REPORT OF
THE INDEPENDENT HEARING & ASSESSMENT PANEL

Pursuant to s75G of

Environmental Planning and Assessment Act 1979

Proposed Intermodal Logistics Centre, Enfield

Report by

Helen Weston (Chair)

Matthew Stephens

John Wassermann

October 2006

PANEL DECLARATION

We were appointed by the Minister for Planning on 15 February 2006 under s75G (1) (a) of the *Environmental Planning and Assessment Act 1979*:

> .....to assess certain aspects of a proposal by Sydney Ports Corporation to construct and operate an Intermodal Logistics centre at Cosgrove Road, Enfield (former Enfield Marshalling Yard).
>
> ..... to independently consider and advise on the following aspects of the proposed development:
>
> 1 Local and regional traffic impacts
> 2 Residential amenity
> 3 Other issues raised in submissions to the exhibited Environmental Assessment and or to the Panel
> 4 Adequacy of proposed mitigation measures and need for additional measures.
>
> ..... to consider the exhibited environmental assessment (EA) documents, all submissions received in response to the exhibition of the EA documents, and any other relevant aspects as detailed above.
>
> ..... to conduct round table meetings and make such other inquiries as are necessary for the Panel to inform itself in relation to the relevant aspects of the proposal as detailed above.

This report details our findings and recommendations for the Director-General of Department of Planning's consideration.

Helen Weston
Panel Chair

Matthew Stephens
Panel Member

John Wassermann
Panel Member

24 October 2006

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EXECUTIVE SUMMARY

This Panel was appointed as an Independent Hearing and Assessment Panel (IHAP) on 15 February 2006 by the Minister for Planning under the provisions of Section 75G(1) (a) of the Environmental Planning and Assessment Act 1979 to assess certain aspects of a proposal by Sydney Ports Corporation to construct and operate an Intermodal Logistics Centre (ILC) at Cosgrove Road, Enfield (former Enfield Marshalling Yard).

The Panel informed itself by holding a three day Hearing, undertaking inspections of the subject site and surrounding areas, reviewing the Environmental Assessment and other project documents, and seeking further information from the proponent and relevant government authorities.

In relation to the suitability of the Enfield site for a proposed ILC, the Panel concludes that:

- *There are aspects of the Enfield site in both strategic and local terms that contribute to its particular suitability to be developed for an intermodal task, namely its location on a dedicated freight line that connects Port Botany with Western Sydney, the flat, generally unencumbered nature of the site, and its location relative to the regional road network;*
- *Whilst the State Government has not finalized the Port Freight Plan for Sydney, the proposed ILC development at Enfield is consistent with the spirit and intent of current State Government metropolitan strategic and freight planning objectives;*
- *There are some significant aspects of the existing land use and transport context that present particular challenges to the planning, construction and operation of the site as an ILC without appropriate design and operational responses to mitigate potential adverse environmental impacts as addressed later in this report;*
- *The viability concerns raised in the Milton report have been addressed by SPC; and*
- *There is strategic justification for the proposed ILC.*

The Panel recommends that:

***Recommendation 4.1**: The Minister consider granting consent to the proposal subject to the recommendations presented in this Panel report*

***Recommendation 5.1:** The LATM measures recommended by RTA in October 2005 be included in the Statement of Commitments and be installed prior to the Enfield ILC becoming operational.*

***Recommendation 5.2:** SPC funds the reconstruction of the junction geometry of Norfolk Road and Roberts Road to accommodate 19m semi-trailer and 25m B-double truck swept paths in accordance with the relevant RTA and AUSTROADS standards.*

***Recommendation 5.3:** SPC funds the realignment of the junction geometry of Norfolk Road and Wentworth Street, where required, to accommodate 19m semi-trailer and 25m B-double movements in accordance with the relevant RTA and AUSTROADS standards.*

***Recommendation 5.4**: SPC contribute to the upgrade of the pavement of Wentworth Street and Norfolk Road - between Roberts Road and the proposed ILC entrance - to a standard suitable for use by 19m semi-trailer and 25m B-double vehicles.*

Recommendation 5.5: *SPC funds an increase of the storage length of the northbound right turn bay in Roberts Road approaching Norfolk Road to accommodate forecast maximum ILC traffic queues.*

Recommendation 5.6*: SPC funds the reconstruction of the signals at Norfolk Road and Roberts Road to provide split-approach phasing on the Norfolk Road approaches. As part of this work, the SPC should also install 'No Standing' parking restrictions on the eastern approach for a distance of least 50m.*

Recommendation 5.7*: SPC consult with Council to install 4-hour parking restrictions along the full length of Wentworth Street to discourage the parking of trailers on the site approaches.*

Recommendation 5.8*: That SPC fund the reconstruction of Cosgrove Road and Hume Highway to accommodate 19m semi-trailer and 25m B-double truck swept paths in accordance with the relevant RTA and AUSTROADS standards.*

Recommendation 5.9*: SPC confirms the Cosgrove Road site entry restrictions in its Statement of Commitments in the PPR and advises how this restriction would be enforced and/or provides a concept design of the proposed entry arrangement to confirm design viability.*

Recommendation 5.10*: SPC clarify requirements for additional ILC site emergency vehicle/evacuation access points along Cosgrove Road and any on-street parking restrictions that may be required to keep these access points clear at all times***.**

Recommendation 6.1*: Noise generated from the proposed ILC must not exceed the noise limits outlined in the table below (adjusted for any tonality):*

ID	Location	Intrusiveness limits $L_{Aeq, 15min}$ dBA			Amenity limits $L_{Aeq, period}$ dBA		
		Day	Evening	Night	Day	Evening	Night
A1	Eastern end of Jean Street	54	54	48	54	49	42
A2	Eastern end of Ivy Street	53	52	47	52	51	45
A3	2 Wentworth Street (south)	49	47	42	52	53	38
A4	Eastern End of Gregory	49	47	45	52	46	43
A5	Western end of Blanche St	46	46	43	58	50	37
A6	40 Bazentin Street	46	45	41	58	54	39
A11	Begnell Park	N/A (criteria only apply to residential uses)			50		
A12	Matthew Park				50		
A13	Greenacre Bowling Club				55		
A14	Strathfield South High School				35 (internal)		
A15	St Anne's School				35 (internal)		

***Recommendation 6.2**: The Operational Noise Management Plan should include special consideration for the management of maximum noise impacts (for example, reversing alarms) from the site.*

***Recommendation 6.3**: Within three (3) months of the commissioning of the proposed ILC, compliance monitoring of noise from the site is to be undertaken in accordance with the Industrial Noise Policy.*

***Recommendation 6.4**: The SPC develop a Traffic Noise Management Plan for the approval of the Director-General of the Department of Planning.*

***Recommendation 6.5**: Prior to any locomotive using the proposed ILC, SPC provide a compliance certificate to the Department of Planning stating compliance with the noise limits in the following table:*

Operating condition	*Speed and location of measurement*	*Noise limits*
Idle with compressor radiator fans and air conditioning operating at maximum load occurring at idle	*Stationary 15 metre contour*	*70 dB(A) LAmax*
All service conditions	*Dynamic as Specified in AS2377*	*87 dB(A) LAmax*

***Recommendation 7.1**: SPC shall insure that all external lighting associated with the development is mounted, screened and directed in such a manner so as to achieve the minimum level of illumination necessary, and in accordance with AS4248-1997 (Control of Obtrusive Effects of Outdoor Lighting).*

***Recommendation 8.1**: Prior to the ILC operation commencing, SPC consult with relevant stakeholders and develop a plan for the appropriate adaptive reuse of the Tarpaulin Factory.*

***Recommendation 10.1**: SPC prepare a Frog Management Plan that addresses the issues suggested by the Department of Environment and Conservation on p10 of the attachment to its submission dated February 2006.*

***Recommendation 11.1**: SPC provide a shuttle bus service in peak periods between the ILC site and Strathfield Railway Station for the 12 months of peak construction in order to encourage construction workers to utilise public transport to access the site rather than their private vehicles.*

***Recommendation 11.2**: All construction activities shall be restricted to:*

- *7am and 6pm Monday to Friday;*
- *8am and 1pm Saturday; and*
- *no construction activities on Sundays or public holidays, unless separate approval has been granted by the Director-General of the Department of Planning.*

***Recommendation 11.3:** The proposed ILC construction works must satisfy the dust management objectives at the most sensitive receptors of 50 µg/m^3 24-hour rolling average of Particulate Matter less than 10 microns.*

Recommendation 11.4: *During construction, SPC shall develop a reactive Dust Management Plan to ensure compliance with the limit specified in Recommendation 11.3. The reactive Dust Management Plan shall be triggered at a PM10 concentration level of 100 µg/m³ as a 1-hour average or as otherwise agreed to by the Director-General of the Department of Planning.*

Recommendation 11.5: *During construction, the real time dust monitoring shall be conducted at the most sensitive receptors (residential area to the south-east of the site) and in accordance with the requirements of the following table:*

Pollutant	*Units of measure*	*Frequency*	*Method*
PM10	*µg/m³*	*Continuous*	*AS3580.9.8-2002 **

* *AS3580.9.8-2002 Method for sampling and analysis of Ambient Air – Determination of Suspended Particulate Matter – PM10 Continuous Direct Mass Method using a Tapered Element Oscillating Microbalance Analyser.*

Recommendation 11.6*: During construction, SPC shall develop a Dust Management Plan to include following:*

- *Identification of potential sources of dust;*
- *Dust management objectives in accordance with appropriate DEC guidelines;*
- *Dust monitoring program;*
- *Details of mitigation measures implemented;*
- *Establishment of protocol for handling dust complaints;*
- *A reactive dust management plan detailing how and when operations are to be modified to minimise the potential for dust emissions;*
- *Progressive revegetation strategy for exposed surfaces.*

Recommendation 11.7: *During construction, all vehicles on the ILC site shall be limited to a speed limit of 25 kilometres per hour. SPC or its contractors shall install visible signage to advise drivers of same.*

Recommendation 11.8: *During construction, all vehicles carrying materials to or from the ILC site must have their loads covered with tarpaulins or similar material.*

Recommendation 11.9*: During construction, all vehicles leaving the ILC site shall travel through a wheel wash to remove any soil particles.*

1 INTRODUCTION

1.1 BACKGROUND TO THE PROPOSAL

The continued growth in the container trade through Port Botany and increases in road traffic volumes on arterial roads throughout metropolitan Sydney have prompted consideration by the New South Wales (NSW) Government of ways to increase the transport of containers to and from Port Botany by rail. To facilitate this mode transfer, development of a network of intermodal terminals is required for rail to road container handling and transfer.

1.1.1 Original Intermodal Terminal Proposal At Enfield

Since 1998, Sydney Ports Corporation (SPC) had considered the former Enfield Marshalling yards as a suitable site for the development of an intermodal terminal. SPC had progressively purchased the residual area of the Enfield site after the construction of the new marshalling yards on the western section of the site. In 2001, SPC commenced preparation of an Environmental Impact Statement (EIS) in relation to a proposed 500,000 TEU[1] intermodal terminal.

1.1.2 The Morris Review

Preparation of that EIS was suspended in March 2002 when the NSW Government announced an independent review by Hon Milton Morris AO of the proposed intermodal terminal. Key conclusions of the Morris review were released in February 2003 and included that:

- The proposed 500,000 TEU intermodal terminal was too large for the Enfield site;
- The NSW Government should conduct a major reassessment of intermodal demand and potential sites. The work should see the development of intermodal sites across metropolitan Sydney with the next ten years as its primary consideration.

As a result of the findings of the Morris review, SPC revised its intermodal terminal proposal at the Enfield site and proceeded to prepare an Environmental Assessment (EA) on the revised proposal for a more integrated site development with an annual maximum throughput of 300,000 TEU with additional on-site empty container storage and port-related warehousing (see Section 2).

1.1.3 Freight Industry Advisory Board

The Morris review resulted in the appointment in December 2004 by the NSW Government of a Freight Industry Advisory Board (FIAB) to help develop the Government's Port Freight Plan for Sydney. The FIAB's terms of reference were to advise the Minister on major freight infrastructure policy and project matters. In particular, the FIAB was asked to provide the Minister with advice on the following matters:

- An intermodal terminal network to improve freight distribution;
- Transport infrastructure required to support such a metropolitan terminal network; and,
- The structure, amount and means of collection and economic impact of a possible port freight charge on containers moved by road to and from Port Botany.

[1] One TEU is equivalent to one twenty foot container. A forty foot container is equivalent to two TEUs

In July 2005, the FIAB report *Railing Port Botany's Containers* was released. Recommendations particularly relevant to the proposed Enfield ILC were as follows:

"..RECOMMENDATION 1

It is recommended that:

- *The 40 percent rail share target must be met and if possible exceeded;*
- *Government and industry embrace strategies to further lift the rail freight share.*

RECOMMENDATION 2

It is recommended that:

- *The NSW Government take all necessary steps to ensure that Sydney has sufficient additional intermodal terminal capacity to meet a rail freight share of 40 percent;*
- *Intermodal terminals be treated as critical infrastructure under NSW planning provisions, and*
- *Sydney's future network of intermodal terminals be connected to Port Botany by way of dedicated freight rail lines.*

RECOMMENDATION 3

It is recommended that:

- *Sydney Ports Corporation's Enfield site be developed as an integrated logistics facility to meet local and sub-regional requirements;*
- *Enfield be limited in throughput size to 300,000 TUEs per annum and be operational before the end of 2008;*
- *Participation from the private sector be sought for the site's development and the terminal's ongoing operation; and,*
- *The Roads and Traffic Authority review road improvements necessary to support the Enfield development with funding available from the Freight Infrastructure Charge to assist in these works (see Recommendation 22).*

RECOMMENDATION 11

It is recommended that:

- *The development of the major new terminals at Enfield, Moorebank and Eastern Creek include adequate provisions to allow common-user, open access operations.*

RECOMMENDATION 13

It is recommended that:

- *Community Consultative Committees be mandatory in respect of all terminals;*
- *These Committees to ensure local residents are kept informed of terminal operations, and provide liaison with operators with a view to minimising the environmental impacts of terminal operations;*

- *The Government adopt a 'zero tolerance' policy involving heavy penalties in respect of container road traffic travelling through designated residential precincts; and,*
- *Before project is approved, residential areas surrounding intermodal terminals be designated in order to give effect to this policy.*

RECOMMENDATION 22

It is recommended that:

- *The Government legislate for A Freight Movements Management Act to give effect to the Freight Infrastructure Charge;*
- *The Government consider a charge set at $30 per TEU's, collected on all import and export containers;*
- *The Charge be fully rebated for:*
  - *Containers carried to or from the Port by rail; and*
  - *Containers carried to or from the Port by road during designated night time off- peak hours.*
- *The statutory corporation administering the Fund be constituted with power to acquire land commission research and make funds available for capital and other projects..."*

Since the release of the FIAB report, it is understood that the NSW Government's Infrastructure Implementation Group has been investigating implementation and other aspects of some of the recommendations.

1.1.4 Environmental Assessment for the Revised ILC Proposal

The EA for the revised ILC proposal at the Enfield site, which was prepared pursuant to Part 3A of the Environmental Planning and Assessment Act 1979, was released for public comment for 6 weeks between 9 January 2005 and 20 February 2006 and attracted 330 submissions.

Both intermodal terminal proposals for the Enfield site have been controversial with on-going and consistent local community opposition but have been supported by a number of industry groups and freight operators.

1.2 THE PANEL AND ITS TERMS OF REFERENCE

This Panel was appointed as a IHAP on 15 February 2006 by the Minister for Planning under the provisions of Section 75G(1) (a) of the Environmental Planning and Assessment Act 1979 to assess certain aspects of a proposal by SPC to construct and operate an Intermodal Logistics Centre (ILC) at Cosgrove Road, Enfield (former Enfield Marshalling Yard).

Under the Minister's direction (see ***Appendix A***), the Panel was directed to independently consider and advise on the following aspects of the proposed development:

1 Local and regional traffic impacts

2 Residential amenity

3 Other issues raised in submissions to the exhibited EA and/or to the Panel

4 Adequacy of proposed mitigation measures and need for additional measures.

The Panel was directed to consider the exhibited EA documents, all submissions received in response to the exhibition of the EA documents, and any other relevant aspects as detailed above.

The Minister further directed the Panel to conduct round table meetings and make such other inquiries as were necessary for the Panel to inform itself in relation to the relevant aspects of the proposal as detailed above.

The Panel was required to submit a report to the Director-General of the Department of Planning outlining the results of its independent assessment.

1.3 HEARINGS, CONSULTATIONS AND INSPECTIONS

1.3.1 Hearings

The appointment of the Panel was publicly notified by advertisements placed in the Sydney Morning Herald and the Daily Telegraph on 27 February 2006 and in relevant local papers in the week beginning 27 February 2006. A number of people indicated that they wanted to make a presentation to the Panel so a Panel Hearing was arranged.

The Panel held a three day Hearing at the Strathfield Civic Centre from 20 to 22 March 2006. The purpose of the Hearing was to inform the Panel and allow various members of the community and other stakeholders to outline their main issues of concern about the project.

During the initial session of the Hearing on 20 March 2006, a submitter lodged a request for a member of the panel (Mr Matthew Stephens) to excuse himself from the Panel due to a percieved "apprehension of bias". This request was referred by the Panel Chair to the Minister for Planning via a representative of the Department of Planning. In a letter dated 21 March 2006 from Mr Chris Wilson, Acting Executive Director of the Department, the submitter was advised that:

> *"..The Department has investigated this matter in detail and does not support Mr Stephen's removal from the Panel. It does not intend to recommend that the Minister take further action in this regard."*

Mr Stephens remained a member of the Panel for the duration of its appointment.

1.3.2 Other Consultations

The Panel (or members thereof) issued various data requests to SPC and relevant government authorities after the Hearing. These requests and responses received are referred to in the relevant sections of this report.

1.3.3 Inspections

On 28 February 2006, in the company of SPC officers and a representative of its consultants, the Panel inspected:

- the Port of Botany;

- the proposed Enfield ILC site area and surrounds; and,
- the Macarthur Intermodal Shipping Terminal (MIST) facility at Minto.

On 21 March 2006, the Panel in the company of representatives of SPC and a number of parties appearing at the Hearing inspected the site of the proposed ILC at Enfield and the surrounding road network and residential areas to which parties had referred to in various submissions.

1.4 SUBMISSIONS

The submissions considered by the Panel came from two sources:

- A total of 330 submissions lodged with the Department of Planning in response to the public exhibition of the EA;
- A further 20 submissions lodged directly with the Panel (see ***Appendix B***).

1.5 OTHER INFORMATION

The Panel also considered a range of other information as listed in ***Appendix C*** and requested further information and/or clarification on aspects of the EA from the Proponent, particularly in relation to traffic generation and modelling.

2 THE PROPOSAL

2.1 THE SUBJECT SITE

The subject site comprises an area of approximately 60 hectares on the eastern side of the new Enfield Rail Marshalling Yards located at South Strathfield within the Strathfield Council area. The site is approximately 0.5 km wide and 2 km long, and extends from the intersection of Hume Highway and Roberts Road at the northern end to the intersections of Punchbowl Road and Cosgrove Road to the south. It is bordered on the western side by the new Enfield Rail Marshalling Yards and on the eastern side by commercial and light industrial development.

The Panel was advised that the Enfield site was initially developed for rail marshalling yards in 1916 and continued in this use until 1992 or1993 (both dates used in various sections of the EA). Since then, rail-related uses have continued or been redeveloped on the site including the operation of two through freight rail lines, the DELEC Service Centre, and the development of the new Enfield Rail Marshalling Yards on the western portion of the site parallel to the operational rail lines. The Panel inspected the subject site in detail and noted its largely flat, vacant, cleared, and, in places, semi-derelict condition.

2.2 SURROUNDING LAND USE PATTERN

As described in the EA (p 4-5 to 4-6 and Figure 4-1a), the surrounding land use comprises:

- *"East: North of Blanche Street, Cosgrove Road is bordered on both sides by commercial and light industrial development as far as the Hume Highway. Residential properties line Cosgrove Road to the south east, and south to Blanche Street;*
- *West: Railway operations including the existing freight lines and marshalling yards owned by RailCorp and the Pacific National Terminal at Chullora are located to the west and north west of the site. A range of industrial/commercial facilities is located along Wentworth Street, including the Energy Australia Distribution Centre, vehicle repair shops and various industrial premises. A concrete batching plant is present at the north western end of Wentworth Street, and the Old Enfield Brick Pit, currently operating as a landfill site, is located at the south western end of Wentworth Street. Land to the north west of Roberts Road, opposite the new Enfield Marshalling Yards is predominantly residential. Chullora Public School is located west of Roberts Road on Norfolk Road, and Coxs Creek Nature Reserve Is located to the west of the site;*
- *North: Weston Milling, Western Containers and other industrial / commercial facilities lie immediately to the north of the site. Strathfield Golf course, Strathfield High School and Rookwood Cemetery lie to the north of the site, beyond the Hume Highway. Residential development is also located directly to the north of the site beyond the Hume Highway;*
- *South: Land beyond Punchbowl Road is a mix of industrial/commercial uses along the railway line with residential development further afield. Belmore North Public School and Belmore Boys High School are both located on Burwood Road, adjacent to the railway line.*

The Panel inspected much of the surrounding residential and industrial areas by bus and had available aerial photographs taken in January 2005 for reference. The Panel concurs with the above description of the land use context.

The Panel noted the following characteristics of this land use context relative to the proposed ILC:

- The close proximity of relatively recent residential development along the western side of the heavily-trafficked Roberts Road from Jean Street to the Hume Highway and the associated grade-separated intersection at Hume Highway and Roberts Road, and the views across the subject site in a south-easterly direction afforded from this area;
- The load limited roads leading from the western side of Roberts Road through sections of the residential area of Greenacre. These load limits are intended to prevent or reduce infiltration by heavy traffic seeking to move between the industrial areas on the eastern side of Roberts Road to the Hume Highway;
- The close proximity of more established residential development to the subject site in two locations – a small area fronting Wentworth Street in the suburb of Strathfield South to the south-west of the site and north of Juno Parade, and to the south-east of the site on the eastern side of Cosgrove Road – a major access road running between the Hume Highway and Punchbowl Road serving the established industrial area to the east of the site;
- The already physically constrained road access - in terms of its physical geometry and operation due to on-street parking - serving the established industrial areas to both the east and west of the subject site;
- The limited extent of existing acoustic barriers along a section of the south-western edge of the operating rail lines and marshalling yards and a short section of Cosgrove Road.

These characteristics suggest that the site planning for the proposed ILC would have to include measures to ensure that adverse impacts of the construction and operation of the proposed ILC could be appropriately mitigated.

2.3 KEY ELEMENTS OF THE EA PROPOSAL

As presented in the EA, SPC is seeking approval for construction works comprising:

- Demolition, relocation or removal of former railway buildings and structures;
- Earthworks and drainage including the levelling of the site, formation of landscape mounds and detention basins and removal of unsuitable materials, where required.

Approval is also being sought for the construction and operation of:

- An intermodal terminal for the loading and unloading of up to 300,000 TEU's annually between road and rail and short term storage of containers;
- Rail sidings, railway lines and associated works to connect to the existing freight line and a noise barrier located on railway land;
- Warehousing for the packing and unpacking of containers and short-term storage of cargo;
- Empty container storage facilities for the storage of empty containers for later packing and transfer by rail;
- Light industrial/ commercial area fronting Cosgrove Road. This development would generally be complementary to operations at the proposed ILC;
- A Community and Ecological Area which would incorporate ecological enhancement and community opportunities. The area would serve as a buffer between operations on the site and residences to the south of the site;

- Access works, comprising construction of a road bridge over the new Enfield Rail Marshalling Yards for access to Wentworth Street and an upgrade of the existing entrance to Cosgrove Road; and
- Construction of internal roads, administrative buildings, diesel and LPG storage and fuelling, container wash-down area, vehicle maintenance shed and installation of site services including all utilities, stormwater and sewerage.

2.4 PROPOSED OPERATION OF THE ILC

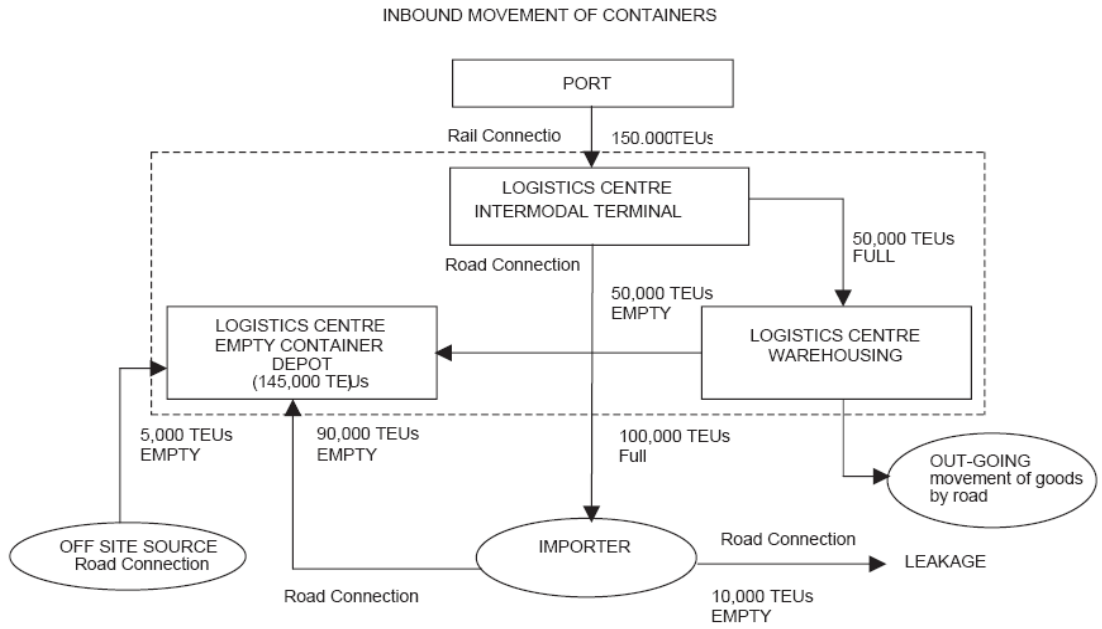
The operation of the proposed ILC is planned to commence with an initial annual throughput of 100,000 TEUs and is proposed to reach its capacity of an annual throughput of 300,000 TEUs within 8 to 10 years of operation. At capacity, the breakdown of the throughput is anticipated to be as shown on Figure 1.

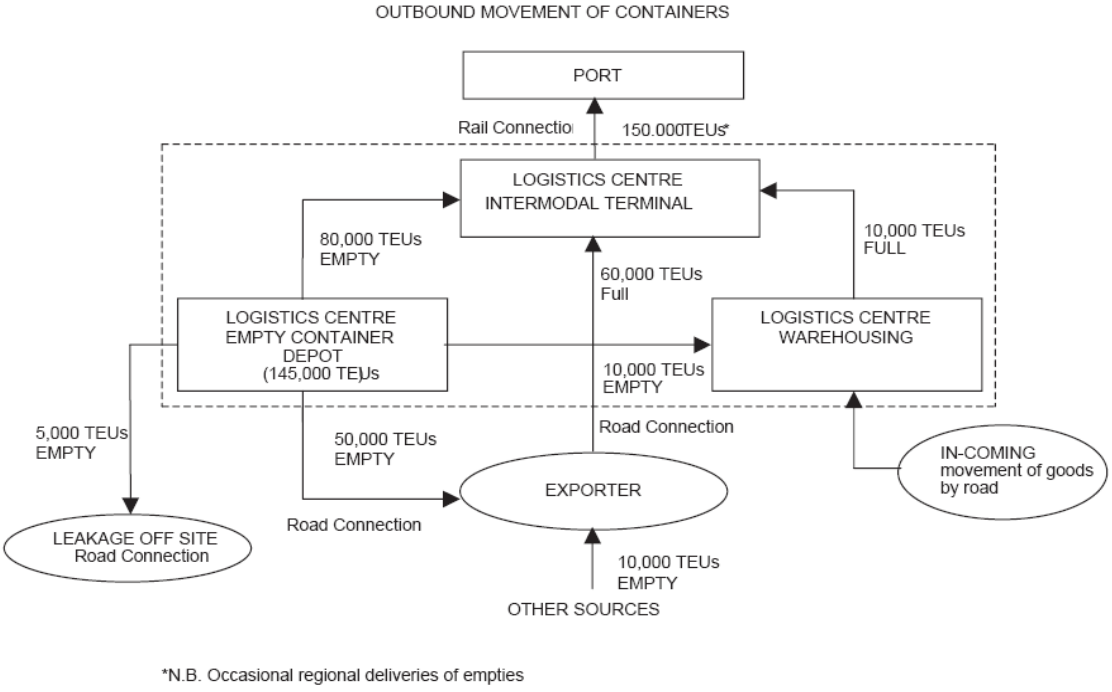
In essence, the EA indicated that this operation would involve 150,000 TEUs inbound from Port Botany and 150,000 outbound from the proposed ILC to Port Botany. Of the approximate 150,000 TEUs (inbound movements) transported by rail from Port Botany to the proposed ILC, it was estimated that:

- 50,000 full TEUs would be sent to the warehouses within the ILC and the contents unpacked and despatched by light trucks to the inner and middle western Sydney catchment area. These 50,000 TEUs, when empty, would be moved within the ILC to the empty container depots form the on-site warehouses;
- 100,000 full TEUs would be transported by articulated truck to importers located away from the ILC. Of these 100,000 full TEUs, 90,000 empty TEUs would be returned by these importers to the empty container depot at the proposed ILC and 10,000 empty TEUs would return to the empty container depots.

The other 150,000 TEUs (outbound movements) would be processed through the proposed ILC and be returned to Port Botany by rail. Of these outbound movements, it is estimated that:

- 60,000 TEUs would be supplied by off-site exporters;
- 80,000 empty TEUs would be returned to Port Botany directly from the empty container depots;
- 10,000 empty TEUs would be transferred to the warehouses from the empty container depots where they would be filled with goods brought to the proposed ILC, prior to being returned to Port Botany by rail.





*N.B. Occasional regional deliveries of empties

Figure 1: Movement of Containers

Source: Figure 4.3 of EA (SKM,2005)

2.5 THE PPR PROPOSAL

Under Part 3A of the EP&A Act, the project Proponent is required to respond in writing in the form of a Preferred Project Report (PPR) to issues raised in submissions lodged in response to the EA. SPC provided a PPR to the Panel in June 2006. This report documented the following changes to the Proposal:

> *"2.2 Modifications to the Proposal*
>
> *Having reviewed submissions from the community, local government and State government agencies, and considered the proposal in the light of those submissions, Sydney Ports intends to construct and operate the proposed ILC, as outlined in Chapter 4 of the Environmental Assessment, with the following changes:*
>
> - *The intersection at Norfolk Road /Roberts Road will be upgraded to RTA design requirements;*
> - *Traffic control measures will be provided to manage articulated or B Double truck traffic leaving the ILC via the Cosgrove Road exit during am/pm peak periods;*
> - *Extra noise barriers (a fence structure approx 350m long and 2m high, comprising double sided metal cladding) on top of the eastern noise mound will be provided along the Cosgrove Road alignment behind the Light Industrial / Commercial Area.*
>
> *Reference has been made to the provision and operation of a public address system on the site. This system will now not be used at night (10pm to 6am)…"*

Chapter 4 of the PPR (p 41) foreshadowed:

> *"…an updated statement of commitments, incorporating responses to comments from relevant Government agencies, Local Government and the community, as well as responses from the Independent Panel which has provided an assessment of the proposal…"*

There were a number of issues raised by the Panel during the IHAP process that were not directly addressed in the PPR submitted by the Proponent in June 2006. The Proponent's responses to these outstanding Panel issues are subsequently documented in Appendices F & G of this report. In particular, Proponent submission No. 22 of Appendix G, dated 7 September 2006, seeks to summarise the information missing from the PPR issued in June 2006.

3 ISSUES

3.1 NATURE OF SUBMISSIONS

As noted in Section 1.5:

- a total of 330 submissions was lodged in response to the exhibition of the EA with the Department of Planning;
- 20 submissions were lodged directly with the Panel; and
- 21 parties presented to the Panel during the Hearing.

There was a considerable degree of overlap between the authors of the submissions and the issues raised in the panel hearings.

3.2 ISSUES RAISED IN SUBMISSIONS

The Panel did not prepare a detailed and quantitative analysis of issues raised in submissions. However, an overview of the key issues raised in submissions which are directly relevant to the Panel's Terms of Reference is presented in ***Appendix E***.

The key issues raised, to some extent, mirror the main issues identified in the Panel's Terms of Reference, namely, local and regional traffic implications and residential amenity (noise and air quality). A long list of other issues was also raised including (not in order of priority or number of times raised):

- consultation;
- heritage issues;
- strategic basis for the proposal;
- hazard and risk;
- flora and fauna issues – especially habitat for the Green and Golden Bell Frog;
- air quality; and
- water quality.

3.3 ISSUES RAISED BY THE PANEL

In addition to the above issues, the Panel, both during the Hearing and during the preparation of this report, was particularly concerned with a number of aspects of the traffic modelling undertaken on behalf of SPC.

3.4 STRUCTURE OF CONSIDERATION OF ISSUES

The Panel has structured its consideration of issues raised in submissions and by the Panel itself in the following sections of the report as follows:

- need for the ILC and strategic locational issues;
- traffic and transport issues;
- noise issues;
- other amenity issues (air quality, visual impact and light spill);
- heritage issues;
- other potential impacts; and
- construction issues.

4 PROJECT JUSTIFICATION

4.1 STRATEGIC CONTEXT

In October 2003, the State Government announced the *Ports Growth Plan*. This Plan provides a framework within which the State Government, industry and community will work to ensure growth and development of port capacity in NSW.

In December 2004, the State Government announced the first stage of the Port Freight Plan for Sydney and the establishment of a Freight Infrastructure Advisory Board (FIAB) to help further develop the Government's Port Freight Plan for Sydney. In July 2005, the FIAB released its draft freight plan[2] for public comment (see Section 1.1.2).

In December 2005, the State Government released its Metropolitan Strategy[3] for Sydney. This plan provides a broad framework to facilitate and manage growth and development in Sydney over the next 25 years. The plan includes a number of key objectives and strategies relevant to the proposed development, including:

"...D5.2 Maximise the efficiency of freight transport and the proportion transported by rail

- *Plan an intermodal terminal network in Sydney*
- *Coordinate with transport agencies and industry to encourage the shift of movements on road to rail and to road in the off peak…."*

The Panel notes that the strategic planning context for the proposed ILC at Enfield was not addressed in the EA – presumably because the Metropolitan Strategy was not released until after the release of the EA for public comment in October 2005. However, a number of the background documents had been prepared and released for public comment over a preceding period of at least 18 months (according the Metro Strategy website).

Although the ILC proposal had been designated state significant infrastructure, the Panel considers that EA would have been strengthened by a presentation of the metropolitan strategic context and justification for the proposed ILC development.

The Enfield site was not identified as existing 'employment land' nor as part of a strategic corridor in the Metropolitan Strategy. However, a number of the directions presented in the Metropolitan Strategy are relevant to the proposal to develop an ILC at Enfield, namely those related to improving freight transport efficiency.

