Australian Government

Infrastructure Australia

Outline of *Infrastructure Australia's* Prioritisation Methodology

Appendix F M4 Extension Project (Both Stage 1 and Stage2)

Appendix F – Further inputs for Initiative Selection

Part A - Overview

Title of Initiative – M4 EXTENSION

Summary of Initiative –

Stage 1 of the preferred option for the M4 Extension comprises the following:

- widening of the existing M4 Motorway from west of Church Street at Merrylands to Concord Road at North Strathfield from three to four lanes each way; and
- construction of two uni-directional three lane capacity motorway tunnels (approximately 8.5km in length) with a design and signposted speed of 80 km/hr tunnel from North Strathfield to Parramatta Road at Broadway. Ramp connections would be provided from the motorway tunnels to:
    - Parramatta Road, Haberfield (bus only);
    - City West Link Road at Rozelle to provide access to the ANZAC bridge; and
    - Parramatta Road at Glebe and Broadway and Abercrombie Street at Chippendale.

Stage 2 of the preferred option for the M4 Extension comprises the following:

- construction of two uni-directional three lane capacity motorway tunnels (approximately 3km in length) with a design and signposted speed of 80 km/hr from Parramatta Road in Camperdown to just south of Campbell Road at St Peters;
- one or more road transport links would be constructed from just south of Campbell Road, St Peters to the arterial road network around Sydney Airport; and
- construction of two uni-directional two lane capacity northern motorway tunnels (approximately 4km in length) with a design and signposted speed of 80 km/hr connecting Victoria Road near the Gladesville Bridge to the main M4 Motorway tunnel in the Leichhardt area.

Part B – Response

Complete the following table. In doing so, ensure that all sources of data and information are adequately referenced

Item	*Response*
Deliverability including;	

Readiness,	Considerable planning, preliminary design and feasibility study work has been completed for the project. The environmental assessment process for the project could commence in February/March, 2009. The estimated cost to further develop the project in 2009/10 is up to $20M for project development costs, excluding land acquisition costs. The completion of development work in 2009/10 will progress the project to the stage where the procurement process could be commenced.
Complexity (Delivery)	Both stages of the project may be delivered as a PPP, with a government contribution. Examples of projects with similar technical, procurement and construction challenges that have been delivered successfully, include: • Eastern distributor; • Cross City tunnel • Lane Cove tunnel; Stage One of the project would be in financial terms, the largest road transport project ever constructed in Australia. It is of a similar scale to the Brisbane AirportLink project, and is therefore considered within the capability of the Australian construction industry.
Feasibility (Technical)	Considerable design and constructability feasibility work has been completed to assess the project as technically feasible. Refer to the draft Preliminary Project Definition Report for the full project.
Affordability (ownership structure, funding sources)	This project could be delivered as a PPP with a substantial government contribution. Alternatively Government could choose to fund it 100%. Financial analysis for a range of project scope options has been undertaken to assess the government contribution required for various tolling arrangements, with and without private sector financing. The outcomes of this analysis for the following three options is considered relevant: • The full M4 Extension project scope without staging; • Stage 1; and • Stage 1 and Stage 2, that is, the full project scope but constructed in a staged sequence. For the purposes of the analysis, it was assumed that construction of the Stage 2 project would commence five years after the Stage 1 project was opened to traffic. In view of the high capital cost for the project, primarily due to the high cost of large scale tunnelling, a significant government contribution is required in all cases where a tolled PPP delivery has been considered.

There are a number of issues that require consideration when assessing a motorway project's suitability for the imposition of a toll. Three significant financial issues for this project are:

- The proposed M4 Extension connects with the existing Lapstone (near Penrith) to North Strathfield M4 corridor. The existing M4 tolling arrangement is currently managed under concession until 2010. The existing toll road also has a cashback scheme whereby private users of the toll road are reimbursed their tolls via a claims system. The current stated NSW Government policy is to remove the toll at the completion of the concession. The M4 Extension project includes the widening of the existing M4 from west of Church Street at Merrylands to Concord Road at North Strathfield generally from three to four lanes each way. Whilst, no decision has been made on whether this section of the upgraded M4 will be tolled, the financial analysis for the project has been undertaken on the assumption that it will be tolled. The contribution to project revenue from tolls for the widened M4 from Merrylands to North Strathfield is substantial, representing approximately half of the toll revenue to be collected for the full scope project. It has also been assumed that no cashback scheme would be reintroduced.

- Principal sections of the freight routes between Western Sydney and the Port and the Airport include the M5/M5East and M4. The M5 East is currently not tolled. If a toll was to be imposed on the M4 and M4 Extension for heavy vehicles, it is likely that a significant proportion of heavy vehicles travelling either to or from the Port or Airport would take an alternative route comprising the M4, Centenary Drive, Roberts Road, King Georges Road and the M5 East. A toll on the M5 East would be necessary for heavy vehicles to bring into balance the relative costs of the two routes. This truck toll on the M5East has been assumed in the financial model.

- The net toll revenue of the Sydney Orbital motorway network is estimated to be $875m (after cashback). Further analysis of the toll rates is discussed below.

