MOOREBANK INTERMODAL COMPANY

Have your say on the EIS

Presentation overview

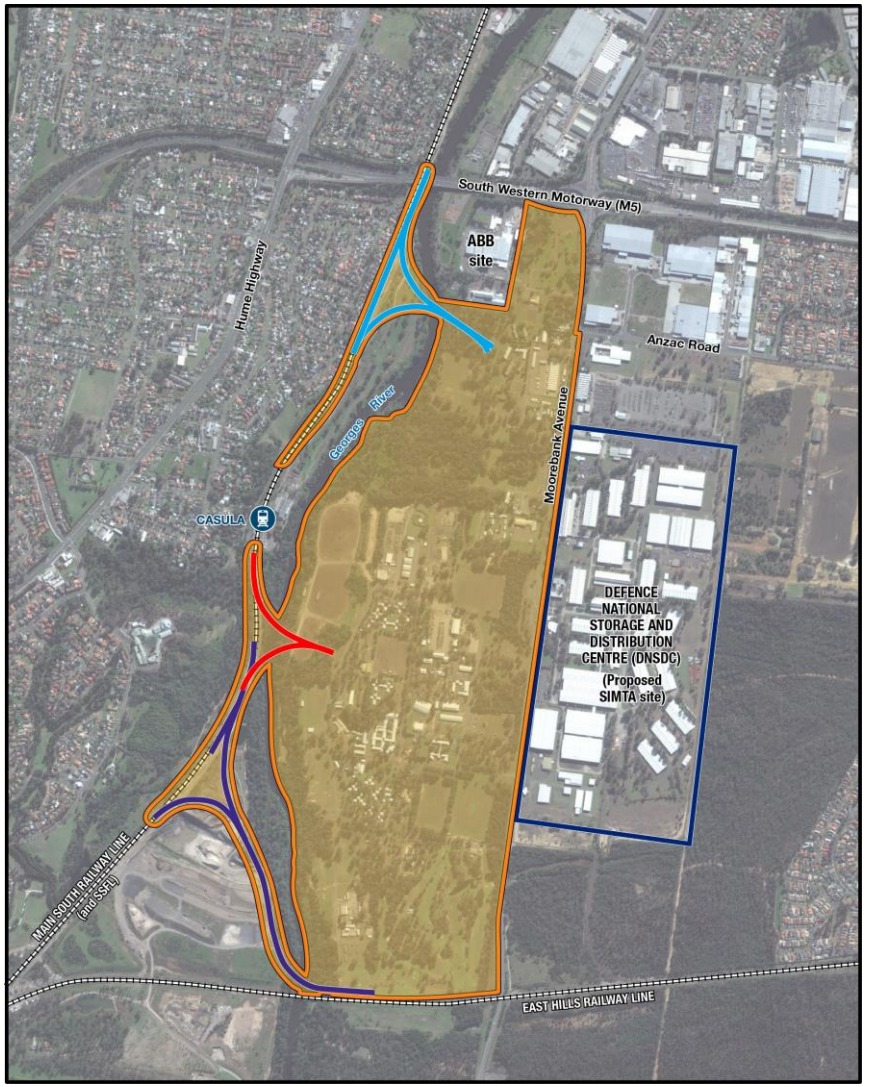
- Project and planning process (incl. relationship to SIMTA)
  - Ian Hunt, CEO Moorebank Intermodal Company
  - **Questions?**
- Air quality
  - Scott Fishwick, Principal Air Quality Consultant
- Human health
  - Jackie Wright, Principal Environmental Scientist
- Noise and vibration
  - Steve Walker, Principal Noise Consultant
- Traffic impacts
  - John Webster, Executive Traffic Engineer
- **Questions?**

Moorebank Intermodal Terminal

- Intermodal terminal: an ‘inland port’
  - rail yard, truck terminal, warehouses
  - enables freight to make part of its journey by rail
- Why Moorebank
  - Link to port - MFN and SSFL
  - Close to road links - M5 and M7
  - Large site - accommodate long interstate trains: up to 1.8km
  - Near freight markets in west and south-west Sydney
  - Owned by Commonwealth

