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1 Determination of the Weighted Average Cost of Capital

1.1 Background

A key factor in completing the route option financial analysis from a purely commercial viewpoint was the choice of evaluation discount rate. As noted in chapter 8: *Financial and Economic Analysis*, the appropriate class of measure is a Weighted Average Cost of Capital (WACC) measure. A WACC is usually expressed as follows:

$$D_r * (1 - EQ) + E_r * EQ$$

Where: D_r = the appropriate return for debt funding invested

E_r = the appropriate rate for equity funding invested

EQ = the proportion of funding invested as equity

WACC values can be quoted on a pre or after tax basis, and the Study Team has noted that corporate WACC values are calculated on the assumptions of stable long-term gearing and constant taxation incidence. WACC values for standalone projects are adjusted for the variable gearing and taxation patterns that accompany these projects.

The WACC value selected for the financial and economic assessments under the Study represents an estimate of the capital structure and pricing that an arm's length investor could expect to receive based on a market view of the risk/return profile of a particular investment opportunity. For this project the Study Team's aim was twofold; to:

- Form a view as to who would be the natural investors in this type of project; and
- Compare the risk/profile of this project to their current portfolios and estimate the WACC they would apply.

1.2 The Natural Investors

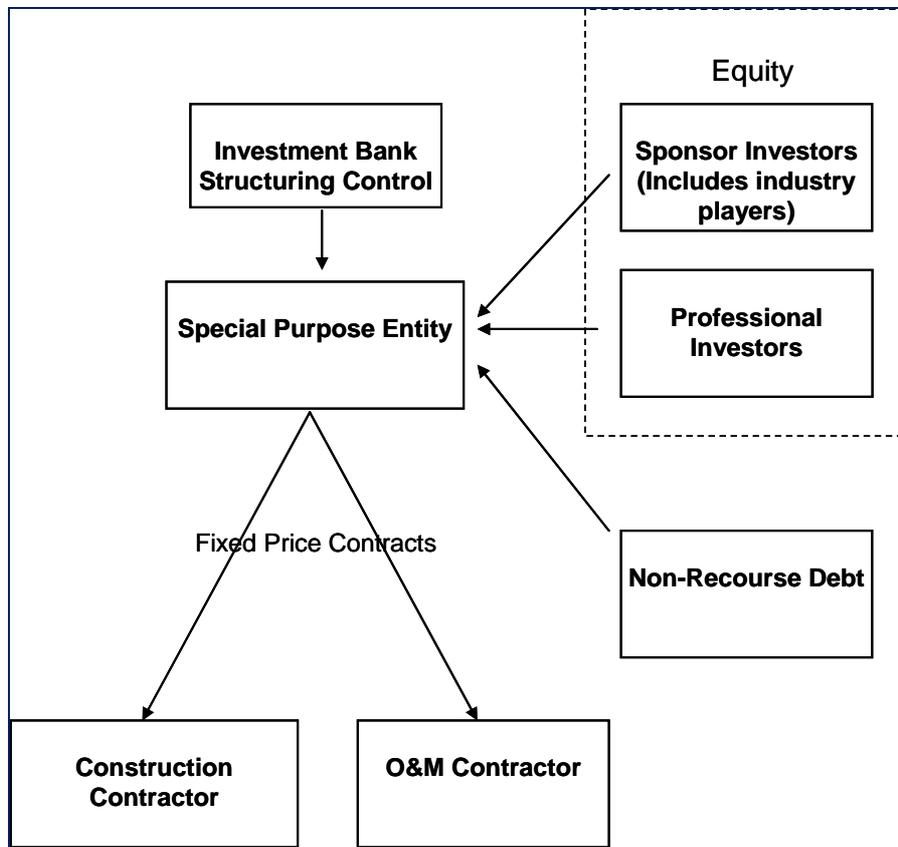
For any significant infrastructure investment opportunity there are two key classes of investors that drive the WACC required:

- Industry players who are looking to create integration or control synergies out of the investment; and
- Professional investors such as the investment bank controlled funds that view infrastructure as a separate asset class with attractive long term attributes.

