GENERAL PURPOSE STANDING COMMITTEE NO. 3
INQUIRY INTO RAIL INFRASTRUCTURE PROJECT COSTING IN NSW
6 December 2011

Supplementary Questions on Notice –

2.
(a) Will the Department of Transport outline what are the unresolved design issues relating to the Greenway and Inner West Light Rail Extension?

(b) What are the time frames involved for the completion of the light rail and commencement of the Greenway?

(c) Can you provide a history of the cost estimates for this project including the current total cost estimate for each of the Greenway and Light Rail extension and itemising components that cost $5m or more?

Response

(a) The unresolved design issues on the Greenway and Inner West Light Rail Extension relate to the complexities of constructing the GreenWay including:

- excavating through five existing road bridge abutments, while keeping the roads operational. Due to the age of the bridges and the fact that they are operational, this makes the nature of the works more complex, requiring staging and temporary works to ensure safety and minimal disruption to the existing road systems.
- building retaining structures in rock cuttings in narrow sections of the corridor. Cutting into rock faces and soil embankments requires detailed engineering modelling and stabilisation works to ensure long term safety.
- building elevated support structures in a number of locations.
- relocating a large proportion of the high voltage overhead power lines that currently run through the corridor.

(b) The Inner West Light Rail Extension is anticipated to be operational in early 2014.

Construction of the shared pedestrian/cycle path component of the GreenWay has been deferred and will be reassessed as part of a broader integrated transport plan for Sydney that includes cross-regional cycleways.

(c) It is important to note that the current estimate was developed by Metro Transport Sydney (MTS), the private operator of the existing light rail. There is an existing agreement between the Government and MTS. This agreement gives MTS the right to develop any further extensions

to the light rail network and the Government is working within the terms of that agreement. As the estimate has been developed by MTS, it is considered Commercial in Confidence and Transport for NSW is not in a position to release a cost breakdown.

_____ Date: 27/1/12

Chris Lock, Deputy Director General, Transport Projects Division
Transport for New South Wales

GENERAL PURPOSE STANDING COMMITTEE NO. 3
INQUIRY INTO RAIL INFRASTRUCTURE PROJECT COSTING IN NSW
6 December 2011

Supplementary Questions on Notice –

3. Can you outline what plans your department has to review and improve the methodology and process that has been used for the estimation of contingency costs for rail projects?

Response

Transport for NSW continually takes actions to improve its processes, procedures and expertise and to seek opportunities to enhance project delivery. Transport Projects Division (TPD) has undertaken a number of actions to improve estimation of contingency for rail projects, including:

- Development of a cost estimating standard: Cost estimating currently undertaken by TPD substantially follows the 2008 Best Practice Standard for publicly funded road and rail construction. TPD is currently working to improve the definition of parameters for cost estimating, including assessments of contingency, which can be tailored for TPD projects.
- Establishment of a cost data library: TPD has recently established a database to archive historic project cost data. This enables TPD to compare estimated contingency and actual cost at project completion. Relevant cost data is obtained and archived throughout project phases. Access to historic cost data across projects will assist our understanding of appropriate contingency levels and improves accuracy of contingency allocations in cost estimates.
- Development of cost models: TPD is currently developing cost models for each type of project that it delivers. Such models would identify the cost impact of project variables and various project delivery options, including contingency.
- Reviews of cost breakdown structures: through ongoing reviews, TPD continually improves its work breakdown structures and associated cost breakdown structures. This process improves contingency definition and ability to monitor any changes to contingency allocation throughout the project lifecycle. It also ensures consistency in application of cost structures across projects.
- Strengthening in-house expertise: TPD has engaged an experienced cost planner to design best practice estimating systems and methodologies that are tailored to TPD projects. These systems will enable contingency allocation in relation to the risks that are project-specific. Additionally, TPD is currently recruiting an experienced cost

estimator to review and monitor estimates undertaken by external consultants. TPD has also engaged Palisade Corporation, developers of the @Risk software, to train existing staff in risk assessment in contingency allocations.

_____ Date: 27/1/12

Chris Lock, Deputy Director General, Transport Projects Division
Transport for New South Wales

GENERAL PURPOSE STANDING COMMITTEE NO. 3
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6 December 2011

Supplementary Questions on Notice –

4. Can you outline what steps your department is taking to work with other states and the federal government to achieve nationally consistent regulations for specifications used on projects relating to railways?

Response

Transport for NSW maintains ongoing relationships with a variety of state, federal and industry infrastructure bodies. Through these contacts, best practices and emerging practices are shared across a broad range of disciplines including safety, environment and engineering. These formal and informal contacts encourage best practice and consistency between infrastructure bodies.