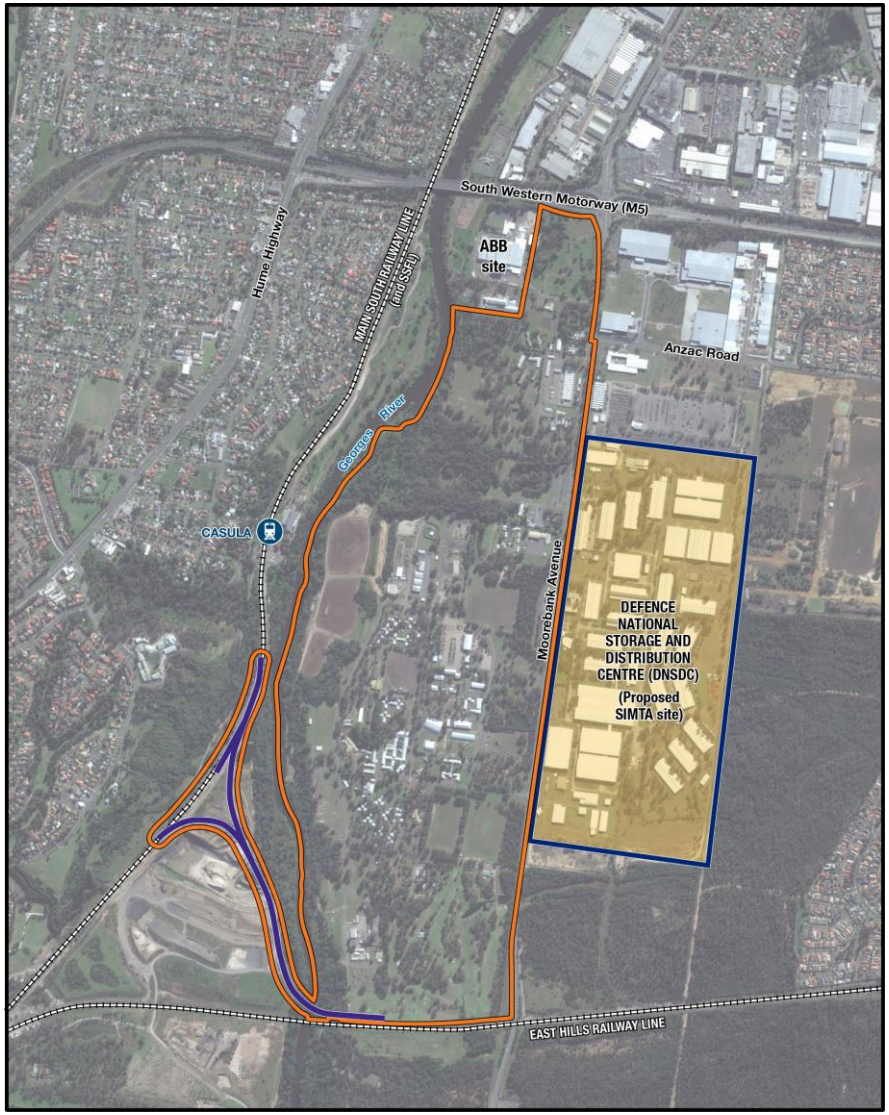
Moorebank Intermodal Terminal

- Import-export (IMEX) terminal
  - 2018: ~250,000 containers a year
  - 2025: 1.05M containers a year
- Interstate terminal
  - 500,000 containers a year
- Three site layouts
  - based on three options for trains to access the terminal (only one will be built)
- MIC overseeing development
  - private sector operator/builder
  - direct negotiation with SIMTA – June to November 2014
    - two other respondents on standby



The SIMTA intermodal terminal

- SIMTA (Qube and Aurizon)
  - next to MIC site
  - import-export only
  - southern rail access
- The idea of an intermodal terminal has been approved for this site
- The concept approval is subject to
  - Stage 1: 250,000 IMEX containers
  - Cap: 500,000 IMEX containers, if roads have capacity
- Project approval must be granted before construction can begin



SIMTA and MIC combined

- MIC and SIMTA negotiating
- If SIMTA is chosen as operator of MIC terminal, the proposals would combine:
  - total capacity = 1.05M IMEX containers, 0.5M interstate
    - limit determined by Port Botany-Moorebank rail line
  - more warehousing (~600,000 m^2)
  - southern rail access from SSFL
  - Moorebank Avenue possibly relocated
  - **further impact assessment required**

Moorebank Intermodal Terminal EIS

- EIS for Moorebank Intermodal Terminal:
  - For MIC terminal only
    - includes high-level assessment of combined impact of development on MIC and SIMTA sites
  - NSW Government approval of
    - **terminal concept** (approval to build required later)
    - **early works** (e.g. demolition of buildings, initial remediation)
  - Commonwealth Government approval to **develop the terminal**
    - no further Commonwealth approval required
- EIS will help approval authorities decide
  - if the terminal should proceed and what conditions are needed
- EIS studies changed since 2013 information sessions
  - three site layouts
    - based on three options for trains to access the terminal (only one will be built)
  - more warehousing space
  - traffic impacts analysed at more locations
  - peer reviews of air, noise, health and traffic studies
  - three scenarios for combined impact of MIC and SIMTA terminals

Combined impact scenarios

	Scenario 1	Scenario 2	Scenario 3
MIC site	**IMEX**: 1.05M containers a year **Interstate**: 500,000 containers a year	**IMEX**: 500,000 containers a year **Interstate**: 500,000 containers a year **Warehouses**: 300,000 m^2	**Interstate**: 500,000 containers a year **Warehouses**: 300,000 m^2
SIMTA site	**Warehouses**: 300,000 m^2	**IMEX**: 500,000 containers a year **Warehousing**: 300,000 m^2	**IMEX**: 500,000 containers a year **Warehousing**: 300,000 m^2

Approvals Process

WE ARE HERE

- EIS exhibited until 8/12/2014
  - Submissions can be made to NSW and Commonwealth regulators
  - **upload to majorprojects.planning.nsw.gov.au or post (address on display board)**

NSW approvals

- Department of Planning and Environment (DP&E) considers EIS and MIC report on submissions
- Operator selected late 2014
  - Currently negotiating with SIMTA
- EIS based on operator's designs exhibited (2015)
  - Submissions to DP&E
- DP&E considers EIS and MIC report on submissions
  - If approved, construction can begin

Commonwealth approvals

- Department of Environment considers final EIS with submissions
- If approved, no more Commonwealth approvals required

Project and planning process

» Questions

Summary of the EIS

Air quality

Scott Fishwick

Principal Air Quality Consultant

Environ

Local air impacts

Methodology

- Assessment complied with NSW EPA guidance
  - Input data, Assessment Criteria, Model Selection, Assessment Methodology
- Existing air conditions from local area monitoring stations
  - NSW OEH Liverpool station, BoM Holsworthy, Onsite Monitoring Equipment
- Local topography and land cover datasets
- Emissions data from published factors
  - NSW EPA, US EPA, National Pollutant Inventory
- Various pollutants assessed:
  - Particulate matter (PM_{10} and $PM_{2.5}$) and
  - Combustion (NO_x, CO, SO_2, VOCs and PAHs)
- 38 ‘sensitive receptors’ modelled – e.g. schools, homes, aged care