After consultation with the Steering Committee, which expressed a strong view that there was clear separation in above and below rail investment decisions, and that the regulated nature of below track services and high elasticity of modal transport service demand mitigated against a pure industry investment play, it was decided that, like a number of recent transport projects, the more likely investment model would be an investment bank sponsored approach. This model can be represented as shown in Figure 1.



Figure 1 – Investment Model (Bank Sponsored Approach)



The key features of this model with respect to estimating the WACC are as follows:

- This structure is usually implemented with respect to a competitive tender process with the bid controlled by an investment bank remunerated largely by success fees;
- Institutional investors have identified significant unmet demand for long-term single asset cash flows;
- Australia has a large sophisticated debt market with significant understanding of the risk structure of transport infrastructure projects; and
- The professional investor class will be likely to include an Initial Public Offering (“IPO”) to retail investors.

The net historical effect of these elements has been to drive down WACCs required for infrastructure investment. A clear example is in the toll road market; project based WACCs for this sector have steadily decreased since the initial CityLink transaction.

On the basis of the Steering Committee feedback, the Study Team formed the belief that the Professional Investor sponsored model was an appropriate basis for deriving a benchmark WACC. The Study Team also noted that below rail investment has historically earned returns below those achieved by other key transport infrastructure assets.



1.3 Estimating the WACC

The Study Team further noted that standalone project basis WACC values are not generally available until released by public inquiry mechanisms. The Study Team has reviewed the material that is available in the public domain as well as internal data for transport projects with material patronage risk and has noted:

- Capital structure limits result from debt lenders taking appropriately conservative views on the future patronage projections; and
- Equity return values are driven by market perception of the initial construction and ramp-up risk and the potential for future profits on sell down of equity when the project is operating successfully.

The Study Team formed the view that the gearing pattern would be similar to that achieved in recent toll road transactions. In respect of the level of equity return, the Study Team has considered below differences in key risk elements between the North-South Rail Corridor and recent toll road transactions as shown in Table 1, below.

Table 1 – Risk Element Comparison between toll roads and a North-South Rail Corridor

Risk Element	Toll Road Exposure	The Corridor Rail Exposure
Toll Setting	Maximum real toll usually proscribed- toll can be indexed. Consortium can set toll lower than the maximum if demand elasticity is high.	Regulated pricing regime likely. Current uncertainty on form of price setting and policy interactions between state and federal governments.
Patronage Risk	Consortium fully exposed – however project is usually part of a larger traffic plan which optimises flow to the toll road. Competitive alternatives unlikely to be viable.	Consortium fully exposed. Unlikely to be any significant policy type mitigations. Substantial existing competitive alternatives exist – highly elastic demand likely.
Construction Risk	Mitigated by fixed price and time contracts backed by solid parent guarantees.	Mitigated by fixed price and time contracts backed by solid parent guarantees.
Operations & Maintenance Risks	Fully exposed – consortia have a legal obligation to keep the toll road operating no matter what the financial impact. Mitigated by choice of toll road operator.	Similar exposure and mitigations expected.
Other Regulatory Risks	Unlikely to impact operating toll road transactions.	Changes across state and federal spheres likely but financial impact on infrastructure providers is difficult to assess.

There will always be uncertainty over future policy directions that will influence the relative attractiveness of rail freight services compared to alternatives and whether any policy changes implemented will have a material effect.

The Study Team was very aware that projecting the WACC this far ahead of a project with such structural uncertainty is fraught with difficulty and thus the Study Team applied a wide range in performing sensitivity analysis. On balance, the Study Team came to the view that any north – south rail project envisaged by the Study would currently be viewed as substantially more risky than comparable toll road transactions.



1.4 Summary View

In consequence of these factors, the Study Team used a range of 10%-15 % with a most likely value of 12.5% for the nominal pre-tax project WACC to apply to the financial analysis undertaken for the Study.

North-South Rail Corridor Study – Detailed Study Report

Commissioned by the Department of Transport and Regional Services.



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