

PART D

SCOPE OF SERVICES

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D1. PURPOSE OF BRIEF

The Contractor shall conduct a feasibility study into a proposal for the Hunter Region to modify heavy diesel carriages to use as light rail between Newcastle and Hamilton and investigate electrification of the rail line to Warabrook.

D2. BACKGROUND

With the redevelopment of the foreshore along Newcastle Harbour – the Honeysuckle Development – Newcastle city is changing, with the city expanding towards the waterfront of Newcastle harbour. The railway currently impedes the movement of pedestrians and traffic between the established areas of Newcastle city and the redeveloped areas along the foreshore, with limited opportunities and locations for crossing the railway line. On 21 February 2006, following a report by the Hunter Transport Task Force, the Premier of New South Wales announced the Government's decision to maintain rail services to Newcastle, with specific commitments including:

- (a) \$18.5 million to upgrade the Newcastle rail corridor to improve access and amenity – or “permeability” – between the city and the foreshore; and
- (b) investigate a proposal originally proposed by the Hunter Business Chamber to:
 - modify heavy diesel carriages to use as light rail between Hamilton and Newcastle allowing the removal of heavy rail infrastructure from the line; and
 - electrify the rail line to Warabrook (Newcastle University).

Works to upgrade the corridor include:

- Improvements to level crossings to reduce waiting times for motorists and pedestrians;
- Platform works to reduce the need for trains to queue across crossings; and
- Reducing the number of non-passenger train movements required on the line.

A package of measures have been developed and are currently being implemented under the management of a NSW Government Working Group comprising RailCorp, Roads and Traffic Authority (RTA), Transport Infrastructure Development Corporation (TIDC), Honeysuckle Development Corporation, Ministry of Transport and the Premier's Department Infrastructure Implementation Group.

Alongside its commitment to the expenditure of \$18.5 million on immediate corridor improvements the Government allocated funds to assess the

feasibility of a proposal submitted to the Hunter Transport Task Force by the Hunter Business Chamber to further improve corridor “permeability”. A copy of the Hunter Business Chamber proposal will be provided.

A portion of this funding has been allocated to undertaking this feasibility study which is to include consideration of the following:

- (i) the construction of a terminus at Warabrook;
- (ii) modification of the new diesel Hunter Cars to incorporate braking systems for a Modified Light Rail system;
- (iii) a change in the timetabled services from Sydney; and
- (iv) other opportunities to further improve permeability of the rail corridor.

D3. PROJECT DETAILS

D3.1 Objectives

The project objective is to investigate both the technical feasibility and also the desirability as a transport outcome for the Hunter region of the proposal as described.

To meet this objective the feasibility study will investigate the electrification of the rail line to Warabrook, including the construction of a terminus at Warabrook. The study will also assess the feasibility and operational impacts of the modification of the 14 new diesel Hunter Cars to incorporate track braking systems for a modified light rail system . It will also assess the required changes in the timetabled services and any associated impacts on the network timetable.

During the course of the feasibility study, other opportunities which may achieve equal or improved outcomes (in terms of improving permeability across the rail corridor) should be documented for consideration by the Project Review Group.

D4. CONTEXT AND CONSIDERATIONS

In undertaking the feasibility study the following considerations will need to be taken into account by the Contractor.

D4.1 Current Operations

Various heavy rail train services currently operate on the Main Northern Line and Newcastle Branch Line in the Hunter and Newcastle area. These can be summarised as:

- (a) Intercity services between Sydney and Newcastle (electric);
- (b) Hunter services between Maitland, Telarah, Scone (and other locations) and Newcastle (diesel);
- (c) Explorer services (diesel); and
- (d) Local services between Morisset and Newcastle (electric).

Currently, all of these services terminate at Newcastle, taking passengers to this terminus without any requirement for interchange.

D4.2 Proposed Train Operations – Electrification of the Line to Warabrook

The proposed operational plan is to terminate electric train services (Intercity and Local Services) from Sydney and Morisset at Warabrook instead of Newcastle. This would require an interchange onto Hunter services for passengers at Waratah (or Warabrook).

The cessation of electric train services as proposed would permit the removal of the overhead wiring along the Newcastle Branch Line, thereby removing a significant visual barrier between the established areas of Newcastle city and the foreshore. Furthermore, the reduction in the total number of train movements would result. It should be noted that diesel train services would continue to operate into and terminate at Newcastle from the Hunter Line.

D4.3 Other possible Train Operations

The proposal to electrify the line at Warabrook requires all persons on electric services to interchange onto diesel services at Waratah (or Warabrook). This could be of particular concern to those passengers using the local electric services from Morisset to Newcastle, as well as those passengers using the intercity electric services between Sydney (and the Central Coast) and Newcastle, because of the extra travel (journey) time.

Other possible train operations include the replacement of local electric services (between Morisset and Newcastle) with diesel services (similar to or the same as the Hunter Cars), so as to create a specific Hunter/Newcastle service. This alternative:

- (a) would not require passengers using the local services from Morisset to Newcastle to changing trains; and
- (b) would require intercity passengers to interchange at Broadmeadow or other stations to the south instead of at Waratah (or Warabrook);
- (c) would reduce the need for a Warabrook terminus, as intercity electric services could be terminated at Broadmeadow.