Strategy D5.2 is aimed at maximising the efficiency of freight transport and the proportion transported by rail. It is noted that:

> *"..In December 2004, the Government announced the first stages of the metropolitan intermodal freight strategy for import and export containers. This strategy sets out how the future growth in containers through Port Botany can be handled by the Sydney metropolitan transport network."*

[2] Railing Port Botany's Containers – Proposal to Ease Pressure on Sydney's Road (FIAB,2005)

[3] City of Cities – A Plan for Sydney's Future (Planning NSW, 2005)

A subsidiary direction (D5.2.1) focuses on planning an intermodal terminal network in Sydney:

> *"…Consistent with the Government's vision to build on strong economic growth and employment in Western Sydney, there is a need to ensure sufficient land remains available to support a network of intermodal terminals in Western Sydney.*
>
> *This plan will examine the need to locate new major terminals to service Western and South Western Sydney in conjunction with existing smaller intermodal terminals…."*

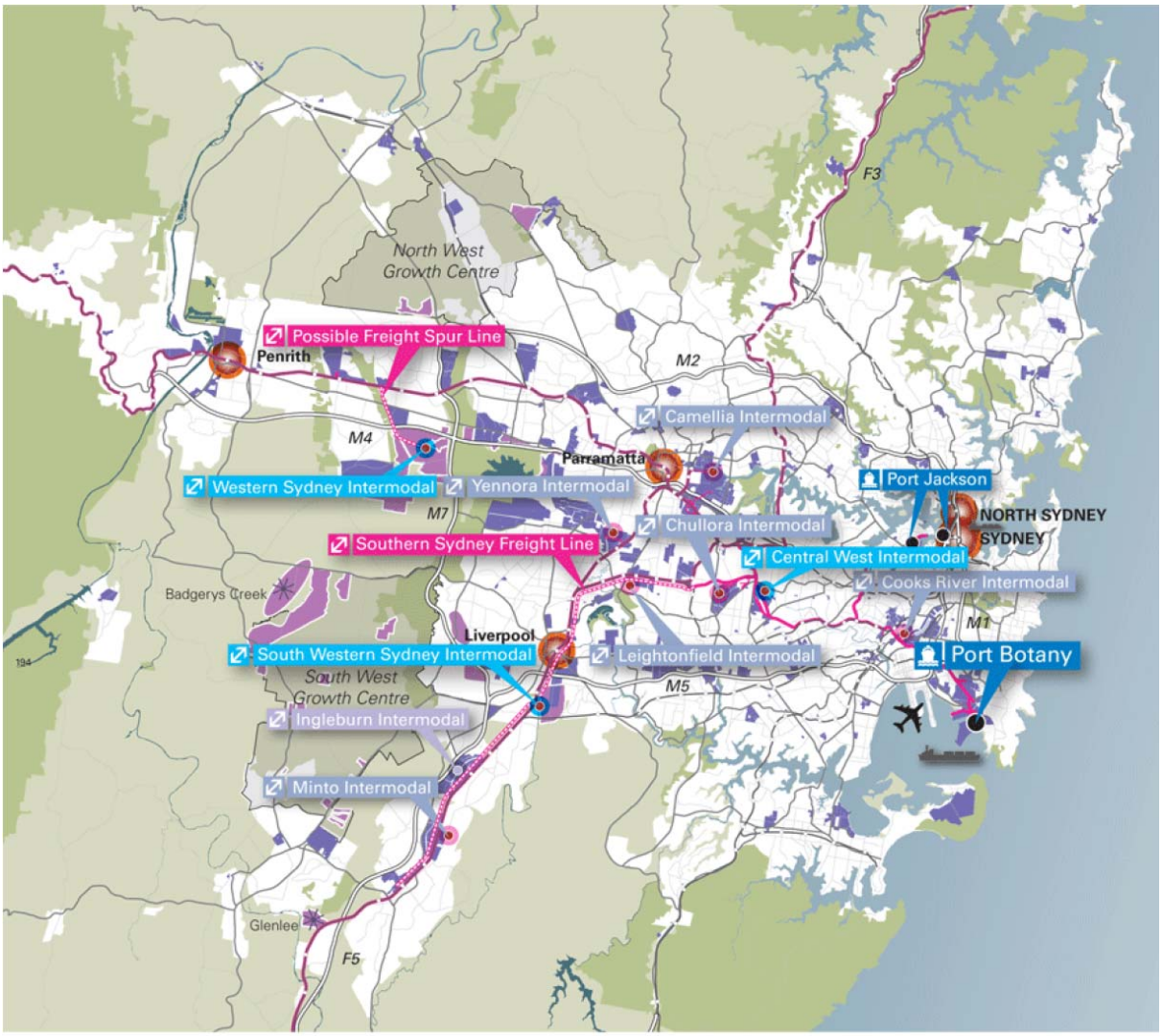


Figure 2: Possible Future Container Freight Network

Source: City of Cities - A Plan For Sydney's Future (Planning NSW, 2005)

D6.1.1 is directed at developing freight strategies for domestic intermodal freight, movement of construction materials, and movement of bulk fuel. The strategies, when developed, will determine for each market sector:

- *land requirements for dedicated freight hubs to allow synergies to be derived from a conglomeration of freight, transport and warehousing operators;*

- *road and rail infrastructure requirements in addition to those already identified - to support the transport of goods and commodities to various locations, in particular, between dedicated hubs and Port Botany;*
- *measures to encourage greater coordination amongst logistics chain operators to maximise the efficiency and productivity of freight movements;*
- *preferred freight routes on the road network;*
- *measures to help direct freight movements to preferred modes; and*
- *measures to reduce the impact of freight movements on the community, including issues regarding noi*se and emissions.

Strategy D8.2.1 is directed at increasing the amount of freight moved by rail and minimising the related environmental impacts:

> *"…INCREASE FREIGHT MOVED BY RAIL*
>
> *Each freight strategy under development will address the potential for increasing volumes on rail to minimise environmental impacts particularly on air quality and greenhouse gas emissions. The first of these will be a target to increase the movement of containers on rail to and from Port Botany.*
>
> *REDUCE NOISE ALONG RAIL FREIGHT LINES*
>
> *While rail is relatively more environmentally friendly for freight movements in comparison to road, the noise impact of significant growth in rail volumes may affect communities adjacent to key corridors.*
>
> *Consideration will be given to noise attenuation measures along the Botany Freight Line to mitigate any adverse noise impacts arising from additional rail freight movements.*
>
> *In particular, new developments adjoining rail lines will continue to incorporate measures to minimise noise and vibration from rail movements.."*

This strategy also included the intention to reduce emissions from older diesel vehicles but the Panel notes that this only related to diesel road vehicles, which are a major source of particulate air pollution in Sydney, not diesel-powered rail locomotives (see Section 7.1).

In relation to the suitability of the Enfield site for a proposed ILC, the Panel concluded that:

- There are aspects of the Enfield site in both strategic and local terms that contribute to its particular suitability to be developed for an intermodal task, namely its location on a dedicated freight line that connects Port Botany with Western Sydney, the flat, generally unencumbered nature of the site, and its location relative to the regional road network;
- Whilst the State Government has not finalised the Port Freight Plan for Sydney, the proposed ILC development at Enfield is consistent with the spirit and intent of current State Government strategic and freight planning objectives;
- There are some significant aspects of the existing land use and transport context that present particular challenges to the planning, construction and operation of the site as an ILC without appropriate design and operational responses to mitigate potential adverse environmental impacts as addressed later in this report.

4.2 COMMERCIAL VIABILITY

The Morris report raised concerns about the viability of double-handling containers via the proposed Enfield ILC compared with the costs of distributing the containers directly from Port Botany. This concern was also echoed in community responses to the current EA.

In response to this concern, SPC commissioned consultants Strategic Design & Development (SD&D) to undertake a viability analysis of the value chain for Enfield. The key issues considered in that analysis were:

- Proximity to contestable markets;
- Future growth in contestable markets;
- Truck utilisation; and
- Reduced transport costs.

Proximity to contestable markets is perhaps the most important consideration for locating an inter-modal facility. The SD&D analysis revealed that 85% of the containers are delivered to or are generated from within a 40km radius of Port Botany. The proposed Enfield ILC is located 18 km from Port Botany which places it near the centre of this 40km radius. The Enfield site is well placed to service the inner and middle-western industrial areas of Sydney which is the destination for 56% of container imports and the origin of 23% of full container exports through Port Botany. This market includes the local government areas of Auburn, Bankstown, Parramatta, Fairfield, Holroyd, Blacktown, Concord and Strathfield. The SD&D report estimated that approximately 649,000 TEUs were delivered to or from this target catchment area in 2004.

Overall trade moving into and out of the proposed Enfield ILC catchment area is forecast to increase from 649,000 TEUs in 2004 to 1.57 million TEUs by 2026. A key conclusion from the SD&D analysis was that there is sufficient long term freight demand within the Enfield catchment areas to warrant the development of an ILC at Enfield, particularly given that more than half of Port Botany metropolitan container volumes would continue to be destined for, or originate in, the Enfield catchment area. Moreover, the market penetration rates in the scenario modelling suggest that the proposed ILC at Enfield should achieve a 300,000 TEU volume threshold in a timeframe required for a profitable, efficient operation.

Truck utilisation - the number of deliveries per truck per day a trucking company can schedule - is another factor that would contribute to the viability of an inter-modal terminal. Increased utilisation of both driver and vehicle decreases road transport costs. SD&D undertook a time analysis of a typical truck delivery cycle for both Port Botany and a proposed Enfield ILC to the Enfield target catchment. That analysis indicated that a container truck visiting Port Botany would be able to complete two delivery cycles in an eight hour period, whereas a truck utilising the proposed Enfield ILC in a ‘hub and spoke’ manner could complete four delivery cycles in the same eight hour period.

SD&D also provided the following comparative costs of transporting a container by road from Port Botany versus a combined rail/road transfer through Enfield (see Table 4.1).

Table 4.1: SD&D's comparison of container transport costs

Container type	Port Botany (Road)	Proposed Enfield ILC (Rail/Road)
TEU (20' container)	$360 to $405 per TEU	$356 to $ 390 per TEU
FEU (40' container)	$450 to $500 per FEU	$437 to $483 per FEU

Source SPC's submission to IHAP dated 6 March 2006

The SD&D analysis suggests that the cost to the importer or exporter for the combined rail and road journey would be equal to or less than the cost presently paid for the truck journey to and from Port Botany.

In conclusion, the work undertaken by SD&D suggests that:

- The Enfield ILC is located in close proximity to a significant contestable market catchment of up to 700,000 TEUs per annum, with an expected of growth of 5 to 6% per annum;
- Combined road and rail transport costs to the ILC would be competitive.

Accordingly, the Panel concludes that the viability concerns raised in the Milton report have been addressed by SPC.

4.3 VEHICLE KILOMETRES TRAVELLED SAVINGS

The EA presented a manual estimation of Vehicle Kilometres Travelled (VKT) benefits. The Panel considers this approach acceptable given the unique daily trip profiles associated with the proposed ILC.

The EA estimated that the proposed Enfield ILC would eliminate 100,000 truck movements and shorten another 250,000 truck movements between the western suburbs and Port Botany. This would provide an annual saving of approximately 6.5 million VKT when this facility is operating at its peak.

Assuming a weighted vehicle operating cost of $0.84 per VKT, as calculated in Table 4.2, this represents a saving of up to $5.5 million per annum in vehicle operating costs. This figure does not include the benefits to other road users of increased road capacity around Port Botany as a result of removing approximately 350,000 truck movements from the road system.

In addition, the reduced VKT would also impact on traffic accident costs. Assuming a weighted average crash cost rate of $59,100 per million VKT , the reduction in truck VKT would also provide a saving of up to $390,000 per annum in crash costs.

Table 4.2: Estimate of weighted average vehicle operating costs

Vehicle Type	Vehicle Composition	Vehicle Operating Cost (cents per VKT)	Weighted Vehicle Operating Cost (cents per VKT)
Small	29%	66.75	19.14
Semi-trailer	60%	88.62	53.42
B-double	11%	105.19	11.63
		Weighted Average =	**84.18**

Notes:
1) Vehicle Operating Cost Rates (cents per VKT) For Urban Road Networks, Appendix B, Table 3, RTA Economic Analysis Manual (2003)

Based on this analysis, the Panel is confident that the Enfield ILC would significantly reduce vehicle operating and accident costs on Sydney's road network. This analysis would also suggest that the estimated environmental benefits of the ILC, in Appendix J of the EA, may be conservative.

The Panel concludes that there is strategic justification for the proposed ILC. Accordingly, the Panel recommends that:

***Recommendation 4.1**: The Minister consider granting consent to the proposal subject to the recommendations presented in this Panel report*

5 TRAFFIC AND TRANSPORT ISSUES

5.1 APPROACH

The regional and local traffic implications of the ILC proposal were a key consideration in the Panel's terms of reference (see ***Appendix A***) and a very important concern for the local community as expressed in written submissions and in presentations made directly to the Panel. The community concerns included:

- The accuracy of findings in the traffic and transport analysis in the EA;
- Junction geometry at major entry points is currently inadequate for heavy vehicle;
- ILC traffic using adjacent suburbs to avoid congestion on arterial roads and the lack of detail on proposed mitigation measures;
- The proposed 24/7 operation of the proposed ILC which means residents will be subject to train and truck noise even at night;
- The lack of justification for the proposed site access arrangements - particularly for the introduction of a new access via Wentworth Street which will bring heavy vehicle traffic closer to the residents of Greenacre;
- The ability of the proposed ILC to operate effectively given the current and future congestion levels on the local road network;
- The lack of any State Government commitment to road and rail infrastructure upgrades to address the cumulative impacts of its proposed freight strategy on the wellbeing of local residents;
- That the local community is being asked to bear the environmental costs of the State Government's strategy to move more container freight by rail;
- The impact of the ILC on the operation of Rookwood Cemetery; and
- Impacts of increased traffic on existing businesses in Cosgrove Road.

As part of its consideration of traffic and transport issues, the Panel:

- Undertook extensive analysis of both the EA traffic modelling and community submissions,
- Inspected the site and surrounds, and
- Issued multiple requests to SPC and relevant government authorities seeking clarification of traffic and transport data.

Due to the amount of correspondence and information involved in these data requests, it is not practical to incorporate this material into the discussion in this chapter. Neither would it be acceptable to leave out the supplementary material supplied by SPC. Accordingly, the sequence of correspondence on each issue is presented in ***Appendix F*** of this report.

This chapter presents the Panel's findings, conclusions and recommendations.

5.2 EXISTING TRAFFIC CONDITIONS

A number of submissions criticised the analysis of existing traffic conditions in the EA, in particular the issues of:

- Traffic safety;
- Traffic flows on key routes; and
- Intersection performance.

These issues are discussed in the following sections.

5.2.1 Safety

The local community expressed concern that the ILC proposal would exacerbate already poor road safety conditions in the local area.

The EA included a summary of road safety statistics, total fatalities and injuries for the five year period ending 2004, but did not provide any conclusions as to the safety condition of the local road network. The Panel considers that these statistics by themselves are meaningless unless some form of comparison can be made. Also, the number of crashes is generally a function of exposure. These statistics may be more meaningful if converted to a rate such as fatalities per 100 million vehicle kilometres travelled (MVKT). SPC subsequently provided the Panel with the following crash rate statistics for the same roads (see ***Table 5.1***).

Table 5.1: Crash Rates on Local Roads

Road	Total crashes per 100MVKT	Typical crash rates for urban areas 1988[(1)]	Fatality crashes per 100MVKT	Typical fatality rates for urban areas 1988[(1)]
Boronia Road	127	131.9/256.7	2.7	3.07/3.96
Juno Parade	185	131.9/256.7	1.8	3.07/3.96
Punchbowl Road	148	256.7	0	3.07
Coronation Parade	213	131.9/256.7	0	3.07/3.96
Hume Highway (east of Roberts Road)	117	152.1	1.3	1.42
Hume Highway (west of Roberts Road)	65	152.1	0.6	1.42
Roberts Road	105	152.1	0.8	1.42
Cosgrove Road	10	131.9	0	3.96

Notes:
1) Typical Crash Rates as published in AUSTROADS Guide To Traffic Engineering Practice, Part 5

In addition, SPC provided a series of accident plots for the subject area. These were provided in SPC's submission No.6 to the Panel dated 31 March 2006 and are included in ***Appendix G***.

SPC advised that:

- In most cases the crash rates are less than the typical rates for those types of roads; and
- The fatal crash rates on all roads in the subject area are less than the typical rates in all cases.

The review of crash statistics for Hume Highway, Roberts Road and Cosgrove Road suggested that crash rates on those roads in the immediate vicinity of the proposed ILC site are comparatively lower than for, say, Juno Parade or Coronation Parade. Fatality crash rates on the Hume Highway were higher in the section east of Roberts Road. The highest fatality crash rate (2.7 Fatality Crashes per MVKT) was recorded on Boronia Road.

The crash rates on the roads in the vicinity of the proposed ILC site compared favourably to the typical crash rates in the referenced AUSTROADS publication. However, the Panel notes that such comparisons are problematic due to the age of the AUSTROADS data set. Accident rates in NSW have reduced significantly since 1988[4].

In the absence of any published RTA crash rates for the Sydney metropolitan area, it is not possible for the Panel to draw conclusions as to how these crash rates compare with equivalent roads in other local government areas within Sydney.

5.2.2 Existing Traffic Flows

The local community expressed concern that the EA underestimated traffic flows on adjacent roads in an attempt to provide a more optimistic view of current traffic conditions. In response, the Panel has reviewed the following data:

- Link flow data collected by Strathfield Council over a seven day period in November 2005 using RTA SCATS detectors;
- Link flow data published by the RTA (2002); and
- Link flow data collected by SPC's consultants over a seven day period in February 2005 using surveyors and pneumatic tubes.

The flow comparisons are presented in ***Table 5.2***.

Strathfield Council used volumes from the heaviest day during a single survey week for its comparisons. This may explain why Council's flows are consistently higher than the EA flows, as Council's data represents a single working day rather than a 7-day average that takes into account traffic flow variations over the course of a normal week.

[4] Source: (RTA 2005) "Road Traffic Crashes in NSW: Statistical Statement Year Ended 31 December 2004", (Table 1, Trends in NSW 1950, 1955,1960, 1965-2004) ISSN 055-2546, RTA/Pub 05.317

Table 5.2: Comparison of Traffic Flow Data

Route	EA (February 2005)	Strathfield Council (November 2005)	RTA AADT (2002)
Hume Highway/ Liverpool Road	44,000	52,376	46,972
Juno Parade	15,000	21,104	18,086
Cosgrove Road	14,000	13,931	14,351
Centenary Drive	-	93,709	85,509
Punchbowl Road	35,000	34,475	34,597
Roberts Road	60,000	-	58,922

The Panel also compared Strathfield Council and SKM count data at three critical junctions. The analysis revealed the following:

- Strathfield Council count data at Hume Highway and Cosgrove Road was 1% lower in both the am and pm peak periods than in the data collected by SPC's consultants;
- Strathfield Council count data at Norfolk Road and Roberts Road was 6% lower than SPC's consultant's data in the am peak and 8% higher in the pm peak periods. This type of variation, due to daily and seasonal traffic patterns, is not uncommon;
- Strathfield Council count data at Centenary Drive and Arthur Street was 1% lower than SKM data in the am peak and 6% higher in the pm peak. This type of variation, due to daily and seasonal variations, is not uncommon.

Based on this comparison, it is the Panel's opinion that the existing traffic flow data used in the EA is generally representative of current conditions.

In its review of the junction modelling, the Panel did identify some traffic flow discrepancies between the existing eastbound flows departing the Hume Highway and Centenary Drive junction and those arriving at the Hume Highway and Cosgrove Road junction. There appears to be a significant drop in eastbound flows between junctions. The loss is as high as 1,118 vehicles in the am peak and 357 vehicles in the pm peak period. Even allowing for some traffic loss at Braidwood Avenue, Hedges Avenue and Gould Street, this loss seems significant and warrants investigation.

5.2.3 Existing Junction Performance

The local community expressed concern that the EA estimates of current junction performance were inconsistent with observed conditions.

The Panel reviewed the 35 INTANAL models developed by SPC to estimate current and future intersection performance. It is the Panel's opinion that the EA may, in some instances, underestimate junction delay for the following reasons:

- The INTANAL models do not include any provision for pedestrians. Pedestrian associated delays can influence the capacity of turning vehicle movements and can constrain phase times due to minimum walk and clearance requirements. This can negatively impact on junction performance; and

- The INTANAL models are free to optimise cycle lengths. The models may specify cycle lengths as low 57 seconds, whereas in practice, due to RTA signal coordination policies, actual cycle lengths may be as high as 140 seconds.

The impact of these coding issues on junction results may become more significant for future scenarios as pedestrian activity and traffic flows increase.

5.3 STRATEGIC TRAFFIC MODELS

5.3.1 Calibration

The local community expressed concern that the strategic modelling of traffic forecasts was flawed. In addition, detailed submissions were received from the RTA, Bankstown City Council and Strathfield Council. The Panel undertook a review of the strategic modelling undertaken for the EA.

SPC's consultants used NETANAL strategic models of Sydney to forecast traffic flows in 2016. Three modelling scenarios were used:

- 2005 Calibrated Base Case;
- 2016 Base Case; and
- 2016 Base Case + ILC.

The Panel found the EA documentation of the strategic traffic modelling process was deficient. The specific deficiencies were:

- The EA did not confirm that the strategic models were stable[5];
- The EA did not provide any information on regional calibration of the model, particularly in the region between Port Botany and Enfield (for example, RTA screen-lines 5 and 7);
- There were discrepancies between the 2005 link flows in Tables 4-4 and 4-5 (Appendix B, Page 53) and the 2005 link flows in the Calibration Tables (Appendix B, Page 88). If the link flows in Tables 4-4 and 4-5 are substituted in the calibration tables, the calibration statistics would be considered unacceptable for the PM peak period;
- The am peak model appeared to underestimate traffic flows on the Hume Highway by as much as 13% (GEH[6] >10) and on Georges River Road by as much as 24% (GEH > 13);

[5] *During the NETANAL assignment process, trips are loaded onto the network from/to the zones via centroid connectors. Trips are assigned onto the network, and, through the use of algorithms, determines which links and intersections shall be used to achieve the lowest travel time between origins and destinations. The model loads the trip table zone pair flow to the network incrementally. This is a process in which fractions of traffic volumes are assigned in steps. This assignment method will not result in absolute convergence of the model. Accordingly, users are required to specify the number of increments to be calculated during a particular model run. The user must define a sufficient number of increments to ensure stability in the model results. The default minimum number of increments is 6. To confirm the overall stability of the model the operator is required to compare assigned link flows, between runs undertaken with different numbers of increments, say at 12 or 24 increments. If there is great variation in the link flows - the models are considered unstable.*

[6] *The GEH statistic is a modified chi-squared statistic that incorporates both relative and absolute differences, in comparison of modelled and observed volumes. This measure is featured in the acceptability criteria developed in the UK by the Highways Agency and summarized in Table 4.2, Chapter 4, Part 1, Section 2, Volume 12, Design manual For Roads & Bridges (May 1996). The proponent adopted this UK standard to assess the calibration of its models.*

- There were discrepancies between the 2016 ILC forecasts for Roberts Road in Table 7-5b (EA Chapter 7, Page 7-15) and Figure 7-5b;
- The presentation of some tables and figures was confusing and open to misinterpretation (for example, Figure 7-5a);
- The EA did not provide any information on land use assumptions or sources for the trip tables used in the models;
- The EA did not document the changes made to the model to achieve local calibration; and,
- The EA did not establish local screen-lines on the major east-west and north-south arterials passing through the study area.

As a result, it is understandable why the local community submissions to the Panel included significant concerns relating to the robustness of the EA modelling process. The Panel submitted numerous requests to SPC for additional information. These requests and SPC's responses are listed in ***Appendix F*** (IHAP Requests 7.1, 7.10, 7.13, 7.14, 7.21, 7.24, 7.25, 7.26, 7.27, 7.28, 7.29, 7.30 and 7.31).

Based on the EA and initial SPC responses, the Panel concluded the following:

- The SPC's consultants strategic models were stable;
- The All Vehicle and Heavy Vehicle trip tables used in the model were based on 2001 Transport and Population Data Centre (NSW Department of Planning) forecasts. Whilst they have been modified for this project to include major regional changes associated with Sydney Airport and Port Botany expansions, they will not reflect the latest directions in land use planning across Sydney;
- The 2016 forecast models cannot be used to estimate overall benefits to network delay or VKT resulting from the relocation of container movements from road to rail;
- The local calibration of both the am and the pm peak model used in the EA was inadequate. SPC's consultants subsequently recalibrated this model and updated the pm peak traffic flow forecasts. These revised forecasts are now described as the 'PPR forecasts'; and
- The calibration of the models at the regional level between Enfield and Port Botany (RTA screen-lines 5 and 7) could not be confirmed. The proponent offered comparisons between RTA survey data collected in 2002 and the modelled flows from its 2005 model. These comparisons are presented in ***Table 2*** of ***Appendix I*** of this report. There is significant variation between the two data sets, however, due to the temporal differences, it is difficult for the Panel to determine whether these differences are due to poor calibration, recent changes in the road network or background traffic growth.

The Proponents final responses to these issues have been documented in ***Appendix G***. In conclusion, the Panel has received traffic forecasts from adequately calibrated models. The revised forecasts are relatively consistent with those published in the EA.

5.3.2 Growth Forecasts

The RTA raised concerns about the growth rates forecast in the EA model. The PPR models are currently forecasting average annual growth rates on the roads in the region between Port Botany and Enfield of 1.3% and 0.8% in the am and pm peaks respectively (see ***Table 1*** of ***Appendix I***).

In its submission dated 2 March 2006, the RTA stated that forecast traffic growth in the EA model appeared to be higher than what it would expect within the modelling timeframe. The RTA found it hard to understand how such rapid growth could be sustained given that these roads are located in a middle-ring suburban area with little growth in surrounding population or employment anticipated in the next ten years. The RTA was concerned that the high forecasts would have the effect of diluting the estimated ILC impacts.

The Panel has undertaken a comparison of the traffic growth forecast in the EA, PPR and RTA am peak models. This comparison is presented below in **Table 5.3**. The RTA traffic flow forecasts in the vicinity of the site were provided on 24 May 2006 and are included in **Appendix H**.

The Panel's review of the EA, PPR and RTA forecasts revealed the following:

- The EA and PPR models are forecasting significantly higher growth rates along Hume Highway than the RTA model;
- Both the RTA and PPR models are forecasting low growth rates along Roberts Road and Centenary Drive over the next 10 years; and
- All three models are forecasting little or no growth along Georges River Road in the next 10 years.

In conclusion, the only significant difference between the RTA and PPR model forecasts are along the Hume Highway corridor. The Panel considers that these differences could be attributable to factors including the following:

- The underlying land use and road network assumptions may differ between models;
- Whilst the proposed ILC site is located in a well-established 'middle ring' area, there are a number of proposals for residential consolidation and industrial development in the region which could result in significant growth in local population and employment;
- The RTA's base-case models appear to be underestimating current flows on Hume Highway. An initial comparison of calibration suggests that the PPR model may be achieving better calibration in the vicinity of the Enfield ILC than the RTA model (see ***Table 5.4***); and
- The coarseness of the RTA strategic model. In the RTA model, it appears that DIPNR Travel Zone 220 (which covers the Enfield site and some of the residential areas fronting Cosgrove Road to the south-east of the site) has not been disaggregated and it has a single centroid connector loading all zonal trips onto Cosgrove Road. In reality, many of these zonal trips would enter the arterial network via Roberts Road, Hume Highway or Punchbowl Road.

In the absence of any calibration or land use documentation from RTA, it is not possible for the Panel to determine whether or not the RTA models provide a more plausible forecast scenario than those presented by SPC. Indeed, evidence would suggest that the SPC's PPR model may have achieved a better level of model refinement and calibration in the vicinity of the site (see ***Table 5.4***).

In terms of an assessment of the proposed ILC impacts, the Panel considers that the adoption of the higher PPR forecasts or the lower RTA forecasts is unlikely to significantly change the overall results of the assessment.

Table 5.3: Comparison of AM Peak Forecast Traffic Growth in EA, PPR and RTA Strategic Models

Location	Model	Direction	2005 Base	2016 Base	Difference	*Annual average growth*
Hume Highway west of Centenary Drive	EA[1]	EB	3,160	4,038	878	*2.20%*
		WB	2,367	2,747	380	*1.40%*
	PPR[2]	EB	3,463	4,451	988	*2.30%*
		WB	2,573	2,958	385	*1.30%*
	RTA[3]	EB	3,055	3,117	62	*0.20%*
		WB	2,171	2,392	221	*0.90%*
Hume Highway east of Cosgrove Road	EA	EB	2,407	3,124	717	*2.40%*
		WB	1,665	2,027	362	*1.80%*
	PPR	EB	2,447	3,301	854	*2.70%*
		WB	1,954	2,371	417	*1.80%*
	RTA	EB	2,278	2,433	155	*0.60%*
		WB	1,278	1,459	181	*1.20%*
Roberts Road south of Norfolk Road	EA	NB	2,146	2,801	655	*2.40%*
		SB	2,470	2,178	-292	*-1.10%*
	PPR	NB	2,506	2,593	87	*0.30%*
		SB	1,892	1,868	-24	*-0.10%*
	RTA	NB	2,716	2,815	99	*0.30%*
		SB	2,264	2,281	17	*0.10%*
Centenary Drive south of Barker Road	EA	NB	3,172	3,835	663	*1.70%*
		SB	3,826	3,916	90	*0.20%*
	PPR	NB	4,018	4,416	398	*0.90%*
		SB	3,190	3,332	142	*0.40%*
	RTA	NB	4,249	4,333	84	*0.20%*
		SB	3,760	3,696	-64	*-0.20%*
Georges River Road east of Coronation Parade	EA	EB	782	755	-27	*-0.30%*
		WB	1,167	1,129	-38	*-0.30%*
	PPR	EB	1,385	1,292	-93	*-0.60%*
		WB	1,137	1,298	161	*1.20%*
	RTA	EB	1,229	1,226	-3	*0.00%*
		WB	1,015	1,134	119	*1.00%*

Notes:

1) EA Forecasts derived from EA, Page 7-14, Table 7-5a

2) PPR Forecasts derived from Table 1-1 of SKM submission to IHAP dated 23 May 2006

3) RTA Forecasts derived from RTA submission to IHAP dated 2 March 2006 and 24 May 2006. The 2-hour AM peak flows have been converted to a 1-hour peak using a 0.55 conversion factor.

Table 5.4: Calibration Comparison of EA, PPR and RTA AM Peak Models

Location	Base Model	Eastbound/ Northbound	*GEH*[4]	Westbound/ Southbound	*GEH*[4]
Hume Highway west of Centenary Drive	EA[1]	3,160	*10.7*	2,367	*4.2*
	PPR[2]	3,463	*5.4*	2,573	*0*
	RTA[3]	3,055	*12.6*	2,171	*8.3*
	Existing	3,791	-	2,575	-
Hume Highway east of Cosgrove Road	EA	2,407	*3*	1,665	*2.8*
	PPR	2,447	*3.8*	1,954	*4*
	RTA	2,278	*0.3*	1,278	*12.8*
	Existing	2,264	-	1,780	-
Roberts Road south of Norfolk Road	EA	2,564	*3.1*	1,924	*2.8*
	PPR	2,506	*4.3*	1,892	*3.5*
	RTA	2,716	*0.2*	2,264	*4.6*
	Existing	2,724	-	2,049	-
Centenary Drive south of Barker Road	EA	3,836	*3.9*	3,283	*2.8*
	PPR	4,018	*6.8*	3,190	*1.1*
	RTA	4,249	*10.4*	3,760	*10.8*
	Existing	3,597	-	3,127	-
Georges River Road east of Coronation Parade	EA	981	*14.9*	1,103	*3.8*
	PPR	1,385	*3.2*	1,137	*2.8*
	RTA	1,229	*7.5*	1,015	*6.5*
	Existing	1,507	-	1,234	-

Notes:

1) EA Forecasts derived from Calibration Tables in EA, Appendix B, Pages 87 and 88

2) PPR Forecasts derived from Table 1-1 of SKM submission to IHAP dated 23 May 2006

3) RTA Forecasts derived from RTA submissions to IHAP dated 2 March 2006 and 24 May 2006. The 2-hour AM peak flows have been converted to a 1-hour peak using a 0.55 conversion factor.

4) The GEH statistic is a modified chi-squared statistic that incorporates both relative and absolute differences. A value less than 5 is considered acceptable match.

Tables 5.5 & 5.6 provide a comparison of the 2016 am and pm peak forecasts from the EA, PPR and RTA models. Even against existing flows, the ILC traffic volumes would represent only a small proportion (relative or absolute) of total traffic on the surrounding arterial road system. The exception to this pattern would be on Cosgrove Road and Wentworth Street. In both these cases, the proportional increase is significantly large but the absolute numbers are relatively low.

In conclusion, the Panel is satisfied that the 2016 forecasts from the PPR model are acceptable for use in the assessment of the proposed ILC traffic impacts.

Table 5.5: Comparison of PPR and RTA 2016 AM Peak Forecasts

Street	Location	Dir	2016 Modelled (PPR)	2016 Modelled (RTA)	Diff	%Diff
Boronia Road	E of Hume Highway	EB	693	961	268	28%
Boronia Road	E of Hume Highway	WB	807	1188	381	32%
Centenary Drive	S of Weerona Road	NB	4416	4333	-83	-2%
Centenary Drive	S of Weerona Road	SB	3332	3696	364	10%
Georges River Road	E of Coronation Parade	EB	1292	1266	-26	-2%
Georges River Road	E of Coronation Parade	WB	1298	1134	-164	-14%
Hume Highway	W of Centenary Drive	EB	4451	3117	-1334	-43%
Hume Highway	W of Centenary Drive	WB	2958	2392	-566	-24%
Hume Highway	E of Cosgrove Road	NB	3301	2432	-869	-36%
Hume Highway	E of Cosgrove Road	SB	2371	1459	-912	-63%
Roberts Road	S of Norfolk Road	NB	2593	2815	222	8%
Roberts Road	S of Norfolk Road	SB	1868	2281	413	18%

Notes:
1) Sourced from RTA EMME/2 plots submitted to IHAP 25 May 2006. The 2-hour AM Peak flows have been converted to a 1-hour peak using a 0.55 conversion factor.
2) Sourced from Table 1-1, Page 2 of SKM submission to IHAP dated 23 May 2006

Table 5.6: Comparison of PPR and RTA 2016 PM Peak Forecasts

Street	Location	Dir	2016 Modelled (PPR)	2016 Modelled (RTA)	Diff	%Diff
Boronia Road	E of Hume Hwy	EB	568	985	417	42%
Boronia Road	E of Hume Hwy	WB	775	718	-57	-8%
Centenary Drive	S of Weerona Rd	NB	3659	3449	-210	-6%
Centenary Drive	S of Weerona Rd	SB	3772	4008	236	6%
Georges River Road	E of Coronation Pde	EB	1037	1252	215	17%
Georges River Road	E of Coronation Pde	WB	1254	1116	-138	-12%
Hume Highway	W of Centenary Dr	EB	2851	2255	-596	-26%
Hume Highway	W of Centenary Dr	WB	3874	3092	-782	-25%
Hume Highway	E of Cosgrove Road	NB	2714	1453	-1261	-87%
Hume Highway	E of Cosgrove Road	SB	3064	2281	-783	-34%
Roberts Road	S of Norfolk Rd	NB	2571	2064	-507	-25%
Roberts Road	S of Norfolk Rd	SB	2116	2477	361	15%

Notes:
1) Sourced from RTA EMME/2 plots submitted to IHAP 25 May 2006. The 2-hour pm peak flows have been converted to a 1-hour peak using a 0.52 conversion factor
2) Sourced from Table 1-2, Page 3 of SKM submission to IHAP dated 23 May 2006

5.4 TRAFFIC IMPACTS

The traffic impacts from operation of the proposed ILC during peak periods are provided in EA Tables 7-5a and 7-5b as well as Figures 7-5a and 7-5b. The Panel discovered a number of inconsistencies in these tables and figures during the course of its review. These are documented in ***Appendix F*** of this report (IHAP queries 7.33-7.39). This prompted SPC to recalibrate its strategic traffic models and re-issue an update of these tables to the Panel on 23 May 2006. This modelling update is referred to in this report as the PPR forecasts.

The community as well as State Government authorities such as the RTA complained that the presentation of the ILC flow data was limited and open to misinterpretation. They contended that traffic flow data was provided at limited locations and the dispersion of traffic flow into the adjacent network was unclear. The standard link flow plots and flow difference plots produced by NETANAL would have provided a far superior level of information than the figures provided. Specific concern was raised that the following information was not provided in the EA:

- Estimates of heavy vehicle volumes for the 2016 Base Case so that the impact of the proposed ILC on heavy vehicle numbers could be assessed;
- Traffic forecasts for the southern section of Cosgrove Road;
- Traffic forecasts for the northern section of Roberts Road;
- Traffic forecasts for the Hume Highway between Centenary Drive and Cosgrove Road;
- Traffic forecasts for Juno Parade or Punchbowl Road;
- existing heavy vehicle flows are available in the Figures, however, these are rounded to the nearest 10 vehicles;
- Forecast heavy vehicle flows for the 2016 ILC scenario are available in the Figures, however, these are rounded to the nearest 10 vehicles; and
- Traffic forecasts expressed as Passenger Car Unit Equivalents (PCUs).