Transport Projects Division (TPD) is involved in a number of working groups or committees with other infrastructure agencies and industry organisations. For example, the Division is involved in the Railway Industry Safety and Standards Board (RISSB), which is responsible for developing National Standards and Codes of Practice for Infrastructure and Rolling Stock, among other endeavours. This initiative alone is likely to be the biggest driver of consistency in specification.

TPD senior staff maintain good networks with relevant bodies in all states. For example, there has been interaction between the TPD Engineering team and representatives in Queensland to consider the design review, acceptance and assurance process used on Queensland Rail projects. Further, TPD staff were recently involved in an independent review of a Perth rail project, providing advice on construction proposals, cost estimates and programming.

TPD is also a member of the Australasian Railways Association (ARA) Rail Contractors Group, which works in partnership with infrastructure authorities across Australia to provide input to the policy environment within which rail contractors operate.

Informal exchange of information also takes place through TPD's active involvement in various rail conferences, such as Ausrail, CORE (the biannual Conference On Railway Engineering, sponsored by Engineers Australia) and the Permanent Way Institution. TPD sends delegates to all such conferences, and frequently submits papers and presents to conference attendees.

Date: 27/1/12

Chris Lock, Deputy Director General, Transport Projects Division
Transport for New South Wales

GENERAL PURPOSE STANDING COMMITTEE NO. 3
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6 December 2011

Supplementary Questions on Notice –

5. Can you outline what plans your department has to containerise grain for transport by rail in order to achieve cost savings both in the actual transport and in reduced congestion on roads?

Response

Transport for NSW strongly supports the movement of freight by rail, including both bulk and containerised grain, where appropriate. Transport for NSW is currently preparing a draft Freight Strategy, which will examine supply chain inefficiencies and potential remedies. The grains supply chain will form a key component of this work. The strategy will be developed in consultation with key supply chain participants.

It should be noted that a significant quantity of export grain is containerised and moves predominantly by rail through Port Botany. In fact in each of the last two years, over 900,000 tonnes of containerised grain been exported through Port Botany.

Date: 27/1/12

Chris Lock, Deputy Director General, Transport Projects Division
Transport for New South Wales

GENERAL PURPOSE STANDING COMMITTEE NO. 3
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6 December 2011

Supplementary Questions on Notice –

6. Can you outline what plans your department has to review the tendering process for rail projects with the aim of establishing more cost effective outcomes?

Response

Transport Projects Division (TPD) encourages competitive tendering and cost effective outcomes through:

- Comprehensive procurement planning: TPD undertakes market research and internal analysis to identify suitable delivery, contracting and procurement strategies for each project.
- Probity management: TPD can preclude consultants from tendering for work in the interests of probity and encouraging competitive tendering– for example, a consultant providing design services for a TPD project can be precluded from tendering for delivery contracts for that same project. This exclusivity is however limited to consultants to ensure availability of subcontractors to the industry for other major works. Further, TPD's procurement process for major projects does not allow for more than two related entities to be involved on tender shortlists.
- Appropriate tender documentation: TPD tender documentation is transparent, detailed and endorsed by subject matter experts before being released to market, allowing for accurate tender responses.
- Ongoing interaction with industry: TPD hosts industry forums, site tours and tender briefings to release information to the market in a transparent manner. Such activities allow potential tenderers to undertake early planning of submissions.
- Project-specific assessment criteria: including minimum requirements, selection criteria and scoring guidelines to target and assess appropriate service providers.
- Efficient tender evaluation: the time period for TPD's assessment of tenders for major contracts does not to exceed the time the request for tenders is released to the market.
- Use of international best practice: applied during assessment of tenders. Guidance is sought from a number of sources and organisations, including from the Chartered Institute of Purchasing and Supply (CIPS), whose standard meets the requirements of ISO 9001:2010. CIPS is the peak body for the global procurement profession and is to date the only organisation providing procurement

certification. CIPS is currently reviewing and assessing TPD's procurement system for certification.

Through this tendering process, the industry has a better understanding of TPD requirements and can competitively price the risks associated with each package of works. Additionally, the cost of tendering is minimised for the industry and Transport for NSW.

Date: 27/1/12

Chris Lock, Deputy Director General, Transport Projects Division
Transport for New South Wales

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6 December 2011

Supplementary Questions on Notice –

7. Can you outline what plans your department has to establish benchmarks for the cost of building rail lines over the range of terrains in Australia and which would include tunnelled options?