Local air impacts

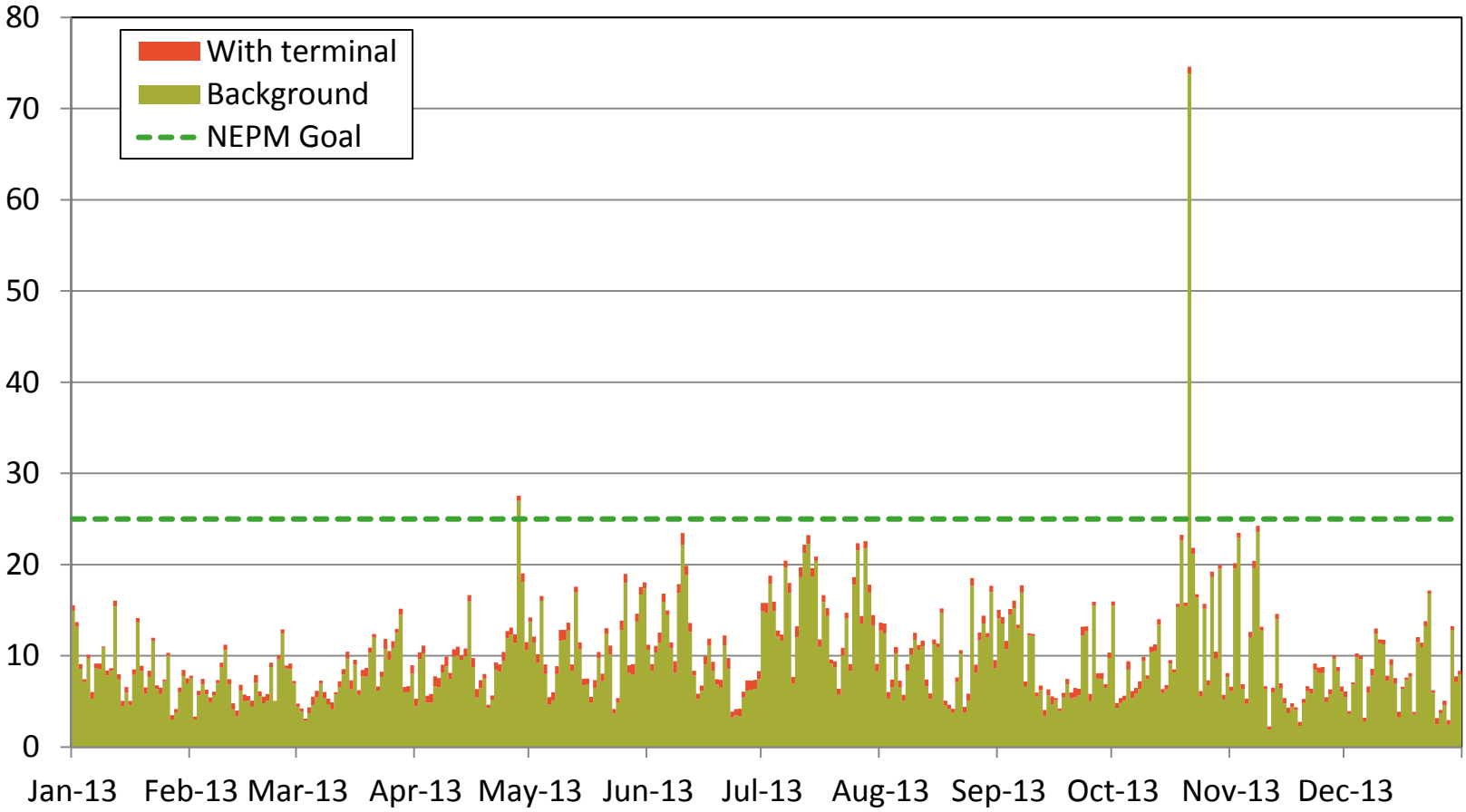
Results

- Existing air quality generally within guidelines
  - Strong consistency between OEH Liverpool and onsite air quality
  - Periodic exceedance of PM criteria due to e.g. 2013 bushfires
- No guidelines will be exceeded because of the terminal
- Impact assessment must account for background air quality
  - No additional exceedances due to terminal
- Combined MIC-SIMTA impact below criteria except on Moorebank Avenue next to terminal site (mitigation required)

Air quality studies independently peer reviewed by Nigel Holmes, NH2 Dispersion Sciences

Local air impacts – $PM_{2.5}$

$PM_{2.5}$ levels with and without the terminal (24-hour average, µg/m^3)



Note: The exceedances in May and October were due to hazard reduction burning and bushfires respectively.

Summary of the EIS

Human Health

Jackie Wright
Principal Environmental Scientist
enRisk

Health Risk Assessment

» Assessment of health impacts associated with changes in air quality

Comparison to Health Protective Guidelines	Risk Assessment

• Nitrogen dioxide (NO_2)
• Carbon monoxide (CO)
• Sulfur dioxide (SO_2)
• Volatile Organic Compounds (VOC)
• Polycyclic aromatic hydrocarbons
• Particulates
  • ≤ PM_{10}
  • ≤ $PM_{2.5}$
	Particulates
	•≤PM_{10} – more from construction
	•≤$PM_{2.5}$ – from combustion sources
	•Diesel particulate matter

Health Risk Assessment - Particulates

- Quantified – in suburbs nearby as well as individual sites (schools etc.)
  - risk (chance of effect occurring) and
  - changes in number of cases in the population
- Evaluated a range of key health effects that include
  - Shortened life-span
  - Increased hospitalisations for those with pre-existing health conditions (respiratory and cardiovascular)
  - Lung cancer health risks from diesel particulates
  - Exacerbation of asthma in young children
- **All risks/impacts too low to be measurable**

Health Impact Assessment

- Looked at all aspects of the project
  - e.g. traffic, noise, air and equity
- Identified the positive health benefits
  - recommendations to enhance these
- Identified negative health impacts
  - can mitigation measures be implemented?
  - if yes, will they address the health impacts identified?
  - recommendations to ensure mitigation is effective or further mitigate impacts
- Concluded that overall, the negative impacts can be effectively mitigated
  - recommendations on air, health, noise, traffic, community consultation