Although poorly documented, the Panel was able to assess the impacts of the ILC development on local roads. The Panel produced a series of expanded spreadsheets and figures in order to assess the potential traffic impacts of the ILC proposal. These spreadsheets are presented in ***Appendix J*****.**

The EA estimates that the ILC proposal would generate up to 1160 truck trips per day. This equates to some 2,460 PCUs per day (see ***Table 5.7***). The average breakdown of truck types visiting the site would be:

- Small 30%
- Semi-trailer 60%
- B-doubles 11%.

However, this truck profile would vary throughout the day. For example, at night the percentage of small vehicles would decrease and the percentage of semi-trailer vehicles would increase. ***Table 5.7*** provides an estimate of the daily truck impacts in terms equivalents. The peak truck trip generation is estimated to be 103 truck movements (209 PCUs) during the period ending 14:00 hours.

The principal source of car trip generation on-site is expected to be related to journey to work travel by staff. The EA staffing estimates are presented in Table 3.3 of Appendix B to the EA. The EA estimated a total weekday ILC workforce of up to 378 staff. Based on the EA

assumption of average vehicle occupancy of 1.0 and all work trips by car, this represents up to 756 car trips per day.

The peak period for these journey-to-work based car trips is expected to occur during the changeover from day-shift to night-shift in the hour ending 16:30 hours. During this period the 87 night-shift workers would arrive to replace the 149 day shift workers. This would generate up to 236 car trips and would coincide with the busiest period of ILC truck activity. During this crucial period, the site would generate 236 car trips and up to 103 truck trips. This represents a peak of up to 406 PCUs movements in the hour ending around 16:30 hours. This peak also would coincide with the end of the after-school traffic peaks in the area and traffic peaks associated with the activities at the nearby Lakemba Mosque. The Panel considers that it is this peak period that the EA assessment should focus more attention on rather than the traditional am and pm peak periods.

The other car trip peaks relate to the trips made by the 142 staff who would work standard 'office' hours. This would generate up to 142 inbound movements in the morning peak and 142 outbound movements in the afternoon peak. The EA assumes that 90% of these would actually occur in the peak hour. The updated Tables 1-1 and 1-2 in the SPC's submission to the Panel dated 23 May 2006, estimates 126 inbound car trips in the morning peak and 127 outbound car trips in the afternoon peak. A summary of ILC these trip generation peaks is provided in ***Table 5.8***.

The distribution of ILC heavy vehicle traffic and all vehicle traffic, expressed in PCUs, is presented in ***Figure 5.1***.

It is also noted that the EA (in Appendix B, Section 4.2.3), estimates that an additional 169 cars and truck trips would be generated during each am and pm peak period by the light industrial area along Cosgrove Road included in the ILC proposal. These trips are not included in the EA traffic forecast (Tables 7-5a or 7-5b), nor in the updated Tables of the Draft PPR. As the light industrial area along Cosgrove Road forms part of this ILC development proposal for which approval is sought, the traffic generation associated with the activity should have been included in the impact assessment. In addition, existing flows for the southern end of Cosgrove Road were not provided in the EA so an ad-hoc assessment could not be undertaken. Accordingly, the Panel was unable to assess the potential impact this component of the ILC development may have on the southern end of Cosgrove Road.

In terms of overall traffic impacts during peak periods (excluding the proposed light industrial development on Cosgrove Road), the Panel makes the following conclusions:

- The proposed ILC would generate 1,160 trucks and 756 cars per day;
- During peak periods, the increase in traffic on arterial roads such as Roberts Road, Centennial Drive, Punchbowl Road, Hume Highway and Georges River Road due to the proposed ILC would not be significant. In the case of these arterial roads, the proposed ILC would contribute an increase of less than 3% to peak period flows in 2016;
- The greatest ILC traffic impacts would occur on the local roads of Wentworth Street, Norfolk Road and Cosgrove Road;
- Wentworth Street and Norfolk Road would experience additional peak period traffic growth of up to 36% due to the proposed ILC. This growth would mostly be in heavy vehicle movements. Whilst the absolute numbers may be small - 82 and 48 trucks in the am and pm peaks respectively - this increase would have maintenance and congestion implications for existing users of Wentworth Street; and

- The northern end of Cosgrove Road would experience additional peak period traffic growth of up to 18% in 2016 as a result of the proposed ILC development. Unlike Wentworth Street, these impacts would be mostly car-related and are tidal in nature. Although the absolute numbers are relatively small - 58 and 91 vehicles in the am and pm peaks respectively - the pm peak increase, which is predominantly northbound, would impact on the performance of the Cosgrove Road and Hume Highway junction.

Table 5.7: Daily Truck Profile (PCUs)

Hour ending	B-Doubles	Semi-trailers	Small	Total (trucks)	Total (PCUs)
1	1	6	0	7	17
2	2	9	0	11	27
3	2	9	0	11	27
4	0	0	0	0	0
5	0	0	0	0	0
6	2	13	3	18	40
7	6	34	16	56	119
8	9	51	28	88	183
9	8	46	31	85	173
10	8	41	30	79	160
11	9	49	26	84	176
12	8	42	31	81	163
13	8	41	32	81	162
14	9	51	36	96	194
15	10	55	38	103	209
16	10	57	25	92	197
17	8	43	18	69	149
18	7	38	8	53	121
19	5	26	3	34	80
20	5	27	2	34	81
21	4	21	3	28	65
22	3	17	1	21	50
23	3	15	0	18	44
24	1	7	1	9	21
TOTALS	**128**	**698**	**332**	**1158**	**2459**
%	***11%***	***60%***	***29%***	***100%***	

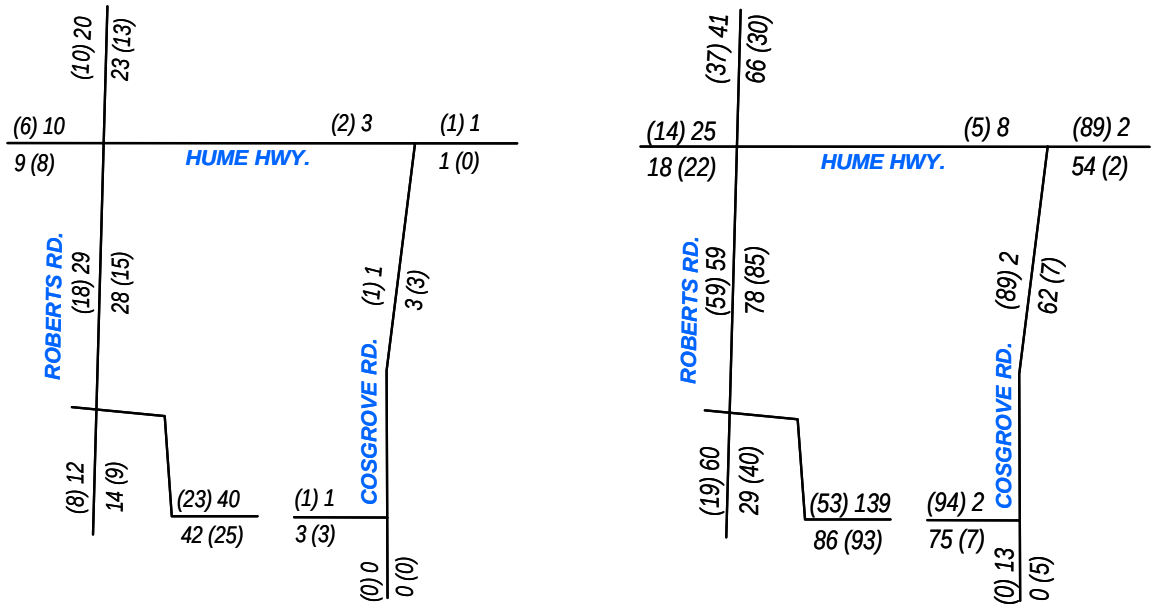
Notes:
1) Distribution of trucks based on peak hour truck activity presented in EA, Appendix B, Table 4-2
2) PCU estimates based on the following conversion factors; B-double=3.3, Semi=2.3, Small=1.3
3) Totals may not add up due to rounding errors

Table 5.8: Summary of Peak ILC Traffic Movments (PCUs)

Peak (Hr Ending)	Inbound		Outbound		Total inbound (PCUs)	Total outbound (PCUs)
	Trucks	Cars	Trucks	Cars		
9:00	43	126	43	0	214	88
16:30	34	87	35	149	171	235
18:00	26	0	26	127	60	187

Notes:
1) Peak hour truck and car estimates based on Tables 1-1 and 1-2 of Proponent Submission to IHAP dated 23 May 2006.
2) Distribution of trucks based on peak hour truck activity presented in EA, Table 7-4
3) PCU estimates based on the following conversion factors; B-double=3.3, Semi=2.3, Small=1.3

Figure 5.1: Estimated Distribution of ILC Traffic During AM & PM Peak Periods.



LEGEND
10 Estimated AM Peak Hour Flows (Trucks)
(15) Estimated PM Peak Hour Flows (Trucks)

LEGEND
86 Estimated AM Peak Hour Flows (PCUs)
(93) Estimated PM Peak Hour Flows (PCUs)

Source:
1) Truck data interpreted from Tables 1-1 and 1-2 of Proponent Submission dated 23 May 2006-05-31
2) PCU estimates based on Tables 3 and 4 in Appendix E

5.5 NORFOLK ROAD ACCESS ARRANGEMENTS

The ILC proposal includes a new site access point via Wentworth Street and Norfolk Road.

This new access would require the construction of a $7 million road bridge over the existing marshalling yard to connect the site to Wentworth Street. This would become the primary access point for the site. It would service between 92% and 95% of all heavy vehicle movements in and out of the site during the am and pm peaks and overall it would service 74% and 56% of all movements in and out of the site (expressed as PCU's) in the am and pm peaks respectively.

The residents of Greenacre are concerned that this new access would encourage 'rat-running' through their suburb and that the following matters were not adequately addressed in the EA:

- The reasons for providing a new access point and the process for selecting its location; and
- The Local Area Traffic Management (LATM) measures that the SPC would install to reduce the risk of ILC trucks using the residential streets of Greenacre to access the site.

The community also raised concerns about the ability of the Norfolk Road and Roberts Road junction to accommodate the heavy vehicle traffic generated by the proposed ILC. The specific concerns were:

- Inadequate geometry to accommodate B-double swept paths;
- Inadequate capacity and phasing; and
- Inadequate pavement design standards.

5.5.1 Reasons for a Second Access

SPC advised the Panel that the second access point at Wentworth Street was provided for the following reasons:

- emergency access and evacuation;
- improved internal accessibility;
- to provide more direct access between the Enfield ILC and its market catchments to the west and south-west; and
- to provide access choices to drivers during congestion on the arterial roads approaching the site.

SPC submitted additional information to the Panel regarding the access design and location selection process. SPC investigated a number of access options including:

- one-way pair access via Cosgrove Road and Gould Street;
- various locations along Wentworth Street;
- a ramp connection to Punchbowl Road;
- an extension of Amarina Avenue through to Wentworth Street; and
- a ramp connection directly to Roberts Road.

These options were all considered and rejected for various reasons. This assessment process is documented in SPC's submission No.3 included in Appendix H. After reviewing

this supplementary documentation, the Panel found that, given the site constraints and operational requirements of the site, SPC's preferred option was the best of the access arrangements investigated.

5.5.2 Local Area Traffic Management

The EA does not provide the residents of Greenacre with any firm traffic management proposals to allay their concerns about 'rat-running' of heavy vehicles generated from the ILC site, in particular, the concerns that:

- Heavy vehicle drivers exiting the proposed ILC site may see merit in continuing west along Norfolk Road, through Greenacre, to access the Hume Highway in order to by-pass traffic congestion and delays along Roberts Road; and
- The new access point would transfer potential ILC heavy vehicle noise impacts to Roberts Road.

Heavy vehicle access along Norfolk Road, west of Roberts Road, is currently restricted by a 3 tonne load limit. However, local residents questioned the effectiveness of such restrictions to prevent heavy vehicle 'rat-running'. The Panel understands that the RTA had discussions with the SPC regarding this issue. The RTA wrote to SPC in October 2005 and recommended the following treatments:

- The banning of east/west through movements at the signalised junction of Norfolk Road and Roberts Road;
- Median closure on Hume Highway at Como Road;
- Curfew on the use of the Wentworth Street site access between 11pm and 5am;
- Stop-sign priority changes on Noble Avenue at Northcote Road and Chiswick Road;
- Monitoring of truck movements in Norfolk Road west of Roberts Road.

Other LATM measures, such as raised thresholds, were considered, however, these were rejected because of the potential adverse impacts these measures would have on the local bus services using the precinct. In preparing these recommendations, the RTA sought a balance between restricting truck movements and maintaining resident access to the Greenacre area.

In response to these 'rat-running' issues, the EA proposed the following:

- Development of a Heavy Vehicle Management Plan; and
- Introducing LATM measures in consultation with local government and the RTA.

The Panel notes that these measures have been updated in the Statement of Commitments included in the PPR (p47). The lack of any specific timeframe for the implementation of the LATM measures in the Statement of Commitments needs to be addressed in order to reassure the community. Accordingly, the Panel recommends that:

Recommendation 5.1: *The LATM measures recommended by RTA in October 2005 be included in the Statement of Commitments and be installed prior to the Enfield ILC becoming operational.*

5.5.3 Inadequate Junction Geometry

The Panel undertook a review of B-double vehicle 'swept paths' (i.e. the amount of road space that a vehicle needs to make a turn without hitting something) at the junction of Norfolk Road and Roberts Road. It is clear from this desk-top analysis that a B-double vehicle would not be able to maintain lane discipline during the following turning movements:

- The right turn from Roberts Road northbound into Norfolk Road eastbound. Trucks would have to swing out of the right turn bay into the adjacent through lane in order to perform the turn;
- The left turn from Norfolk Road westbound into Roberts Road southbound - trucks would have to make the left turn from the right lane. Even then, it is likely that the truck may impact the south-east corner kerb and central median on the southern approach of Roberts Road. This is confirmed by tyre marks on the kerbs observed during site inspections; and
- The left turn from Roberts Road southbound into Norfolk Road eastbound - trucks would have to swing very wide into adjacent through lanes in order to make the left turn into Norfolk Road. The north-east corner kerb is severely damaged due to repeated tyre impacts.

Based on these observations, it is a concern to the Panel that this junction cannot safely accommodate B-double turns into Norfolk Road given that it is an existing B-double route[7] and it would be the main access point to the proposed ILC site.

The forecast increase in heavy vehicle volumes throughout the day and night due to the proposed ILC would exacerbate the kerb damage and maintenance requirements at the junction of Norfolk Road and Roberts Road and increases the risk of side-swipe accidents during heavy vehicle manoeuvres.

The EA undertook a review of pavement conditions on the roads surrounding the site. The EA notes that the condition of the pavement in Wentworth Street north of Mayvic Street is good and suitable for heavy vehicle use. However, the section of pavement south of Mayvic Street has deteriorated and needs pavement rehabilitation and widening.

The operation of the proposed ILC may contribute more than 870 heavy vehicle movements per day[8] on the 320m section of poor quality pavement south of Mayvic Street. More than 71% of these heavy vehicle movements could be by 25m B-doubles or 19m semi-trailers. This increase in heavy vehicle traffic is expected to impact on pavement condition and life and SPC should contribute to the amelioration of those impacts.

Accordingly the Panel recommends that:

Recommendation 5.2: *SPC funds the reconstruction of the junction geometry of Norfolk Road and Roberts Road to accommodate 19m semi-trailer and 25m B-double truck swept paths in accordance with the relevant RTA and AUSTROADS standards.*

Recommendation 5.3: *SPC funds the realignment of the junction geometry of Norfolk Road and Wentworth Street, where required, to accommodate 19m semi-trailer and 25m B-double movements in accordance with the relevant RTA and AUSTROADS standards.*

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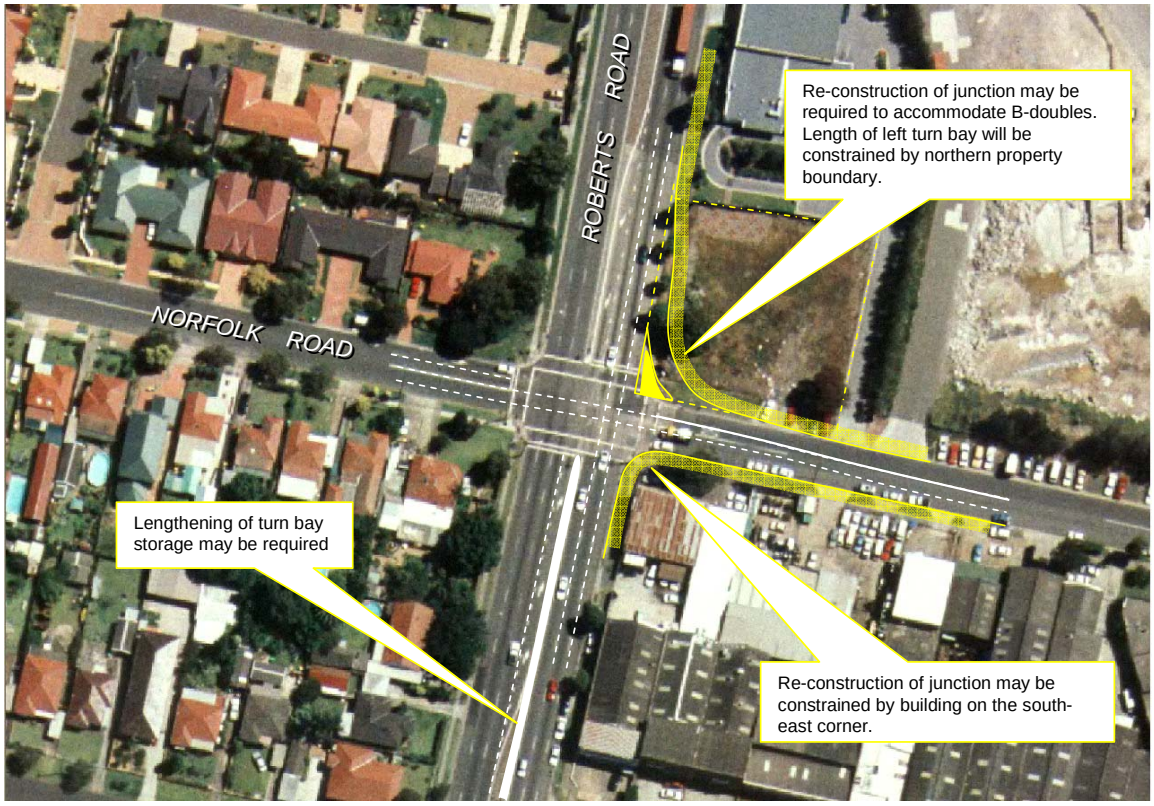
[7] *B-double route 62(23) – Norfolk Road From Roberts Road to Metro Small Goods*

[8] *Assuming that 75% of daily truck movements use the Wentworth Street entrance*

***Recommendation 5.4**: SPC contribute to the upgrade of the pavement of Wentworth Street and Norfolk Road - between Roberts Road and the proposed ILC entrance - to a standard suitable for use by 19m semi-trailer and 25m B-double vehicles.*

Figure 5.2 : Upgrade options at Norfolk Road and Roberts Road



5.5.4 Junction Performance and Phasing

The estimates of future performance of the Roberts Road and Norfolk Road junction were presented in Table 7-6 of the EA.

During the IHAP process, SPC recalibrated the strategic models to produce the PPR forecasts and updated the junction analysis. The performance of Norfolk Road and Roberts Road was not significantly impacted by the revised PPR forecasts. The PPR forecasts that the junction would operate at LOS C or better in 2016 during the am and pm peaks. However, as discussed in Section 4.2.3, the Panel considers that the EA junction models may be underestimating junction delay.

At present, the junction generally operates under 3-phase signal control with a single diamond phase on Roberts Road to accommodate the two right turn movements from Roberts Road into Norfolk Road east and west. The average cycle length during peak periods is 140 seconds.

The existing right turn bays in Roberts Road provide less than 50m storage on both approaches. The INTANAL modelling[9] suggests that the southbound right turn bay would

[9] *INTANAL file 16_4_07A*

need to be extended and that the northbound right turn bay may be marginal. Given that these models do not include pedestrian delay, nor reflect the storage requirements of 25m B-doubles, it is highly likely that right turn queues may extend beyond the available storage length during peak periods.

Accordingly the Panel recommends that:

Recommendation 5.5: *SPC funds an increase of the storage length of the northbound right turn bay in Roberts Road approaching Norfolk Road to accommodate forecast maximum ILC traffic queues.*

Access out of Norfolk Road to Roberts Road is provided by a single phase signal control. Right turn movements out of Norfolk Road are required to give way to oncoming traffic as well as to pedestrians using the crossing on the northern approach. Left turn movements are required to give way to pedestrians using the crossing on the southern approach. Due to parking on the approaches, a single truck waiting to make a turn, left or right, can block the whole approach thereby reducing the effectiveness of available green-time and thus the operation of this junction.

The proposed ILC would increase the peak hour westbound traffic flows exiting Norfolk Road by up to 29%, and a significant percentage of this additional traffic would be heavy vehicles. This traffic is likely to put more demand on the limited green-time available at the junction and/or result in long delays for traffic exiting Norfolk Road. To address these issues it may be necessary to reconstruct the signals at Norfolk Road and Roberts Road as follows:

- provide split approach phasing on the Norfolk Road approaches to ensure efficient egress;
- eliminate the pedestrian crossing on the northern approach to reduce the conflict with the heavy vehicle right turn from the eastern approach;
- run the pedestrian phase on the southern approach during the heavy westbound movement from the ILC site to minimise wastage of green-time due to pedestrian minimum walk and clearance requirements extending phase times longer than required to service vehicles alone; and
- install ‘No Standing’ parking restrictions on the eastern approach for a distance of at least 50m.

Accordingly the Panel recommends that:

Recommendation 5.6*: SPC funds the reconstruction of the signals at Norfolk Road and Roberts Road to provide split-approach phasing on the Norfolk Road approaches. As part of this work, the SPC should also install ‘No Standing’ parking restrictions on the eastern approach for a distance of least 50m.*

Recommendation 5.7*: SPC consult with Council to install 4-hour parking restrictions along the full length of Wentworth Street to discourage the parking of trailers on the site approaches.*

5.6 COSGROVE ROAD ACCESS ARRANGEMENTS

Cosgrove Road would provide a secondary access point to the proposed ILC site. It is expected to accommodate up to 8% of heavy vehicle movements accessing the site. The

proposed ILC is expected to increase traffic movements on the northern section of Cosgrove Road during peak periods by as much as 18% at maximum proposed throughput.

The community raised concerns about the ability of the junction of the Hume Highway and Cosgrove Road to accommodate the heavy vehicle traffic generated by the proposed ILC. The specific concerns were:

- inadequate geometry to accommodate B-double swept paths;
- inadequate capacity and phasing; and
- impacts on on-street parking.

5.6.1 Inadequate Junction Geometry

The Panel undertook a review of B-double 'swept paths' at the junction of Hume Highway and Cosgrove Road. It is clear from this review that a 25m B-double or 19m semi-trailer would not be able to maintain lane discipline during the following turning movements:

- left turn from Cosgrove Road into Hume Highway westbound;
- right turn from Cosgrove Road in Hume Highway eastbound; and
- left turn from Hume Highway Westbound into Cosgrove Road southbound.

Although the volumes of ILC-generated trucks using the junction are expected to be low - less than 8% during the peak periods - it is a concern to the Panel that this junction cannot safely accommodate B-double turns, given that it is an existing B-double route[10] and it would be the alternate access point to the proposed ILC site.

Accordingly the Panel recommends that:

Recommendation 5.8*: That SPC fund the reconstruction of Cosgrove Road and Hume Highway to accommodate 19m semi-trailer and 25m B-double truck swept paths in accordance with the relevant RTA and AUSTROADS standards.*

5.6.2 Junction Performance

The estimates of future performance of the Hume Highway and Cosgrove Road junction are presented in Table 7-6 of the EA. These have been up-dated by SPC based on the revised PPR forecasts. The junction modelling suggests that this junction would be operating at LOS F by 2016 in both the am and pm peak periods.

Since all ILC heavy vehicle access via Cosgrove Road would pass through this junction, this represents a significant constraint on ILC site access. The consequences of the poor junction performance would include:

- increased pressure on the Wentworth Street access;
- increased transport costs; and
- a flattening of the arrival profile presented in Figure 7.4 of the EA so that more ILC trips occur in off-peak periods.

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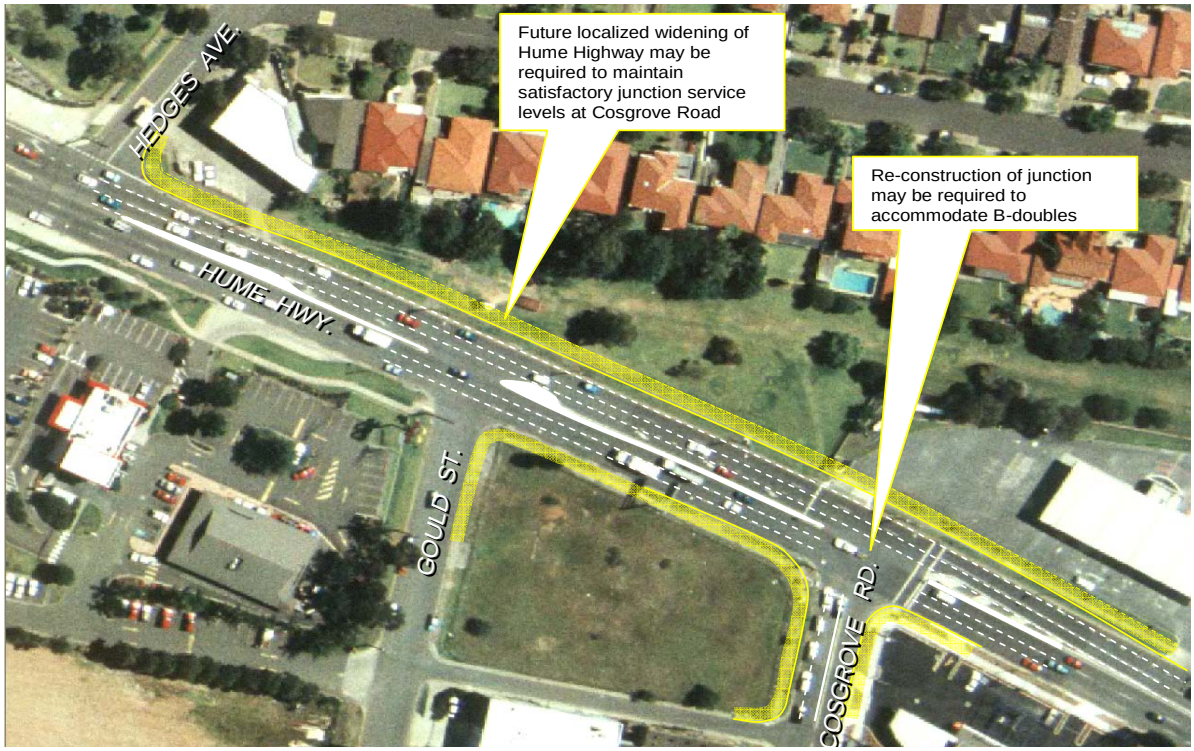
[10] *Route 63(23) – Cosgrove Road from Hume Highway to TNT Depot*

Although SPC has shown that the performance of this junction would be poor, regardless of whether the ILC is operating or not, it is clear that the ILC would increase traffic movements in the northern section of Cosgrove Road by up to 18%. These additional movements would contribute significantly to the future estimated delay levels at the junction. Accordingly, the Panel considers that SPC should contribute towards the upgrade of the junction.

As part of the junction modelling for the EA, SPC has assessed the benefits of localised widening of the Hume Highway between Hedges Avenue and Cosgrove Road to provide three eastbound lanes. The junction modelling suggests that this would improve junction performance from LOS F to LOS D or better during the peak periods (see ***Figure 5.3***).

Figure 5.3: Improvement options for Cosgrove Road and the Hume Highway



It is noted that cadastral information reviewed by the Panel would suggest that property boundaries have already been set-back, on the northern side of this section of Hume Highway, to provide for future road widening. This provision should reduce acquisition costs associated with the proposal.

The Panel notes that localised widening of the northern side of the Hume between Hedges Avenue and Cosgrove Road, in order to provide an additional eastbound through lane at the junction of Cosgrove Road and Hume Highway, would have significant benefits to the ILC and Hume Highway traffic.

5.6.3 Cosgrove Road Site Entry

The EA states that turning movements at the Cosgrove Road entry to the proposed ILC site would be restricted to right-in and left-out movements only. This commitment by SPC is important to the community. The Panel received a number of submissions from the community seeking clarification as to how this restriction would be enforced by SPC.

The Panel noted that the traffic flow forecasts provided in Tables 7-5a and 7-5b of the EA show some car trips accessing the proposed ILC site via Georges River Road/ Punchbowl Road. If this is the case, then it may be difficult for SPC to provide physical means such as medians or kerb arrangements beyond the ILC site boundaries to enforce the proposed restriction.

In addition to the day-to-day entry point to Cosgrove Road, there would need to be additional emergency access points along Cosgrove Road. SPC has not indicated their likely number or location or what impact these access points may have on parking in Cosgrove Road.

Accordingly the Panel recommends that:

***Recommendation 5.9**: SPC confirms the Cosgrove Road site entry restrictions in its Statement of Commitments in the PPR and advises how this restriction would be enforced and/or provides a concept design of the proposed entry arrangement to confirm design viability.*

***Recommendation 5.10**: SPC clarify requirements for additional ILC site emergency vehicle/evacuation access points along Cosgrove Road and any on-street parking restrictions that may be required to keep these access points clear at all times*.

5.7 PUBLIC TRANSPORT IMPACTS

The EA discussion of public transport in Section 7.2 does not consider the Hume Highway Regional Bus Corridor or the potential impacts of the corridor on the proposed ILC. It also does not discuss the bus services currently operating in Cosgrove Road. There are bus-shelters located on Cosgrove Road close to the proposed ILC entry and at the Locomotive Maintenance Centre entry.

The State Government is currently in the process of implementing a network of strategic bus corridors across Sydney. Bus services in these corridors will provide fast, frequent, direct and convenient links between major regional centres. To achieve this objective, the State Government is looking to install physical and technological-based upgrades to achieve minimum speed and reliability targets for bus services using the corridors.

Bus corridor 35 (Bankstown to Burwood) passes through the study area along the Hume Highway. The RTA has not announced its upgrade proposals for the Hume Highway Regional Bus Corridor, however, bus priority options include:

- Public Transport Information and Priority System (PTIPS). PTIPS uses satellite technology to identify late running buses and to communicate with the RTA's traffic management system to direct traffic signal priority to late running buses;
- Dedicated bus 'by-pass' lanes (e.g. Left Lane Must Turn Left, Buses Excepted); and
- Kerb-side bus or transit lanes.

The development of this corridor may impact on the proposed ILC site in the following ways:

- Upgrades to bus facilities on Hume Highway may impact, positively or negatively, on the operation of the Cosgrove Road and Roberts Road junction; and
- The development of reliable and fast cross regional bus services may increase the public transport accessibility of the ILC site for office staff working standard hours.

The ILC may in turn impact on bus services along Hume Highway due to increased traffic movements, particularly by heavy vehicles. The Ministry of Transport advises that the most

critical section of the Hume Highway is between Roberts Road and Coronation Parade. There are 17 bus stops in this section alone.

The Panel also noted that the bus service information provided by the Ministry of Transport (dated 20 February 2006) conflicts with the information provided in the EA. The Ministry of Transport advises that bus routes 415, 462, 464, 466, 480, 900 and 913 service the study area whilst the EA identifies routes 415, 447, 450, 484, 485, 941.

The SPC's final response on these issues is presented in ***Appendix G***.

5.8 CUMULATIVE IMPACTS

5.8.1 Rail Network

The EA forecasts an increase in daily train movements on the dedicated freight line between Port Botany and Enfield from 56 movements per day to 166 movements per day by 2025. This represents 6.9 trains every hour or 1 train every 8.7 minutes. These forecasts are summarised in **Table 5.9**.

Table 5.9: Cumulative impacts on the dedicated freight line between Port Botany and the proposed Enfield ILC

Year	Port Botany daily train movements	ILC daily train movements	Other daily train movements	Total daily train movements	Average number of trains per hour	ILC% daily train movements
2005	28	-	28	56	2.3	0
2016	78	16	40	134	5.6	12%
2025	92	16	58	166	6.9	10%

Notes:
1) Source: EA, Chapter 8, Table 8-2

This forecast increase in train movements is based on the assumption that the State Government achieves its objective of transporting up to 40% of the containers passing through Port Botany to or from land-based markets by rail. This three-fold increase in freight train movements is likely to have serious implications for the quality of life of residents living along this dedicated freight line.

There were numerous community submissions regarding this quality of life issue - the key concerns being increased noise and reduced air quality. The community is concerned about the cumulative impacts of the State Government's rail freight strategy and it sees the proposed ILC development as contributing to a much larger problem.

The EA states that the proposed ILC would contribute an average of 16 trips to the forecast total of 166 movements/trips, or just under 10 to 12% of total trips. In Chapter 11 of the EA, SPC suggested that the proposed ILC would not generate any additional freight trains movements along the line since the movements would occur anyway as a result of other freight-related developments further west.

The Panel does not accept the argument that the ILC would have no impact on the Port Botany to Enfield rail line. Each development needs to be assessed on its merits. The proposed ILC would generate an average of 16 train movements per day. This would clearly have some impact along the line, as the status quo is not being maintained.

It is understood that RailCorp has already undertaken an environmental assessment of the potential impacts of future rail freight growth along this rail corridor. That assessment identified the impacts of the State Government's proposed rail freight strategy and

recommended a package of ameliorative measures to mitigate those impacts. Since the proposed ILC would contribute to the future rail traffic growth along the line, the Panel considers that the SPC as proponent of the proposed ILC should contribute towards the implementation of those amelioration packages.

5.8.2 Road Network

The analysis undertaken in the EA suggests that much of the road system in the study area is already close to saturation during peak periods and/or susceptible to gridlock when traffic incidents occur. Many of the community submissions expressed concern that cumulative traffic congestion impacts on the arterial roads surrounding the site of the proposed ILC are impacting on the quality of life of local residents and that the current road system was at 'breaking point'.

The analysis of local junctions under the 2016 Base Case traffic forecasts indicate that many critical junctions in and around the proposed ILC site would be operating at LOS F during peak periods. These junctions include:

- Roberts Road and Juno Parade;
- King Georges Road and Punchbowl Road;
- Hume Highway and Roberts Road;
- Hume Highway and Cosgrove Road; and
- Hume Highway and Coronation Parade.

Whilst the Panel considers that ILC proposal is unlikely to significantly worsen the performance of the surrounding network in 2016, background traffic growth is likely to create an unfavourable environment for trucks attempting to access the proposed ILC. This could impact significantly on the success of this development. The majority of community submissions received expressed an objection to the ILC proposal on the basis that it would contribute to those cumulative traffic impacts.

The likely consequences of poor accessibility in peak periods may be:

- Reduced numbers of delivery cycles and increased transport costs; and
- A flattening of the truck arrival profile presented in Figure 7-4 of the EA. This would result in more heavy vehicle deliveries to the proposed ILC site in off-peak periods and a corresponding increase in noise impacts on residents during these times.

This would also impact on the State Government's plans for implementation of the Regional Bus Corridor 35 along the Hume Highway.

The RTA advised the Panel that the State Government currently has no firm plans to upgrade the arterial road system in the vicinity of the site.

In relation to the management and mitigation of cumulative impacts, the Panel notes that although outside the scope of the EA, there is a need for a strategic transport study to review major road improvements necessary to support the efficient operation of the Enfield ILC at any approved maximum throughput level. Such improvements could be funded through a Freight Infrastructure Charge, collected on all import and export containers, in accordance with Recommendation 22 of the Freight Infrastructure Advisory Board's report entitled Railing Port Botany's Containers: Proposals to Ease Pressure on Sydney's Roads as means of funding major road and rail improvements necessary to support the proposed Enfield ILC.

6 NOISE ISSUES

6.1 INTRODUCTION

An assessment of the noise and vibration impacts of the proposed ILC was undertaken for the construction and operation stages of the proposal. The key steps in the assessment were as follows:

- Measurement of existing noise environment at receivers potentially affected by the proposal;
- Establish project operational and construction noise assessment criteria;
- Prediction and assessment of noise levels from the operation of the proposed ILC site;
- Prediction and assessment of noise levels from the construction of the proposed ILC site; and
- Consideration and recommendation to mitigate operational and construction noise levels.