Response

Transport Projects Division (TPD) undertakes benchmarking for estimated and actual project costs at various stages in the project lifecycle. TPD has established a library of project cost data, used to verify strategic estimates received from external consultants and to enable future high level strategic cost estimates to be developed.

This data incorporates cost implications associated with the range of terrains and construction methodologies encountered in TPD projects. TPD's ongoing collaboration with other transport agencies within NSW and across Australia broadens the range of accessible cost data.

Benchmarking is undertaken in accordance with the 2008 Best Practise Cost Estimation for Publicly Funded Road and Rail Construction and includes identification of:

- Procurement type (e.g. Design and Construct; Construct Only; Alliance)
- Nature of the project location (e.g. greenfield or brownfield)
- Special considerations regarding the complexity or features of individual items to enable correct contextual understanding of the collected costs.

TPD has undertaken a number of actions to improve its benchmarking capability, including:

- Development of a cost estimating standard: Cost estimating currently undertaken by TPD substantially follows the 2008 Best Practice Standard for publicly funded road and rail construction. TPD is currently working to improve its minimum benchmarking requirements and define methodologies for data capturing for benchmarking purposes, tailored to TPD projects.
- Development of cost models: TPD is currently developing cost models for each type of project that it delivers. Such models would improve comparisons of costs associated with various project delivery options

(e.g. bored tunnel versus cut and cover tunnels or greenfield versus brownfield delivery).

- Ongoing relationships with infrastructure bodies: TPD maintains ongoing relationships with a variety of state, federal and industry infrastructure bodies. This enables better understanding of costs of projects delivered across different terrains. These costs can then be used in effective benchmarking of future TPD cost estimates.

Date: 27/1/12

Chris Lock, Deputy Director General, Transport Projects Division
Transport for New South Wales

GENERAL PURPOSE STANDING COMMITTEE NO. 3
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6 December 2011

On 6 December 2011, the Hon. Penny Sharpe asked –
This morning we heard from Ernst and Young about their report "Infrastructure - Project Cost Benchmarking Study" which was very interesting. Would this Committee be able to have a copy of that report?

Response

Please refer to response for Question 1.

Date: 27/1/12

Chris Lock, Deputy Director General, Transport Projects Division
Transport for New South Wales

GENERAL PURPOSE STANDING COMMITTEE NO. 3
INQUIRY INTO RAIL INFRASTRUCTURE PROJECT COSTING IN NSW
6 December 2011

On 6 December 2011, the Hon. Cate Faehrmann asked –
How many employees did the Transport Construction Authority have before the recent merger with other transport agencies?

Response

As at 31 October 2011, Transport Construction Authority (TCA) had 279 employees.

Date: 27/1/12

Chris Lock, Deputy Director General, Transport Projects Division
Transport for New South Wales

GENERAL PURPOSE STANDING COMMITTEE NO. 3
INQUIRY INTO RAIL INFRASTRUCTURE PROJECT COSTING IN NSW
6 December 2011

On 6 December 2011, the Hon. Cate Faehrmann asked –
Looking at the Dulwich Hill light rail project for a moment I think under the previous Government it was costed at $120 million and the GreenWay about $30million

(a) Is that your recollection?
(b) The most recent estimate of just a few months ago was $176million and the GreenWay $37million. Would you be able to inform the Committee of the reasons behind the increase if in fact it has increased from $120 million to $176 million?

Response

(a) I understand that a figure of approximately $150million for the Inner West Light Rail Extension was announced by the previous Government as part of its Metropolitan Transport Plan.

(b) When the figure of approximately $150 million for both the Inner West Light Rail Extension and the GreenWay shared path was announced, limited design work had been undertaken and the project was a strategic concept only.

As the project progressed, more information became available and this was reflected in the concept design undertaken by Metro Transport Sydney (MTS). MTS undertook a cost estimate (for the infrastructure works, excluding the GreenWay) based on this concept design.

When other costs (e.g. rolling stock) are added to the MTS infrastructure estimate, the current estimate is $176million (excluding the GreenWay).

CDLock Date: 27/1/12
Chris Lock, Deputy Director General, Transport Projects Division
Transport for New South Wales

GENERAL PURPOSE STANDING COMMITTEE NO. 3
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6 December 2011

On 6 December 2011, the Hon. Cate Faehrmann asked –
Within the Auditor General's report on transport of 30 November it talked about the high use of contractors within TCA.

(a) Can you explain why this is and why TCA relied on the services of 42 contractors?
(b) Was that 42 contractors out of the 250 employees or are the 250 employees separate to the contractors?
(c) Do you have the average salary for those contractors?