Heath Impact Assessment independently peer-reviewed by Adrian Field, Synergia

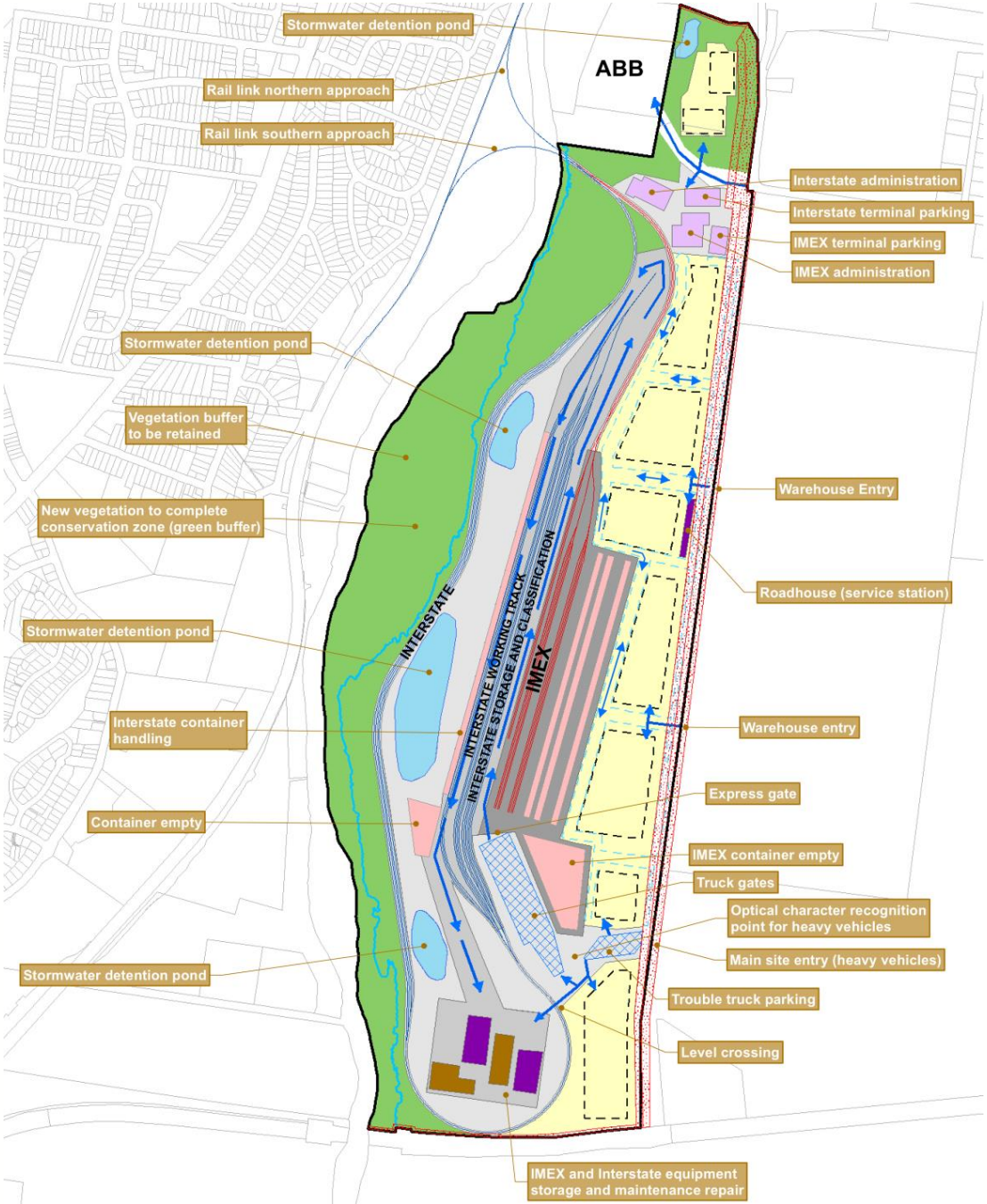
Summary of the EIS

Noise and vibration

Steve Walker
Principal Noise Consultant
SLR Consulting

Noise Impact Assessment

- Noise from a development must not adversely affect environment and communities
  - do not have to be inaudible but must satisfy government guidelines
- Noise may be generated by:
  - Construction equipment e.g. excavators, bulldozers
  - Trains arriving and departing, trucks on surrounding roads
  - Handling of containers e.g. cranes, intermodal vehicles and trucks
- The level of noise and vibration depends on:
  - The level of noise created by the development
  - The distance between the site and the receptor
  - Any structures or buildings between the site and receptors
  - Effects of the ground, vegetation and weather


Stormwater detention pond
Rail link northern approach
Rail link southern approach
ABB
Interstate administration
Interstate terminal parking
IMEX terminal parking
IMEX administration
Stormwater detention pond
Vegetation buffer to be retained
New vegetation to complete conservation zone (green buffer)
Warehouse Entry
Roadhouse (service station)
Stormwater detention pond
INTERSTATE
INTERSTATE WORKING TRACK
INTERSTATE STORAGE AND CLASSIFICATION
IMEX
Interstate container handling
Warehouse entry
Express gate
Container empty
IMEX container empty
Truck gates
Optical character recognition point for heavy vehicles
Main site entry (heavy vehicles)
Stormwater detention pond
Trouble truck parking
Level crossing
IMEX and Interstate equipment storage and maintenance repair

Noise Assessment

- Current noise levels measured locally for past 2 years
- Noise guidelines for the terminal developed with regulators
- Noise prediction model included the three concept designs, sensitive receptors and local weather conditions
- Predicted noise levels were compared to the guidelines to evaluate potential impacts and inform likely requirements for mitigation
- The intermodal terminal would operate within the already approved number of trains for the Southern Sydney Freight Line (SSFL)
- The SSFL has separate noise limits to regulate its operations and the Australian Rail Track Corporation is responsible for noise from the SSFL
- Current and any future mitigation for the SSFL would control noise from intermodal trains on the SSFL

Noise studies independently peer reviewed by Neil Gross, Wilkinson Murray

Noise impacts

- Casula likely to be the most affected suburb
  - Wattle Grove and Glenfield affected to a lesser extent
- Noise levels at schools, places of worship and Casula Powerhouse Arts Centre expected to be within guidelines
- To control noise in local community, mitigation on site will be required
  - the detailed design stage will investigate and adopt measures within the site to reduce noise leaving the development
  - this can include noise barriers, earth mounds, noise enclosures around equipment and locating the warehouse buildings to screen noise
- Most construction works would not have adverse impacts
- localised noise impacts at Casula likely during short term rail construction and piling construction works
- Vibration and road traffic noise are not expected to be an issue

Noise mitigation

- The EIS includes a conceptual noise mitigation scenario to show noise can be controlled in accordance with regulatory requirements
- Where noise levels are mitigated the site is feasible for an intermodal terminal development
- Detailed design of the terminal will further investigate noise levels and determine actual noise mitigation to be adopted
- Noise mitigation options
  - terminal design and equipment to minimise noise
    - e.g. noise walls, earth mounds, silencers on plant and equipment, equipment covers, warehouse buildings to screen noise and non-tonal reversing alarms
  - noise management protocols to minimise short term high noise events e.g. vehicle horns, containers ‘banging’ together
  - ongoing noise monitoring, community consultation and complaints management