The Panel's review of the noise impacts of the project is based on the following information:

- Chapter 11 of the Intermodal Logistics Centre at Enfield Environmental Assessment (Sinclair Knight Merz Pty Ltd, October 2005):
- Intermodal Logistics Centre at Enfield Environmental Assessment – TB867-01F04(R12) Final EIS Report. (Renzo Tonin & Associates Pty Ltd, 27 June 2005);
- Intermodal Logistics Centre at Enfield Draft Preferred Project Report (Sinclair Knight Merz Pty Ltd, April 2006);
- Intermodal Logistics Centre at Enfield Preferred Project Report (Sinclair Knight Merz Pty Ltd, June 2006).

6.2 SUBMISSIONS TO THE EA AND PANEL WITH REGARD TO NOISE AND VIBRATION

A variety of noise and vibration issues were raised in the submissions on the EA and to the Panel. These issues included:

- Concerns about construction noise impacts (refer to Chapter 11);
- Operational noise, particularly exceedances of the noise criteria;
- Concerns about existing high levels of road traffic noise and the potential for the ILC to make it worse; and
- Noise levels from freight trains – additional associated with the proposed ILC

6.3 ADDITIONAL INFORMATION

As a result of the issues raised in relation to the EA and the Panel Hearings, SPC provided the following document:

- Enfield - Intermodal Logistics Centre – Additional Information and Noise mitigation options to be considered during detailed design and EMP phase – TB867-04F03(R8) Additional info & noise mitigation options (Renzo Tonin & Associates Pty Ltd, 5 April 2006).

This document provided the following additional information:

- Further more refined noise modelling including additional consideration of noise mitigation;
- Further traffic noise assessment; and
- Further sleep disturbance impacts.

6.4 OPERATIONAL NOISE

6.4.1 Background

Operational noise was assessed by:

- initial baseline noise monitoring of the area;
- setting noise criteria applying to residential premises;
- considering appropriate noise mitigation measures to be implemented; and
- calculating noise levels in the surrounding area.

SPC stated that noise assessment has been conducted consistent with the NSW Industrial Noise Policy (INP).

6.4.2 Noise Assessment & Monitoring Locations

The EA identified 15 noise assessment locations around the proposed ILC site, namely:

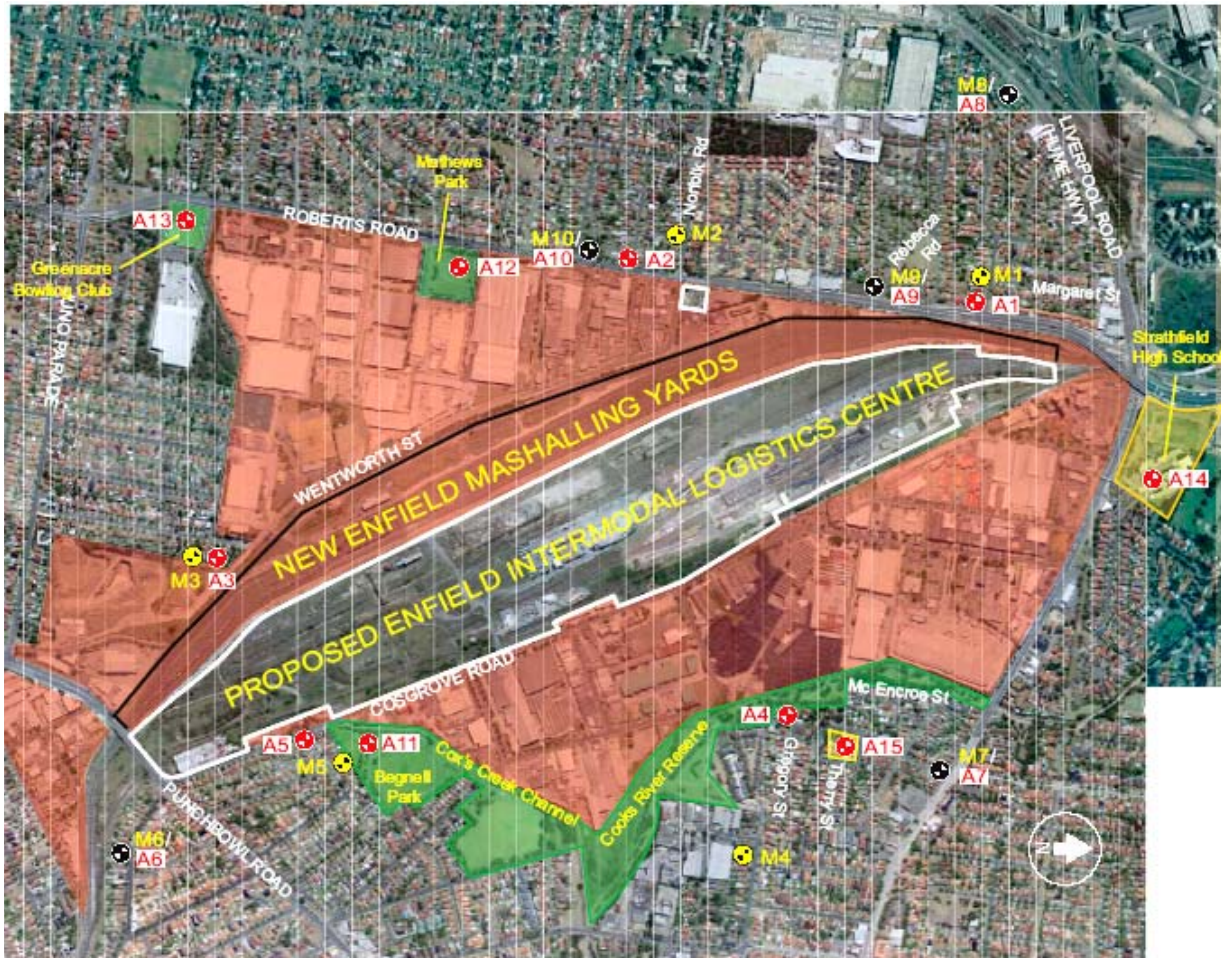
- A1 Eastern end of Jean Street, Strathfield South;
- A2 Eastern end of Ivy Street, Strathfield South;
- A3 2 Wentworth St (south), Greenacre;
- A4 Eastern end of Gregory Street, Strathfield South;
- A5 Western end of Blanche Street, Strathfield South;
- A6 40 Bazentin Street, Belfield;
- A7 554 Liverpool Road (Hume Highway), Strathfield;
- A8 1 Hume Highway, Strathfield;
- A9 20 Rebecca Road, Strathfield South;
- A10 118 Roberts Road, Strathfield South;
- A11 Begnell Park, Cosgrove Rd, Strathfield South;
- A12 Matthew Park, Roberts Rd, Greenacre;
- A13 Greenacre Bowling Club, Roberts Rd;
- A14 Strathfield South High, Corner Roberts Rd and Liverpool Rd; and
- A15 St Anne's School, St Anne's Square, Strathfield South

Of the fifteen (15) identified assessment locations, ambient noise monitoring was undertaken at ten (10) of these locations, namely:

- Location M1 6 Jean Street, Strathfield South
- Location M2 42 Norfolk Road, Strathfield South
- Location M3 14 Wentworth Street (south), Greenacre
- Location M4 124B Dean Street, Strathfield South
- Location M5 43 Blanche Street, Strathfield South
- Location M6 40 Bazentin Street, Belfield
- Location M7 554 Liverpool Road (Hume Highway), Strathfield
- Location M8 1 Hume Highway, Strathfield
- Location M9 20 Rebecca Road, Strathfield South
- Location M10 118 Roberts Road, Strathfield South

The assessment locations and the monitoring locations are presented in **Figure 6.1**, below.

Figure 6.1: Noise assessment and monitoring locations used in the EA



The Panel considers that the noise assessment locations and the noise monitoring locations are adequate for a project this scale because all potentially affected residential areas and noise sensitive land uses were covered.

6.4.3 Noise Criteria

For operational noise, relevant criteria are described in the NSW Government's Industrial Noise Policy (INP). Two forms of criteria are described, known as 'intrusiveness' and 'amenity' criteria.

The intrusiveness criterion applies to the L_{Aeq} noise emission level for the introduced industrial source, measured over a period of 15 minutes. It requires that this should not exceed the RBL by more than 5dB.

The amenity criterion sets an absolute limit on the value of the L_{Aeq} noise level measured over a day, evening or night period. In this case, the relevant receiver locations would generally be described as being in as an 'urban' area, and the relevant 'acceptable' noise levels are 60, 50 and 45 dBA for the day, evening and night periods respectively. These limits apply to the total noise from all industrial sources affecting a receiver location.

Peak noise level events, such as reversing beepers, noise from heavy items being dropped or other high noise level events, have the potential to cause sleep disturbance. The potential for high noise level events at night and effects on sleep should be addressed. The INP does not specifically address sleep disturbance from high noise level events. The current DEC screening sleep disturbance criterion is that the L_{A1} (1 minute) should not exceed the L_{A90} (15 minute) by more than 15 dB(A).

A summary of the operational noise criteria for the project is presented in **Table 6.1**.

Table 6.1: Proposed Noise Criteria For the Proposed ILC Project

	Location	Intrusiveness criteria $L_{Aeq, 15min}$ dBA			Amenity criteria $L_{Aeq, period}$ dBA			Sleep Disturbance $L_{A1, 1minute}$
		Day	Evening	Night	Day	Evening	Night	
A1	Eastern end of Jean Street	54	54	48	54	49	42	58
A2	Eastern end of Ivy Street	53	52	47	52	51	45	57
A3	2 Wentworth Street (south)	49	47	42	52	53	38	52
A4	Eastern End of Gregory	49	47	45	52	46	43	55
A5	Western end of Blanche St	46	46	43	58	50	37	53
A6	40 Bazentin Street	46	45	41	58	54	39	51
A11	Begnell Park	N/A (criteria only apply to residential uses)			50			N/A (criteria only apply to residential uses)
A12	Matthew Park				50			
A13	Greenacre Bowling Club				55			
A14	Strathfield South High School				35 (internal)			
A15	St Anne's School				35 (internal)			

The Panel considers that the noise criteria used in the EA have been developed consistent with the INP and appear reasonable for an urban environment affected by existing traffic noise.

6.4.4 Noise Modelling

The noise predictions presented in the EA were carried out using the ENM computer model. The ENM noise prediction model was developed for the propagation of noise from industrial premises in NSW. The ENM model is endorsed by the Department of Environment and Conservation (DEC) for use in NSW.

The EA presented two modelled scenarios, namely:

- worst case rail; and
- normal case rail.

The Panel considers that the equipment sound power levels and the noise model adopted for the noise calculations presented in Section 4.2 of the noise assessment are generally consistent with previous noise assessments for similar projects. The modelling assumptions presented in Section 4.3 appear to represent reasonable assumptions for calculation purposes.

The Industrial Noise Policy (INP) recommends that wind is considered in a noise assessment when source-to-receiver wind speeds (at 10m height) of 3m/s or below occur for at least 30% of the time. This is typically referred to as noise enhancing weather conditions. The EA presented that the following winds occur at least 30% of the time:

- Westerly winds occur in autumn, winter and spring; and
- South-easterly winds occur in summer.

Noise modelling was conducted for the two scenarios and it was found that there were substantial exceedances of the amenity and intrusive noise criteria. The EA presented typical noise mitigation that could be used which are presented below:

- Noise management
    - 48-class locomotives should detach from the northern end of the train as soon as possible upon arrival at the ILC site and move to the south end of the train;
- Reducing noise at the source
    - mobile plant used permanently on site, including container forklifts, reach-stackers and gantry should be installed with noise-kits comprising of engine compartment treatment, ‘residential’ grade high performance mufflers and engine air-intake treatment;
    - mobile plant on site be installed with variable reverse alarms or flashing lights, as appropriate to meet occupational health and safety requirements, whilst minimising noise generated on site at night time;
- Acoustic mounds or barriers
    - 5 metre noise barriers for residences on Cosgrove Road and residences west of Roberts Road (and north of Norfolk Road);
- PA system
    - The PA system should only be used in the case of emergency and not for general staff announcements;

- Loudspeakers should be small, low powered and selected to have a highly directional polar coverage pattern with minimal side spillage of sound;
- An electronic dynamic sound-limiting device should be fitted to the public address sound amplification system to ensure sound levels do not exceed the limits.

Table 6.2 shows the noise predictions with all the proposed noise mitigation measures implemented.

Table 6.2: Predicted Noise Levels, Scenario 1, With Mitigation

Location		Intrusiveness Criteria $L_{Aeq, 15min}$ dBA				Amenity Criteria $L_{Aeq, period}$ dBA			
		Criteria	Calm isothermal	Wind -W	Wind - SE	Criteria	Calm isothermal	Wind -W	Wind - SE
A1	Eastern end of Jean Street	48	43	39	52	42	43	40	52
A2	Eastern end of Ivy Street	47	41	35	50	45	41	35	51
A3	2 Wentworth Street (south)	42	34	38	28	38	34	37	27
A4	Eastern End of Gregory	45	38	53	39	37	38	52	38
A5	Western end of Blanche St	43	42	49	37	43	41	48	36
A6	40 Bazentin Street	41	38	48	32	39	37	47	31
A11	Begnell Park	N.A. (Criteria only apply to residential uses)				50	41	48	36
A12	Matthew Park					50	35	29	43
A13	Greenacre Bowling Club					55	28	24	29
A14	Strathfield South High School					45	37	40	48
A15	St Anne's School					45	38	52	38

The modelling showed that the following exceedances of the noise criteria are still present, even when noise mitigation was introduced in the noise model:

- Location A1, Calm/isothermal conditions - 1 dB(A), Noise enhancing conditions - 1 dB(A);
- Location A2, Noise enhancing conditions - 6 dB(A);
- Location A4, Noise enhancing conditions - 9 dB(A);
- Location A5, Calm/isothermal conditions - 4 dB(A), Noise enhancing conditions - 11 dB(A);
- Location A6, Noise enhancing conditions - 8 dB(A);
- Location A15, Noise enhancing conditions - 7 dB(A).

To respond to remaining exceedances, SPC committed to the preparation of an operational noise management plan that would address the following:

- Noise goals;
- Silenced equipment;
- Complaints handling procedure; and
- Community consultation.

The Panel notes that, typically, compliance or near compliance with the noise criteria is required for both calm/isothermal and enhanced weather conditions. The DEC submission suggested that further consideration of noise mitigation was required. The community, through submissions on the EA, were very concerned with the exceedances predicted in the EA. As a result of the concerns, SPC provided an additional noise assessment (Renzo Tonin 2006).

6.4.5 Additional Noise Assessment

In the additional noise assessment, SPC stated that the noise assessment in the EA was a worst case noise model so as to provide a conservative assessment. To provide some certainty that the operational noise criteria can be met, SPC subsequently presented a 'typical operational noise' scenario to demonstrate that noise impacts can be mitigated in accordance with applicable criteria.

The additional noise assessment presented the following reasons why the EA noise assessment was conservative:

- Operations at night the same as day;
- Activities at the proposed ILC at ultimate capacity throughout the entire assessment;
- Wind blows in the same direction throughout the entire assessment period;
- Wind blows at a constant maximum speed throughout the assessment period;
- No acoustic shielding to off-site uses from containers stacked on site; and
- Non-industrial small buildings off-site not included in the modelling.

The Panel accepts SPC's statement that the EA was a worst case noise model so as to provide a conservative assessment of likely operational noise impacts.

Additional noise modelling was conducted for daytime operations, evening operations and night time operations. As a result of additional considerations in the noise modelling and splitting the operations into day, evening and night time and applying the noise mitigation presented in the EA, the predicted noise emissions from the site during typical operations under calm conditions and noise-enhancing conditions would meet the criteria apart from the following exceedances:

- Daytime (intrusiveness) – Locations A5 (western end of Blanche Street) and A6 (40 Bazentin Street) under North-westerly wind conditions by 1 dB(A) (North westerly winds were identified as an extra noise enhancing weather condition in the additional noise assessment);
- Night time (intrusiveness) – Location A1(Eastern end of Jean Street) under South-easterly wind conditions by 2 dB(A); and

- Night time (intrusiveness) – Location A6 (40 Bazentin Street) under North-westerly wind conditions by 4 dB(A).

SPC considers that all reasonable and feasible noise mitigation options have been considered at this stage of project planning and due to the uncertainties about the proposed ILC site layout/ design, construction of buildings and general operation of the site any additional noise mitigation could be considered through the detail design and Environmental Management Plan (EMP) process when an operator has been appointed.

SPC suggested that the detailed design phase and EMP phase could consider the following measures:

- Optimise design of barriers;
- Use of quieter plant (if available);
- Strategic placement of container stacks to provide noise shielding;
- Strategic placement of building to provide noise shielding;
- Training and education of employees to minimise noise;
- Minimise certain operations at night;
- Manage locomotive noise;
- Monitor noise levels.

SPC committed to achieving all the noise criteria established in the EA when the site is operational through implementing specific noise mitigation identified in the detail design and EMP phase of the project.

6.4.6 Sleep Disturbance Assessment

The 'worst case' sleep disturbance assessment in the EA identified Locations A1 and A5 during calm isothermal conditions and Locations A1, A4, A5 and A6 during noise enhancing weather conditions where DEC's screening sleep disturbance criterion, L_{A1} (1 minute) should not exceed the L_{A90} (15 minute) by more than 15 dB(A), was exceeded indicating potential for sleep disturbance.

The additional noise assessment also provided a very detailed maximum noise level/ sleep disturbance assessment. The additional sleep disturbance assessment provided the following additional information so that the implications of maximum noise levels on sleep disturbance can be assessed:

- The extent that the maximum noise level exceeds the background noise levels;
- The number of times noise events may occur;
- Time of day sleep disturbance is likely to occur;
- Evaluate whether there are times when there is clear change in noise environment; and
- Comparison of existing maximum noise levels to those predicted to occur in the future from the operation of the site.

The conclusion of the sleep disturbance assessment was that:

- Maximum noise levels from the proposed ILC site would generally occur during night time shoulder periods 10pm to 12 midnight and 5am to 7am when background noise levels are higher; and

- Maximum noise levels form the proposed ILC site operations are predicted to generally be significantly lower than in level than the measured existing maximum noise levels, even under noise enhancing weather conditions.

The Panel considers the issue of maximum noise levels emanating from the site to be a critical issue. The Panel is aware that, anecdotally, the maximum noise levels from 'bumps, bangs and reversing alarms' cause the majority of community complaints from similar facilities.

Considering the level of assessment presented in the EA and the additional noise assessment, the Panel concludes, that, although the DEC screening sleep disturbance criteria are likely to be exceeded, when the likely frequency of high noise events occur and the time of night they occur is considered, the maximum noise levels emanating from the ILC are manageable.

6.4.7 Panel Comments On Operational Impacts

Under the 'typical operational noise' scenario, SPC predicted general compliance with the appropriate noise criteria with exception of the following:

- Daytime (intrusiveness) – Locations A5 and A6 under north-westerly wind conditions by 1 dB(A) (north-westerly winds were identified as an extra noise enhancing weather condition in the additional noise assessment);
- Night time (intrusiveness) – Location A1under south-easterly wind conditions by 2 dB(A); and
- Night time (intrusiveness) – Location A6 under north-westerly wind conditions by 4 dB(A).

SPC has committed to achieving all applicable noise criteria established in the EA when the site is operational through implementing additional specific noise mitigation identified in the detail design and environmental management phase of the project.

The Panel is satisfied that operational noise levels from the site can comply with the relevant noise criteria and notes SPC's commitment to meeting them.

The Panel recommends that the Applicant be required to meet the noise criteria through a condition of consent. It is also recommended that the Applicant be required to implement an Operational Noise Management Plan and commission noise monitoring report, which would require:

- The Applicant to employ best available management practices to minimise maximum noise levels from the site;
- All feasible and reasonable noise mitigation measures to be employed;
- A monitoring program and an assessment of the performance of the ILC site against the noise limits;
- A community information program to inform residents about the workings of the site; and
- A complaints handling and management program to ensure complaints are recorded and addressed in a timely and effective manner, including feedback on appropriate noise amelioration processes put in place in response to complaints and the timeframe for the introduction of these measures.

The Panel recommends that:

***Recommendation 6.1**: Noise generated from the proposed ILC must not exceed the noise limits outlined in the table below (adjusted for any tonality):*

ID	Location	Intrusiveness limits $L_{Aeq, 15min}$ dBA			Amenity limits $L_{Aeq, period}$ dBA		
		Day	Evening	Night	Day	Evening	Night
A1	Eastern end of Jean Street	54	54	48	54	49	42
A2	Eastern end of Ivy Street	53	52	47	52	51	45
A3	2 Wentworth Street (south)	49	47	42	52	53	38
A4	Eastern End of Gregory	49	47	45	52	46	43
A5	Western end of Blanche St	46	46	43	58	50	37
A6	40 Bazentin Street	46	45	41	58	54	39
A11	Begnell Park	N/A (criteria only apply to residential uses)			50		
A12	Matthew Park				50		
A13	Greenacre Bowling Club				55		
A14	Strathfield South High School				35 (internal)		
A15	St Anne's School				35 (internal)		

The modification factors presented in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise level where applicable.

Noise from the ILC premises is to be measured at the most affected point at the monitoring location to determine compliance with the noise level limits.

***Recommendation 6.2**: The Operational Noise Management Plan should include special consideration for the management of maximum noise impacts (for example, reversing alarms) from the site.*

***Recommendation 6.3**: Within three (3) months of the commissioning of the proposed ILC, compliance monitoring of noise from the site is to be undertaken in accordance with the Industrial Noise Policy.*

6.5 TRAFFIC NOISE

6.5.1 Background

The EA correctly identified the appropriate criteria from the NSW Environmental Criteria for Road Traffic Noise (ECTRN).

The community contended that, as a result of already existing high traffic volumes in the study area, existing traffic noise levels are already high and that the proposed ILC would make this situation substantially worse.

The Panel considers that the proposed ILC has the potential to increase traffic noise impacts. The noise assessment undertaken in the EA suggested that much of the road system in the study area is already exposed to high traffic noise levels. This is verified by the noise monitoring. Traffic noise levels were measured at residential locations potentially affected by road traffic from the proposed ILC. Traffic noise levels for day ($L_{Aeq(15hr)}$) and night ($L_{Aeq(9hr)}$) periods in accordance with the ECRTN are presented in Table 6.3.

Table 6.3: Measured Existing Road Traffic Noise Levels

Noise monitoring location		Noise source	Distance from road (m)	L_{eq} Traffic Noise Levels, dB(A)	
				$L_{Aeq,15hr}$[1]	$L_{Aeq,9hr}$[2]
M7	554 Liverpool Road	Liverpool Road	15		67
M8	1 Hume Highway	Hume Highway	10	70	67
M9	20 Rebecca Road	Roberts Road	25	72	69
M10	118 Roberts Road	Roberts Road	10	70	67

Notes:
1) Existing traffic noise levels measured at 1m from the residential facade
2) Day is defined as 7:00am to 10:00pm; Night is defined as 10pm to 7am

The EA and the additional noise assessment states that traffic noise levels as a result of potential increases in truck movements from the proposed ILC would comply with DEC traffic noise criteria, that is, the contribution to overall traffic noise levels from all ILC-generated trucks would not increase existing noise levels by more than 2dBA (typically referred to as the 'allowance criteria').

The EA and the additional noise assessment did not recommend any noise mitigation measures.

6.5.2 Panel Comments On Operational Noise Impacts

The Panel considers traffic noise a serious issue for this project in spite of the conclusions of the traffic assessment that the ILC proposal is unlikely to significantly increase traffic noise and it will meet DEC traffic noise allowance criteria (+2dB(A)).

However, as pointed out by DEC in its submission on the EA, traffic noise levels experienced on Hume Highway and Roberts Road significantly exceed the RTA's definition of acute traffic noise exposure ($65L_{Aeq15hr}$ and $60L_{Aeq9hrs}$) which would allow affected residential receivers to qualify for inclusion for noise mitigation treatments under their Noise Abatement Program. This situation should be considered in the context that one of the main objectives of the ILC

project is to reduce traffic noise impacts in the area around Port Botany by the removal of trucks from the roads.

The Panel considers that, as a matter of best practice, SPC should, as a part of the Operation Noise Management Plan, consider opportunities to reduce road traffic noise levels. This reduction could be through measures including:

- SPC contributing to a 'whole of government' funding approach to ease pressure on Sydney's roads or
- Train drivers on low noise driving procedures or
- Traffic re-routing or traffic rescheduling.

The Plan should holistically review traffic noise impacts for the ILC Area in consultation with all relevant stakeholders to identify long term solutions. Accordingly, the Panel recommends that:

Recommendation 6.4*: The SPC develop a Traffic Noise Management Plan for the approval of the Director-General of the Department of Planning.*

6.6 RAIL NOISE

6.6.1 Background

The EA claimed that rail noise from the dedicated freight line between Port Botany and Enfield was addressed in the Port Botany Expansion EIS (Sydney Ports Corporation 2004). The proposal was subsequently approved by the Minister of Planning after a Commission of Inquiry in 2005.

The Port Botany EIS adopted RailCorp's previous assessments of predicted rail noise along the section of the rail line from Port Botany Yard to Marrickville (based on 35 trains per day and then assessed operating capacity of 54 trains per day) and Marrickville to beyond Enfield.

The EA summarised the rail noise impacts in the following way:

- Port Botany Expansion EIS adopted 'maximum levels' rail noise criteria presented in the Environmental Noise Control Manual ($L_{Aeq,24hr}$60dB(A) and L_{Amax}85dB(A)) to assess rail noise impacts on the line.
- Maximum noise levels would not be altered, although the frequency of occurrence of the maximum noise levels will increase;
- The increase in $L_{Aeq,24hr}$ noise levels between Port Botany and Cooks River was calculated to be approximately 2dB(A);
- The $L_{Aeq,24hr}$ 60dB(A) noise level between Cooks River and Marrickville was generally achieved;
- The maximum noise level of L_{Amax}85dB(A) between Cooks River and Marrickville is exceeded in some locations. With noise mitigation (barriers) the number of residences exceeding the maximum criteria is approximately 20;
- Between Marrickville and Enfield (where the freight line shares the same corridor as the passenger network), the additional number of trains due to the Port Botany expansion would be less than a 1 dB(A) change in the $L_{Aeq,24hr}$ noise level which would be considered imperceptible.

The conclusion of the rail noise assessment in the EA suggested that the proposed ILC would not generate any additional freight trains movements along the line since the movements would occur anyway as a result of another development further west of the proposed ILC at Enfield and therefore fits within the previous rail noise assessments.

The community expressed concern about the additional frequency in rail movements along the rail line, in particular, old diesel locomotives using the rail corridor.

The DEC in its submission on the ILC EA suggested that previous concerns stated in relation to the Port Botany Expansion EIS still remain, namely:

- The rail noise assessments utilised lower traffic volumes than now anticipated; and
- It did not seek to achieve the ENCM planning rail noise criteria of $L_{Aeq,24hr}$ 55dB(A) and L_{Amax}80dB(A).

The DEC considers it would be appropriate for the ILC proposal to further assess the feasibility and reasonableness of using best-practice rolling stock to deliver improved noise outcomes.

In the PPR, SPC has not committed any noise mitigation strategies to reduce its rail noise impacts other than to:

> *'..participate in any interagency working group established to address rail noise impacts along the dedicated rail freight line corridor.' (p49)*

6.6.2 Panel Comments on Rail Noise Impacts

The Panel considers that there is currently no holistic and well informed analysis of the potential noise impacts arising from the NSW Government's aim of increasing the rail modal share of port related traffic. As a consequence, the responsibility and commitment to an assessment and possibly noise mitigation is not clear. This is also exacerbated by the fact that there is no adopted NSW rail noise policy on which to base a noise assessment.

Through the Panel Hearing, SPC acknowledged concerns with regard to rail noise, however suggested that it cannot control rail noise impacts along the rail corridor as this is the responsibility of RailCorp. However, SPC has stated that it would be willing to participate in any interagency working group established to address rail noise impacts along the dedicated freight line. SPC, as a condition of consent for the Port Botany Expansion project, will establish a Rail Noise Working Group to address rail noise issues along the Freight Line between Enfield and the Port Botany Yard. This group includes SPC, RailCorp, DoP, ARTC, relevant councils and community members.

The Panel supports SPC's participation in the interagency Working Group to address rail noise impacts along the dedicated freight line between Enfield and Marrickville. The Panel would, however, suggest that the Working Group should not be limited to addressing rail noise impacts along the dedicated freight line between Enfield and Marrickville, rather it should assess the entire Sydney freight network.

One of the major community's fears with regard to the proposed ILC project was that it would increase the number of old noisy locomotives using the rail line. The Panel was surprised to view numerous photos and to hear recordings presented by the community representatives showing old locomotives - some apparently between 30 to 40 years old - using the freight line. It is the Panel's understanding that since the deregulation of the rail freight industry, the introduction of old locomotives has occurred without any real regulation even though DEC licenses the rail network.

It is the Panel's opinion that the Working Group referred to above should also include a review of strategies to try and reverse the trend of using old locomotives without any real

noise mitigation to the use of current best practice locomotives. The Panel understands that the investment in locomotives is substantial and that there is high demand for locomotives currently. However, it is difficult for the Panel to understand how trucks in NSW are regulated to a high degree (close to world's best practice) whereas 30 to 40 year old locomotives use the rail network, particularly in built-up areas, without apparent regulation in relation to noise and air emissions.

Additionally, it is the Panel's opinion that NSW requires an updated rail noise policy. If such a document existed, it would provide more certainty with regard to rail noise assessment in NSW and would not require each project to be negotiated individually.

With regard to the ILC proposal, the Panel recommends that SPC use best-practice rolling stock to deliver improved noise outcomes along the rail line. To ensure that such an outcome is achieved, the noise limits in **Table 6.4** should be achieved by any locomotive using the ILC.

Table 6.4: Locomotive Noise Limits

Operating condition	Speed and location of measurement	Noise limits
Idle with compressor radiator fans and air conditioning operating at maximum load occurring at idle	Stationary 15 metre contour	70 dB(A) LAmax
All service conditions	Dynamic as Specified in AS2377	87 dB(A) LAmax

These limits are an abbreviated version of locomotive emissions criteria specified in RailCorp's Environmental Protection Licence for new locomotives. This would ensure that all locomotives using the site are best-practice rolling stock.

Accordingly, the Panel recommends that:

Recommendation 6.5*: Prior to any locomotive using the proposed ILC, SPC provide a compliance certificate to the Department of Planning stating compliance with the noise limits in the following table:*

Operating condition	*Speed and location of measurement*	*Noise limits*
Idle with compressor radiator fans and air conditioning operating at maximum load occurring at idle	*Stationary 15 metre contour*	*70 dB(A) LAmax*
All service conditions	*Dynamic as Specified in AS2377*	*87 dB(A) LAmax*

7 OTHER AMENITY ISSUES

7.1 AIR QUALITY

7.1.1 Background

Construction and operational air quality has been assessed by:

- Identifying the baseline air quality monitoring for the area and identifying other sources of air pollution in the area;
- Presenting air quality impact assessment goals and regional air quality assessment goals;
- Consideration of appropriate mitigation measures to be implemented, particularly to reduce dust impacts; and
- Calculating ground level concentration levels to the surrounding area.

The review of the air impacts of the proposed ILC are based on the following information:

- Chapter 12 Air Quality of the Intermodal Logistics Centre at Enfield Environmental Assessment (Sinclair Knight Merz Pty Ltd, October 2005).
- Appendix F - Intermodal Logistics Centre at Enfield Environmental Assessment – Air Quality Assessment, June 2005.

During the operation of the proposed ILC, the major air quality impact would be from the operation of trucks, freight trains and plant on site.

7.1.2 Submissions on the EA and Panel With Regard To Air Quality

A number of air quality issues were raised in the submissions on the EA and to the Panel. The key issues raised were:

- Concerns about existing high levels of air pollution and the potential for the proposed ILC to make it worse; and
- Concerns about construction air impacts (refer to Chapter 11);
- Air emissions from old locomotives.

7.1.3 Operational Air Quality Impacts

Some residents expressed concern that the emissions from additional truck traffic in the Enfield area would worsen the existing air pollution problem in the region and idling trains would add to emissions as well.

The Panel is generally satisfied that the proposed ILC is unlikely to have any significant air quality impacts during operations. The assessment of the air quality impacts from increases in off-site vehicle traffic due to an operating ILC indicates that only marginal increases in PM_{10} and NO_2 concentrations.

The increased use of old smoky locomotives is one of the major community's concerns with regard to the proposed ILC project. The Panel viewed numerous photos presented by the community representatives showing old smoky locomotives using the freight line.

With regard to the ILC proposal, the Panel considers that SPC should use best-practice locomotives to deliver improved air outcomes along the rail line. The use of best practice locomotives to achieve the noise limits recommended previously would also address air quality emission limits. Therefore no additional recommendations are required.

7.1.4 Greenhouse Gas Emissions

The EA claimed that the proposed ILC would reduce fuel consumption by replacing truck transport with rail transport and that this mode change would reduce greenhouse gas emissions. Section 18.4 of the EA described air quality benefits arising from the proposed ILC development.

The operation of the proposed ILC would remove approximately 6.5 million truck kilometres from Sydney's arterial roads. This would reduce fuel consumption by approximately 367,775 litres of fuel. SPC calculated, as a result, a reduction in greenhouse gas emissions of an estimated 993 tonnes per annum.

The Panel acknowledges that the proposed replacement of road transport with rail will improve greenhouse gases and is consistent with NSW Government Greenhouse gas strategies. Additionally, the replacement of road transport with rail will improve air quality generally and reduce the traffic burden on major arterial roads in the Sydney region.

7.2 LIGHT SPILL

7.2.1 Background

The EA provided a very brief description of lighting proposals for the proposed ILC development, namely:

- In the empty container areas light poles would be spaced 80m apart, with the fittings placed at 25m high. Three fittings would be fitted to each pole, with the poles installed along the perimeter of the site with the heads put in a 'T' shape - all directed into the site to obtain minimum spillage into the surrounding areas. 1000W lamps would be used in the areas to achieve a vertical illuminance of 25 lux average in the area.
- In the Intermodal Terminal site, the average illuminance required is 50 lux. The poles would be spaced 60m apart with 2000W lamps to obtain these levels. The fittings again would be placed at 25m high. Four fittings would be fitted to each pole, in a '+' configuration. This is to allow the railway track to be illuminated in that area for the removal of the container from the tracks into the site. Another row of lights would be installed along the perimeter of the road in a 'T' configuration, again with all lighting directed into the site.

As the site is surrounded by residential and commercial properties, as well as public roads that could be susceptible to obtrusive night light emitted from the site, the community contended that the lighting assessment was inadequate. The modelled light spill based on the above lighting concept suggested that Roberts Road would have illuminance of between 0.01 to 0.02 lux and that remaining residential areas to the south east and south west would have an illuminance of less than 0.02 lux.

The EA stated that lighting installed on-site would provide adequate illumination for work taking place at night. Positioning of the lighting would ensure that light is only projected into the site and not onto any neighbouring property with light levels predicted at the nearest residential levels as being virtually unperceivable.

7.2.2 Panel Comments

The Panel recognises that lighting is a major concern for residents with direct views to the proposed ILC site. While some comfort may be gained that the initial modelling of the lighting levels would be virtually unperceivable, currently there has not been a detailed assessment of light spill consistent with AS4248-1997 (Control of Obtrusive Effects of Outdoor Lighting).

Provided this assessment is conducted in the detailed lighting design for the site, the Panel is satisfied that adverse lighting impacts can be mitigated and the amenity of local residents protected. This outcome should be reinforced by SPC preparing and implementing a Lighting Management Plan consistent with AS4248-1997.

The Panel recommends that:

Recommendation 7.1*: SPC shall insure that all external lighting associated with the development is mounted, screened and directed in such a manner so as to achieve the minimum level of illumination necessary, and in accordance with AS4248-1997 (Control of Obtrusive Effects of Outdoor Lighting).*

8 HERITAGE

8.1 BACKGROUND

8.1.1 Investigations Undertaken

Given the long history of use of the Enfield site for rail-related activities and the residual heritage items remaining on site, the Director-General's requirements directed that heritage issues be addressed in the EA. Two specialist heritage reports were prepared on behalf of SPC for this purpose:

- Navin Officer Heritage Consultants Pty Ltd. 2005. Intermodal Logistics Centre at Enfield: Environmental Assessment - Assessment of Indigenous Heritage.
- Graham Brooks and Associates. 2005. Proposed Intermodal Logistics Centre at Enfield - European Heritage Assessment.

