments should be made for Commonwealth tax, e.g. company tax. Further information on State taxation is available on the Office of State Revenue website.

5. Project Specific Risk

Risk is the possibility of outcomes being better or worse than expected. It is measured in terms of likelihood and consequence.

For PPPs, project specific risk is the risk that the actual cost of delivering the project will be different to that forecast based on the information available at the time of the forecast. For example:

- contamination risk is the possibility that the construction site is contaminated and requires remediation, but the true extent of that contamination is unknown during the procurement; and
- design risk includes the risk that the design for the project is not suitable for the provision of the required outputs.

A more detailed list of project specific risks is included in the National Guidelines.

It is important that project risk is reflected in the PSC. This is because the transfer of risk is one of the key objectives of PPP procurement and the price to government of transferring risks is included in private sector bids received. Without the inclusion of risk quantifications in the PSC, a like for like comparison of the bids with the PSC would not be possible.

i. Estimating the Value of Project Specific Risk

The National Guidelines provide guidance on various methods to estimate the likelihood, consequence and expected value of project specific risks.

The actual method of valuing risk will vary from project to project depending on the amount of information available and the specifics of each project. In some cases the methods of estimating project specific risk may be alternatives to those listed in the National Guidelines. For example, in the case of design and construction risk, expert advice on the potential risk may be sought from a quantity surveyor.

Whichever method is used, the risk analysis should be cognisant of the assumptions made in the raw PSC calculations and take into account any evidence of risk outcomes where available – for example, historical analysis of actual versus expected capital cost outcomes on similar projects delivered by government.

ii. Transferred and Retained Risk

Project specific risk may either be transferred to the private partner under the PPP (transferred risk) or retained by Government (retained risk).

Risks should be allocated between transferred and retained categories consistent with the project agreement. The level of transferred and retained risk may vary between bids depending

on any proposed amendments bidders make to government's proposed risk allocation. As such, estimates prepared for the PSC may need to be adjusted once bids are received.

The estimated value of transferred risk should be added to the raw PSC to reflect the full risk adjusted expected cost to government of delivering the project.

Consistent with the National Guidelines, any risks retained by Government under both the PPP and reference project can be quantified and added to both the PSC *and* bids received. If retained risks are not expected to be significant or they are expected to be the same between bidders, a specific valuation of retained risk may not be necessary.

6. Sensitivity Analysis

Sensitivity analysis can help test the robustness of a PSC to various scenarios.

Input Assumption	Summary of National Guidelines	Additional Policy Guidance
Sensitivity Analysis	<p>To be performed on key cash flows and assumptions to determine the robustness of the PSC to potential changes in assumptions, risk components and the forecast operating environment over the term of the Project.</p> <p>Variables that are typically analysed include:</p> <ul style="list-style-type: none"> • capital costs • operating/recurrent costs • discount rate • inflation rate • maintenance and • refurbishment costs 	<p>Sensitivity analysis allows estimates to be made of the impacts and likelihoods of individual risks. Guidelines allow flexibility in selection of what variables to analyse, individually or simultaneously.</p> <p>Sensitivity or scenario analysis may help on the calculation of project specific risk.</p> <p>Sensitivity analysis should also be carried out on when comparing the PPP bids received to the PSC. As part of this, the PPP bids should be discounted by both the Project Discount Rate and PSC Discount Rate. The difference between the two calculations will indicate the net present value of the systematic risk adjustment.</p>

7. Discount Rate Methodology

PSCs are prepared and compared to PPP bids on a discounted cashflow basis. As such, discount rates are required to calculate the net present cost of the PSC and the bids received at a single point in time, generally financial close.

This discounting process takes account of the time value of money and systematic risks transferred to the private party under the PPP.

Systematic risks are market wide risks that impact on all asset classes and are not specific to the project. General inflation being higher than expected is an example of systematic risk. Systematic risks are distinguished from project risks which are specific to the project or asset.

The National PPP Guidelines methodology provides a framework for determining discount rates based on the Capital Asset Pricing Model (CAPM). The CAPM recognises that investors seek a rate of return on an investment that compensates them for the systematic risks that they cannot eliminate by holding a diversified portfolio of investments. The more systematic risk an investor holds, the more expected return on investment the investor will require in exchange for taking that risk.

The National PPP Guidelines discount rate methodology is based upon the following principles:

- All (or nearly all) projects have systematic risk;
- Systematic risk will be borne by either the public sector, the private sector or shared;
- Only systematic risk is reflected in the discount rate (i.e. not project specific risk which is quantified separately);
- Where systematic risk is transferred in the Project, the discount rate used for the PSC and the discount rate used to evaluate Respondents' Proposals will differ according to the systematic risk borne by each party; and
- The extent of transfer of systematic risk may differ between Project Respondents, therefore requiring the calculation of Respondent specific discount rates.