Summary of the EIS

Traffic impacts

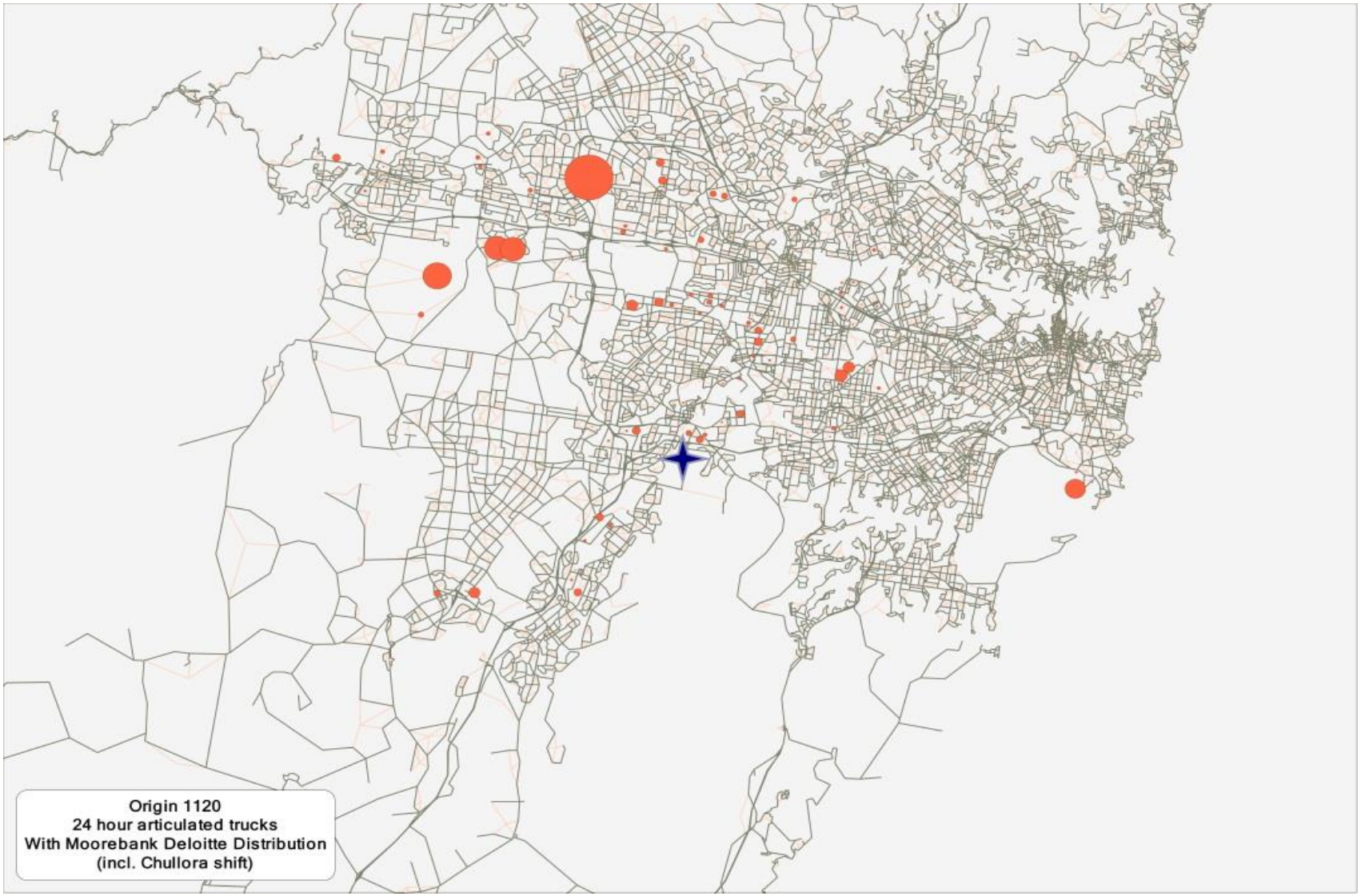
John Webster
Executive Traffic Engineer
Parsons Brinckerhoff

Traffic generated by the terminal

Daily traffic generation	Light vehicles	Heavy vehicles
2015: Early works	810	64
2016: Construction of IMEX terminal	2,906	1,930
2023: Operation of IMEX, construction of extra capacity	5,183	4,138
2028: Operation of IMEX, construction of interstate	5,728	5,050
2030: Operation of IMEX and interstate terminals	5,724	8,160