The key issues in these reports were abstracted to form Chapter 15 of the EA.

8.1.2 Indigenous Heritage Findings

The investigation of Indigenous Heritage issues found that the site had been extensively disturbed through its use as the former Enfield Marshalling Yards and that no natural soils were thought to remain on the site. No sites of Aboriginal heritage significance or areas of potential Aboriginal deposits were located during investigations for the proposed development.

As a result, impacts during either the construction or operation stage were considered unlikely and it was concluded that there were no indigenous heritage constraints for development of the site and no further indigenous heritage assessments for the site would be required as part of the detailed design.

8.1.3 European heritage Findings

The investigation of European Heritage issues presented in the EA reviewed and documented the major remaining heritage items on site, namely:

- Tarpaulin Factory and Waxing Room Annex;
- Pedestrian Footbridge;
- Pillar Water Tank;
- Transhipment Shed and Wagon Depot Workshop (referred to as Wagon Repair Shed) and Associated Gantry Crane;
- Administration Building;
- Yard Master's Office; and
- DELEC Service Centre.

The Panel notes that the EA indicated that none of the remaining heritage items on site are listed on any statutory registers. However, the heritage assessment concluded that both the Tarpaulin Factory and the Pillar Water Tank are of State significance.

Consideration was given to the potential impacts of the proposed ILC on these items and management options for adaptive reuse, relocation or removal were investigated. The heritage implications of the options on each of the items were considered and a preferred option developed for each item. These items and the management options were considered against Strathfield Council's Heritage requirements and discussed with the NSW Heritage Office.

The EA noted that more than 60 additional structures remain from the Marshalling Yard activities on the site. These structures are predominantly small, dilapidated weatherboard structures of no heritage significance. Their removal would be undertaken pursuant to a separate development consent and were not assessed in the EA.

The EA proposed three categories of actions in relation to the heritage items on the Enfield site:

- retention and re-use on site:
  - *The Tarpaulin Factory. This would be retained in its current location;*
  - *Pedestrian Footbridge. The ILC design incorporates a scheme to relocate part of the footbridge to a site within the ILC away from trafficable areas. The remainder could be offered to an external rail heritage organisation; and*
  - *The Pillar Water Tank. This would be removed, stabilised and relocated to an area away from site traffic where it could be visible to a wider audience.*
- removal from the site and offered to railway heritage organisations:
  - *The Wagon Repair Shed and Associated Gantry Crane. The extensive termite damage has rendered this structure unstable. All or part of it could be given to an external rail heritage organisation. If the shed is not relocated to a rail heritage organisation and is required to be dismantled, there is also the potential for elements of it to be recycled and used on site for amenities; and*
  - *Pedestrian Footbridge. If during detailed design there is no scope for retention of part of this item on site, it could be offered to an external rail heritage organisation.*
- dismantle and remove from the site:
  - *Yard Master's Office. This item is not a candidate for reuse or relocation;*
  - *Administration Building. This item is not a candidate for reuse or relocation; and*
  - *DELEC Service Centre. These facilities are currently operational and would be dismantled once operations have ceased.*

The EA concluded that:

> *"..The massive scale and extent of demolitions at the former Enfield Marshalling Yard site have removed the essential elements that characterise the qualities of a railway marshalling yard. As a result the landscape can no longer communicate any degree of railway heritage significance. The proposal to develop the site as an Intermodal Logistics Centre also presents an additional loss of context.*
>
> *The heritage assessment indicates that there are two items of State significance (Tarpaulin Factory and Pillar Water Tank) and three items of local significance (Pedestrian Footbridge, Wagon Repair Shed and Yard Master's Office) on the former Enfield Marshalling Yards. Options have been developed for the two items of State significance, to be retained on the ILC site where they will be subject to ongoing maintenance. This provides an opportunity to preserve their values for future*

audiences. The items of local significance which can be relocated, the Pedestrian Footbridge and gantry crane associated with the Wagon Repair Shed, would be offered to a railway heritage organisation. There may be an opportunity for use of part of the Pedestrian Footbridge on site. The Wagon Repair Shed would also be offered to a heritage organisation. (p15-17)…"

8.2 ISSUES RAISED IN SUBMISSIONS

A major submission in relation to heritage matters was made by the Heritage Office of NSW which noted that the two items of State significance (Tarpaulin Factory and Water Pillar Tank) are proposed to be retained. As the details of the potential use of these items was not clear, the Heritage Office indicated that the Proponent should provide more information about the conservation and adative re-use of these items, especially the Tarpaulin Factory. In response, in the PPR, SPC committed to:

"…Reuse options for the Tarpaulin Factory will be further investigated as part of the detailed design phase of the project. The Tarpaulin Factory will be stabilised against further deterioration and, in consultation with the Heritage Office and the community, options for its reuse at its present site will be investigated. Only if on-site reuse is found to be unachievable or unacceptable will consideration be given to its relocation off-site to a railway heritage museum or demolition. (SPC PPR, p43).."

In relation to the Pillar Water Tank, SPC has committed to;

"…The Pillar Water Tank will be subject to further work to repair it and choose an area for its relocation onsite. The relocation will be undertaken as early as practicable in the construction program. (SPC PPR, p43).."

The Heritage Office submission also commented that there was no environmental and impact assessment relating to the European archaeological potential of the site. SPC has committed to:

"...limited archaeological testing was recommended for the area of the Wagon Repair Shed and the Yard Master's Office. This will be undertaken according to Heritage Office Guidelines during demolition of the structures. (SPC PPR, p44).."

The Heritage Office also requested that a Heritage and Interpretation Plan and Strategy for the whole site should be prepared in consultation with the NSW Heritage Office and its guidelines – this requirement has been included in the Statement of Commitments included in the SPC's PPR.

8.3 PANEL CONCLUSIONS

The Panel generally agrees with the conclusions of both heritage assessments. On this basis, the Panel concludes that, provided the measures proposed in SPC's Statement of Commitments are fully implemented, there are not likely to be heritage impediments to the development of the Enfield site for an ILC.

The Panel recommends that:

***Recommendation 8.1**: Prior to the ILC operation commencing, SPC consult with relevant stakeholders and develop a plan for the appropriate adaptive reuse of the Tarpaulin Factory.*

9 COMMUNITY CONSULTATION

9.1 BACKGROUND

The Director-General's requirements for the EA for the proposed ILC included the following directive in relation to consultation:

> *"…The Applicant shall consult with the community that is likely to be affected by the proposal. A report on who was consulted must be submitted as part of the EIS, describing how the affected community was identified, consultation methods, and key issues raised by the community. (EA, Appendix A, p 4).."*

Chapter 5 and Appendix A of the EA described the process and results of the community consultation programme undertaken by and on behalf of SPC during the preparation of the EA. Key consultation activities undertaken included:

- Preparation and circulation of 11,000 copies of three editions of a project newsletter;
- Conduct of one community information session at a local venue;
- Coverage in local and community language newspapers.

A program of agency consultation was also undertaken and documented in the EA. The Panel was also informed by SPC of consultation activities undertaken during the exhibition of the EA in January and February 2006.

9.2 ISSUES RAISED IN SUBMISSIONS

A large number of submissions and presentations to the Hearing commented on perceived inadequacies in the consultation program undertaken on behalf of SPC during the preparation of the EA and during its exhibition for public comment.

An issue raised repeatedly at the Hearing and in submissions was that little attention was paid to directly communicating with residents from non-English speaking backgrounds who live in the culturally diverse communities surrounding the Enfield site. In particular, attention was drawn to the inclusion on the project Newsletters in English that:

> *"….If you require the services of an interpreter please call the toll free number above…"*

However, this information was probably of little use to people who could not read English. As a result, it was posited that there was a high risk that a large section of the community was uninformed about the ILC proposal.

Other issues raised about consultation issues were:

- The inadequate distribution of newsletters and notices about the community information session;
- The commencement of the exhibition of the EA during the January school holiday period when many people may be on holidays or not otherwise focussed on issues such as nearby development proposals;
- The 41 day exhibition period was not long enough, coupled with the EA being exhibited over the holiday period for people to have time to absorb the technical nature of the proposal;

- The lack of information about the proposal and related off-site impacts made available to residents adjacent to the Port Botany rail line and major roads which may experience substantial increase in vehicular traffic;

9.3 PANEL COMMENTS AND CONCLUSIONS

9.3.1 Consultation with culturally diverse communities

The Panel prefaces its conclusions by noting that undertaking comprehensive community consultation in culturally diverse communities is a process that can absorb a lot of time, energy and resources by both project proponents and community members. However, taking appropriate time in the early stages of project planning to gain a good understanding of the nature and composition of the potentially affected community can greatly assist in developing appropriate community-specific consultation approaches that will facilitate effective consultation and communication during project development and implementation.

The Panel notes that the EA clearly acknowledged the cultural diversity of the community in the three LGAs surrounding the Enfield site – Bankstown, Canterbury and Strathfield as follows:

> *"….The population in the area is culturally diverse, with about half born overseas. Of those born overseas the main countries of birth were China, South Korea, India, Sri Lanka, Vietnam, Lebanon and Greece. The number of people born overseas has increased in all LGAs since the 1991 census. The indigenous population makes up 0.3-0.6% of the local population. English is the only language spoken at home for 41.8% of the population in Strathfield, 48.4% in Bankstown and 30.4% in Canterbury. The proportion has reduced in all three LGAs since 1991. Over 60 different languages are spoken in the local area. (EA, p17-3).."*

However, there did not appear to be a localised demographic analysis of the Census Collection Districts that more closely surround the site of the proposed ILC site at Enfield. Such an analysis, coupled with discussions with relevant community services officers at Strathfield and Bankstown Councils in particular, would have provided more detailed information about the composition of the community in the closest residential areas. This information, particularly in relation to use of community languages, could have assisted in developing more targeted consultation processes.

The Panel considers that the absence of a specific requirement in the Director-General's requirements for a social impact assessment of the proposed ILC and only very generalized directions about community consultation perhaps underscored the need for community-specific consultation processes. The Panel notes that there was no supporting specialist report included in the EA on social impact assessment.

Given that a lot of the community 'outrage' about this proposal is about combined and cumulative impacts on 'the local community' and its lifestyle, the Panel considers that, in relation to the assessment of future State significant projects, the Director-General's requirements should require the implementation of community-specific consultation processes and to the assessment of social impacts. The social impact assessment should be separate to the assessment of amenity impacts such as noise, traffic and visual impact.

9.3.2 Inadequate distribution of project information

The Panel is aware that criticisms of inadequate distribution of project information are a regular feature of consultation programmes undertaken for major development proposals.

The Panel is also aware that 'glitches' can occur in distribution processes, especially when activities are contracted to third parties, and that most households are constantly bombarded

with information brochures, junk mail and other material so that material about development proposals can be easily overlooked.

On the information presented to it, the Panel does not consider that there were major inadequacies in the distribution of project-related material to the local community by or on behalf of SPC. However, to assist in the reduction of such criticisms in the future, the Panel observes that it would be helpful if the Department of Planning, through the Director-General's requirements, give consideration to requiring proponents of State significant projects to give careful attention to ensuring that project information is communicated in a variety of ways so that as many potentially affected community members as possible can easily access key project information, especially about events such as meetings, information sessions, and exhibition periods.

9.3.3 Timing of the exhibition of the EA

The Panel is aware that EAs for State significant projects are exhibited at various times of the year and that project proponents usually discuss and agree the timing of the exhibition of particular EAs with the Department of Planning. If the proposed timing of an EA exhibition coincides with holiday periods, it is normal practice to either extend the exhibition period beyond the applicable statutory minimum period and/or extend the period during which submissions will be accepted to a period beyond the close of the formal exhibition period. In addition, the Panel understands that the Department of Planning, if notified, will normally accept submissions after the nominated closing date for the receipt of submissions.

The Panel concludes that, with a 41 day public comment period, the opportunity to comment on the EA for the proposed ILC was not unduly constrained by the timing and length of the exhibition period. The Panel is also aware that the Department of Planning accepted submissions up to one week after the close of the exhibition period.

10 OTHER ENVIRONMENTAL ISSUES

10.1 THREATENED SPECIES – THE GREEN AND GOLDEN BELL FROG

10.1.1 Background

In relation to flora on the Enfield site, the EA found that:

> *"…In general, the ILC site is a highly disturbed area with very little original topography or original vegetation remaining. Native flora vegetation is generally found only at the extreme southern and northern ends of the site and at the eastern side of the site near Cosgrove Road. These areas contain some common native flora species, although no native plant communities are represented at the site. None of the plant communities in the study area constitute threatened or endangered ecological communities as listed by State or national conservation schedules. (EA, p13-2)…"*

In relation to fauna habitats, the EA reported that:

> *"….Fauna habitats in the study area are only suitable for those species that can inhabit highly disturbed urban environments. It is highly modified and disturbed from the clearing of vegetation, dumping of fill, and construction of buildings and railway facilities. (EA, p 13-4).*
>
> *Following an assessment of habitat requirements and the likelihood of occurrence of these threatened species, only Green and Golden Bell Frogs (Litoria aurea) are considered to have a possible presence on the study site.*
>
> *Green and Golden Bell Frogs were observed on the ILC Site in 1995. In 1996, a Green and Golden Bell Frog pond was created in the new Enfield Marshalling Yards and Green and Golden Bell Frogs have been sighted at this pond. Green and Golden Bell Frogs are also present in the nearby Juno Parade Brick Pit site and a long-term management program is underway for the frogs on this site. Although the current surveys (2005) and previous surveys (2001, 2004) failed to locate Green and Golden Bell Frogs on the ILC site, this does not mean that they do not utilise the site. Green and Golden Bell Frogs are known to be a highly dispersive species and have the capacity to travel across the site under suitable weather conditions. (EA, p 13-5)…"*

With the mitigation measures proposed in the EA, no significant impacts on the Green and Golden Bell Frog were assessed as likely. As noted in Section 2.2, the proposed ILC includes a Community and Ecological Area at the southern end of the site. This area would include the development of Frog Habitat Area in accordance with the recommendations of a Management Plan for the Green and Golden Bell Frog to be developed as part of the overall site Environmental Management Plan (EMP).

In the PPR, the Statement of Commitments included that:

> *"….The Frog Habitat Area is proposed to be constructed as part of the Community and Ecological Area at the southern part of the site. The site will be designed by qualified personnel and will comprise ponds, foraging and shelter habitat. Frog movement corridors would also be identified to link the new habitat areas with existing frog habitat areas offsite. (PPR, p44)…"*

10.1.2 Issues Raised in Submissions

Several submissions noted that the EA documented that the Enfield site contains marginal habitat for the Green and Golden Bell Frog. Concern was expressed that the EA considered

the site in isolation rather than as a key component of a series of fragmented habitats that need to be considered together as a related habitat.

The Department of Natural Resources strongly encouraged SPC to contribute to

> *"…the health of the catchment by rehabilitating Coxs Creek within the ILC site to a more naturalised morphology and re-establishing a fully structured and functioning vegetated riparian zone along it…"*

The Department of Environment and Conservation suggested a number of measures to assist the potential linkages of frog habitats within the Cooks River catchments that should be included in the proposed Management Plan for the Green and Golden Bell Frog on the proposed ILC site.

10.1.3 Panel Conclusions

Based on the information considered, the Panel concludes that there is unlikely to be a significant impact on the Green and Golden Bell Frog as a result of the development of the proposed ILC at the Enfield site.

The Panel recommends that:

***Recommendation 10.1**: SPC prepare a Frog Management Plan that addresses the issues suggested by the Department of Environment and Conservation on p10 of the attachment to its submission dated February 2006.*

10.2 HAZARD AND RISK

10.2.1 Background

The EA included in Appendix K a Preliminary Hazard Assessment (PHA) prepared in accordance with relevant guidelines issued by the Department of Planning (or its predecessors). The conclusion presented in the EA was that:

> *"….Dangerous goods would only be handled within the intermodal terminal facilities within the ILC. The majority of activities are routine low stress activities with a low probability of human error. Calculations undertaken as part of the PHA estimated approximately 5600 containers of dangerous goods per year once the maximum capacity is reached. This will include approximately 15 container movements on trains and 9 truck movements per day. Class 2.3 isotanks would not be handled through the intermodal terminal.*
>
> *The PHA concluded that the operations within the intermodal terminal and transportation of the containers with dangerous goods by road and rail to and from the site contributed an acceptably low level of risk. Providing the risks to operation are managed effectively to ensure that they are kept as low as reasonably practicable, the operation would meet the criteria published by the Department of Planning. (EA, p20-6).."*

10.2.2 Issues Raised In Submissions

Concern was raised that the hazard identification in the EA did not list the potential hazard from diesel spills from locomotives, and the potential for contamination of local waterways (Coxs Creek and Cooks River) from a leakage from the proposed 25,000 litre on-site diesel storage tanks.

Given the highly technical nature of the PHA prepared as part of the EA, it was submitted that this assessment should be peer reviewed to confirm assumptions about modelling and to provide a sensitivity analysis in relation to assumptions about particular materials and their quantities to be included in the calculation of risk contours.

The submission from NSW Health noted that:

> *"….The preliminary hazard analysis contained within the EIS (sic) (Appendix K) demonstrates that there are very low risks of accidents involving the transport of hazardous goods either by road or by rail. The traffic management plan should ensure the transport of any hazardous goods occurs on roads away from residential areas where possible..."*

10.2.3 Panel Conclusions

No substantive submissions were made to the Panel on issues related to hazard and risk, although a number of fairly general concerns were raised about potentially hazardous or dangerous goods being transported to and from and handled within the proposed ILC and the environmental or safety consequences of mismanagement of such material. The Panel accepts that SPC and related parties would be able to implement appropriate management measures to appropriately handle any hazardous or dangerous goods likely to be transported to or from or handled with the proposed ILC.

11 CONSTRUCTION ISSUES

11.1 TRAFFIC

The assessment of ILC construction impacts was presented in Appendix B, Section 5 of the EA.

During Stage 1 site preparation, the EA estimated that removal of 13,500 m^3 of contaminated and 37,000 m^3 of unsuitable materials from the ILC site will require up to 2,806 trucks. This represents 5,612 truck trips in and out of the site over a four month period. Assuming a 5-day working week and 8-hour working day, this equates to an average of over 70 truck trips per day or almost 9 truck trips per hour.

The EA estimates that ILC construction would require a total of 18,354 trucks during construction stages 1 to 4. This represents 36,708 truck trips in/out of the site over a 36 month construction period. Assuming a 5-day working week and 8-hour working day, this equates to an average of over 51 truck trips per day or over 6 truck trips per hour for the entire period of ILC construction.

In addition to truck movements, staff associated with construction of the warehousing would contribute journey to work car trips to construction traffic. The EA estimates the construction workforce would average 150 to 170 workers in size for 12 months continuous construction. Assuming a vehicle occupancy rate of 1.0 person per vehicle, this would generate between 300 and 340 car trips in and out of the site per day. This would peak for a two month period at 480 car trips in and out of the site.

During construction all access in and out of the site will be via Cosgrove Road. Heavy vehicles are restricted from using the southern section of Cosgrove Road by a 3 tonne load limit so truck impacts would be concentrated on the northern section of Cosgrove Road. There would be no such restrictions on car access, so that the workforce-related construction impacts may affect the residential areas located on the southern section of Cosgrove Road.

The combined truck and car trips are likely to have the greatest impacts at the junction of Cosgrove Road and Hume Highway, particularly during the afternoon. Since construction shifts generally finish in the early afternoon, it is likely that the exit of workers from the site would coincide with the after-school traffic peak.

The Panel recommends that:

***Recommendation 11.1**: SPC provide a shuttle bus service in peak periods between the ILC site and Strathfield Railway Station for the 12 months of peak construction in order to encourage construction workers to utilise public transport to access the site rather than their private vehicles.*

11.2 NOISE

11.2.1 Background

The EA indicated that there would be four major stages of construction, namely:

- Stage 1 – Site preparation;
- Stage 2 – Earthworks and drainage;
- Stage 3 – Road and rail infra-structure; and
- Stage 4 – Warehousing and final works.

The proposed construction activities (including earthworks, piling, drilling, concreting, paving) would be likely to generate significant noise impacts. The EA concluded that the DEC's long term construction noise criteria would be exceeded at the nearest residences by construction activities. Activities such as earthworks (Stage 2) and road and rail infrastructure works (Stage 3) are expected to produce the highest noise impacts.

The EA committed SPC to develop a Construction Noise and Vibration Management Plan (CNVMP). The CNVMP proposed by SPC would include the following:

- Noise Goals;
- Time Restrictions for Construction Activities;
- Community Liaison;
- Silenced Equipment;
- Equipment Maintenance and Operation;
- Noise Monitoring;
- Equipment Location;
- Project Planning and Erection of Barriers;
- Working Hours Restriction on Noisy Equipment;
- Complaints Handling Procedure; and
- Community Consultation.

SPC proposed construction times of:

- 7am and 6pm Monday to Saturday; and
- no construction activities on Sundays or public holidays, unless separate approval has been granted by the Director-General of the Department of Planning.

11.2.2 Panel Comments on Construction Impacts

SPC's EA predicted the most likely worst case noise levels would occur during the excavation and earthworks period, predicting exceedances of the 46 dB(A) criterion between 32-35 dB(A) at the nearest residences. Given the likely construction noise goal exceedances, a precautionary approach to construction noise management is appropriate. The Panel notes that the noise assessment in the EA is only conceptual and would need to be finalised during detail design.

The Panel recommends that SPC be required to implement all practicable and reasonable measures to ensure that noise from the construction works be comply with or meet applicable criteria for all affected residences. Demonstration of SPC's mitigation of noise impacts would be through the preparation of a Construction Noise Management Plan, which would require:

- SPC to employ best available management practices to mitigate noise resulting from construction activities, especially during the initial noisiest three months of construction activities;
- all feasible and reasonable noise mitigation measures to be employed especially during the initial noisiest three months of construction activities;
- a monitoring program;
- a community information program to inform residents when they are likely to be affected by construction noise; and
- a complaints handling and management program to ensure complaints are recorded and addressed in a timely and effective manner, including feedback on appropriate noise amelioration processes put in place in response to complaints and the timeframe for the introduction of these measures. The feedback must be provided to the complainant, the Department of Planning and to the DEC.

The EA indicates that SPC wishes to have the following construction time:

- 7am and 6pm Monday to Saturday; and
- no construction activities on Sundays or public holidays, unless separate approval has been sought from the Department of Planning.

In terms of construction hours, the DEC in its Noise Control Guideline Chapter 171 Construction Site Noise recommends that construction activities on Saturdays should only occur between 8am and 1pm, unless the activities are inaudible at the nearest residential premises where the construction times could be 7am to 1pm.

The Panel does not support SPC's request to have extended construction time on Saturdays to 6pm because of the likely construction noise goal exceedances. Given these likely exceedances, a precautionary approach to construction noise management is appropriate. The Panel recommends that standard construction hours for Saturday be used.

The Panel recommends that:

***Recommendation 11.2**: All construction activities shall be restricted to:*

- *7am and 6pm Monday to Friday;*
- *8am and 1pm Saturday; and*
- *no construction activities on Sundays or public holidays, unless separate approval has been granted by the Director-General of the Department of Planning.*

11.3 DUST GENERATION

Significant components of construction activities - particularly, the excavation and transportation of large amounts fill required to level the site - have the potential to cause air quality impacts, especially dust generation.

11.3.1 Construction Air Quality

Impacts on air quality during construction would be manageable according to the EA. The potential sources would be dust from soil stockpiles and emissions from construction equipment.

The air quality assessment concluded that there are potential air quality impacts from dust (especially particulate matter less than 10 microns [PM10]) due to the extensive earthworks in the southern portion of the site where existing large stockpiles are located and require some remediation.

Any stockpiles with the potential to cause airborne dust would be covered or treated with water. It is envisaged that all plant and equipment used on-site would comply with air pollution control standards as they would be operated according to manufacturer's specifications.

SPC commits to the preparation of a detailed Dust Management Plan (DMP) before construction begins and that the DMP would include real time monitoring of dust levels and a reactive response process to manage them.

The Panel considers that potential construction dust impacts need to be managed carefully. To address the generation and mitigation/management of dust, the Panel recommends that:

Recommendation 11.3: *The proposed ILC construction works must satisfy the dust management objectives at the most sensitive receptors of 50 µg/m³ 24-hour rolling average of Particulate Matter less than 10 microns.*

Recommendation 11.4: *During construction, SPC shall develop a reactive Dust Management Plan to ensure compliance with the limit specified in Recommendation 11.3. The reactive Dust Management Plan shall be triggered at a PM10 concentration level of 100 µg/m³ as a 1-hour average or as otherwise agreed to by the Director-General of the Department of Planning.*

Recommendation 11.5: *During construction, the real time dust monitoring shall be conducted at the most sensitive receptors (residential area to the south-east of the site) and in accordance with the requirements of the following table:*

Pollutant	*Units of measure*	*Frequency*	*Method*
PM10	*µg/m³*	*Continuous*	*AS3580.9.8-2002 **

* *AS3580.9.8-2002 Method for sampling and analysis of Ambient Air – Determination of Suspended Particulate Matter – PM10 Continuous Direct Mass Method using a Tapered Element Oscillating Microbalance Analyser.*

***Recommendation 11.6**: During construction, SPC shall develop a Dust Management Plan to include following:*

- *Identification of potential sources of dust;*
- *Dust management objectives in accordance with appropriate DEC guidelines;*
- *Dust monitoring program;*
- *Details of mitigation measures implemented;*
- *Establishment of protocol for handling dust complaints;*
- *A reactive dust management plan detailing how and when operations are to be modified to minimise the potential for dust emissions;*
- *Progressive revegetation strategy for exposed surfaces.*

***Recommendation 11.7:** During construction, all vehicles on the ILC site shall be limited to a speed limit of 25 kilometres per hour. SPC or its contractors shall install visible signage to advise drivers of same.*

***Recommendation 11.8:** During construction, all vehicles carrying materials to or from the ILC site must have their loads covered with tarpaulins or similar material.*

***Recommendation 11.9**: During construction, all vehicles leaving the ILC site shall travel through a wheel wash to remove any soil particles.*

12 CONCLUSIONS AND RECOMMENDATIONS

12.1 CONCLUSIONS

Based on consideration of material and submissions made available to it, the Panel concludes that:

- There are aspects of the Enfield site in both strategic and local terms that contribute to its particular suitability to be developed for an intermodal task, namely its location on a dedicated freight line that connects Port Botany with Western Sydney, the flat, generally unencumbered nature of the site, and its location relative to the regional road network;
- Whilst the State Government has not finalised the Port Freight Plan for Sydney, the proposed ILC development at Enfield is consistent with the spirit and intent of current State Government metropolitan strategic and freight planning objectives;
- There are some significant aspects of the existing land use and transport context that present particular challenges to the planning, construction and operation of the site as an ILC without appropriate design and operational responses to mitigate potential adverse environmental impacts as addressed in this report.
- The viability concerns raised in the Milton report have been addressed by SPC.
- There is a strategic justification for the proposed ILC.

12.2 RECOMMENDATIONS

The Panel recommends that The Minister for Planning consider granting consent to the proposal subject to all the recommendations presented in this Panel report.

***Recommendation 4.1**: The Minister consider granting consent to the proposal subject to the recommendations presented in this Panel report*

***Recommendation 5.1:** The LATM measures recommended by RTA in October 2005 be included in the Statement of Commitments and be installed prior to the Enfield ILC becoming operational.*

***Recommendation 5.2:** SPC funds the reconstruction of the junction geometry of Norfolk Road and Roberts Road to accommodate 19m semi-trailer and 25m B-double truck swept paths in accordance with the relevant RTA and AUSTROADS standards.*

***Recommendation 5.3:** SPC funds the realignment of the junction geometry of Norfolk Road and Wentworth Street, where required, to accommodate 19m semi-trailer and 25m B-double movements in accordance with the relevant RTA and AUSTROADS standards.*

***Recommendation 5.4**: SPC contribute to the upgrade of the pavement of Wentworth Street and Norfolk Road - between Roberts Road and the proposed ILC entrance - to a standard suitable for use by 19m semi-trailer and 25m B-double vehicles.*

***Recommendation 5.5:** SPC funds an increase of the storage length of the northbound right turn bay in Roberts Road approaching Norfolk Road to accommodate forecast maximum ILC traffic queues.*

***Recommendation 5.6**: SPC funds the reconstruction of the signals at Norfolk Road and Roberts Road to provide split-approach phasing on the Norfolk Road approaches. As part of*

this work, the SPC should also install 'No Standing' parking restrictions on the eastern approach for a distance of least 50m.

***Recommendation 5.7**: SPC consult with Council to install 4-hour parking restrictions along the full length of Wentworth Street to discourage the parking of trailers on the site approaches.*

***Recommendation 5.8**: That SPC fund the reconstruction of Cosgrove Road and Hume Highway to accommodate 19m semi-trailer and 25m B-double truck swept paths in accordance with the relevant RTA and AUSTROADS standards.*

***Recommendation 5.9**: SPC confirms the Cosgrove Road site entry restrictions in its Statement of Commitments in the PPR and advises how this restriction would be enforced and/or provides a concept design of the proposed entry arrangement to confirm design viability.*

Recommendation 5.10**: SPC clarify requirements for additional ILC site emergency vehicle/evacuation access points along Cosgrove Road and any on-street parking restrictions that may be required to keep these access points clear at all times.**

***Recommendation 6.1**: Noise generated from the proposed ILC must not exceed the noise limits outlined in the table below (adjusted for any tonality):*

ID	Location	Intrusiveness limits $L_{Aeq,\ 15min}$ dBA			Amenity limits $L_{Aeq,\ period}$ dBA		
		Day	Evening	Night	Day	Evening	Night
A1	Eastern end of Jean Street	54	54	48	54	49	42
A2	Eastern end of Ivy Street	53	52	47	52	51	45
A3	2 Wentworth Street (south)	49	47	42	52	53	38
A4	Eastern End of Gregory	49	47	45	52	46	43
A5	Western end of Blanche St	46	46	43	58	50	37
A6	40 Bazentin Street	46	45	41	58	54	39
A11	Begnell Park	N/A (criteria only apply to residential uses)			50		
A12	Matthew Park				50		
A13	Greenacre Bowling Club				55		
A14	Strathfield South High School				35 (internal)		
A15	St Anne's School				35 (internal)		

***Recommendation 6.2**: The Operational Noise Management Plan should include special consideration for the management of maximum noise impacts (for example, reversing alarms) from the site.*

***Recommendation 6.3**: Within three (3) months of the commissioning of the proposed ILC, compliance monitoring of noise from the site is to be undertaken in accordance with the Industrial Noise Policy.*

***Recommendation 6.4**: The SPC develop a Traffic Noise Management Plan for the approval of the Director-General of the Department of Planning.*

***Recommendation 6.5**: Prior to any locomotive using the proposed ILC, SPC provide a compliance certificate to the Department of Planning stating compliance with the noise limits in the following table:*

Operating condition	*Speed and location of measurement*	*Noise limits*
Idle with compressor radiator fans and air conditioning operating at maximum load occurring at idle	*Stationary 15 metre contour*	*70 dB(A) LAmax*
All service conditions	*Dynamic as Specified in AS2377*	*87 dB(A) LAmax*

***Recommendation 7.1**: SPC shall insure that all external lighting associated with the development is mounted, screened and directed in such a manner so as to achieve the minimum level of illumination necessary, and in accordance with AS4248-1997 (Control of Obtrusive Effects of Outdoor Lighting).*

***Recommendation 8.1**: Prior to the ILC operation commencing, SPC consult with relevant stakeholders and develop a plan for the appropriate adaptive reuse of the Tarpaulin Factory.*

***Recommendation 10.1**: SPC prepare a Frog Management Plan that addresses the issues suggested by the Department of Environment and Conservation on p10 of the attachment to its submission dated February 2006.*

***Recommendation 11.1**: SPC provide a shuttle bus service in peak periods between the ILC site and Strathfield Railway Station for the 12 months of peak construction in order to encourage construction workers to utilise public transport to access the site rather than their private vehicles.*

***Recommendation 11.2**: All construction activities shall be restricted to:*

- *7am and 6pm Monday to Friday;*
- *8am and 1pm Saturday; and*
- *no construction activities on Sundays or public holidays, unless separate approval has been granted by the Director-General of the Department of Planning.*

***Recommendation 11.3:** The proposed ILC construction works must satisfy the dust management objectives at the most sensitive receptors of 50 µg/m^3 24-hour rolling average of Particulate Matter less than 10 microns.*

***Recommendation 11.4:** During construction, SPC shall develop a reactive Dust Management Plan to ensure compliance with the limit specified in Recommendation 11.3. The reactive Dust Management Plan shall be triggered at a PM10 concentration level of 100 µg/m^3 as a 1-hour average or as otherwise agreed to by the Director-General of the Department of Planning.*

Recommendation 11.5: *During construction, the real time dust monitoring shall be conducted at the most sensitive receptors (residential area to the south-east of the site) and in accordance with the requirements of the following table:*

Pollutant	*Units of measure*	*Frequency*	*Method*
PM10	*µg/m³*	*Continuous*	*AS3580.9.8-2002 **

* *AS3580.9.8-2002 Method for sampling and analysis of Ambient Air – Determination of Suspended Particulate Matter – PM10 Continuous Direct Mass Method using a Tapered Element Oscillating Microbalance Analyser.*

Recommendation 11.6*: During construction, SPC shall develop a Dust Management Plan to include following:*

- *Identification of potential sources of dust;*
- *Dust management objectives in accordance with appropriate DEC guidelines;*
- *Dust monitoring program;*
- *Details of mitigation measures implemented;*
- *Establishment of protocol for handling dust complaints;*
- *A reactive dust management plan detailing how and when operations are to be modified to minimise the potential for dust emissions;*
- *Progressive revegetation strategy for exposed surfaces.*

Recommendation 11.7: *During construction, all vehicles on the ILC site shall be limited to a speed limit of 25 kilometres per hour. SPC or its contractors shall install visible signage to advise drivers of same.*

Recommendation 11.8: *During construction, all vehicles carrying materials to or from the ILC site must have their loads covered with tarpaulins or similar material.*

Recommendation 11.9*: During construction, all vehicles leaving the ILC site shall travel through a wheel wash to remove any soil particles.*

APPENDICES

APPENDIX A
Ministerial Appointment & Direction

Direction

Section 75G(1)(a) of the *Environmental Planning and Assessment Act 1979*

Under Section 75G(1)(a) of the *Environmental Planning and Assessment Act 1979*, I, the Minister for Planning, direct that a Panel of Experts be constituted to assess certain aspects of a proposal by Sydney Ports Corporation to construct and operate an Intermodal Logistics Centre at Cosgrove Road, Enfield (former Enfield Marshalling Yard), (reference: 05_0147).

The Panel is directed to independently consider and advise on the following aspects of the proposed development:

1. Local and regional traffic implications
2. Residential amenity
3. Other issues raised in submissions to the exhibited Environmental Assessment and or to the Panel
4. Adequacy of proposed mitigation measures and need for additional measures

The Panel is to consider the exhibited environmental assessment (EA) documents, all submissions received in response to the exhibition of the EA documents, and any other relevant information provided to or obtained by the Panel.

The Panel is to conduct round table meetings and make such other inquiries as are necessary for the Panel to inform itself in relation to the relevant aspects of the proposal as detailed above. The Panel shall submit a report to the Director-General by the 17 March 2006 or as agreed by the Minister.

Frank Sartor MP
Minister for Planning

Sydney 15th Feb 2006

File: 9037344

APPENDIX B
List of Written Submissions Received By The Panel

(as at Tuesday, 11 April 2006)

1. NSW Road Transport Association

2. Mr David West

3. Bankstown City Council
   - 3a. Main Submission
   - 3b. Attachment to main submission
   - 3c. Summary of Traffic Review by PB
   - 3d. PB response to questions on modelled results
   - 3e. Traffic animation
   - 3f. Council's presentation notes
   - 3g. Supplementary submission

4. Mr Bill McManus
   - 4a. Application requesting Panel Member (Matthew Stephens) to step aside due to an apprehension of bias.
   - 4b. Letter from Department of Planning to Mr B McManus dated 21 March 2006 Re Composition of Independent Panel of Experts.