Response
(a) – (c)

The Auditor General's report of 30 November 2011 on Transport notes at page 145, in respect of the Transport Construction Authority (TCA):

> *'Last year I reviewed the following areas relating to human resources at the Authority:*
>
> - *.....*
> - *extent of contract staff.*
>
> *The results of that review indicated the Authority had appropriate policies and procedures in place and was managing human resource issues well. I did not find it necessary to report on these areas again in 2010–11..."*

The Auditor-General's report also notes, at page 37:

> *'The use of contractors may have benefits for entities, particularly on projects...'*

On 30 June 2011, there were 42 contractors engaged in addition to Transport Construction Authority's (TCA's) permanent workforce.

TCA uses a combination of in-house resources supplemented by private sector capacity to provide technical expertise to its projects. The use of contractors is appropriate in order to address:

- Fluctuating peaks and troughs of multiple project demands in their various phases of planning, design and construction.
- The limited availability of specialist skills in both the public and private sector.

As reported in the Auditor General's report, the total cost of contractors for 2010-11 was $3,333,000. It is important to note that individual payments to contractors contain considerable variations as payment cycles include hourly,

daily and fixed term rates; and as such it is difficult to provide an average salary.

_____ Date: 27/1/12

Chris Lock, Deputy Director General, Transport Projects Division
Transport for New South Wales

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6 December 2011

On 6 December 2011, the Hon. Penny Sharpe asked have you looked at the Blayney-Demondrille line?

Response

A significant body of work has been completed on the Blayney to Demondrille rail line, including investigation of the costs associated with recommencing services on this line.

The five councils of Cowra, Blayney, Harden, Weddin and Young commissioned an initial study in 2009 into the viability of reviving the line. Subsequently a Ministerial Taskforce was established, which is chaired by Transport for NSW, to fully investigate the business case for reviving the line.

This Taskforce will soon deliver its final report to the government. A decision regarding the future of the line will be made once the final report has been considered by the NSW Government.

CDLock Date: 27/1/12
Chris Lock, Deputy Director General, Transport Projects Division
Transport for New South Wales

GENERAL PURPOSE STANDING COMMITTEE NO. 3
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6 December 2011

On 6 December 2011, the Hon. Paul Green asked –
Has the department made or is it going to make any submission to the review of the Environmental Planning and Assessment Act?

Response

Yes. Transport for NSW is currently preparing a submission in response to the Issues Paper prepared for the review.

Date: 29/1/12

Chris Lock, Deputy Director General, Transport Projects Division
Transport for New South Wales

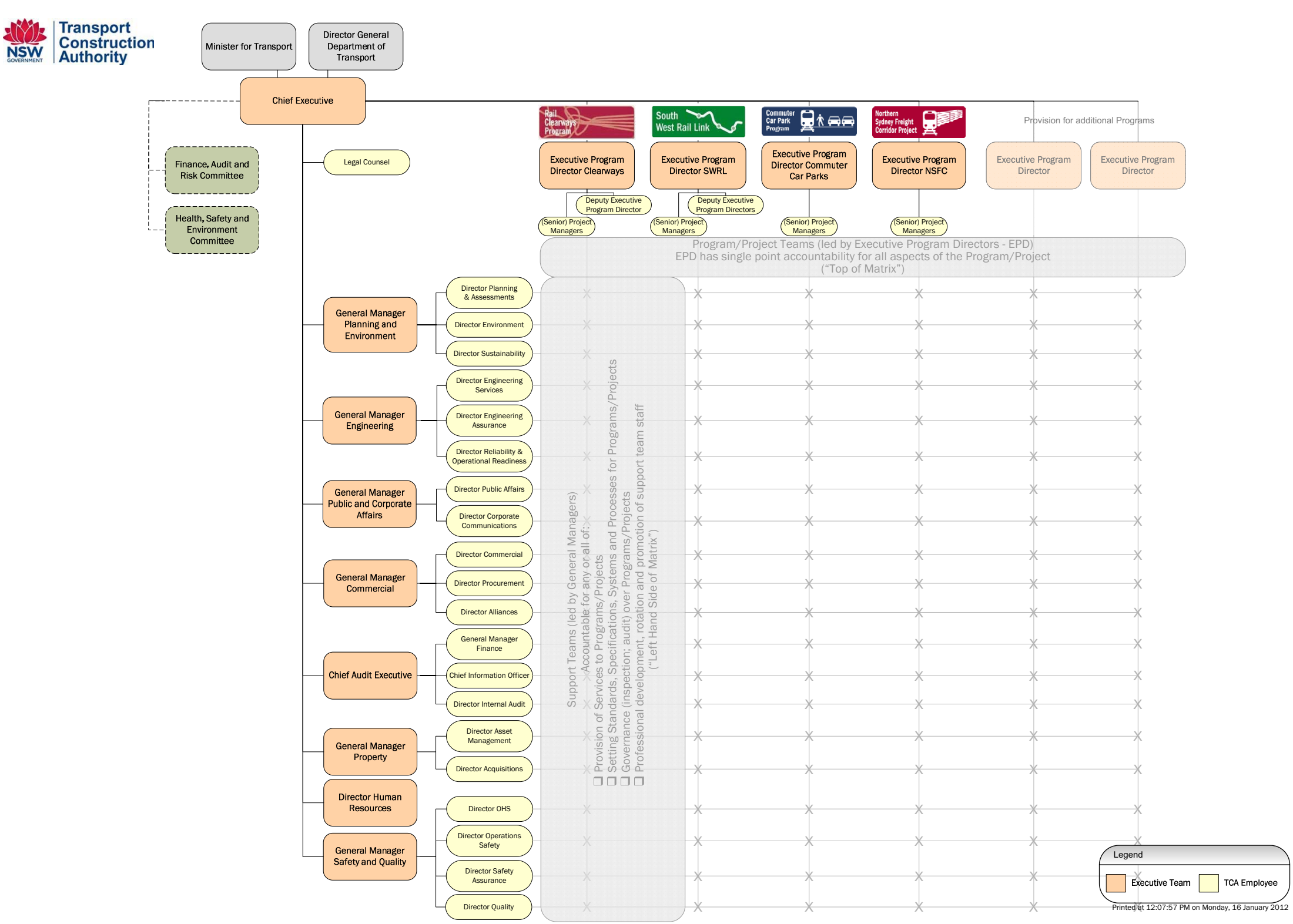
GENERAL PURPOSE STANDING COMMITTEE NO. 3
INQUIRY INTO RAIL INFRASTRUCTURE PROJECT COSTING IN NSW
6 December 2011