Taking into account the systematic risk in each project, suitable discount rates for the PPP can be calculated as discussed below.

i. Project Discount Rate

The Project Discount Rate is calculated in accordance with the CAPM formula as outlined below:

$$R_a = R_f + \beta_a (R_m - R_f)$$

Where:

R_a is the Cost of Capital or Required Return on the asset whose risk class is designated by the Asset Beta or systematic risk;

R_f is the Risk-Free Rate;

β_a is the Asset Beta which reflects the degree of systematic risk affecting the asset, i.e. the extent to which returns on the asset are expected to vary with returns on the market; and

$(R_m - R_f)$ is the return over the Risk-Free Rate that investors would need or expect in order to invest in an asset. This is known as the Market Risk Premium. This is generally considered to be 6%.

The National PPP Guidelines provide a table detailing the 'Risk Band' to categorise project systematic risk into various categories and allocate a beta to them. A suitable beta may be found in this table in some instances but in many cases, especially where the type of project being procured is not represented in the table, an up to date market beta reflecting a similar portfolio of assets to the project should be used. The project's commercial advisor can provide this beta.

ii. Discount Rate to be Applied to the PSC

The PSC is costed on the basis of the State retaining all systematic risk (i.e. it is assumed that minimal or no systematic risk is transferred under the reference project procurement assumptions). Given that PSCs are generally prepared on a net cost basis, the PSC Discount Rate will generally be the Risk-Free Rate.

iii. Discount Rate to be Applied to Bids Received

Private sector bids incorporate a degree of systematic risk being transferred to the private party and therefore the discount rate applied to the bids received should reflect the value of that systematic risk transferred so that bids received can be compared to the PSC on a like-for-like basis.

To do this, an estimation is required of the degree of systematic risk transferred to the private party and that retained by government.

This calculation requires the application of judgement based on an analysis of the proposed risk allocation in the contractual arrangements associated with risks that are typically considered systematic risks (which are identified in the National PPP Guidance).

The range of potential discount rates to be applied to bid cashflows is illustrated in the following diagram:



In negotiating the contract, typically the public sector will transfer some of the systematic risk it holds under the PSC to the private sector.

This reduction in risk is to the benefit of the public sector and will come at a cost to the public sector, through a higher price in private sector proposals. As more systematic risk is transferred to the private sector, a higher discount rate is justified.

The relationship underpinning the various discount rates in the Guidelines are as follows:

- Where no systematic risk is transferred to the private sector, the discount rate to be used to calculate the NPC of Respondents' Proposals should be the Risk-Free Rate.
- If all the systematic risk is transferred to the private sector then the discount rate to be used to calculate the NPC of the Respondents' Proposals should be the Project Discount Rate.
- Where the systematic risk is shared between the public sector and the private sector, then the amount by which the Project Discount Rate exceeds the Risk-Free Rate, referred to as the Systematic Risk Premium, is allocated between the parties. The more systematic risk transferred to the private sector, the higher the discount rate should be to evaluate that option.

When evaluating Respondents' Proposals, where the risk allocation materially differs between Respondents it will be necessary to calculate separate Private Sector Discount Rates to account for the different levels of transferred systematic risk within the Proposals.

To determine the Private Bid Discount Rate for each bid, the degree of systematic risk assumed to be transferred under the proposed contractual arrangements is assessed.

This is undertaken by adopting the following steps:

1. Determine the Risk-Free Rate (the PSC Discount Rate)
2. Identify systematic risks applicable
3. Determine the Project Risk Premium by multiplying the Market Risk Premium by the Asset Beta related to the Project (the Project Beta).
4. Determine the share of the Project Risk Premium that applies to the Project based on the following approach:
 - (a) Weight each systematic risk. The weighting uses a five point scale (five being the most important) and is based on the qualitative assessment of the relative importance of each systematic risk. The weighting was assessed on a scale of one to five as follows:

Weight	Description
5	High importance based on significance/impact upon project cashflow, or returns
3	Medium importance based on significance/impact upon project cashflow, or returns
1	Low importance based on significance/impact upon project cashflow, or returns

- (b) Use the relative weighting of systematic risks to apportion the Project Risk Premium between each of the systematic risks.
- (c) Determine the proportion of the weighted systematic risk component that is transferred to the private sector party. The determination of the percentage transferred is based on qualitative assessment.
- (d) Multiply the weighted systematic risk component by the proportion of the risk transferred to the private sector party to determine the transferred proportion of the Project Risk Premium. Adding all of these amounts provides the share of total Project Risk Premium that is applicable to the determination of the Private Bid Discount Rate.