5. No Port Enfield
   - 5a. Proposed local tour route
   - 5b. Submission to Port Botany COI
   - 5c. Submission in Reply to Port Botany COI
   - 5d. Submission to Independent Review of Enfield Terminal
   - 5e. Summary of Submission to Independent Review of Enfield Terminal
   - 5f. Cover to Submission to Independent Review of Enfield Terminal
   - 5g. Presentation to the 4th Annual National Rail Infrastructure Summit 2002
   - 5h. Submission to Premier's Infrastructure Implementation Group
   - 5i. Submission to Port Infrastructure in NSW Inquiry, Jan 2004
   - 5j. Appendices to Submission to Independent Review of Enfield Terminal
   - 5k. R Bali presentation - 21 March 2006
   - 5l. R Bali presentation – 22 March 2006
   - 5m. G Blaschke presentation – 21-22 March 2006

6. Mr Patrick O'Carrigan
   - 6a. Supplementary Submission

7. Botany Bay and Catchment Alliance
   - 7a. Additional Information if requested
   - 7b. Presentation notes – Lynda Newnam
   - 7c. Sea Freight Council – Container Mapping Study

8. Sydney Ports Corporation
   - 8a. Response to Questions from Panel Member (MS)
   - 8b. Presentation notes
   - 8c. Closing Remark by Mr S Zaczkiewicz

9. Department of Agriculture Fisheries and Forestry
   - 9a. Sydney Markets Flemington Site – Future Developments
   - 9b. Letter to Minister Sartor dated 8 August 2005 Re Rail Access into Sydney Markets Flemington Site
   - 9c. Letter to Patrick Corp dated 8 Sept 2005 Re Need to recommence rail freight services into and out of the Sydney Markets Flemington Site

10. Banksia Road Primary School

11. Strathfield Council
   - 11a. Presentation notes by Cr B Carney, Cr E Gewandt and Cr D Doust
   - 11b. 1996-2004 Traffic Accident Database for Strathfield LGA
   - 11c. Traffic and transportation brief summary

12. Marrickville Council
   - 12a. Letter to Department of Planning Dated 24 Feb 2006 Re Additional Matters

13. Mr Peter Asquith
   - 13a. Presentation notes

14. Weston Cereal Industries
   - 14a. Presentation notes – Mr C Prowse

15. Ms Patricia Giammarco
   - 15a. Presentation notes

16. Ms Elizabeth Gewandt
   - 16a. Presentation notes

17. Ms Sung Shin Cho
   - 17a. Presentation notes

18. Mrs Rosanna Schomberg
   - 18a. Article “Residents fear noise”, Inner City News, undated
   - 18b. Article, “Four vehicle collision leaves one dead”, The Torch, 25 Jan 2005

19. Mr John Bokor
   - 19a. Presentation notes

20. Ms Joy Hunter
   - 20a. Email dated 24 March 2006 Re Supplementary submission

APPENDIX C
List of Documents Tendered At the Panel Hearing

1. Environmental Assessment Report – Intermodal Logistics Centre At Enfield, October 2005
2. Submissions to Environmental Assessment Report received by Department of Planning
3. Independent Review of the Proposed Enfield Intermodal Terminal by the Honourable Milton Morris, AO, February 2003
4. New South Wales Import Export Container Mapping Study by Jays Corporate Services Pty Ltd, February 2004
5. Regional Intermodal Terminals – Indicators for Sustainability by Strategic Design + Development Pty Ltd, March 2004
6. Land Transport Environment Committee – Scoping Rail Environment Issues Discussion Document by National Transport Commission, September 2004
7. Railing Port Botany's Containers – Proposals to Ease Pressure on Sydney's Roads by Freight Infrastructure Advisory Board, July 2005
8. Sea Freight Council Project Brief – Landside Infrastructure Capability – International Containers
9. Freight Supply Chain – Coordination of Working Hours (Mismatch of Hours) by Meyrick & Associates, Jan 2005

APPENDIX D
List of Parties Who Appeared At The Panel Hearing

Submitter	Organisation (if any)
Mr Greg Martin, CEO Mr Steve Zaczkiewicz, Senior Development Manager Dr Kenneth Robinson, SKM	Sydney Ports Corporation
Cr Sam Byrne	Marrickville Council
Mr Simon French	
Mr Hugh McMaster	NSW Roads & Transport Association
Cr Bill Carney, Mayor	Strathfield Council
Cr Elizabeth Gewandt, Deputy Mayor	
Cr David Doust	
Mr David Backhouse, General Manager	
Mr Jon Stiebel	
Mr Mark Hughes	
Cr Helen Westwood (Mayor) Mr Martin Beveridge Ms Wendy Adam	Bankstown City Council
Mr Jason Hopkins	CFCL Australia Pty Limited
Mr Bill McManus	
Ms Lynda Newnam, Chairperson	Botany Bay and Catchment Alliance
Mr Gary Blaschke Ms Jenny Maddocks Dr Renata Bali Mr Robert Black	No Port Enfield
Mrs Rosanna Schomberg	
Mrs Patricia Giammarco	
Ms Sung Shin Cho	
Mr Peter Asquith	
Mr John Bokor	
Ms Marie Ledson	
Cr Elizabeth Gewandt	
Ms Eileen Napier	
Mr Patrick O'Carrigan	
Mrs Margaret O'Carrigan	
Mr Cameron Prowse, General Manager, Export	Weston Cereal Industries
Mr David West	

APPENDIX E
Overview of Submissions

Note: This overview was prepared as a summary of submissions lodged with the DoP on the EA and directly to the Panel and was prepared by the Panel solely for its use and does not purport to be a complete summary of all issues raised.

E1 STATE GOVERNMENT AGENCIES

Heritage Office (141)

More information is required in relation to the proposed use and restoration of the Tarpaulin Factory and Pillar Tank.

The Pedestrian Footbridge, Wagon Repair Shed and Yard Master's Office, which are identified as items of local significance, are not proposed to be retained - they should be repaired and reused or relocated to another site.

As the former Yard Master's Office has lost most of its significant elements, if it is to be demolished, a full archival recording should be undertaken.

A Heritage and Interpretation Plan and Strategy for the whole site should be prepared in consultation with the NSW Heritage Office and its guidelines.

There is no environmental and impact assessment relating to the European archaeological potential of the site.

Ministry of Transport (103, 319)

The Ministry of Transport (MOT) supports the development as it is:

- consistent with the government strategic framework initiatives
- promote the use of rail in the metropolitan area
- links to port through dedicated rail lines.

Issues of management of rail noise were raised and made complex by the impending transfer of the line to the Commonwealth Australian Rail Track Corporation (ARTC) following the final approval for construction of the Southern Sydney Freight Line. This issue could have implications for track managers and needs to be considered within the broader context of the government position on mitigation measures.

Ministry of Transport / Transport Planning Division (142)

ILC traffic will impact on bus servicing, delays at traffic signals and ability to move in\out of bus stops.

Additional seconds of delay affect reliable fast bus service and patronage.

Roberts Road/Juno Parade and Roberts Road/Centenary Drive/Hume Highway intersections will require upgrading to ensure bus priority.

Heavy vehicles on Roberts Road is a significant issue for bus service.

RailCorp (180)

RailCorp is extremely supportive of the proposed development of ILC at Enfield.

SPC will require RailCorp approval for installing and commissioning track signalling, communications links or any other services into the project area from RailCorp infrastructure.

RailCorp noted that the cumulative impacts associated with the increased usage of the RailCorp network at a regional level was not addressed - in particular freight distribution and noise.

RailCorp believes that the consequential impacts on regional rail corridors associated with the projects that contribute to the NSW Government Port Growth Plan need to be addressed.

Department of Environment and Conservation (309)

For the construction phase of the project, the Department of Environment and Conservation's (DEC) concerns are:

- Noise impacts
- Sediment, erosion and dust control
- Waste management
- Contaminated land and chemical storage
- The selected contractors should receive appropriate environmental induction before working on site.

Providing appropriate control and mitigation measures are undertaken, the construction phase is manageable.

As for the operation of the project, the principal concerns are:

- Noise issues, rail and road noise assessment are required and 24 hour complaint handling system should be implemented
- Air quality management should be in place for the local areas.
- Waste water management should be addressed.
- Waste and chemical storage handling guidelines required
- Biodiversity has to be maintained.

An Environmental Protection Licence will be required to comply with Acts and regulations administered by DEC for all the above activities.

NSW Department of Health (318)

Noise impact during construction should comply with noise criteria to reduce potential adverse effects on health. It is suggested that additional actions should take place to mitigate construction noise impact.

Operational traffic noise is currently high 7-21dBA. The predicted additional traffic noise is 2dB. Therefore additional measures for noise mitigation should be pursued.

Rail noise has not yet been assessed, but estimated to be up to 1dB, this should be considered in the context of cumulative noise impact.

Cumulative rail and road and operational noise impact may be significant to the north-west and south-east of the project.

Additional actions to those identified in the environmental management plan should be implemented, in order to mitigate operational noise impact.

Air pollution is a contributor to respiratory cardiovascular and eye nose and throat irritation - the cumulative impact was not fully estimated in the EA. The operational environmental management plan should be expanded to further mitigate operational phase air quality impacts.

The assessment and remediation of contaminated land must be undertaken.

Light spill should not affect the local residential area.

Transport of hazardous goods should take place away from residential roads.

Social impacts were not addressed in the EA.

A comprehensive traffic management plan to be developed to ensure that road safety is optimised during construction phase and operational phase, and be done in consultation with local community representatives.

Develop public transport strategy to improve access to the site.

Department of Natural Resources (320)

The proposal includes installation of a number of detention basins at the southern end of the property for flood mitigation purpose - they do not require licensing under the NSW Farm Dams Policy.

The development of Enfield ILC is an opportunity for the restoration and rehabilitation in the Coxs Creek area.

Strategies need to be put in place to ensure a safe habitat for the Green and Golden Bell Frog. It is important that other functions of the creek and its riparian zone are considered and incorporated into the proposal.

Roads and Traffic Authority (321, 326)

The Roads and Traffic Authority (RTA) supports the proposal in principle but realistically can not see it happening at Enfield, mainly because of the advantage road has over rail in transporting containers and the location of Port Botany in relation to Enfield.

For the ILC to be commercially viable, an unimpeded rail and road access is needed in order to attract business and be well-designed and managed.

The EA did not adequately address the likely traffic impact of the development and understated the need for road improvement around the site. A conservative estimate of $60M would be required just for the upgrade of Cosgrove Road and Hume Highway.

In a later submission, the RTA suggested actions to be taken to minimise the impact of ILC traffic on surrounding road network.

- An operational traffic management plan will have to be implemented;
- Install advance queue detector systems on Cosgrove Road and Hume Highway; and
- Extensive upgrade work at the intersection of Roberts Road and Norfolk Streets and along these streets.

E2 LOCAL GOVERNMENT AUTHORITIES

Bankstown Council (164, 328, 3f)

The Council broadly supports the rationale for the proposed ILC, but is of the view that the EA has not considered the full environmental impacts of the proposal, and that more information is needed to be provided in relation to the following matters:

- Traffic impacts. Proposed access to and from the facility are already under- performing intersections. Council has concerns about the impact on arterial road congestion and adjoining residential land uses, and the need for the State Government to commit to a wider strategy of arterial road upgrading works to support the proposal (see traffic report by Parsons Brinckerhoff).
- Noise Impact. A significant number of residents will be subjected to high level of noise during construction and operation of the facility. Concern that the proposed mitigation measures will not be effective and noise impacts has been underestimated.
- Air Quality Impacts. Greenacre residents will be adversely affected, as some mitigation measures were suggested to be directed to the east of the site, rather than the residents of Greenacre.
- Hazard Assessment. Given the complex nature of the hazard assessment and its importance for public safety, it is suggested that it will be reviewed by an independent expert prior to any approval.
- Light Spill. Additional work is necessary to ensure that this matter has been adequately addressed.

Parsons Brinckerhoff Report for Bankstown City Council (164)

The Traffic Assessment in the EA appears deficient in a number of areas:

- There is no overall Freight Strategy within which to measure the contribution of the project.
- While the project is justified on the basis of increasing mode share of freight logistics to rail, there is no commitment to the rail upgrade necessary to make intermodal transfer attractive, which may result in poor forecasts of truck traffic.
- Much of the local impacts are to be mitigated by a heavy vehicle management plan and a LATM plan but these are not specifically provided in the EA.
- While a list of intersections requiring upgrade is provided, no there is no commitment to Rail upgrade.
- No design or cost for the intersections upgrade in the area was provided. Is it local or state authority responsibility?
- No adequate investigation of turning paths at affected intersections.
- A scenario of access from Liverpool Road via Cosgrove Road and Gould Street was investigated, which can limit the impact on other intersections, and eliminate the additional access and upgrade (intersection and proposed bridge) to\from Roberts Rd therefore less intrusion to residents.
- The EA rejected the Cosgrove Road \Gould Street scheme on insufficient grounds

- Shortcoming of the NETANAL model in terms of:
    - Trip table separate for cars and trucks
    - Traffic counts not included regional travel demand
    - Additional calibration is required
    - Population and employment growth documentation is missing
    - Sources and methods of calculation of traffic estimation and assignment not documented.
- The EA did not present turning paths at affected intersections, Roberts Road and Norfolk Road, Roberts Road and Juno Parade, and Liverpool and Cosgrove Roads, where severe potential problems are identified. Questions concerning road safety and future road efficiency are raised.
- The EA dismissed without sufficient investigation an access scenario where all ILC traffic would travel via Liverpool Road and Cosgrove Road, operating Cosgrove Road and Gould Street intersections with Liverpool Road as a pair intersections.
- This scheme will have limited impact on the operation of other nearby Liverpool Road intersections.
- The above scheme would eliminate the need for an additional access from Roberts Road, this will encourage ILC traffic to remain on arterial road system, and create less intrusion to residents. Also it will save the need to upgrade Roberts Road.
- The EA has not demonstrated that it has effectively sought 'to minimize the impact of the ILC on the surrounding environment and community".

Canterbury City Council (157,162)

The expansion of Port Botany and the ILC should be assessed in conjunction with each other as part of the metropolitan freight and transport needs.

It is evident that this proposal will have an impact on the regional and local road network, a more detailed study of the impact on the local surrounding roads is required.

Ensure that the configuration of the southern end of Cosgrove Rd is satisfactory to limit heavy vehicle movement.

The noise assessment of train noise is found inadequate for the following reasons:

- No current proposal related assessment was provided.
- No assessment as for the potential increased operation of freight trains at night, when noise sensitivity is higher. No differentiation between freight and passenger trains was made.
- The EA has not considered noise and vibration mitigation measures. The major concern as to the deterioration of amenity for residents living nearby, as noise level will exceed the NSW DEC Industrial Noise Criteria. Noise generated by the construction may also exceed NSW DEC criteria. If Noise impacts arising from construction and operation of the site can nopt be mitigated the proposal should not proceed in its current form.

Air quality can be improved if electricity would be used to operate the trains, as diesel operated engines will be a potential health risk.

Community consultation is a critical part of the development, residents within the immediate affected area should be notified by letter.

Exhibition time should be extended for such a major project, and the technical nature.

Risk assessment found to be inadequate

Water quality impacts should be investigated further with the aim to reduce contamination.

Environmental consideration should be provided in more details to the following matters; Heritage and archaeology, flora and fauna, light spill, Geotechnical and soil condition, Hydrology, Urban design and landscape, Hazard and risk.

Marrickville Council (58)

Due to the serious concerns regarding the methodology used in the Port Botany expansion EIS, Marrickville Council requests that the current ILC proposal should not be approved.

A full and accurate assessment of the noise and vibration impact on the dwellings in the Marrickville local government areas, should be undertaken for current and future operation including proposed additional rail and road traffic. The EA should make commitments in regards to consultation with affected residents and the installation of noise mitigations in compliance with Environmental Protection Authority rail noise criteria.

Many dwellings located within the Marrickville LGA are adversely affected by noise from aircraft, port related truck movements, and freight trains. Any additional noise and vibration from 24 hour operation of the proposed ILC will be of grave concern.

Strathfield Municipal Council (11a, 11c, 121, 150, 159)

Pointed out that the conclusion of Morris Milton report (Feb. 2003) was that the Enfield site is not viable for development of ILC.

Construction noise may exceed the NSW DEC criteria even with the noise mitigation measures. Construction hours will exceed those recommended by the environmental noise control guidelines. Operational noise will exceed noise criteria especially in adverse weather conditions, westerly and south-easterly winds. Road traffic noise, is currently a problem, noise prediction underestimated the current condition therefore inaccurate. Rail noise, off site noise has not been assessed, some impact outside the site has been assessed whilst others have not and criteria are not clear regarding mitigation measures.

The ILC will be unable to operate effectively as the local road network is currently operating over capacity, with critical intersections operating at service level F. Intersections critical to the operation of the proposed ILC have not been assessed in the EA. The roads in the area cannot accommodate further traffic increases.

The EA omits consideration of Rookwood Cemetery, Australia Post Site and Sydney Markets.

Traffic accident records on the surrounding road network have not been taken into consideration.

Infrastructure upgrade requirements:

- An over/underpass at Centenary Drive and Arthur Street to improve traffic flow
- Modification of traffic signals to reduce present queuing and delays.
- Reconstruction of Roberts\Norfolk Roads intersection to cater for heavy vehicles
- Reclassified Wentworth Street to be managed by the RTA.
- Make funding available to council so access from Gould Street can be maintained.

There is a history of flooding problems in the area. Existing overland flow paths will be changed or blocked, which will result in increased flooding. There is a lack of detail in modelling of flooding\runoff. Up to 10,000m^3 of flood storage will be deleted.

The site is habitat for the nationally endangered Green and Golden Bell Frog. There is no assessment, baseline and targets of the proposed ecological area, and no long-term viability regarding ponds and maintenance.

The Enfield Marshalling Yards site is of heritage significance.

The visual impact has not been adequately addressed and mitigated. There is a general lack of detail in the master planning, including urban design landscape design and planting details.

Sydney Ports should contribute to the full cost of Council's ongoing maintenance of the site. Also specific contribution on an annual basis in addition to Section 94 contributions and a community/ecological area should be made for the local community benefit.

There is a high risk that large section of the community is uninformed about the proposal. Some 48% of residents in the area were born overseas, and no effort was made to produce information in other languages other than English.

A petition with 4000 signatures was submitted to Council opposing the proposal on the basis of 24 hour noise producing operation, viability of our community and cost transfer onto us.

The social, economic and environmental cost is too high. No benefit to the community. Project is assessed in isolation. Real impact is not assessed properly.

A report prepared by TEMPO on traffic issues was also submitted (121,11c)

Review of Traffic Impact Assessment by TEMPO Consulting For Strathfield Council (121,11c)

The recommendations in terms of Traffic Impacts are as follows:

- In order to adequately meet the traffic needs of the ILC, the intersection of Roberts and Norfolk Roads has to be reconfigured.
- The traffic signal phasing of the above intersection has to be altered. The current filtered right turn movement from the eastern arm of Norfolk Road should be replaced with a controlled movement.
- A Road Safety Audit should be conducted at the intersection of Norfolk Road and Wentworth Street to ensure that long vehicles can safely negotiate the corner.
- Wentworth Street to be reclassified as a State Road and become the responsibility of the RTA.
- On street parking on the southern side of the eastern arm of Norfolk Road should be prohibited for the distance of 50 metres.
- It is suggested that the RTA will investigate options to improve the operation of Centenary Drive and Arthur Street intersection, as it is expected to deteriorate in the future with growth in traffic demands.
- LATM measures for Cosgrove Road and the surrounding streets are needed to optimise access to the proposed site.
- The recommendation to widen Hume Hwy is supported.

Southern Sydney Regional Organisation of Councils (58)

Membership of SSROC includes: Botany Bay City, Canterbury City, Hurstville City, Kogarah, Marrickville, Randwick City, Rockdale City, South Sydney City, Sutherland Shire, Waverley, Woollahra. The proposal should be a part of a state planning not metropolitan. A state-wide port and freight strategy should be prepared.

The EIS does not fully address the extent of the cumulative impact on the terrestrial and aquatic environment, the hydrodynamics of the Bay, the effect on groundwater, noise and air quality impacts, and further investigation is required with regard to traffic and noise impacts, and economic impacts in areas adjacent to the site.

The traffic and transportation assessment is particularly deficient, as it covers inadequate study area and unsecured rail and inter modal facilities.

Inadequate social impact assessment

The economic impact assessment is incomplete, and does not demonstrate the hazards and risks associated with the development.

SSROC rejects the claim that the proposal 'is a significant step towards an ecologically sustainable future for metropolitan Sydney and NSW'

Port Botany proposal must not be considered in isolation.

The region is already experiencing negative social and environmental impact from infrastructures currently in place, the proposed ILC will only intensify those impacts.

The proposal cannot be justified on social, environmental and economic grounds, it must not proceed.

E3 PRIVATE SECTOR ORGANISATIONS

Shipping Australia Limited (40)

Shipping Australia Limited, which represents an industry that contributes to the Australian economy, comprises 75 shipping lines. Welcome and support the proposal.

CFCL Australia Pty Ltd (41)

Subsidiary of Chicago Freight Car Leasing Co. formally gives its support to the proposal. All freight rail operators in Australia are CFCL customers, so the company sees itself as a representative of this industry and part of the proposal.

Suggestion made for the use of part of the Enfield site to accommodate a maintenance facility for locomotives

Weston Cereal Industries (57)

The proposed ILC will enable the company to further increase its export business and local employment. ILC is in close proximity to the company's bakery at Chullora enabling access in more timely and cost effective manner.

Macarthur Intermodal Shipping Terminal (MIST) (66)

Strongly believe in the concept of Intermodal Terminals, and therefore support the ILC in Enfield.

State Chamber of Commerce NSW (67)

SCC represents thousands of business across NSW. SCC supports development of the Enfield ILC as the ILC will shift freight movement from congested roads to rail. It will be part of a wider plan to feed an economically and environmentally sustainable freight network.

Walker Corporation (151)

Owners of land fronting Roberts Road. Support the proposal.

Infrastructure Partnership Australia (184)

The company is in full support of the proposed ILC, it is supporting a growth opportunity, which is critical to the success of the intermodal terminal strategy. Enfield is the only development ready site in the proposed network.

Property Council of Australia (327)

The organization represents property investors, managers, developers and service providers. As such, they strongly support the proposal which seen as vital and strategically important.

E4 COMMUNITY ORGANISATIONS

Sydney Harbour and Foreshore Committee (43)

Supports the proposed development and would like to ensure that the ILC is connected by the existing freight line to the Sydney Harbour berths at White Bay. As the freight line from White Bay joins the line to Port Botany between Hurlstone Park and Dulwich Hill stations, freight will then flow to the ILC in harmony with that from Port Botany.

South West Enviro Centre Inc (158, 315)

Represents community groups and individuals from south west Sydney, noted the following:

- There is absence of a community representation at the planning process
- Grave concerns about the likely disturbance to residents from 24/7 operation.
- The recommended noise barriers are welcome but not effective with vibration impacts. Concerned with operational noise, light spill and pollution emission especially at night.
- No consideration of air quality impacts, a significant health risk (respiratory and cardiovascular) for residents from diesel engine emission affecting mainly the very young and elderly.
- Local major roads are currently operating at capacity for most of the day there will be a spill of traffic to the surrounding local roads
- Public\Private development experience in Sydney demonstrated difficulties in operation.
- No need to expand Port Botany or Enfield as they can operate more efficiently when investments made to utilise a corridor between Sydney and Newcastle ports.

Community NOPE (5a, 5b, 5c, 5g, 5h, 5i, 93)

A community group saying No Port Enfield, based on the following issues:

- Not a sustainable development.
- The cost is too high for medium term solution,
- Ignores social and economic implications
- Negative environmental impacts at local, regional and Sydney wide eg air and noise pollution, potential for contamination of Botany Bay waters.
- Port expansion in the heart of Sydney while Newcastle and Port Kembla have the land and infrastructure.
    - EIS is not complete does not examine properly:
    - The impacts on the adjoining residential area.
    - Road traffic impact, local, sub-regional and regional
    - Rail traffic impact along the entire Botany corridor
    - Construction and operation of intermodel terminals 24\7 every 7 minutes including noise, vibration air pollution, light spill, risks associated with transport, storage and management of dangerous goods, risk of introducing pests and disease into the area.
    - Failure to adequately consider alternative ports
- Air quality issue off site was not addressed, a present issue for Botany Bay area. How a 220% increase in trains and 100% in traffic result in air quality improvement?
- Diesel vehicles comprise 5% but contribute 60% of particulate pollution and 40% of Nitrogen Oxide emissions, almost all extra traffic forecast is diesel operated. No improvement in air quality can be expected.
- Noise issues, there is no curfews operating to protect residents, freight rail noise consists of low frequency, high pitch and clanging noises.
- Risk of extinction of a population of endangered green and golden Bell frogs
- Proliferation of rats and mice
- This proposal is not part of a bigger plan to handle future transport needs of all types in the area which suggests future congestion and problems.
- Health issues for adjacent residents, sleep disturbance stress asthma etc
- Negative impacts on property values
- The Areas impacted will include Sydenham-Marrickville-Hurlstone Park-Campsie-Belfield-Enfield-Chullora-Sefton-Chester Hill-Villawood-Cabramatta-Liverpool-Casula-Glenfield-Maquarie Fields-Ingleton and on to Macarthur.
- NoPE believes that in order to maximize efficiency containers should stay on trains until they closest to their destination which are located mostly west and southwest of Sydney.
- The benefit of improving traffic around Botany Bay is not weighed against the increase traffic around Enfield especially outbound container traffic.
- Lack of details made it harder for the community to examine the proposal.
- Ineffective community consultation process, not sufficient letter drop, and time to examine display of the proposal.

Summer Hill–Ashfield Greens (73)

A community group with members residing in Strathfield, Burwood, Canada Bay, and Ashfield Council areas. Objection to the ILC was made because of the community and environmental impacts such as adverse public health, increased rail and road traffic, airborne pollution, increased noise, especially rail and truck related, and the impact on habitat and biodiversity. These impacts should be addressed in more detail.

An alternative such as Newcastle Port should be considered.

A request for site management monitoring of noise limits, air quality and traffic levels, to be put in place in the case of project approval.

There is a need for an independent Traffic Study in consultation with local residents and councillors.

Strathfield District Historical Society (136,173)

The highest concern is the increase of heavy vehicle traffic on the surrounding roads, resulting in increased congestion pollution and compromising motorist safety with detrimental impact on existing and proposed residential and commercial developments.

Need for dedicated heavy vehicle lanes on the roads proposed to carry the extra traffic to minimize traffic conflict, wear and tear and shift the cost to the responsible industries.

Access to Cosgrove Rd by heavy vehicles will have a serious impact on both residential and commercial properties in Strathfield and Strathfield South.

Businesses along Cosgrove Rd currently have on street parking serving their costumers, with the expected substantial heavy traffic, would on street parking be retained?

One of the highest concerns is noise to the adjacent residential areas from rail and road traffic. The industrial area which is currently operating as a buffer zone is likely to change accordingly with the ILC and generate its own traffic hence there will not be a buffer between residential and ILC activities.

Operational hours 24/7 are unacceptable in residential areas.

The Enfield Marshalling Yards has important heritage significance. The Administration Building, the Master's Office and the Tarpaulin Factory should be restored and re-used to create a visible link with the site's history.

Benefits such as reduction of carbon dioxide, creation of employment and proximity of containers delivered by rail to their destination are all benefits to the greater Sydney but detrimental to the local area surrounding ILC.

Joint Committee of Necropolis Trustees (137)

Funeral traffic to and from Rookwood (5200 annually) will be further delayed - 60% of this traffic uses the gate on Weeroona Road, Strathfield. Tunning lane on Centenary Road is too short, funeral traffic often blocks the through lane.

1.34M people visit the cemetery yearly, and will be affected by the extra truck traffic along Centenary Road.

Centenary Road needs to be upgraded at Weeroona Road intersection.

Delays to Rookwood funeral traffic on the railway overpass close to Centenary Road will be further extended with the ILC traffic.

Intersections of Arthur St\Centenary Road; Hume Highway\Centenary Road; Hume Highway/Cosgrove Road will be further compromised .

Average delays for funeral traffic at Weeroona Road/Centenary Road will be worse

Upgrade of the adjacent road network is called for by the responsible parties, not left to the slow-reacting RTA.

INDIVIDUAL SUBMISSIONS

Cr. Elizabeth Gewandt, Strathfield Municipal Council (16a ,120,181)

Supports the proposal in principle but the EA is not justified on economic, social or environmental grounds. There are significant and intractable existing problems in the area bounding the proposed site. In particular the road network operation, critical intersections capacity, noise criteria and air quality. The area surrounding the site is predominantly residential, the interest of the freight industry in the site where access is already a problem is beyond comprehension. The project is not justified as the overall socio-economic assessment impacts are too great. There is no assessment of the future change in land use which ultimately impact on road network and residents Quality of Life.

In summary the proposal is flawed has no merits on environmental and traffic grounds and contrary to the public interest.

Clr Scott Farlow, Strathfield Municipal Council (149,183)

Refers to the Hon Milton Morris Report that concludes:

- Cost to the community greater than the overall benefit
- The proposed ILC in Enfield is only a short distance from Botany Port and a long way from the Manufacturing centres
- Surrounded by residential streets (north and west.)
- Distant from major road network (M5, M7)
- Lack of community consultation and information availability.

Therefore not sensible from a logistic or financial perspective to relocate at such a high cost to the local community.

Geographical/political divisions in the Enfield area , 3 councils involved, 3 regional organizations of council, 3 state electorates, 3 Federal electorate, which results in lack of cohesive town (land use planning) current laws don't allow councils to consider cumulative impacts of developments, there is no one voice to represent the community.

Y. J. Jiao (1)

concerned with the expected pollution noise and traffic congestion.

N. Davos (2)

worries about the pollution and additional traffic. Night time operation and 7 days are of particular concern.

A. Doran (3)

concerned with levels of noise, dust dirt pollution and the existing and future traffic.

N Green (4)

traffic congestion currently a problem. A traffic plan is needed to deal with current and future traffic

D. Hinten (5)

traffic usage and related noise in residential streets increased alarmingly. Operation 24/7 of railway will interfere with Quality of Life, drainage and sewerage could cause health problems.

P.M. Somers (6)

nothing good is identified with the ILC, for all concerned.

M. Shaikh (7)

concerned with the increased traffic, pollution noise, loss of open space and low property value.

E. V. Napier (8,102)

concerned about the health implications, increased traffic, and lack of community consultation

A Allegretti (9)

the development will bring about increased traffic, noise pollution, accidents and disrupt the peaceful life in Enfield.

R. Bruce (10)

Rail noise pollution is currently a major problem. The 78years old Mr. Bruce complains about the lack of consideration for the local residents.

A. Chan (11)

traffic movement is the main concern.

Christine Gordon (12, 164, 172, 178)

Significant increase of truck traffic on local residential roads. All users of the local roads such as schools, scout hall, and aged care home, located on Boronia Rd are at danger.

Thelma Hobbs (13, 154, 170)

Intersection of Roberts Rd and Juno Pde is currently generating high level of noise, the future traffic will be detrimental , noise barriers are needed on Roberts Rd .

Donato family (14)

Additional traffic will impact Quality of Life and danger to school children and adversely effect property value.

D. M. Bryant (15)

Concerned about noise from increased rail movement, and heavy traffic load on roads.

E. Bryone (16)

objects the proposed development, on grounds of traffic and noise increase.

E. Cordovado(17)

traffic increase is of great concern.

T. G. Daniljehenko (18)

strongly objects.

F. Panebianco (19)

Current noise, pollution and traffic levels are high objects any further increase.

John Bokor (19a)

A submission to the panel; Main concern is the noise impact demands a proper measures such as curfew and noise barriers to deal with the problem.

L. Johnson (20)

lack of consideration to local residents, lack of information about real impact, and lack of guards against the noise.

R. Walker (21)

Concerned with the adverse impact of the proposal on the local area, as expected volume are too high, limit should be imposed on freight trains at night, and on the roads, reuse of Heritage buildings, include local council in consultations.

D. Shir-King (22) strongly object the proposed ILC, on account of excess truck movement on the local roads, and the associated noise.

S & K Fleri (23) Expected Noise levels exceed the NSW Sleep Arousal Criteria, complaints about lack of public consultation.

A petition (24) calling to STOP the development signed by 11 residents of Barremma Road Lakemba

B & R Palmer (25) concerned with impact on health, increased traffic noise .

J. Yip (26) objects the proposal as will impact on health sleep and traffic volume.

R. Schomberg (27, 306) Concerned about traffic impact, noise, environmental problem.

M. Coorey (28) Site unsuitable because of proximity to residential areas and the adverse community environmental and health impacts it would create. Increased traffic, noise and pollution is also of concern.

V. J. Colman (29,72) complains about the deadline to oppose the proposal falling during the Christmas break, hoping for reassessment of the proposal.

C. Smith (30) request for more detailed analysis of the proposal, more information and detailed measures to minimize impact.

T. Mitchell (31,100) opposed in regards to increased traffic, noise dirt, dust and falling property value.

R. M. Roberts (32) lived in Roberts Rd for 54 years, current increase in traffic, noise, expressed grave concern about the future traffic impacts.

N L Edwards (33) as a resident of Greenacre in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

D. Wong (34) as a resident of Strathfield in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

P. Georgopoulos (35) Has already issues of noise, odour, dust, and truck movement late at night with Boral Plant, also EA overlooked the area around Norfolk Rd, and the real impact on residents, weather and wind condition were not accounted for.

The Hutton Family (36) opposed 24/7 operation, rail noise, truck traffic through residential streets wit associated noise and pollution, congested roads.

No details (37) Opposed, for health reasons, noise, pollution and decrease in property value.

M, K,A. & D. Vucetic-Cafritza (38,101) Object to the proposal of ILC.

L. Murlowski (39,98) Roberts Rd is already congested with trucks generated by other major industries, noise, pollution wear and tear of local roads and the environmental impact are all of major concern.

V. & E. Labbate (42) large increase in truck movement will impact on the already poor level of noise, pollution, congested local road, and the environment. The Morris report stated the site unsuitable what has changed since 2003 to make it suitable now?

I. Saker (44) 75% more trucks cannot be good for the health of the community, there is need for more noise barriers

P. Giammarco (45) Air quality, light spill, noise, night time operation, water quality, real estate values, water quality, no noise barriers, invasion of natural habitat, cumulative impacts, all of major concern.

R. Borg (46) pollution is a major concern as a mother for two young asthma sufferer. The area is fully congested with noise and pollution from heavy traffic.

Objection Letter (47-64, 74, 78, 79, 81-92, 104, 105, 107, 108, 111-115) A letter of objection from 39 residents of Marrickville Municipal council signed and sent individually.

M & M Hardy (47) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

A. Shapovalova (48) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

Resident (49) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

B. Cherry (50) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

J. Trevor (51) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested

Erica Jurd (52) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

M.J. James (53) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested

O. Sedecic (54) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

M. Odgers (55) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

L. Yzo (59) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

V.Sastro (60) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

C. Miazzi (61) baffled by the proposal to put such a development in the middle of a residential area , and the expense of putting noise barriers along the railway line.

Objection Letter Signed by 6 Greenacre residents requesting reconsideration of the proposal, and demanding more involvement and information.

D. & A. Booth (62) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

G. Young (63) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

J. Evans (64) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

R. Van Der Graaf (65) Cannot see a possibility in adding more traffic into the already overloaded roads, impacts on residents and schools in the area will be devastating.

B. Sinha (68) concerned with the dramatic increase in truck traffic in the residential area, which would have a severe impact on health, traffic jam, noise air and light pollution in the 10K radius.

G. & I. Carnuccio (69) Strongly objects on the basis of increased traffic, noise vibration caused already by existing facilities.

V. Zafiris (70) objects on basis of, pollution, additional traffic, train movement especially at night, impact on health.

B. & P. Page (71,75) Air and noise pollution, traffic congestion, property devaluation and no consideration for the well being of residents.

Dr. V J Colman (72) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

Mr. Veliski (74) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

J. Fleming & J. Lie (76) Objects the ILC as the site is surrounded by high populated area, currently schools in the area are adversely affected, highly congested Hume Hwy, and high levels of rail and truck related noise and pollution.

E. Ahmad (77) the area is already subjected to high level of traffic, noise and pollution day and night.

G. Katsaros (78) Current Noise level of freight trains is preventing residents from conducting conversation and hearing radio and TV which needs addressing to improve quality of life.

M A Johnson (79) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

R Beckman (80) ILC presents a serious impact on life style and assets value of the local residents.

A. Lines (81) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

A. Wells (82) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

M. Barbado (83) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

M A Stone (84) Current Noise level of freight trains is preventing residents from conducting conversation and hearing radio and TV which needs addressing to improve quality of life.