PPP Financial Model

Acceptability (public/ government/industry)	In relation to Federal Government acceptance, the project was identified in the Auslink strategy document, "*Sydney Urban Corridor Strategy*", (2007) as a short term strategic priority. The project forms part of a number of state strategies and policies. Refer appendix C. The private sector has indicated strong interest in the project. It is anticipated that there would be broad user support for this project as is the case for other links in Sydney's motorway network. The imposition of a toll may discourage some potential users of the motorway who do not perceive that the travel time saving to equal or exceed the cost of the toll. The extent of toll avoidance is directly related to the cost and convenience of alternative routes. Community consultation was previously undertaken in 2003 on potential route options for the M4 East, which include part of the proposed stage 1 of the M4 Extension. Across the consultation area, there was particular interest in the environmental aspects of the project, including the real and perceived aspects of air quality, heritage and traffic impacts. A comprehensive community consultation and stakeholder engagement strategy will be prepared and implemented for the project as part of the further development of the project, and environmental assessment.
Staging	A staging feasibility study is in progress. If staged, the preliminary preferred staging solution for the project comprises two stages, as described elsewhere in Appendix C. The staging scenarios evaluated have assumed that construction of Stage 2 would commence 5 years after completion of Stage 1.
Governance model	NSW, through RTA, has delivered eight significant road infrastructure projects, through PPP procurement agreements over the past 20 years. This achievement demonstrates a proven capability, contractual maturity and experience which will be critical to the successful governance of this initiative if PPP finance is to be used. It should be noted that PPP delivery policies in NSW are constantly being reviewed and improved to incorporate lessons learned on previous projects and in response to construction industry feedback, public submissions and current financial market conditions.

	The overall governance model for the project would be developed in accordance with NSW "Working with Government Guidelines for Private Financed Projects", and Infrastructure Australia requirements for PPPs.
Timing	Indicative Timings for the delivery of the M4 Extension are as follows:

Finalise and exhibit MoT Discussion Paper:	February 2009
Part 3A Declaration and Concept application:	March 2009
BCC approval to call for expressions of interest:	September 2009
Invite detailed proposals:	May 2010
Announcement of a preferred consortium:	2011
Financial close:	2012
Commence work:	2012
Open the project to traffic:	2016

	If staged, Stage 1 would follow a similar timeframe to that described above for the entire project. The construction duration for stage two is estimated to be approximately three years.
Packaging	The M4 Extension project is being planned in conjunction with the: • M5 Transport Expansion feasibility study; • West Metro project; • Victoria Road upgrade. The initiative is cognisant of the completion of the expansion of Port Botany and the implementation of the Sydney Airport Master Plan. Significant future land use developments, include: • Cooks Cove development at Arncliffe; • Green Square urban renewal area;

- Western Sydney employment hub at the M4/M7 interchange.

In relation to rail infrastructure, Sydney's inner west and south west are serviced by a total of five rail passenger rail lines. These are the Western Line, South Line, Inner West Line, East Hills/Airport Line and the Bankstown Line. The rail infrastructure between Strathfield and Redfern is the most heavily used part of the network, as trains are required to service both local (stopping) and regional (express) movements.

Since the early 1990s, the network has been improved with new stations on the Airport Line (Green Square, Mascot, Domestic and International), the extension of the East Hills Line to Campbelltown and the quadruplication of the East Hills Line between Turrella and Revesby. Approximately 60 per cent of morning rail trips across the metropolitan area travel to or through the Sydney CBD.

A dedicated rail freight line exists between Port Botany and Enfield/Chullora, a distance of approximately 18 kilometres. There is also a freight line extension to the south west from Chullora to Sefton Junction (about 2.5 kilometres). From Sefton Junction to Macarthur, freight trains traverse and share the passenger network on the Main South Line. The Australian Rail Track Corporation received planning approval in December 2006 to provide a freight line along the existing rail corridor between Sefton Junction and Macarthur known as the Southern Sydney Freight Line proposal. This project is expected to be completed by 2010 (Sydney Ports website 2008).

A further freight line extension to the north runs from Chullora to Flemington Junction, Strathfield and North Strathfield (about five kilometres), where freight trains then use the passenger network on the Main North Line to Hornsby via Epping. Freight trains travelling from Enfield/Chullora to Sydney's west share the passenger rail network on the Main West Line from Lidcombe to Penrith. Along the metropolitan rail corridors where freight trains share the network with passenger trains, priority is given to passenger services. As a result, the capacity and reliability of the metropolitan rail network for freight movements is severely constrained from the start of the weekday morning peak to the end of the evening peak. This places a considerable constraint on the capacity and reliability of the freight rail service in the Sydney metropolitan area.

Currently, the majority of passenger rail services operating on the rail network from Parramatta to the City Circle are operating over capacity during the AM peak period. It is the most congested part of the rail network as it caters for long-distance commuters from Sydney's outer west, and east of Strathfield from the Central Coast, as well as passengers joining the line from suburbs in the southern and inner west. The load factor between Parramatta and the CBD is over 120 per cent for the significant majority of its length on many AM peak trains.

The Chatswood to Epping Line, which includes 12.5 kilometres of twin rail tunnels, will provide some relief to passenger loads on both the Northern Line and the Western Line. The new line will increase the long-term capacity of the network by providing an alternative path to Sydney's CBD from the north. This will free up some capacity on

[redacted]	the Western line east of Strathfield enabling an additional 18,000 passengers to travel on the Western Line each day. While this additional capacity will provide for existing passenger loads it is anticipated that it would not be sufficient to accommodate future population and employment growth in the corridor spanning from Parramatta to the CBD.