D4.4 Proposed Modification of Hunter Cars

The modification of the 14 new diesel Hunter Cars to rolling stock which could have similar braking capabilities and characteristics to those of a light rail vehicle could possibly allow either the removal or reduction of the extent of the current security and fencing of the rail corridor. This proposal can only be implemented with the cessation of electric services into Newcastle. Presently, those passengers travelling from locations along the Main Northern Line to locations along the

Newcastle Branch Line do not have to interchange. This proposal would require passengers to interchange at Waratah (or Warabrook). Safety implications of the modified diesel cars will need to be thoroughly evaluated.

D5. KEY TASKS

The key tasks for the Contractor shall be, but not limited to the following for the success for the study.

D5.1 Framework

- (a) develop a framework for the feasibility study, confirming and identifying the key tasks and elements (including other studies) required to undertake the assessment of options;
- (b) provide a broad transport task overview, highlighting the key corridors for passenger travel into Newcastle by rail and the key movements by other modes as they relate to the rail corridor (this will include passenger volumes, vehicle volumes etc., and expected changes in the future);

D5.2 Warabrook Terminus and Electrification of the Line to Warabrook

- (a) undertake an operations analysis of train services, establishing requirements for crew, rolling stock and other resources, and changes from current levels;
- (b) development of a preliminary timetable which allows the operation of train services as intended, including an assessment of the potential conflicts between freight and other passenger services;
- (c) determine the planning requirements and infrastructure requirements (terminating facilities, stabling sidings, decanting facilities, platforms, overhead wiring, signalling, turnouts and track, etc.);
- (d) assess the implications on road and rail users and other land use and transport planning matters (such as interchange penalties);

D5.3 Modified Light Rail

- (a) assessment of replacing the local electric services with diesel services, with information on the number of additional diesel train cars, costs, and other operational matters required for this type of operation;
- (b) examination of the operational feasibility of the track brakes on the 14 new diesel Hunter Cars and a reassessment of current tasks and issues in points (b) to (f) in light of any operations performance improvements or deterioration that the system may provide, including changes to the braking characteristics and use thereof (including an assessment of the Independent

Transport Safety and Reliability Regulator requirements for operation of a modified light rail system);

D5.4 Costs

- (a) Determine the estimate of costs for the terminus, construction of the overhead wiring from Broadmeadow to Warabrook, removal of the overhead wiring from Broadmeadow to Newcastle, costs of track brakes and modifications to new diesel Hunter cars and scoping of the new infrastructure requirements and estimate of costs to operate the modified light rail system along the Newcastle Branch Line;
- (b) identify maintenance implications and life cycle issues.

D5.5 DELIVERABLES

A report which addresses all of the above key tasks, which outlines the benefits and costs of the proposal, and which draws clear conclusions regarding the feasibility of the proposal.

D6. PARTICULARS OF THE STUDY

Ideally, this study will be led by a train operations consultant with a team of multi-disciplinary professionals in rail and transport.

The Project will be managed through a Project Review Group (PRG).

Officers from Railcorp, Ministry of Transport and the Premier's Department (Infrastructure Implementation Group) will support the Project Review Group.

The following meetings either with the Project Review Group or the relevant officers will be required:

- (a) Inception Meeting – introduction to the project and the objectives including discussion on objectives, particular issues and other related matters;
- (b) Framework Presentation – presentation of the framework of the study including how elements will be incorporated into the overall study;
- (c) Progress Meeting – discussion on the progress of the report and clarification of issues; and
- (d) Final Meeting – tabling of draft report, clarifications and other matters regarding finalisation of the report.
- (e) Other meetings as requested by the PRG or relevant officers.

RailCorp will provide administrative support for this project, working under the direction of the Project Review Group. It is anticipated the consultant will be required to formally brief the PRG at key milestones. The consultant should anticipate the need for further meetings to clarify issues with the PRG as these issues arise from time to time. A key

role of the PRG will be to facilitate the provision of access to documentation and Government information to inform the study.

A timetable for completion of the study will be developed in consultation with relevant officers. It is anticipated that this timetable will require delivery of final report within 26 weeks of appointment of consultant (excluding 2 weeks over the Christmas and New Year Period).

The PRG envisage that the final report will outline the benefits and costs of the option to electrify the line to Warabrook and will make it available for public comment. Once the comments period is closed the feasibility study and a detailed summary of the comments will be submitted to Government for consideration.

D7. SEPARABLE PARTS

(i) STAGE 1 (Separable Part 1)

Contractor to provide Framework of study (clause D5.1(a)), including broad transport task overview (clause D5.1(b)), and the Framework presentation; and

(iii) STAGE 2 (Separable Part 2)

Completion of study incorporating other elements identified in the framework completed in Stage 1 above.

Note: *Separable Parts 1 and 2 are separate & independent. It is up to the sole discretion of RailCrop whether to avail Separable Part 2 after completion of Separable Part1 by the Contractor.*

Separable Part 2 is conditional upon successful completion of Separable Part 1.