B. Abboud (85) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

I & F Bozkurt (86) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

To Tat (87) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

J. Bokor (88) Current Noise level of freight trains is preventing residents from conducting conversation and hearing radio and TV which needs addressing to improve quality of life.

K. Angelis (89) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

C. Argoulas (90) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

J. Hogan (91) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

Y. Alfonzetti (92) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

M. Prada (94) Noise and pollution is already very distressing, ILC will have a disastrous impacts on the community environment and roads, increased traffic, pollution, noise, risk of road accidents, and health risks.

K. Ryan (95) EA failed to mention guards against the adverse impact of the ILC on its residential surroundings.

D. Wong (96) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

A letter of objection (97) Signed by 12 residents of Henkins Court. Strongly object the ILC, Quality of Life, noise, dust, traffic all will be adversely affected.

L. Murlowski (98) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

J. McGhee (99) suggests an overpass from Roberts Rd to the development, to remove trucks from the local roads. Maximum noise abatement measures should be implemented.

T. Mitchell (100) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

M & K Vucetic, D&a Vucetic-Cafritza (101) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

E. Napier (102) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

M. Higgins (104) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

F. Manual (105) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

J. & T. Sciglitano (106) Main roads in Enfield area are already congested, it will increase usage of local roads. Increase in noise, air pollution and Risk to local pedestrians.

J. Papas (107) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

D.L. Ferguson (108) Current Noise level of freight trains is preventing residents from conducting conversation and hearing radio and TV which needs addressing to improve quality of life.

V. E. Banki (109) Not supportive of the development.

S. Young (110) Have to put up with rail noise day and night, two schools in the vicinity and all residents will be affected

J. Levy (111) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

T. Harris (112) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

S. Brooks (113) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

C. O'Brien (114) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

K. Bootes (115) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

L. Abboud (116) Very concerned with impact on health and safety.

N. Sinha (117) Concerned with the dramatic increase in truck traffic in the residential area, which would have a severe impact on health, traffic jam, noise air and lighting pollution in the 10K radius.

S. & M. Fraser (118) opposed to the ILC.

F. Ng (119) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

E. Gewandt (120) as a resident of Marrickville in close proximity to the ILC objects on the grounds of a poorly presented EA with no regards to the residents needs, More detailed study is requested.

Sanjeev Goyal (122) Strongly opposed and signed "an angry resident". Noise dust vibration pollution will be experienced to much higher degree than presently, operation expected 24 hours 7 days a week.

D. Sciglitano (123) Main roads in Enfield area are currently congested; it will increase usage of local roads. Increase in noise, air pollution and Risk to local pedestrians.

Colin Macgregor (124) Noise is main concern as noise walls around the tracks are built to minimum requirements. No guard against the major increase in noise.

Steven Makin (125) Concerned with the increase of noise and air pollution, and traffic congestion, risk to resident's health.

C. Cole (126) The Environmental Assessment does not include information or strategies on protection to local residents from increased noise and vibration.

J. Dalberg (127) Current Noise level of freight trains is preventing residents from conducting conversation and hearing radio and TV which needs addressing to improve quality of life.

R. J. Newman (128) Current noise level of freight trains is preventing residents from conducting conversation and hearing radio and TV which needs addressing to improve quality of life.

Sandra and Daria Zabetsch (129, 130) Refer to the project newsletter 3/1/06 disregard the impact of the ILC on residents along Liverpool Road, Centenary Dr western parts of Barker Rd, Newton Rd, Pemberton St and Ada Av, also South Strathfield High School and the residents of Marlene Cr and Davidson St . Increase in stress due to disturbed sleep, respiratory and skin problems due to air pollutant and toxins. The area is zoned Residential, but will turn into an industrial. The site will become unsuitable habitat for the frogs.

Jim and Dorothy Roustas (131) EIS fails to adequately address the noise issue. Major road network improvement is required to deal with the extra traffic especially at the intersections of Cosgrove & Liverpool Roads, Roberts Rd & Centenary Dr. Night time activities should be restricted or take place in sound proof structures.

R Hayward and A Bassett (132,175, 177)ILC will have a detrimental impact on the local residents life, the local birds and frogs. There is urgent need for management of noise, pollution and traffic.

M Marsden (133) Concerned with the increased truck traffic.

A. Terkals (134) The Environmental Assessment does not include information or strategies on protection to local residents from increased noise and vibration.

A.Pleticos (135) No sufficient study of the impact of extra truck traffic on the road network have been done. The benefit of the project is one off and not continual, it does not benefit the local community. The removal of the mountains adjacent to the Tarpaulin factory will be hazardous to the local residents. Fuel must not be stored on site.

Flora Ng and Cheuk Kin Poon (138, 140, 143, 119) The site is not suitable for a facility of such a scale given its proximity to residential areas and its adverse community and environmental impact. (140)

Baroness M. L. Oettingan-Brandt (139) Increase in pollution, noise and traffic volume, will inconvenience the community and schools.

L. Sobolevski (144,145) Current Noise level of freight trains is preventing residents from conducting conversation and hearing radio and TV which needs addressing to improve quality of life.

Nadeem Siddiqi & Nahid Hassan (146) Concerned with levels of air pollution affecting an asthma sufferer. Information regarding the proposal was not accessible in different language.

Maree Ledson (147) Noise, pollution and traffic will adversely effect the adjacent, residents schools and local roads. An alternative option such as Newcastle or Wollongong port should be considered.

Debbie Murray (148) Current Noise level of freight trains is preventing residents from conducting conversation and hearing radio and TV which needs addressing to improve quality of life.

Vanessa Hang (152) Current Noise level of freight trains is preventing residents from conducting conversation and hearing radio and TV which needs addressing to improve quality of life.

Mitri Nassar (153) Concerned with noise , pollution, increase in traffic, accidents and light spills from trucks.

M. L. Brendt (155) Concerned with Liverpool Rd traffic congestion, and the increased noise.

Richard Rodmore (156) Current Noise level of freight trains is preventing residents from conducting conversation and hearing radio and TV which needs addressing to improve quality of life.

Irene Sakor (160) Noise levels very high currently on Roberts Rd at night, needs noise Barrier.

P & M Monaci (161) Opposed the proposed ILC>

D.F. Sanson (165) objects the development

D. Shir-King (22,166) there is already increase of traffic volume, congestion and noise along Boronia Road, any more traffic will be detrimental to the residents quality of life

S.D.K (167) Expecting chaos, noise and pollution with the ILC.

D & M Mortier (168) Concerned with increased noise, pollution, parking shortage, hazardous pollutant, visual impact, health issues , and lower property value.

D. Karanokynos (169) pollution and noise are the major concerns.

T. Hobbs (170) Intersection of Roberts Road and Juno Parade is currently generating high level of noise, the future traffic will be detrimental , noise barriers are needed on Roberts Road .

B.Griffiths (171) Lived in area 54 years, do not drive worry about the traffic.

C. Gordon (172) Significant increase of truck traffic on local residential roads. All users of the local roads such as schools, scout hall, and aged care home, located on Boronia Rd are at danger.

R.J.Lucas (174) concerned with the traffic volume and its impact on the local residents.

R. Hayward & A.Bassett (175) see 177

D. Wong (34,96,176) Detrimental to local residents, noise pollution health hazard.

R Hayward and A Bassett (177) also submitted apetition signed by 21 residents from Railway Road , Unwins Bridge Road and Terry Street Sydenham, which back directly onto the proposed ILC.

C. Gordon (178) Significant increase of truck traffic on local residential roads. All users of the local roads such as schools, scout hall, and aged care home, located on Boronia Rd are at danger.

E.& J. Bezzina(179) Concerned with Increased Traffic, pollution, noise, risk of road accidents and loss of property values.

P. Austin (182) Concerned that he is forced to move out to escape traffic, rail noise and rail yard lights.

Objection Letter (185-314) Sent and signed individually by 127 residents

Stating a strong objection for the following reasons:

- Close proximity to established residential areas and schools, ILC will compromise living conditions
- Surrounding roads can not support the extra traffic proposed.
- Health and social cost is far too high.
- Residential property value will be adversely affected.

G. Donaldson (185), J. Hunter (186), S. Cho (187), Y. Matles (188),

D. Pery (189), S. Gabriel (190), R. Bahmad (191), A Shin(192),

C. Wong(183), L. Kniepp(194), L. Charters (195), J. Willie (196)

J. So (198), J. Paric(199), H.j.Choi (200), H B Lee (201), CK Yoon(202)

JY Lee (203), K Young (204), J. Chany (205), S J Nho (206), y j Kim (207)

H Y Jung (208), H S Kim (209), C S Chung (210), I Rhee (211),

Y S Cho(212), B j Ryu (213), R.Derbas (214), A.Derbas (215),

C S Smith (216), S.Langtip(217), M.Derbas (218), Ad. Debras (219)

D.Nicholas (220), R. Trimboli (221), s. Barmard (222), K. Wood (223),

K. Hall(224), D.F Sanson (225,226), U.Panagiotallis (227),

F. Derbas (228), L.Jenkins (229), M. Derbal (230), H. Ballout (231),

G.Chisari (232), J.Kertabani (233), B.Minalic (234) N. Minalic (235)

A. Roude (236), S. Webb (237), N.Gill (238), G. Daniljchenko (239)

M. Woolock (240)H. El Draihi(241), Resident (242), F. Liotta (243)

a. Hommoud (244), I. Homaidan (245), Resident (246),

M. McLaughlin (247), A. Bowden (248), J. Shin (249), H R Park (250)

D.Bhum (251), K. Yim (252), C. Philpott (253), JW Moon(254),

Resident(255), SH Lee(256), G. Hooker (257), a MacAskill (258),

Resident (259,260,261), C.Paukkis (262), Resident (263), Andrew(264)

Ray (265), Mick (266), O. Perez (267), Resident (268), M. Derbas (269),

R,Kadem (270), S. Toutounji (271), Christina (272), MK Kang (273),

Resident (274), H Kang (275), CS Yun (276), JHNoh (277), A Kryl (278)

J.Borsling (279), M.Dobronske (280), N. Ali (281)G.Nardis (282),

M. Veleski (283), M K Halil (284), C. Hanton (285), B. Anderson (286),

G. Chebib (287), M. Chami (288), L.Hema (289), P.Ghidni (290),

M.Albarq(291), R.Stevens(292), C. Grasso(293), E.Meler(294),

L.Water(295), N.Urch (296), W.Keams (297), G.Chester (298),

R. Carr (299), C.Lee (300), S. Roude (301), M. Gatoor (302),

F. Baroudi(303), A.Tan (304), A. Mohammad (305), R. Schomberg(306)

Resident (307), N.Carike (308), M.Harvey (310), Resident (311),

M.S.Ahmed (312), R.Yaghi (313), C. Biddell (314) I. Homaidea (245) Roberts Road already extremely busy, and generates excessive noise, discomfort, danger to local traffic and children, and air pollution.

M. Harvey (310) objects due to increased noise.

M.F. Fay (316) No satisfactory environmental impact assessment and prevention included in the EA, request for a more detailed study with strategies to minimize impact.

A Petition from residents of Boronia Rd. Greenacre (317) signed by 59 residents opposing the ILC project, as it lacks details for the community to examine, no master plan, no final plan, and no adequate display of the proposal.

I. & M Maddocks (319) EA did not address traffic congestion current and future, fail to add the employees vehicles on site to traffic estimates. Concern about air pollution

Richard Keyes (322) wrote to the premier office opposing the ILC as his home value and peaceful way of life will be greatly adversely affected,

Elias Georgy (323) opposing the proposal, as noise, vibration and adverse impact can not be minimized.

Gabriel Georgy (324) opposing the proposal, as noise, vibration and the general adverse impact can not be minimized.

Richard Georgy (325) opposing the proposal, as noise, vibration and adverse impact can not be minimized.

Bill McMannus (329) lack of logic for the ILC Enfield, The Milton Morris Enquiry rendered it 'Unacceptable'. In conflict with the Sydney Metro Strategy. Rail related issues were not addressed.

Patrick O'Carrigan (331)

On behalf of D&M O'Carrigan

- Unacceptable increase in peak and ambient noise levels
- Unacceptable reduction in air quality from noxious gases and fumes
- Unacceptable increase in air pollution – particulates, dust
- Unacceptable proposals for managing the adverse impacts on the community
- The study area in the EA is too narrowly drawn
- No real greenhouse saving in the whole metropolitan area.

One of the highest concerns is noise to the adjacent residential areas from rail and road traffic. The industrial area which is currently operating as a buffer zone is likely to change accordingly with the ILC and generate its own traffic hence there will not be a buffer between residential and ILC activities.

Operational hours 24/7 are unacceptable in residential areas.

The Enfield Marshalling Yards has important heritage significance. The Administration Building, the Master's Office and the Tarpaulin Factory should be restored and reused to create a visible link with the site's history.

Benefits such as reduction of carbon dioxide, creation of employment and proximity of containers delivered by rail to their destination are all benefits to the greater Sydney but detrimental to the local area surrounding ILC.

APPENDIX F
Panel Requests For Information

Email 13/3/06, PROJECT DESCRIPTION

[4.1] Will the ILC include a public weighbridge? Where would this be indicatively located on-site? What kind of traffic would it generate?

Proponent Email Response 20/4/06

SPC has consulted with the Roads and Traffic Authority (RTA) regarding the Compliance and Enforcement legislation and the need for a Heavy Vehicle Management Plan for ILC at Enfield. SPC has committed to the development of a site traffic management plan in consultation with RTA and lessees to comply with the C&E legislation and enforce the HVMP through the leases.

In this regard, the location and number of weighbridges will be determined by the operators/lessees within the ILC based on business need. In our experience in Port Botany the provision and location of a weighbridge is determined by the lessee based on customer requirements, type of activities requiring weighing, and the final shape of the leasehold area.

As an example, the leasehold could be a combination of areas containing part warehousing, part empty storage area plus say the intermodal operation. The type of weighing methods would then be driven by the need to weigh the various activities within the operation. For example, weighing instrumentation could be located on the handling equipment, or at the egress and access locations to this combined leasehold.

The operator/lessee is therefore in the best position to determine the design, height, length, operating hours and level of access based on customer needs. Consequently it is presumed that the operator/lessee will undertake the provision of one or a number of weighbridges as a future development application linked to the agreed leasehold.

In this regard, the ILC design allows room for a weighbridge in a number of locations e.g.

- *for a multi-shared weighbridge facility between warehouse C and the maintenance shed, immediately east of the internal road*
- *for particular precincts either within the Intermodal Terminal, Warehouse areas or empty container areas*

[4.2] Will there be any requirement during day-to-day operations for trucks to queue outside the ILC site on Cosgrove Road or Wentworth St?

Proponent Email Response 20/4/06

No. The internal road system (greater than 750m) will function as a fall back for queuing should there be some problem with the availability of parking and queuing to each operational/leasehold area. The internal road system will be accessible 24hrs per day, as security and access arrangements to specific sites will be controlled at the access and egress points to each operational/leasehold area.

SPC has consulted with the Roads and Traffic Authority (RTA) regarding the Compliance and Enforcement legislation and the need for a Heavy Vehicle Management Plan for ILC at Enfield. SPC has committed to the development of a site traffic management plan in consultation with RTA and lessees to comply with the C&E legislation and enforce the HVMP through the leases. Refer to Chapter 7.4.7.

[4.3] It is common place to see trailers parked along approach roads to the Port Botany terminals (e.g. Botany Road & Foreshore Dr). Is this practice also likely to occur around the ILC site? What would be the likely impacts on the surrounding areas? Would mitigation measures be required?

Proponent Email Response 20/4/06

No. The parking arrangements along Port Botany occur due to a number of reasons, namely (i) trailers left by drivers for later pick-up (ii) trucks waiting for slots in the queue for one of the operations (iii) food (iv) rest.

The ILC intermodal operation will be managed using a vehicle booking system, to optimise truck loading/unloading performance and to minimise queuing and waiting times. In addition, the designated parking/queuing areas for each site as well as the internal road system is of sufficient capacity to accommodate any combination of factors mentioned above without affecting the surrounding areas. Refer Ch 7.4.9

[4.4] Section 4.8. What would be the likely cost (+-30%) of the proposed 240m road overbridge over the Enfield marshalling Yards?

Proponent Email Response 20/4/06

Approximately $7M.

[4.5] Section 4.8. What were the main reasons for introducing a second access to the ILC site (Roberts Road)?

Proponent Email Response 20/4/06

There are a number of equally important reasons for the need for two access points, namely to:

- *meet operational and Occupational Health and Safety requirements for two points of access and egress for emergency and evacuation purposes eg. in the event that an accident or spillage results in the closure of one means of access, another must be available to allow the operations to continue.*
- *optimise traffic movements within the internal road system based on the multiple operating sites*
- *optimise off site traffic movements based on the origin and destination of containers within the area denoted as the ILC market catchment.*
- *provide driver flexibility in the choice of two designated truck routes based on emerging traffic conditions. Eg. accident on Cosgrove Road.*

See also SKM memo

[4.6] Section 4.8. Are you proposing that the site security will be the responsibility of individual lessees (how would this work?) or by a single site operator/manager (as was the case at the MIST site)

Proponent Email Response 20/4/06

Site security and access control will most likely be managed by the individual lessees. Each leasehold site would be fully secured using fencing and either physical or electronic access control used to ensure authorised entry into each leasehold area. It is anticipated that the internal road system will remain as an unsecured common user area, and will be subject to management and control by SPC or its approved representative.

[4.7] Section 4.12. During stages 1, 2 and 3 of construction (some 15-months), all construction related traffic would be using Cosgrove Road to access the site. What would be the likely impacts on residents along the southern of Cosgrove Road?

Proponent Email Response 20/4/06

The section of Cosgrove Road south of the site entrance has a 3-tonne load limit in place. Truck access to the site would be via the Hume Highway end of Cosgrove Road.

There will be no impact as construction traffic would be required to access and egress the site from the northern end of Cosgrove Road.

[4.8] Do you make any mention of design standards? For example, would you recommend that all internal roads are designed to accommodate future B-triples?

Proponent Email Response 20/4/06

The pavements and internal roads will designed and constructed to the relevent Australian Standards. Terminal pavements will be constructed to meet typical loads expected for container handling (eg. 40T capacity forklifts).

The internal road configuration will be finalised as part of the detailed design phase, and will consider maximum future vehicle sizes required by the lessees. At this stage the internal roads would be expected to accommodate up to B doubles. Any future requirements for B triples would be subject to a separate development application.

Email 13/3/06, COMMUNITY CONSULTATION

[5.2] I understand that a Traffic Working Group was established in May 2005. Would you please provide the Panel with minutes from those meetings so that we may better understand the local traffic issues?

Proponent Email Response 20/4/06

There have been five meetings of the Traffic Working Group. Minutes are provided for: 31st May 2005, 21st June 2005, 2nd August 2005, 23rd August 2005 and 24th January 2006

Email 13/3/06, AUTHORITY CONSULTATION

[6.1] Table 6-1. Where in Chapter 7, Appendix 'B' were the "methods of addressing queuing issues" covered? What methods are proposed?

Proponent Email Response 20/4/06

Refer Section 7.4.7 and 7.4.9. The ILC intermodal operation will be managed using a vehicle booking system, to optimise truck loading/unloading performance and to minimise queuing and waiting times. In addition, the designated parking/queuing areas for each site as well as the internal road system is of sufficient capacity to accommodate any combination of factors mentioned above without affecting the surrounding areas.

[6.2] What were the outcomes from the consultation undertaken with Rail Infrastructure Corporation on the current proposal since the Morris Review?

Proponent Email Response 20/4/06

Sydney Ports Corporation entered into a deed of agreement dated 31st May 2002 which describes the arrangements by which various parties to the Deed would benefit. The deed included a description of the easement and right of carriageway in favour of SPC for a road bridge spanning the New Marshalling Yards. Furthermore, and in accordance with the Director Generals requirements, SPC undertook follow-up discussions with RailCorp, and formally notified the Agency on the 15th December 2005 pursuant to clause 8F of the EP& A Amendment (Infrastructure and Other Planning Reform) Regulation 2005 of SPC's intention to lodge a Project Application and Environmental Assessment (EA) for the proposed Intermodal Logistics Centre at Enfield (Volumes 1 to 4) dated October 2005, which included a description of all offsite works impacting on RailCorp land. Prior to the formal notification, RailCorp was provided with all rail relevant sections of the EA for their consideration.

Email 13/3/06, TRAFFIC

[7.1] Table 7-2. Please provide the .TOT and .DAT files for the INTANAL models that produced the results in Table 7-2

Proponent Email Response 14/3/06

Requested data supplied in an attached zip file.

[7.2] The INTANAL models also produce Business Peak results. How did the junctions perform in these periods?

Proponent Email Response 20/4/06

The INTANAL Business Peak results are based on estimation of the relationship between the AM and PM peak volumes and the business peak volumes. No calibration has been undertaken for the business peak, so the reliability of these models cannot be assured.

[7.3] Section 7.1.3. Did you prepare any accidents plots for the area?

Proponent Email Response 20/4/06

Accident plots were prepared as part of the study but not included in the report. These can be provided if required.

[7.4] Section 7.1.3 & Table 2-5 of Appendix B. Did you consider converting these to accident rates (e.g. Fatalities/100MVKT or Casualties/100MVKT)? The patterns discussed in this section are most probably a function of exposure. For the current 12-month period ending Jan 2006, the average accident rates for NSW were; 0.9 fatalities per 100MVKT and 36 Casualties per 100MVKT. How do the adjacent roads compare?

Proponent Email Response 20/4/06

Converting the accident rates to Fatalities / 100MVKT or Casualties / 100MVKT was not considered nor undertaken. The key routes to and from the ILC were considered in this assessment. No analysis was undertaken on adjacent roads.

[7.5] Section 7.2. What Bus Contract areas cover the ILC site? Have the bus companies indicated any willingness to review services were the development to proceed? Do you have any recommendations for service re-routing?

Proponent Email Response 20/4/06

The existing bus network in the study area falls within new contract regions 13 (Transit first as the lead operator) and 6 (State Transit as the lead operator). The new integrated route network plan for region 13 will commence in June 2006. Region 6 is scheduled for review in 2008. Under bus reform, the MoT now substantially underwrites the cost of provision of bus services and determines routes and frequency in co-operation with the lead operator in each of the new contract areas. The study area is traversed by Strategic Bus Corridor 35 (Bankstown to Burwood). The relevant section of the SBC 35 runs Hume Highway, Boronia Road, Noble Avenue, Tennyson Road, Waterloo Road, Hume Highway, The Boulevard. Between two and four bus routes travel on SBC 35 along the Hume Highway between Roberts Road and Coronation Parade. There are no current plans to suggest any re-routing of services.

[7.6] Section 7.3. During Stages 1-3 of construction, the Wentworth St access will be unavailable. Will most of the key materials be moved from the site before or after its opening? What impact will this have on Cosgrove Road residents during construction?

Proponent Email Response 20/4/06

There will be no impact on Cosgrove Road residents during construction from ILC related construction traffic. SPC will require all construction traffic to travel to and from the site along a designated route north of the Cosgrove Road site entrance.

The section of Cosgrove Road south of the site entrance has a 3-tonne load limit in place. Truck access to the site would be via the Hume Highway end of Cosgrove Road.

[7.7] Table 7-6. Please provide the .TOT and .DAT files for the INTANAL models that produced the results in Table 7-6

Duplicate

[7.8] Section 7.4.5. Can you explain the step before this? What was the justification for the second access point? Did you look at options to provide 3-lanes eastbound along the Hume Hwy through the Cosgrove Road junction? What impact would this widening proposal have?

Proponent Email Response 20/4/06

Refer also to response 4.5. Alternative access options were considered in the previous Enfield Intermodal Logistics Centre studies. A summary of the heavy vehicle access options is provided in the attachment denoted as "Briefing Note - Enfield Site Heavy Vehicle Access Options 21st September 2005 – Sydney Ports Corporation"

Proponent Email response 14/3/06

See attached file: PP_ENF_9020NOT_Enfield Site Traffic Access Options 050921.pdf (19 pages).

[7.9] There has been some discussion regarding upgrades to Norfolk/Roberts Road. Improvements are likely to be restricted to a left-turn slip lane from Roberts Road SB into Norfolk EB. Have you looked at improvement options and modeled the likely improvements that may be achieved?

Proponent Email Response 20/4/06

Reconfiguration of the intersection has been considered by SPC. This included a slip lane as suggested. No modeling of a potential reconfigured intersection was undertaken. Our analysis shows that this intersection is theoretically satisfactory (i.e. INTANAL assumes whole of intersection operation. With Roberts Road given the majority of the Green Time, the junction operates satisfactorily).

[7.10] Appendix B, Section 2. What was the coverage of the NETANAL network? Was it the full Sydney model or a sub-area. Has the wider network been calibrated recently (e.g. particulalry along the Hume Hwy and M5-East)? This model was produced before the WM7 opening, is it worth going back and recalibrating the model now that we may have a better understanding of the role that the WM7 plays in the network?

Proponent Email Response 20/4/06

The NETANAL network covered the whole Sydney metro area. The model has recently been used for various projects along the M4 corridor. The M7 has been open less than 3 months, and tolled for less than 2. It is considered too early to assess the full impact of the M7 on travel behavior across Sydney.

[7.11] Appendix B, Table 2-5. Can you convert these numbers into accident rates per 100MVKT?

SKM Email Response 23/3/06

SKM memo dated 22/3/06 attached in .pdf format.

[7.12] Appendix B, Section 3.4.1. Was the provision of two access points (Norfolk & Cosgrove) a response to community consultation as suggested in the text?

Proponent Email Response 20/4/06

In the course of consultation with the community for both the previous Enfield Intermodal Logistics Centre studies and the subsequent ILC at Enfield, strong objections were raised in relation to the potential loss of small business parking to Gould St and the northern end of Cosgrove Road. Objections were received from small business owners including local smash repairers currently operating on Cosgrove Road. In addition, the ILC Traffic

Working Group, has on a number of occasions requested SPC provide information and justification for the need for two access points.

[7.13] Appendix B, Section 4.2. When were these DIPNR population and employment forecasts issued? There have been some significant revisions to the DIPNR forecast in the last 6-months. Is it worth revisiting the modeling?

Proponent Email Response 20/4/06

The land-use and employment forecasts on which the NETANAL trip tables are based do not include all of the latest directions in planning. However, it is considered unlikely that there would be significant changes in and around the Enfield area. This area is unlikely to have had any substantial changes in land use patterns.

See also SKM Memo dated

[7.14] Appendix B, Section 4.2.6. Has the RTA commented on these future road network assumptions? I note that one of the Director General Requirements was that you consult with RTA on this matter.

Proponent Email Response 20/4/06

This is a standard list of RTA road projects to be used in future modelling projects. The RTA consultation was undertaken during the preparation of the EA. They were not asked to comment specifically on the list.

[7.15] Appendix B, Table 4-4 and 4-5. Can you clarify that these are 'Peak Hour' figures.

Proponent Email Response 20/4/06

The volumes in these tables are peak 1-hour volumes

[7.16] Appendix B, Table 4-6. How many mid-block lanes are assumed for each road? How was "Capacity per Hour" derived? Were the degree of saturation estimates based on a 'target' capacity or actual saturation flows (ARR123 suggests a lane saturation of 1700TCUs per lane, for a class 'B' environment. aaSIDRA suggests 1800 TCU's for a similar environment. HCM suggest 1710TCU's for a less than ideal environment). Was the degree of saturation based on vehicles or TCUs? There seems to be some confusion with units. If the degree of saturation is based on a target capacity, then you are double-dipping. The link results may be much better than are currently represented in the table.

Proponent Email Response 20/4/06

The capacities in this table were derived from the Austroads Guide to Traffic Engineering Practice Part 2 (Table 7.1), and are typical mid-block capacities for urban roads with interrupted flow. Per-lane capacity is around 900-1000 vehicles per hour. The Austroads guide is not explicit about the use of TCUs or PCUs. However, the assessment in this table is considered appropriate as an indication of link capacity, given that intersection operation has been used as the critical indicator.

[7.17] Appendix B, Section 4.9. Whilst the proposal is unlikely to worsen the performance of the surrounding network in 2016, background traffic growth is likely to create an unfavourable environment for trucks attempting too access the terminal. This could impact significantly on the success of the development. Do you see this as an issue? What obligations do you feel the proponent has in addressing this matter? How could the proponent resolve the access problems?

Proponent Email Response 20/4/06

The overall network performance is an issue for the RTA and Councils to consider. Enfield ILC will contribute less than 1% of overall traffic to the environment.

SPC believes that one of the cornerstone benefits of the Intermodal Logistics Centre is the flexibility it will provide to local transport providers to access the terminal at the most efficient times to meet their business requirements. As provided in response no. M1 trucks will conservatively achieve four cycles in an eight hour period, with the peak activity for the terminal between 2 to 3pm (outside of the afternoon peak).

As a further example, it is the experience of the existing terminal owner MIST (Minto) that the number of prime movers required over time decreases, and the number of trailers increase. The phenomenon results from the practice of transport providers leaving containers at one destination on top of the trailer and moving to a second customer site to pick up another trailer/container that has been packed at the customers convenience. This provides the transport provider with the flexibility to choose the most cost and time effective point to access each customer and the terminal at their scheduling convenience.

[7.18] Appendix B, Section 4.9. The Hume Hwy/Roberts Road junction is forecast in your report to be one of the future problem areas on the adjacent road network. It is already grade-separated. What other viable options does the RTA have to upgrade this junction?

Proponent Email Response 20/4/06

This is a wider planning issue for the RTA and will be an issue even without Enfield ILC

[7.19] Appendix B, Section 4.6. During extended northbound delays on Roberts Road, ILC traffic exiting via Norfolk Rd may find it expedient to filter through the Greenacre residential areas (e.g. via Jean St and Rebecca Road) to access the Hume Hwy. Exisitng load limits aside, what other opportunities are there to address residential concerns.

Proponent Email Response 20/4/06

SKM and SPC have undertaken a traffic management exercise (and reconfiguration of the intersection) to alleviate the possibility of ILC traffic entering residential areas. This exercise was undertaken subsequent to the EA and formed the basis for subsequent discussion with the RTA. A diagramatic representation of the outcomes are attached in Figure 11 SPC proposed improvements to Norfolk/Roberts Road intersection.

[7.20] Appendix B, Section 5.2. Construction traffic is described as not substantial. The average construction traffic is 29vpd (mostly heavy). Most of this will be accessing the site via Cosgrove Road during Stages 1-3. What are the current daily heavy vehicle flows on Cosgrove Road?

Proponent Email Response 20/4/06

Vehicles will access the site via both access points. In the AM Peak hour, there were almost 100 heavy vehicles northbound (18% of the total) in Cosgrove Road at the Hume Highway. The equivalent PM peak hour volume was about 40 heavy vehicles (7% of total).

[7.21] Appendix B, Section 2. How was the NETANAL heavy-vehicle trip matrix derived.

Proponent Email Response 20/4/06

The NETANAL heavy vehicle matrix was provided with the NETANAL software, and is used by the program to estimate the effects of heavy vehicle activity on capacity and vehicle speeds. It is an estimation only, covering fewer zones than the full trip matrix, but was calibrated for this project.

Email 15/3/06, TRAFFIC FLOW DISCREPENCIES

[7.22] There appears to be some traffic flow discrepancies between the existing eastbound flows departing the Hume/Centenary Junction and those arriving at the Hume/Cosgrove Junction. There is a significant drop-off in flows. The difference appears to be -1,118 in AM and -357 in PM. Even allowing for some traffic loss at Braidwood and Gould, the amount seems significant. Has there been an error in the traffic surveys. It is more likely to have occurred at Hume/Centenary given its offset approach arrangement. Perhaps the surveyors have double counted somewhere (e.g. the EB L/T). This would make a significant impact on the performance of Hume/Centenary in the AM & to a lesser extent the PM peak.

Proponent Email Response 17/3/06

The difference in eastbound volumes identified between the Cosgrove/Liverpool and the Roberts/Hume INTANAL models is also evident in the raw count data for the two intersections. We do not believe that this is due to double counting by the surveyors, as the ¼hr pattern of differences does not support this theme. We need also to remember that traffic volumes reflect satisfied demand.

Congestion in Hume Hwy before Roberts Rd clearly restricted eastbound flow between 8:00-8:15, but this recovered in the following periods. This drop is also reflected in the flows towards Cosgrove Rd, but is not recovered subsequently. This suggests a choking effect, with traffic speeds falling below stable volumes, probably due to only 2 eastbound departure lanes.

Additionally, eastbound vehicles will have destinations between the two intersections, accessing Strathfield South High School (AM), rat-running through Hedges Avenue and Augusta Street (AM), vehicles accessing the industrial areas off Gould and Braidwood Streets (both peaks) and also the fast-food outlets between Gould and Braidwood Streets (both peaks).

The network modelling adopted traffic counts east of Cosgrove and is not affected by this issue. Intersection analyses of each intersection reflect the modelled volumes adjusted by the existing counts. As such, the reported future traffic volumes and analysis provide a robust assessment.

Email 29/3/06, SAFETY & TRAFFIC FORECASTS

[7.23] Would you please provide the accident plots for the area? I understand that they were available.

Proponent Email Response 23/3/06

Accident plots attached to emails. Attached are 2 accident plots. These were not included in the EA submission because we didn't think that they would add any value to the report. We only plotted fatal accidents and "all accidents (over 5 years) - from high to low (not numerical).

[7.24] Would you please provide the .PRN and NETNANAL model global statistics (VOC, VKT & VHT etc) for the Do Nothing & ILC scenarios.

Proponent Email Response 31/3/06

Spreadsheet attached to email in zip file. Included PRN & SUM files for 2016 Model Scenarios.

[7.25] Have you discussed the issue of background traffic growth with the RTA? In Panel discussions with them (and in their submission), they believe you have over-estimated the background traffic growth. This has the effect of diluting the impacts of the development. Has the RTA accepted the growth assumptions in your NETANAL model? What was the outcome of your discussions with them?

Proponent Email Response 13/4/06

Refer SKM memo dated 13/4/06

Email 31/3/06, NETANAL RESULTS

[7.26] The panel has reviewed the NETANAL statistics provided by SKM. There does not seem to be a drop in VKT and VOC that you would expect for the ILC proposal. The modelling suggests that the ILC will actually increase the transport task. Intuitively you should be shortening heavy vehicle trips and reducing the delays around Port Botany. Can you explain this? I note that the number of trips in the model has increased for the ILC scenario. Perhaps the transfer of trips from Port Botany to Enfield has not been executed accurately in the trip matrix. Can you please provide some insights.

Proponent Email Response on 31/3/06 & 13/4/06

SPC and SKM undertook a joint analysis. An explanation of the approach and summary spreadsheet is provided for your consideration. A manual assessment of the change in VKT was preferred over using the NETANAL output for several reasons:

The NETANAL model was used to assess local impacts on the road network only. The measure of VKT produced was not calibrated in any way, and its accuracy was unknown. The "With ILC" model includes additional trips which were added to the trip matrix to account for staff associated with the ILC and the new light industrial zone alongside the ILC on Cosgrove Road. It is anticipated that in reality these trips will switch from other locations, rather than be "new" trips. Without any other data, it was considered appropriate to assume that the average length of these trips would not change significantly. However, as the particular origins and destinations were unknown, they could not be subtracted from the trip matrix. The manual approach allowed a reasonably accurate annualisation of the VKT savings, derived from the actual movement of containers.

The manual assessment in the attached spreadsheet identifies the market area for the ILC and determines the proportion of trade that would occur to each LGA in the market area. A representative industrial area was chosen for each LGA (although 2 LGAs were used for the Bankstown LGA, due to its share of the market and proximity to the Enfield ILC site). The operation of an integrated logistics centre also allowed for the internalisation of some 98,000 container truck movements per year (movement of empty and full containers to/from warehouses onsite) to be explicitly accounted for. It was assumed that if there was no ILC, there would be some form of warehousing in the Strathfield LGA, including possibly at the Enfield site.

Spreadsheet demonstrating manual calculation of VKT attached.

Refer also SKM memo dated 13/4/06

Email 20/4/06, MODELLING

[7.27] Would you please provide the 'TOT' files, which contain the Trip End Totals & Zone Node Reference Numbers, for all the NETANAL model scenarios (AM & PM, AV & CV, 2005Base, 2016Base, 2016ILC).

Proponent Email Response 26/4/06

As discussed (recognising IP issues), TOT files have not been provided. Rather, differences from 2005 to 2016, and 2016 with & without ILC for the AM peak have been prepared and emailed. Rows 201-229 & 908-911 relate specifically to ILC. These files are provided on the basis of implied confidentiality of the IHAP, and only used by IHAP personnel.