As noted in Section 6. 'Sensitivity Analysis' above, this document provides additional policy guidance in relation to the discount rates applied to PPP bids in Western Australia. In addition to discounting PPPs bid at the Project Discount Rate, the PPP bid should also be discounted at the PSC Discount Rate. The difference between the two calculations will indicate the net present value of the systematic risk adjustment.

iv. The Risk Free Rate

The risk free rate for Western Australian Projects is the Western Australian Treasury Corporation (WATC) 10 Year Term Bond Yield. This rate can be obtained from WATC via the Treasury PPP unit. For projects where there is no private finance, the average daily rate for the most recently completed three whole months as quoted on Bloomberg can be used at all stages.

Where the project involves private finance bidders generally quote a PPP financing cost margin to a market reference interest rate which is locked in at financial close. To ensure consistency between the bids and the PSC, the risk free rate used to calculate the PSC and Private Bid Discount Rates requires updating to reflect market movements over the procurement process.

The table below provides detail of what rate to use when the project involves private finance.

Stage	Discount rate to use
Preliminary Stage (up to and including release of RFP)	Average daily rate for the most recently completed three whole months. (WATC 10 Year Term Bond Yield as quoted on Bloomberg).
RFP and Evaluation Stage	<p>Where the RFP specifies a given date and time for bidders to quote their financing cost reference interest rate. (For example: The quoted reference rate at 10.15 am Eastern Standard Time one week prior to the submission of the proposal), the prevailing WATC 10 Year Term Bond Yield as quoted on Bloomberg at close of business on the same nominated business day should be used in the evaluation of the financial models.</p> <p>The RFP could also request sensitivity analysis of +/- 50 and 100 basis points around this rate.</p> <p>If there is a material change in market reference rates between the given date and the completion of the RFP phase, reference rates in the PSC and bids could be updated to reflect this change.</p>
Financial Close and for Value for Money Assessment	The PSC Discount Rate should be the prevailing WATC 10 Year Term Bond Yield as quoted on Bloomberg at close of business on the same day as the Financial Close.

v. Discount Rates for Economic Infrastructure

The discount rates described above are applicable to social infrastructure PPPs. This approach is applied differently for economic infrastructure PPPs.

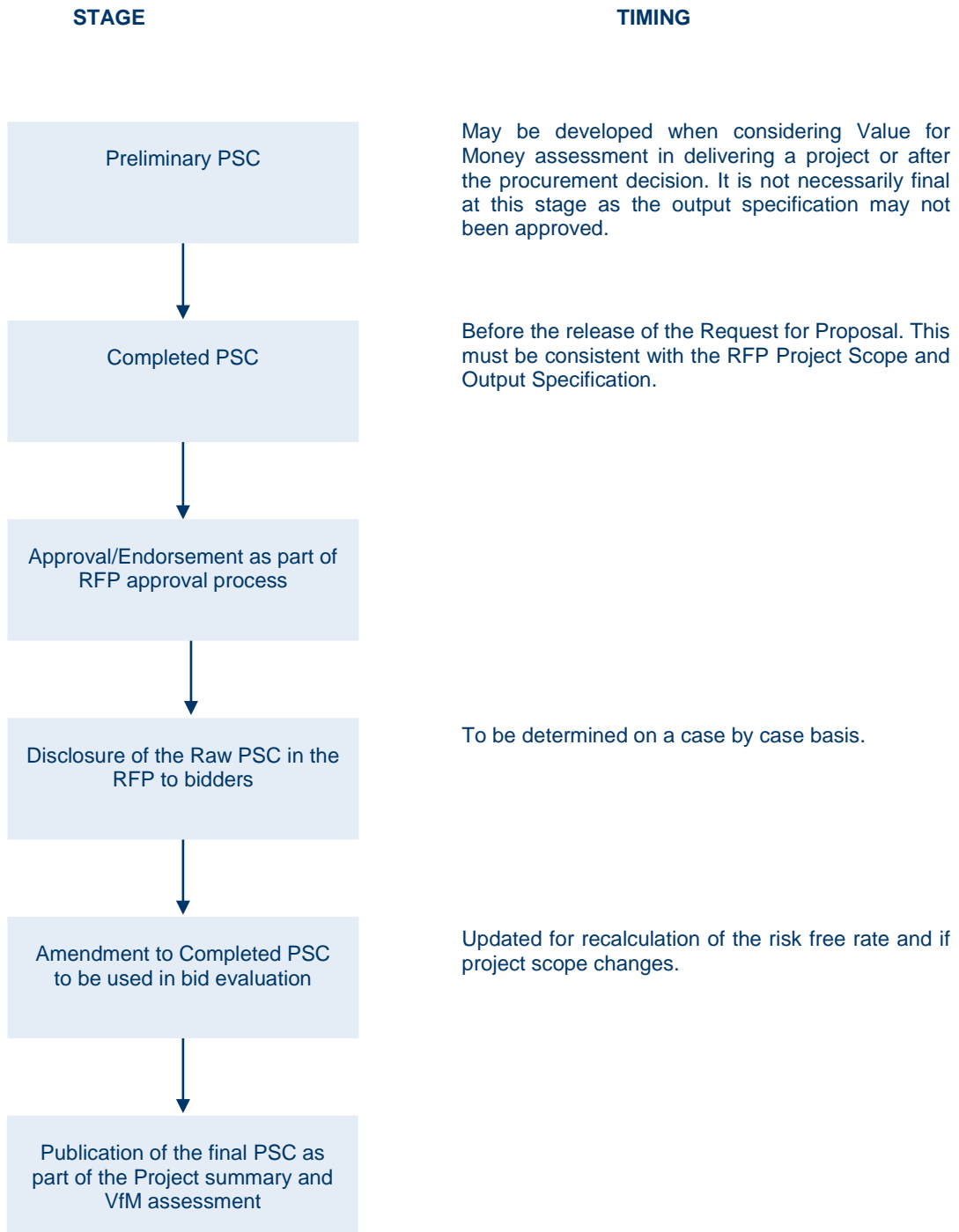
Economic infrastructure PPPs are projects where the private party bears market (demand) risk and revenues are often derived from the third party users of the infrastructure such as toll roads and hospital car parks.