On 6 December 2011, the Hon. Penny Sharpe asked–
Would you provide to the committee a more detailed organisation chart of the Transport Construction Authority and give us an indication of how many of those positions are filled?

Response
The former Transport Construction Authority (TCA) had in place a matrix structure with teams established for each program led by a project director. These teams were supported by technical staff (in areas such as survey, property acquisition, community consultation, engineering specialists, signalling, mechanical, structural and civil engineering) providing services to across all programs. A copy of this structure is attached.

As of 31 October 2011, TCA had 279 employees with a further 78 positions to be filled as other transport infrastructure projects move into the delivery phase.

CLock Date: 27/1/12
Chris Lock, Deputy Director General, Transport Projects Division
Transport for New South Wales


Transport Construction Authority
NSW GOVERNMENT
Minister for Transport
Director General Department of Transport
Chief Executive
Finance, Audit and Risk Committee
Health, Safety and Environment Committee
Legal Counsel
Rail Clearways Program
South West Rail Link
Commuter Car Park Program
Northern Sydney Freight Corridor Project
Provision for additional Programs
Executive Program Director Clearways
Executive Program Director SWRL
Executive Program Director Commuter Car Parks
Executive Program Director NSFC
Executive Program Director
Executive Program Director
Deputy Executive Program Director
Deputy Executive Program Directors
(Senior) Project Managers
(Senior) Project Managers
(Senior) Project Managers
(Senior) Project Managers
Program/Project Teams (led by Executive Program Directors - EPD)
EPD has single point accountability for all aspects of the Program/Project
("Top of Matrix")
General Manager Planning and Environment
Director Planning & Assessments
Director Environment
Director Sustainability
General Manager Engineering
Director Engineering Services
Director Engineering Assurance
Director Reliability & Operational Readiness
General Manager Public and Corporate Affairs
Director Public Affairs
Director Corporate Communications
General Manager Commercial
Director Commercial
Director Procurement
Director Alliances
Chief Audit Executive
General Manager Finance
Chief Information Officer
Director Internal Audit
General Manager Property
Director Asset Management
Director Acquisitions
Director Human Resources
General Manager Safety and Quality
Director OHS
Director Operations Safety
Director Safety Assurance
Director Quality
Support Teams (led by General Managers)
Accountable for any or all of:
❒ Provision of Services to Programs/Projects
❒ Setting Standards, Specifications, Systems and Processes for Programs/Projects
❒ Governance (inspection; audit) over Programs/Projects
❒ Professional development, rotation and promotion of support team staff
("Left Hand Side of Matrix")
Legend
Executive Team
TCA Employee
Printed at 12:07:57 PM on Monday, 16 January 2012