[7.28] Would you please confirm the the year/month when your model calibration data was collected and the method of collection.

Proponent Email Response 26/4/06

EA, Appendix B, 2.3 of Traffic Working Paper. Manual intersection counts and pneumatic tube counts over 7-day period in February 2005.

Refer also SKM memo dated 13/4/06

[7.29] Would you please confirm what adjustments were made during the NETANAL model calibration process (e.g. travel zone disaggregation, revision of centroid connector placement, adjustments to road network attributes, and/or adjustments to the trip tables using the Select Link function in NETANAL)

Proponent Email Response 26/4/06

Network checking: speed limits, number of lanes and link type etc verified against reality in study area. Existing Enfield travel Zone (Zone 220) divided to create new zone for ILC, retaining existing trip distribution profile. Select link adjustment within NETANAL for calibration locations listed in Appendix C of Traffic Working paper.

See SKM memo dated 26/4/06

[7.30] Would you please confirm that the base model was stable e.g. did you do some comparisons of links flows at 24 and 36 increments?

Proponent Email Response 26/4/06

Yes, the model was stable. Our standard practice is 16 iterations (not 12) during each calibration adjustment. For the AM peak, the difference between iteration15, 16 & 17 was 0.5% on RTA Screenline 1 (west of ILC). A rerun for iteration 24 differed from #16 by 0.04%. For CVs, these differences were 0.3% &1.4% For the PM peak, these differences were 0.2% and 0.1% (CVs 0.7% & 0.2%). This gives strong confidence of model stability.

See SKM memo dated 26/4/06

[7.31] When were the DIPNR trip tables used in the model issued?

Proponent Email Response 26/4/06

Base trip tables are identified as 2001, being modified to include major regional changes: airport; & Port Botany expansion. As focus is on local impacts, land-use and population forecasts in the study area have not significantly changed. Calibration provides appropriate adjustment, and regional effects have not been shown to be significant.

See SKM memo dated 26/4/06

Refer also SKM memo dated 13/4/06

Email 24/4/06, INTANAL FILES

[7.32] The Panel has checked the INTANAL results for 3-4 junctions and has the following concerns:

i) Cycle Lengths at junctions such a Norfolk/Roberts and Hume/Cosgrove are modelled as low as 57 seconds in the peak hours. They should be set 120 to 140 seconds as per current operation. This can affect capacity and delay;

ii) There are no pedestrian volumes entered, no pedestrian delay calculated and no walk/Clearance time specified - this can affect left/right turn lane capacity and minimum green times for side-street phases;

iii) Platoon percent per hour is set at 'R0' - which assumes no platooning. This will reduce your lane capacity. These are just a few issues that have been picked up in our cursory review.

Can you please re-check your INTANAL files and let us know what you find. Please provide an update of Tables 2.2 and 4.7 of Appendix B, if required. If you think they are fine as is, we would appreciate a response supporting your modelling approach.

Proponent Email Response 26/4/06

Attached SKM memo dated 26/4/06 covers the issue. INTANAL has been set to optimise intersection performance, giving best case. Setting long cycle time would leave assessment open to criticism of artificially worsening intersection performance, thus artificially diminishing ILC impact.

Pedestrian volumes are relevant if crossing time is longer than appropriate red time. Pedestrian activity in the area is minimal, and the average effect across the peak hour would be trivial. Again, specific inclusion would worsen LoS and leave open accusation of artificially worsening intersection performance.

The platooning function in INTANAL is primarily used for the assessment of sign-controlled intersections. The impact of platooning on intersection operation will be mitigated in congested conditions, and where distances between intersections are such that the traffic stream will disperse on approach to an intersection.

Having reviewed the SKM INTANAL models, the RTA made no criticism of the absence of platooning factors.

Email 28/4/06, LINK FLOW DISCREPENCIES

[7.33] How do you explain discrepancies between the 2005 link flows in Tables 4-4 & 4-5 (Appendix B, Page 53) and the 2005 link flows in the Calibration Tables (Appendix B, Page 88).

Proponent email response dated 4/5/06. Refer to attached SKM memo date 4 May 2006.

Email 10/5/06, LINK FLOW DISCREPENCIES

[7.34] Please provide supporting documentation for the conclusions derived in your response memo dated 28/4/06. The recalibration of the PM Peak model will impact the reported numbers in the calibration tables, link flow forecast tables and figures as well as the junction modelling. The impact of these modifications to the EA, whether large or small, must be demonstrated by the proponent. Would you please provide the IHAP with copies of these updated Tables and Figures. Also, if the INTANAL models have been changed, the revised modelling results should be provided.

[7.35] Also, how do you explain discrepancies between the 2016 ILC forecasts for Roberts Road in EA Appendix B, Table 4-5 and Figure 4.4.

Proponent email response dated 12/5/06. Refer to attached SKM memo dated 12 May 2006.

Email 15/5/06, MODEL CALIBRATION

[7.36] SKM memo dated 12/5/06, Page 2. The PM peak table shows a corrected calibration total of 89% of GEH values less than 5.0. However, the detail in the table actually indicates that less than 66% (12/18) have a GEH value lower than 5.0. Have you accidentally transposed some of the new modelled values?

[7.37] SKM memo dated 12/5/06, Page 3. Have you forgotten to update the '2005 Existing' column with the new 2005 modelled flows from the recalibrated model. At present they are still showing the same 2005 modelled flows as the EA.

[7.38] Will you be updating the heavy vehicle calibration tables as well (pages 89 and 90, Appendix B)? Is HV calibration better, worse or same after recalibration?

[7.39] The main EW routes through the study area (e.g. Hume Hwy E of Cosgrove & Georges River Road) may still need further calibration in the AM peak model. The AM Peak model is underestimating Hume Hwy flows by up to 13% (GEH 10.9) and underestimating Georges River Road Flows by 24% (GEH 13.4). I was hoping you would address this in their review of model calibration. I would also remind you that the AM model is currently showing only 78% of links with a GEH less than 5.0. The DMRB standard recommends a minimum of 85% (see page 86 of Appendix B).

Proponent Email Response 23/5/06. Refer to attached SKM memo dated 23/5/06.

Email 13/3/06, NOISE

[11.1] Table 11-11. Are the estimated flows for 2016 consistent with Table 12-6?

Proponent Email Response 20/4/06

Traffic volumes in Table 11.11 (and 5.3 in NIA) are for 2005 (No ILC) and 2016 (with ILC). Traffic volumes in Table 12-6 are for 2016 (No ILC) and 2016 (With ILC). The data presented for 2016 (with ILC) is the same for each table for Roberts Road. There is a difference of 31 vehicles in the data presented for Hume Hwy. Across the whole of the day, this would have no influence on the predicted traffic noise levels.

[11.2] Table 11-11. Should the title be "Traffic Movements per Day With and Without the ILC"

Proponent Email Response 20/4/06

Yes. The title for Table 5.3 in the NIA is also incorrect.

Email 13/3/06, AIR QUALITY ASSESSMENT

[12.1] Table 12-6, page 12-13. How were these daily estimates derived from Appendix B?

Proponent Email Response 20/4/06

Daily volumes were factored from the AM peak hour volume, using the existing relationship between the peak hour and ADT.

[12.2] Table 12-6, page 12-13. Daily HV volumes on Roberts Road are estimated to increase by only 1 truck movement per day. How does this reconcile with the Peak Hour estimated increases provided in Tables 4-4 and 4-5 included in Appendix 'B'

Proponent Email Response 20/4/06

The net change in AM peak hour traffic on Roberts Road (from Table 4-4 in Appendix B) is +1 vehicle. There would be some vehicles that would switch away from Roberts Road with the ILC in place.

[12.3] Table 12-6, page 12-13. The Hume Hwy currently carries about 44,000 vpd (CH7, Pg7-3). Are you forecasting up to 50% growth up to 2016?

Proponent Email Response 20/4/06

The estimates of daily traffic are sensitive to changes in peak hour traffic. As such, the future estimates of daily traffic volumes are conservatively high, although the real increase used for the noise and air assessments is appropriate.

Refer also SKM memo dated 13/4/06

Email 13/3/06, EMMISSIONS

[18.1] Section 18.4. Were these truck VKT values derived from a whole of Sydney commercial vehicle trip matrix or just a container transport matrix as suggested by the text? What all-vehicle VKT and VHT impacts does the development have across the network? Can you please provide the annual statistics (.PRN) for the 2016 Do Nothing and 2016 ILC models?

Proponent Email Response 20/4/06

The VKT figures quoted on page 18-3 are estimates of the reduction in VKT associated with the movement of the 300,000 TEU which would pass through the Enfield ILC.

The estimates were derived from the assumed market area and the distances between each area and Enfield/Port Botany. The weighted average distance between Port Botany and the market area is almost 38km (round trip), while from Enfield the weighted average distance would be just over 12km.

This approach was considered preferable to using output from the NETANAL model. The trip matrices with the ILC include staff traffic associated with the new Cosgrove Road industrial area. This traffic was assumed to switch from another area rather than being "new" traffic. However, it was left in the trip matrix because it was too complicated to remove them with any accuracy. The .prn files can be provided if required.

Email 6/3/06, MILTON MORRIS REPORT

[M1] Section 3.4. Morris raised concerns about the viability of double-handling containers via Enfield versus the costs of distributing the containers directly from the Port. How has this this issue been addressed in the EA? Have any economic assessments of this been undertaken?

Proponent Email Response 20/4/06

The financial feasibility model for the project has not been addressed in the EA. Such information would be considered commercial in confidence. Notwithstanding, SPC has determined the commercial viability for the project and confirmed many commercial aspects through independent studies.

For example, SPC commissioned Strategic Design and Development (SD&D) to undertake an analysis of the Value Chain for Enfield. A summary of the viability of the project and the SD&D scope and conclusions are also provided below.

Placement of Intermodal Facility within its Market

The predominate issue in determining the most appropriate location for the establishment of an intermodal facility for Sydney is the proximity to the market place. 85% of the containers are delivered to or are generated from a 40km radius of the port. Enfield ILC is located 18 km from Port Botany which places it near the centre of this 40km radius.

Sydney's industrial regions are divided into four main areas – eastern, inner and middle-western, western and south-western Sydney. The Enfield ILC is being established to service the inner and middle-western market, which is the destination of 56% of container imports and the origin of 23% of full container exports through Port Botany. The LGA's within this catchment area are: Auburn, Bankstown, Parramatta, Fairfield, Holroyd, Blacktown, Concord and Strathfield. Currently this market caters for 700,000 TEUs per annum, with an expectation of growth of 5-6% per annum.

Truck Utilisation

The road connections from industrial Sydney to Port Botany are poor in comparison to most of the containers ports in the world of comparable throughput. The main route to the Port is the M7 (for Western Sydney locations), to the M5 to Foreshore Road. Heavy vehicles are prohibited from using Botany Road except for servicing local businesses. The M5 is often already near congestion levels in the am and pm peak periods with an expectation that a deterioration in this situation is likely to occur as general traffic volumes increase.

Preferably the normal modus operandi for a container truck visiting Port Botany is to either deliver an empty container to one of the Empty Container parks in the Port Botany area (MCS, Banksmeadow or POTA, Patrick and Tynes at Port Botany) or deliver a full export container to one of the stevedoring terminals (vehicle booking slot needed to access the terminal). The truck then needs a further booking slot to collect an import container at one of the stevedoring terminals. The following table puts this travel journey in an indicative time context:

Road Task	*Time (Minutes)*
Travel from Western Sydney to Empty Depot (say)	*60*
Unload at Empty Depot	*30*
Travel to Stevedoring Terminal	*10*
Wait for Vehicle Booking Slot (say)	*15*
Unload/load at Stevedoring Terminal	*45*
Travel from Port Botany to Western Sydney	*50*
Total	*210 (3.5Hrs)*

A truck therefore is able to obtain two cycles in an eight hour period. In comparison, the same exercise is undertaken utilising Enfield ILC in a "hub and spoke" manner. An import container is unloaded from a vessel at Port Botany and placed in the rail stack at the stevedoring terminal for transfer by train to Enfield ILC.

The travel time for a truck to collect that import container at the Enfield ILC is:

Road Task	*Time (Minutes)*
Travel from Western Sydney to Empty Depot at ILC	*20*
Unload at Empty Depot	*20*
Travel to Intermodal Terminal	*5*
Unload/load at Intermodal Terminal	*30*
Travel from Enfield ILC to Western Sydney	*30*
TOTAL	*115 (1hr,55min)*

A truck using Enfield ILC to deliver the empty container and collect the import container can make four cycles in the eight hour period. The additional utilisation of both the vehicle and the driver decreases the road cost in comparison to Port Botany.

In summary, the establishment of Enfield ILC will reduce a truck's travel time by approximately half, compared to travelling directly to Port Botany. There are 24 sets of traffic lights that a truck passes through in a road journey from Port Botany (Bumbora Point Road) to Enfield (Norfolk Road), which provides a general indication of the possible time impacts that the trucking companies need to take into account when planning the daily schedules for their drivers. Enfield ILC will save 100,000 truck movements (journeys to and from the port) between the western suburbs and Port Botany, providing a saving of 6.5 million Vehicle Kilometres Travelled (VKT), when this facility is operating at its peak. The benefits to the community are the decrease in the number of trucks travelling on the M5 to Port Botany and reduced greenhouse gas emissions.

Lower Transport Costs

The cost to transport a container by road from port Botany to inner and middle-western Sydney ranges from $360 to $405 per TEU (20' container)and $450 to $500 per FEU (40' container) [reference Sd+D]. This includes the cost of returning the empty container to an Empty Depot. The large amount of time in undertaking this task is a contributing factor to the high transport cost. The time involved in the above exercise means that a truck is only able to undertake two cycles in an eight hour shift.

For Enfield ILC to work in an economic sense, the cost to the importer / exporter for the combined rail / road journey must be equal to or less than the cost presently paid for the truck journey to and from Port Botany. The combined rail / road cost for a container transferred through Enfield ILC is estimated to range from $356 to $ 390 per TEU and $437 to $483 per FEU (source Sd+D).

The SD&D report "seeks to define the Enfield Intermodal Logistics Centre's potential catchment area and market share. It also seeks to determine the competitiveness of the proposed operation within the current Sydney metropolitan supply chain environment and to assess Enfield's role in helping to achieve the rail modal share target set by Government. In support of the project objectives, the Consultant has provided:

- *A market analysis - identification of relevant catchment area container volumes, freight demographics, and container movement patterns;*
- *A market forecast – development of a container forecasting model and assessment of market share scenarios to determine the market environment and timing for reaching Enfield terminal's 300,000 TEU capacity threshold; and*
- *An alternative supply chain analysis - cost comparisons between the current road-based supply chain between Port Botany and customers in the catchment area, and a rail-based supply chain via Enfield, including a review of alternative terminal and supply chain structures to determine optimal operating regimes for Enfield.*

The following conclusions were reached by the author Neil Matthews:

> *"Conclusions*
>
> *In 2004, approximately 8.15 million containerised tonnes were delivered to/from the Sydney metropolitan area. According to the analysis undertaken approximately 53 percent of Sydney metropolitan freight volumes are contestable by Enfield. It is estimated that approximately 4.3 million containerised tonnes were delivered to/from the Enfield catchment area in 2004, with 2.3 million tonnes located in the inner catchment and 2 million tonnes located in the outer catchment area. Applying the conversion factor of 7.09 tonnes per TEU, it is estimated that approximately 649,000 TEUs were delivered to/from the Enfield catchment area in 2004, with 325,000 TEUs located in the inner catchment and 287,000 TEUs located in the outer catchment area.*
>
> *Overall trade moving into and out of the Enfield catchment areas is forecast to increase from 649,000 TEUs in 2005 to 1.571 million TEUs by 2026, with 746,000 TEUs located in the inner catchment area and 825,000 TEUs located in the outer catchment area in 2026.*
>
> *A key conclusion from the analysis undertaken is that there is sufficient long term freight demand within the Enfield catchment areas to warrant the development of an ILC at Enfield, particularly given that more than one half of Port Botany metropolitan container volumes will continue to be destined for, or originate in the Enfield catchment area. Moreover, the market penetration rates in the scenario modelling suggest that the proposed Logistics Centre at Enfield should achieve a 300,000 TEU volume threshold in a timeframe required for a profitable, efficient operation.*
>
> *Given that the Enfield facility is forecast to handle some 273,000 TEUs by 2011 – 16 percent of metropolitan market share – the Consultant considers the terminal a strategic linchpin in helping to achieve the rail modal share target set by Government. Moreover, the facility will be particularly important in alleviating congestion in the area given that the inner west has a higher proportion of road movements as a direct result of not being adequately serviced by an intermodal terminal.*
>
> *Achieving a modal shift to rail will require development and promotion of an alternative approach to the transport and storage of empty containers, and in particular the integration of the movement of empty containers between Port Botany and the consignor. As such, the Consultant recommends that the Enfield facility operates under an "Inland Staging" regime where empty container storage is integrated with the intermodal terminal operation, avoiding the return of the container to Port Botany.*
>
> *Preliminary modelling demonstrates that a rail-based Enfield supply chain is at least cost/price neutral in comparison with the existing road-based supply chains and terminal alternatives when "Inland Staging" is adopted as the operating regime, i.e., when empty container storage is integrated with the intermodal terminal operation, avoiding the costly return of the container to Port Botany. "*

Email 20/4/06, MILTON MORRIS REPORT

[M2] In your response to [M1] issue you state:

"..Enfield ILC will save 100,000 truck movements (journeys to and from the port) between the western suburbs and Port Botany, providing a saving of 6.5 million Vehicle Kilometres Travelled (VKT)".

The 100,000 truck movements - is this a reference to the 98,000 (49,000 x 2) internalised trips mentioned in the VKT spreadsheet? Aren't these VKT savings also a result of the shortening of 253,366 (126,683 x 2) truck trips to the target market? Can you clarify please? Also, where can I find the calculations supporting the annual truck trip estimates used in the VKT spreadsheet?

Proponent Email Response 25/4/06. VKT calculation spreadsheet attached.

Enfield ILC would save approximately 100,000 truck movements and 6.5M VKT per annum. This is not meant to reflect that one equates to the other. In fact, what Matthew notes in relation to the total VKT saved is correct, i.e. that with the Enfield ILC in operation, 100,000 truck movements are internalised and that in addition there are shortened journeys for 250,000 truck movements because part of the journey is taken up by a rail movement, to produce the total saving of 6.5MVKT.

Supporting calculations..

(a) See Excel spreadsheet which has 2 worksheets, one detailing the vkt savings, the second outlines the truck movements calculations. Note that SKM advise that the attached file is the off-model working spreadsheet that calculated VKT. Input values are blue. Many of these input values are copied as values from the individual spreadsheets used in developing the truck loading and activity profiles.

(b) Note that with the VKT calculations, SKM advise that the distances were estimates calculated from street directory by major truck routes, and came from the centers of the major industrial areas in the cargo Origin/Destinations LGAs for Enfield ILC, measured from Pt Botany or Enfield. So this was an estimate of total distances traveled for the truck movements. Note, that the distance cells in the VKT spreadsheet have comments referring to this.

APPENDIX G
Additional Information Provided By SPC

No.	Document	Date Received
22	22_IHAP Submission 070906 Further Requirements	07 September 2006
21	21_IHAP Submission 230506 EN01709 (PPR Modelling).pdf	23 May 2006
20	20_IHAP Submission 220506 EN01709.pdf	22 May 2006
19	19_IHAP Submission 120506 EN01709.pdf	12 May 2006
18	18_IHAP Submission 040506 EN01709.pdf	04 May 2006
17	17_IHAP Submission 260406 EN01709.pdf	26 April 2006
16	16_IHAP Submission 260406 EN01709 (2).pdf	26 April 2006
15	15_IHAP Submission 250406 EN01709 (2XLS).pdf	25 April 2006
14	14_IHAP Submission 250406 EN01709 (1XLS).pdf	25 April 2006
13	13_IHAP Submission 200406 EN01709.pdf	20 April 2006
12	12_IHAP Submission 130406 PP_ENF_9020 (VKT).pdf	13 April 2006
11	11_IHAP Submission 070406 PP_ENF_9020.pdf	07 April 2006
10	10_IHAP Submission 060406 PP_ENF_9020 (Noise).pdf	06 April 2006
9	9_IHAP Submission 310306 EN01709 (VKT).pdf	31 March 2006
8	8_IHAP Submission 310306 (Swept Paths).pdf	31 March 2006
7	7_IHAP Submission 310306 EN01709_tr_008 (Fatlty Loctn).pdf	31 March 2006
6	6_IHAP Submission 310306 EN01709_tr_008 (Crash Plot).pdf	31 March 2006
5	5_IHAP Submission 230306 (Crash Rates).pdf	23 March 2006
4	4_IHAP Submission 140306 (Swept Paths).pdf	14 March 2006
3	3_IHAP Submission 140306 PP_ENF_9020(Query 7_8).pdf	14 March 2006
2	2_IHAP Submission 140306 (Figure11_001V For Query 7_19).pdf	14 March 2006
1	1_IHAP Submission 060306 PP_ENF_9020.pdf	06 March 2006

APPENDIX H
Information Supplied By RTA

No.	Document	Date Received
22	RTA letter dated 24 May 2006	24 May 2006
23	RTA Fax dated 24 May 2006	24 May 2006

APPENDIX I - Regional Growth Tables

Table 1: Forecast Growth Rates For Screenline 7 & 5 In the PPR Base Case Models

SL	RTA Count Station	Location	AM Peak				PM Peak			
			2005 PPR Base	2016 PPR Base	Diff	% Diff	2005 PPR Base	2016 PPR Base	Diff	% Diff
7	20067	City West Link	3733	4069	336	9%	4143	4121	-22	-1%
7	20035	Marion Street	1110	1371	261	24%	1332	1531	199	15%
7	20012	Parramatta Road	5079	5491	412	8%	4984	5508	524	11%
7	19193	Longport Street	2045	2123	78	4%	2253	2476	223	10%
7	19192	Old Canterbury Road	1447	1886	439	30%	2646	2854	208	8%
7	19189	New Canterbury Road	2393	2662	269	11%	2091	2110	19	1%
5	24212	Wardell Avenue	1474	1650	176	12%	1470	1585	115	8%
5	19041	Illawarra Road	865	1317	452	52%	984	1356	372	38%
5	24210	Bayview Avenue	255	312	57	22%	220	270	50	23%
5	23001	Princes Hwy	5012	6470	1458	29%	5439	6204	765	14%
5	23067	Marsh Street	5130	5948	818	16%	4667	4826	159	3%
5	23002	General Holmes Drive	11816	13370	1554	13%	11651	13098	1447	12%
			40359	**46669**	**6310**	**15.6%**	**41880**	**45939**	**4059**	**9.7%**
					Annual Growth =	**1.3%**			**Annual Growth =**	**0.8%**

Average Annual Growth Rate = 1.32%
Period = 11

Average Annual Growth Rate = 0.84%
Period = 11

Table 2: Comparison of Observed and Modelled Flows For Screenline 7 & 5

SL	Stn	Location	AM Peak				PM Peak			
			RTA 2002	2005 Base	Diff	% Diff	RTA 2002	2005 Base	Diff	% Diff
7	20067	City West Link	3251	3733	482	15%	4302	4143	-159	-4%
7	20035	Marion Street	1239	1110	-129	-10%	1389	1332	-57	-4%
7	20012	Parramatta Road	4415	5079	664	15%	4760	4984	224	5%
7	19193	Longport Street	697	2045	1348	193%	781	2253	1472	188%
7	19192	Old Canterbury Road	1520	1447	-73	-5%	1704	2646	942	55%
7	19189	New Canterbury Road	2083	2393	310	15%	2096	2091	-5	0%
5	24212	Wardell Avenue	1534	1474	-60	-4%	1491	1470	-21	-1%
5	19041	Illawarra Road	1180	865	-315	-27%	1147	984	-163	-14%
5	24210	Bayview Avenue	1182	255	-927	-78%	1149	220	-929	-81%
5	23001	Princes Hwy	5006	5012	6	0%	5027	5439	412	8%
5	23067	Marsh Street	4190	5130	940	22%	3706	4667	961	26%
5	23002	General Holmes Drive	11590	11816	226	2%	11169	11651	482	4%
			37887	**40359**	**2472**	**6.5%**	**38721**	**41880**	**3159**	**8.2%**
					Annual Growth =	**2.1%**			**Annual Growth =**	**2.6%**

Average Annual Growth Rate = *2.1%* *Average Annual Growth Rate =* *2.6%*

Period = *3* *Period =* *3*

APPENDIX J – Traffic Impact Assessment Tables

Table 1: 2016 AM Peak Traffic Link Flow Forecasts With ILC

Street	Location	Direction	GENERAL TRAFFIC			ILC TRAFFIC			ALL TRAFFIC			%ILC		
			CARS	HV	TOTAL	CARS	HV	TOTAL	CARS	HV	TOTAL	CARS	HV	TOTAL
Boronia Road	E of Hume Hwy	EB	594	87	681	6	3	9	600	90	690	1.0%	3.3%	1.3%
Boronia Road	E of Hume Hwy	WB	730	87	817	0	3	3	730	90	820	0.0%	3.3%	0.4%
Centenary Dr	S of Weerona Rd	NB	4,000	330	4,330	0	20	20	4,000	350	4,350	0.0%	5.7%	0.5%
Centenary Dr	S of Weerona Rd	SB	2,941	407	3,348	19	23	42	2,960	430	3,390	0.6%	5.3%	1.2%
Cosgrove Road	S of Hume Hwy	NB	430	49	479	0	1	1	430	50	480	0.0%	2.0%	0.2%
Cosgrove Road	S of Hume Hwy	SB	524	27	551	56	3	59	580	30	610	9.7%	10.0%	9.7%
Georges River Rd	E of Coronation Pde	EB	1,320	70	1,390	0	0	0	1,320	70	1,390	0.0%	0.0%	0.0%
Georges River Rd	E of Coronation Pde	WB	1,267	40	1,307	13	0	13	1,280	40	1,320	1.0%	0.0%	1.0%
Hume Hwy	W of Centenary Dr	NB	4,015	370	4,385	5	10	15	4,020	380	4,400	0.1%	2.6%	0.3%
Hume Hwy	W of Centenary Dr	SB	2,660	261	2,921	0	9	9	2,660	270	2,930	0.0%	3.3%	0.3%
Hume Hwy	E of Cosgrove Rd	EB	2,970	309	3,279	0	1	1	2,970	310	3,280	0.0%	0.3%	0.0%
Hume Hwy	E of Cosgrove Rd	WB	2,236	160	2,396	54	0	54	2,290	160	2,450	2.4%	0.0%	2.2%
Roberts Road	S of Norfolk Rd	NB	2,364	178	2,542	36	12	48	2,400	190	2,590	1.5%	6.3%	1.9%
Roberts Road	S of Norfolk Rd	SB	1,670	216	1,886	0	14	14	1,670	230	1,900	0.0%	6.1%	0.7%
Wentworth St	S of Norfolk Rd	NB	80	38	118	0	42	42	80	80	160	0.0%	52.5%	26.3%
Wentworth St	S of Norfolk Rd	SB	233	80	313	57	40	97	290	120	410	19.7%	33.3%	23.7%

Notes:

1) Forecasts derived from Table 1-1 and Figure 1-1 of SKM submission to IHAP dated 23 May 2006

Table 2: 2016 PM Peak Traffic Link Flow Forecasts With ILC

Street	Location	Direction	GENERAL TRAFFIC			ILC TRAFFIC			ALL TRAFFIC			%ILC		
			CARS	HV	TOTAL	CARS	HV	TOTAL	CARS	HV	TOTAL	CARS	HV	TOTAL
Boronia Road	E of Hume Hwy	EB	510	58	568	0	2	2	510	60	570	0.0%	3.3%	0.4%
Boronia Road	E of Hume Hwy	WB	629	157	786	1	3	4	630	160	790	0.2%	1.9%	0.5%
Centenary Dr	S of Weerona Rd	NB	3,286	340	3,626	14	10	24	3,300	350	3,650	0.4%	2.9%	0.7%
Centenary Dr	S of Weerona Rd	SB	3,590	167	3,757	0	13	13	3,590	180	3,770	0.0%	7.2%	0.3%
Cosgrove Road	S of Hume Hwy	NB	643	29	672	87	1	88	730	30	760	11.9%	3.3%	11.6%
Cosgrove Road	S of Hume Hwy	SB	490	37	527	0	3	3	490	40	530	0.0%	7.5%	0.6%
Georges River Rd	E of Coronation Pde	EB	995	30	1,025	5	0	5	1,000	30	1,030	0.5%	0.0%	0.5%
Georges River Rd	E of Coronation Pde	WB	1,240	20	1,260	0	0	0	1,240	20	1,260	0.0%	0.0%	0.0%
Hume Hwy	W of Centenary Dr	NB	2,730	114	2,844	0	6	6	2,730	120	2,850	0.0%	5.0%	0.2%
Hume Hwy	W of Centenary Dr	SB	3,677	162	3,839	3	8	11	3,680	170	3,850	0.1%	4.7%	0.3%
Hume Hwy	E of Cosgrove Rd	EB	2,653	119	2,772	87	1	88	2,740	120	2,860	3.2%	0.8%	3.1%
Hume Hwy	E of Cosgrove Rd	WB	2,850	149	2,999	0	1	1	2,850	150	3,000	0.0%	0.7%	0.0%
Roberts Road	S of Norfolk Rd	NB	2,340	192	2,532	0	8	8	2,340	200	2,540	0.0%	4.0%	0.3%
Roberts Road	S of Norfolk Rd	SB	2,051	111	2,162	19	9	28	2,070	120	2,190	0.9%	7.5%	1.3%
Wentworth St	S of Norfolk Rd	NB	195	35	230	35	25	60	230	60	290	15.2%	41.7%	20.7%
Wentworth St	S of Norfolk Rd	SB	110	7	117	0	23	23	110	30	140	0.0%	76.7%	16.4%

Notes:

1) Forecasts derived from Table 1-2 and Figure 1-2 of SKM submission to IHAP dated 23 May 2006

Table 3: 2016 AM Peak Traffic Link Flow Forecasts With ILC (Passenger Car Unit Equivalents)

Street	Location	Direction	GENERAL TRAFFIC			ILC TRAFFIC			ALL TRAFFIC			ILC % (PCUs)
			CARS (PCUs)	HV (PCUs)	TOTAL (PCUs)	CARS (PCUs)	HV (PCUs)	TOTAL (PCUs)	CARS (PCUs)	HV (PCUs)	TOTAL (PCUs)	
Boronia Road	E of Hume Hwy	EB	594	183	777	6	6	12	600	189	789	1.5%
Boronia Road	E of Hume Hwy	WB	730	183	913	0	6	6	730	189	919	0.7%
Centenary Dr	S of Weerona Rd	NB	4,000	693	4,693	0	41	41	4,000	734	4,734	0.9%
Centenary Dr	S of Weerona Rd	SB	2,941	855	3,796	19	47	66	2,960	902	3,862	1.7%
Cosgrove Road	S of Hume Hwy	NB	430	103	533	0	2	2	430	105	535	0.4%
Cosgrove Road	S of Hume Hwy	SB	524	57	581	56	6	62	580	63	643	9.7%
Georges River Rd	E of Coronation Pde	EB	1,320	147	1,467	0	0	0	1,320	147	1,467	0.0%
Georges River Rd	E of Coronation Pde	WB	1,267	84	1,351	13	0	13	1,280	84	1,364	1.0%
Hume Hwy	W of Centenary Dr	NB	4,015	777	4,792	5	20	25	4,020	797	4,817	0.5%
Hume Hwy	W of Centenary Dr	SB	2,660	548	3,208	0	18	18	2,660	566	3,226	0.6%
Hume Hwy	E of Cosgrove Rd	EB	2,970	649	3,619	0	2	2	2,970	651	3,621	0.1%
Hume Hwy	E of Cosgrove Rd	WB	2,236	336	2,572	54	0	54	2,290	336	2,626	2.1%
Roberts Road	S of Norfolk Rd	NB	2,364	374	2,738	36	24	60	2,400	398	2,798	2.2%
Roberts Road	S of Norfolk Rd	SB	1,670	454	2,124	0	29	29	1,670	482	2,152	1.3%
Wentworth St	S of Norfolk Rd	NB	80	80	160	0	86	86	80	165	245	34.9%
Wentworth St	S of Norfolk Rd	SB	233	168	401	57	82	139	290	250	540	25.7%

Notes:

1) Forecasts derived from Table 1-1 and Figure 1-1 of SKM submission to IHAP dated 23 May 2006

2) Profile of ILC trucks based on peak hour truck activity presented in EA, Appendix B, Table 4-2

3) PCU estimates for ILC truck traffic based on the following conversion factors; B-double=3.3, Semi=2.3, Small=1.3

4) PCU estiates for genertruck traffic based on a conversion factor of 1 truck = 2.1 pcus

Table 4: 2016 PM Peak Traffic Link Flow Forecasts With ILC (Passenger Car Unit Equivalents)

Street	Location	Direction	GENERAL TRAFFIC			ILC TRAFFIC			ILC TRAFFIC			ILC %
			CARS (PCUs)	HV (PCUs)	TOTAL (PCUs)	CARS (PCUs)	HV (PCUs)	TOTAL (PCUs)	CARS (PCUs)	HV (PCUs)	TOTAL (PCUs)	
Boronia Road	E of Hume Hwy	EB	510	122	632	0	5	5	510	126	636	0.7%
Boronia Road	E of Hume Hwy	WB	629	330	959	1	7	8	630	337	967	0.8%
Centenary Dr	S of Weerona Rd	NB	3,286	714	4,000	14	23	37	3,300	737	4,037	0.9%
Centenary Dr	S of Weerona Rd	SB	3,590	351	3,941	0	30	30	3,590	381	3,971	0.8%
Cosgrove Road	S of Hume Hwy	NB	643	61	704	87	2	89	730	63	793	11.3%
Cosgrove Road	S of Hume Hwy	SB	490	78	568	0	7	7	490	85	575	1.2%
Georges River Rd	E of Coronation Pde	EB	995	63	1,058	5	0	5	1,000	63	1,063	0.5%
Georges River Rd	E of Coronation Pde	WB	1,240	42	1,282	0	0	0	1,240	42	1,282	0.0%
Hume Hwy	W of Centenary Dr	NB	2,730	239	2,969	0	14	14	2,730	253	2,983	0.5%
Hume Hwy	W of Centenary Dr	SB	3,677	340	4,017	3	19	22	3,680	359	4,039	0.5%
Hume Hwy	E of Cosgrove Rd	EB	2,653	250	2,903	87	2	89	2,740	252	2,992	3.0%
Hume Hwy	E of Cosgrove Rd	WB	2,850	313	3,163	0	2	2	2,850	315	3,165	0.1%
Roberts Road	S of Norfolk Rd	NB	2,340	403	2,743	0	19	19	2,340	422	2,762	0.7%
Roberts Road	S of Norfolk Rd	SB	2,051	233	2,284	19	21	40	2,070	254	2,324	1.7%
Wentworth St	S of Norfolk Rd	NB	195	74	269	35	58	93	230	132	362	25.7%
Wentworth St	S of Norfolk Rd	SB	110	15	125	0	53	53	110	68	178	30.0%

Notes:

1) Forecasts derived from Table 1-2 and Figure 1-2 of SKM submission to IHAP dated 23 May 2006

2) Profile of ILC trucks based on peak hour truck activity presented in EA, Appendix B, Table 4-2

3) PCU estimates for ILC truck traffic based on the following conversion factors; B-double=3.3, Semi=2.3, Small=1.3

4) PCU estiates for genertruck traffic based on a conversion factor of 1 truck = 2.1 pcus

APPENDIX K
Acknowledgements

Organisation	Person	Activity
Sydney Ports Corporation	Mr Stephen Zaczkiewicz Senior Development Manager	Information provision Site visits
Department of Planning	Mr Scott Jeffries	Information provision
	Ms Ingrid Illias	Information provision
	Ms Paula Poon	Hearing organisation & Information provision
Sinclair Knight Merz (consultants to Sydney Ports Corporation)	Mr Ken Robinson - Principal, Environmental Planning Ms Julie Stanley – Senior Transport Engineer	Information provision
Macarthur International Shipping Terminal, Minto	Mr Steve Heraghty Group Managing Director	Site visit
	Mr Craig McKay Terminal Manager	
Strathfield Council		Hearing facilities