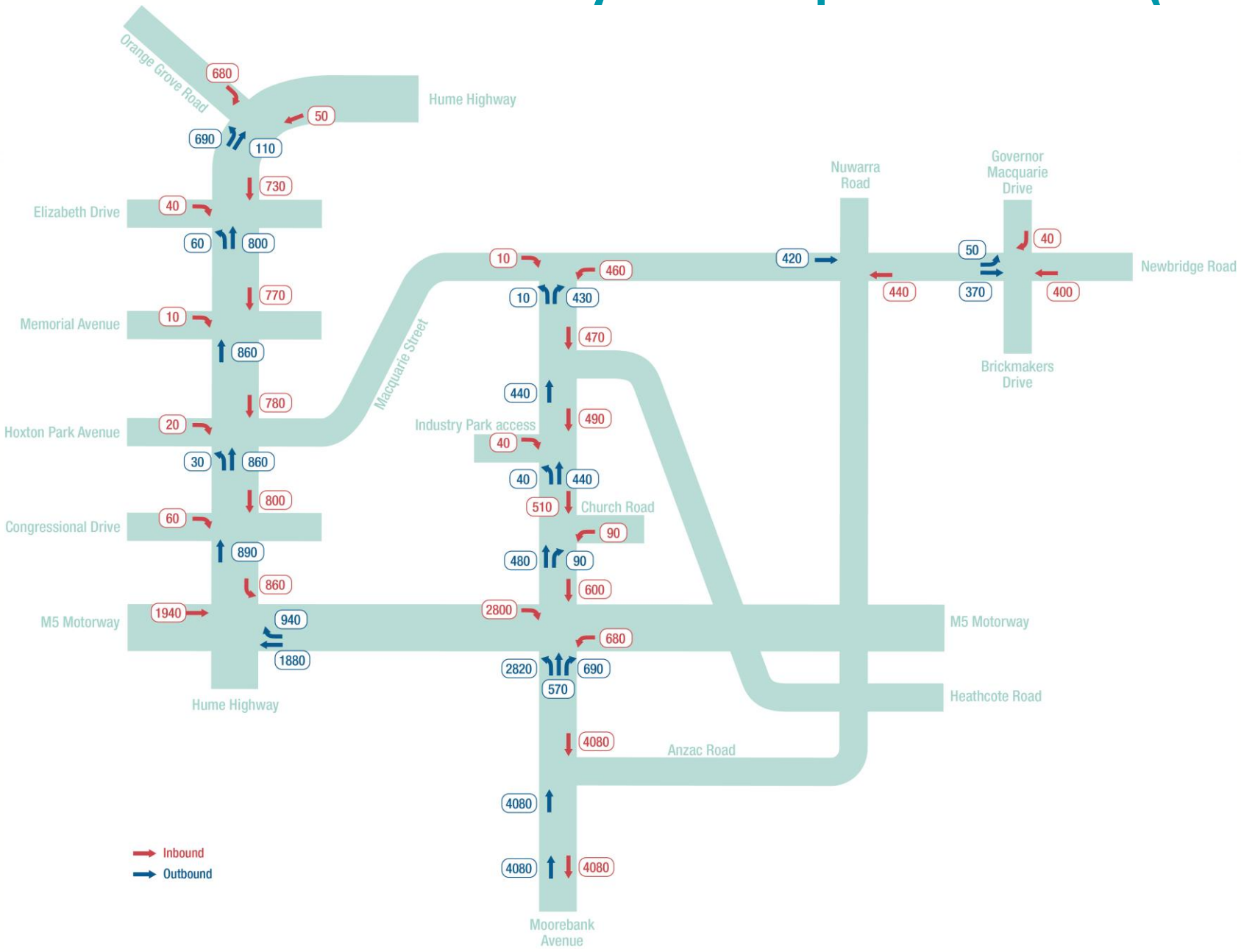
Peak hour traffic generation	Inbound	Outbound
2030 AM (6:45 – 7:45)	170 heavy (84 light)	170 heavy (0 light)
2030 PM (17:00 – 18:00)	170 heavy (0 light)	170 heavy (84 light)

Container distribution from MIMT (2030)

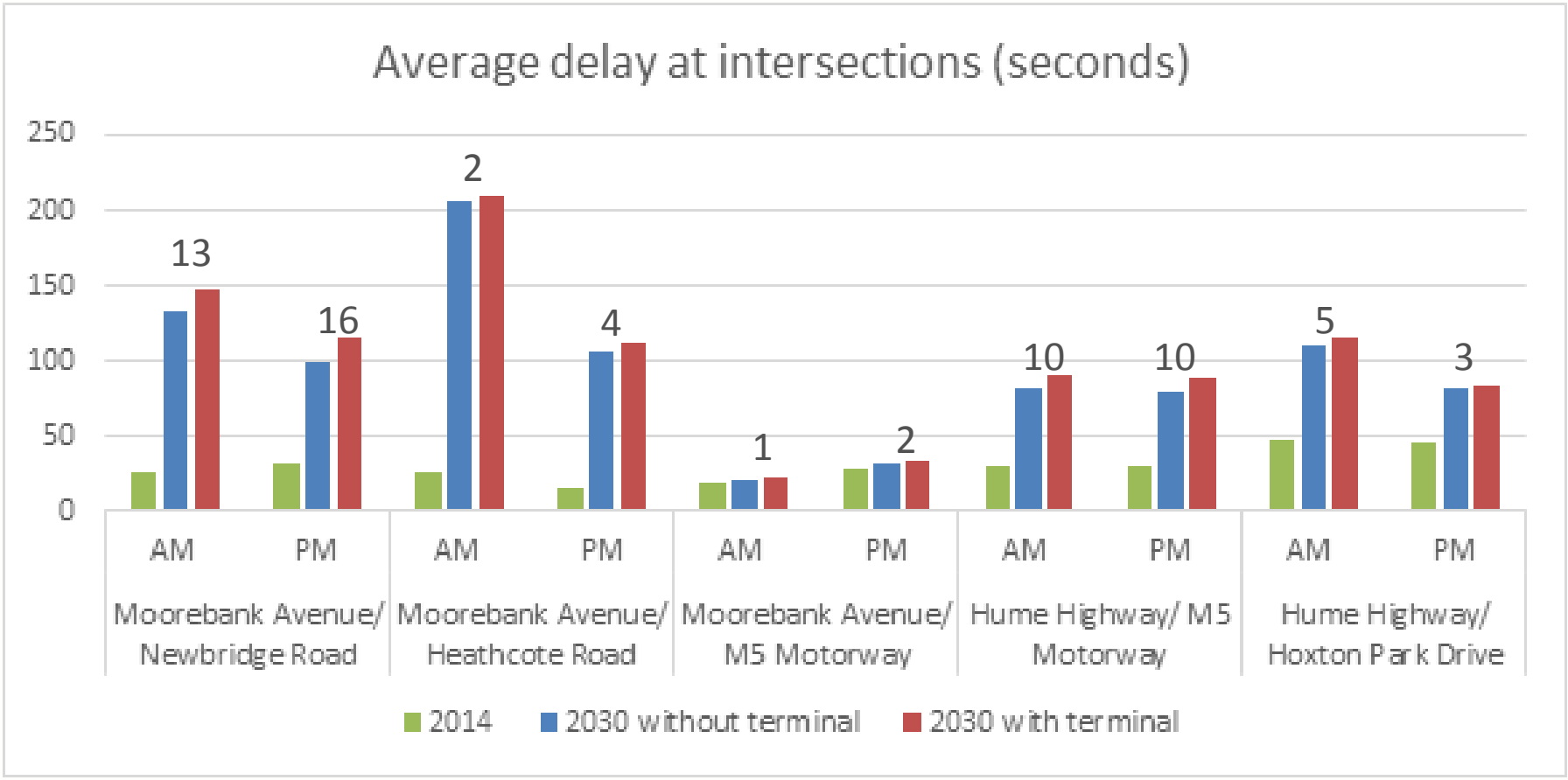


Impact across the network

Daily truck trip distribution (2030)