In economic infrastructure, the reference project involves the State building the asset and collecting the revenue. The State is subject to systematic risks on this revenue. On the other hand, if the project is delivered as a PPP, the private party generally takes all or most of the systematic risk and the risks of any cashflows back to government are generally not subject to systematic risk.

Therefore, in order to account for systematic risks (e.g. general demand being lower than expected in cashflows):

- The PSC should be discounted at a systematic risk adjusted rate (calculated as per the CAPM method above); and
- Any cashflows to government under the PPP should be discounted at the risk free rate.

8. PSC Timeline



9. PSC Disclosure and Finalisation

i. Disclosure

The PSC may be disclosed during the bid process and after financial close.

When and to whom	Detail of Disclosure
RFP stage to bidders	Generally the total capital and recurrent elements of the PSC (the 'raw' PSC) will be disclosed unless there are justifiable project specific reasons for non-disclosure.
Post financial close as part of the public Project Summary	The Risk Adjusted PSC (Net Present Cost), excluding retained risk, together with the key assumptions (financial and operating) may be disclosed, following assessment on a project-by-project basis, as part of the value for money comparison in the project summary published post contract execution.

ii. Refining the PSC during the RFP Phase

The PSC should be completed before RFP release, apart from updating the PSC for recalculation of the Discount Rate. The PSC generally should be refined only after release of the RFP if the scope of the project changes or it becomes apparent that a significant component has been mispriced or omitted. If a RFP response demonstrates a more efficient delivery method than that identified by the project team in constructing the PSC, the PSC should not be changed to reflect the alternative delivery method. Re-approval will be required for any major amendments to the approved PSC after the RFP process begins.

Appendix A

In preparing the PSC the escalation rate forecast sources listed below should be the starting point for determining appropriate escalation rates to be used in a PSC.

Escalation	Source
General Inflation	State Budget Consumer Price Index (CPI) forecasts for Perth. Published in the State Budget and Mid Year financial projections, which are available on the Treasury Website.
Construction Costs	For construction cost escalations, the applicable index is the Treasury non residential escalation forecast. Construction cost escalation rates can be provided by the Infrastructure Planning and Policy area of Treasury via the PPP Unit.
Labour Costs	State Budget Wage Price Index (WPI). Published in the State Budget and Mid Year financial projections, which are available on the Treasury Website
Electricity	Line agency and Treasury to determine appropriate tariff and tariff escalation rate in consultation with utility provider.
Water	Line agency and Treasury to determine appropriate tariff and tariff escalation rate in consultation with utility provider.
WA Government Bond Yield	The Western Australian Treasury Corporation (WATC) Ten Year Term Bond Yield. The prevailing rate is available from WATC via the Treasury PPP Unit.