Impact on local intersections



Impact on local intersections

Moorebank Avenue / Anzac Road average intersection delay (seconds)	AM	PM
2014	18 (LoS B)	28 (LoS B)
2030 with no development	56 (LoS D)	59 (LoS E)
2030 with MIMT	24 (LoS B)	37 (LoS C)

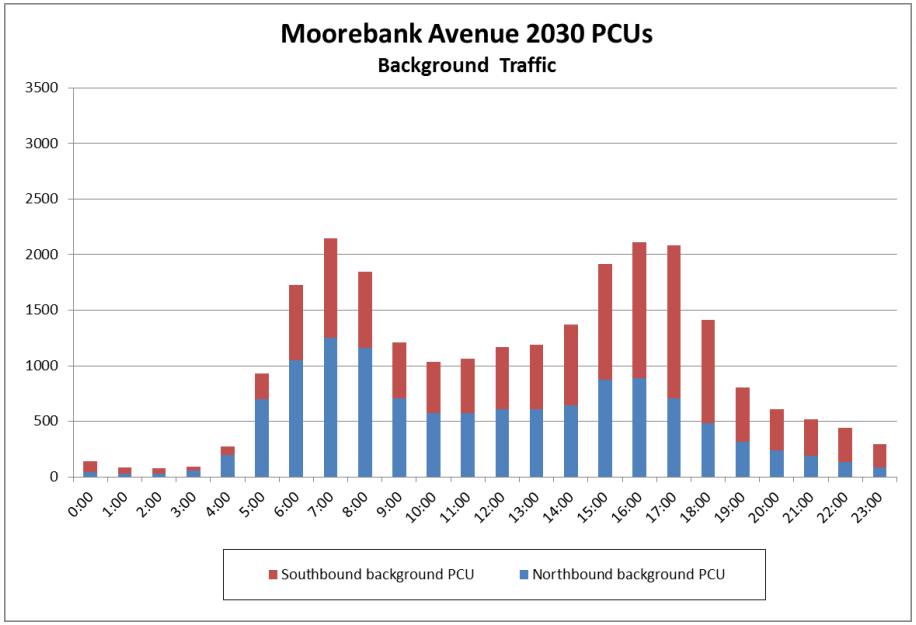
Traffic on the M5

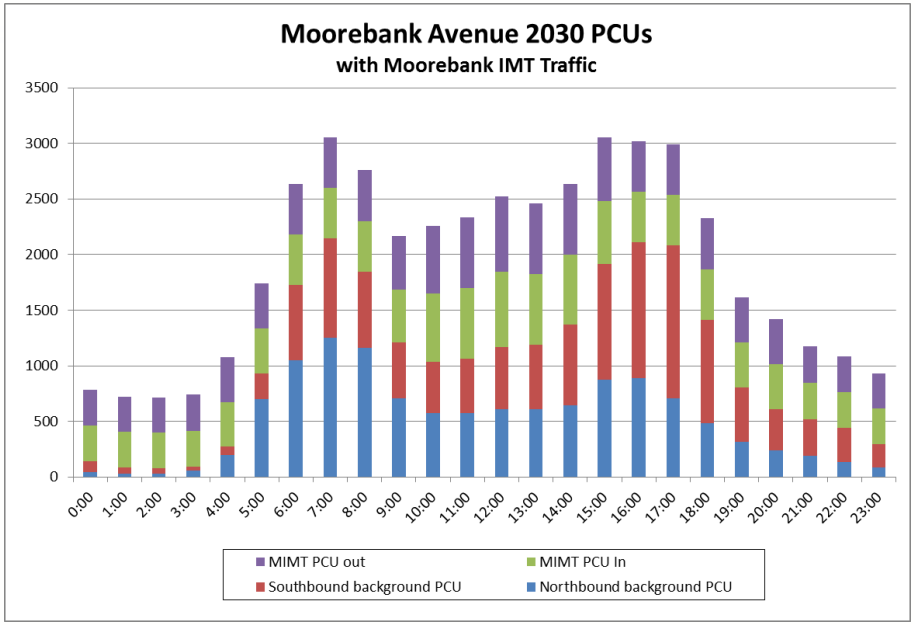
	Direction	Percentage
AM peak hour		
M5 Motorway west of Moorebank Avenue	Eastbound	1.88%
	Westbound	2.10%
M5 Motorway east of Moorebank Avenue	Eastbound	0.22%
	Westbound	0.68%
PM peak hour		
M5 Motorway west of Moorebank Avenue	Eastbound	2.18%
	Westbound	1.68%
M5 Motorway east of Moorebank Avenue	Eastbound	0.92%
	Westbound	0.30%

Additional vehicles from the terminal as a percentage of traffic on the M5 Motorway, when operating at full capacity (2030)

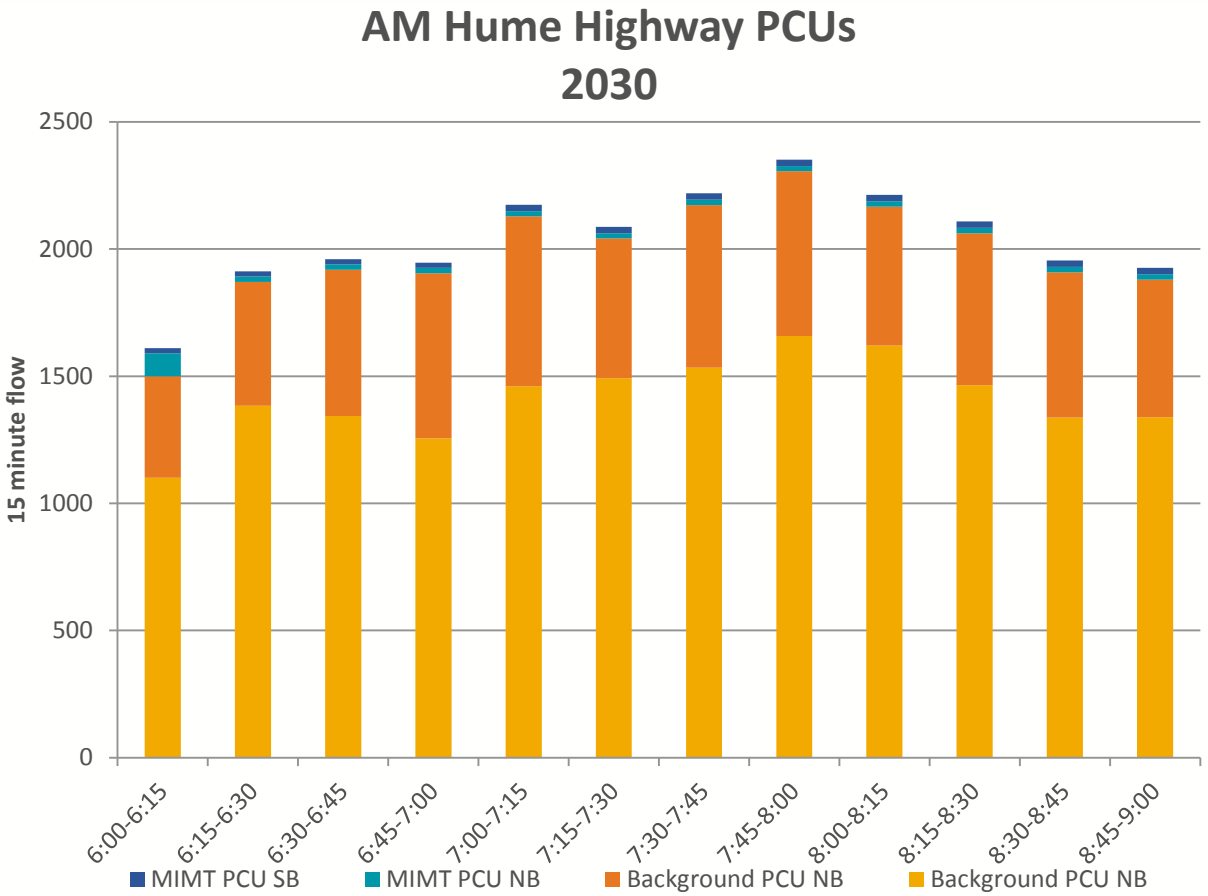
- Terminal will add less than 2.2% to M5 Motorway traffic at Moorebank during peak periods
- 145 additional vehicles (32 light and 113 heavy) during the busiest one hour of the morning peak

Moorebank Avenue Traffic

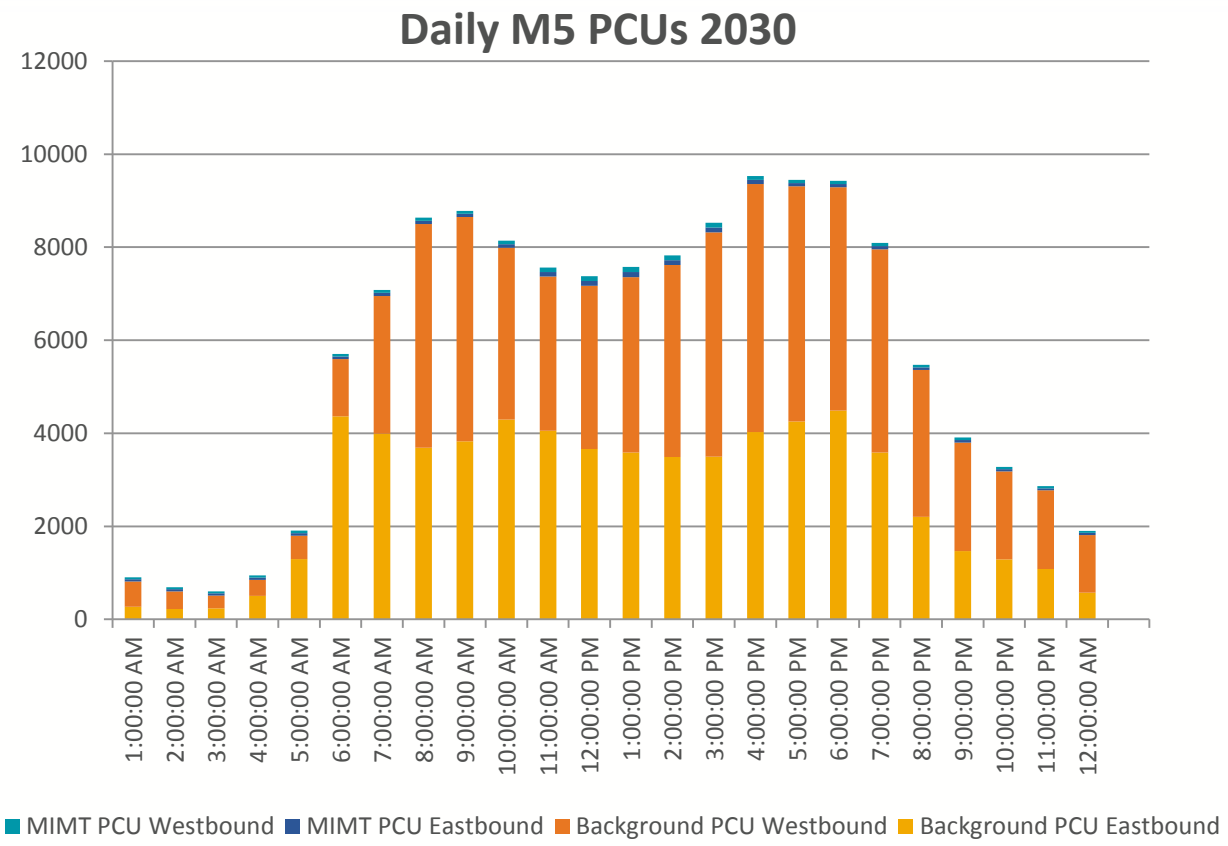




Hume Highway AM peak 3hr Traffic



M5 Traffic


Daily M5 PCUs 2030
12000
10000
8000
6000
4000
2000
0
1:00:00 AM
2:00:00 AM
3:00:00 AM
4:00:00 AM
5:00:00 AM
6:00:00 AM
7:00:00 AM
8:00:00 AM
9:00:00 AM
10:00:00 AM
11:00:00 AM
12:00:00 PM
1:00:00 PM
2:00:00 PM
3:00:00 PM
4:00:00 PM
5:00:00 PM
6:00:00 PM
7:00:00 PM
8:00:00 PM
9:00:00 PM
10:00:00 PM
11:00:00 PM
12:00:00 AM
MIMT PCU Westbound
MIMT PCU Eastbound
Background PCU Westbound
Background PCU Eastbound

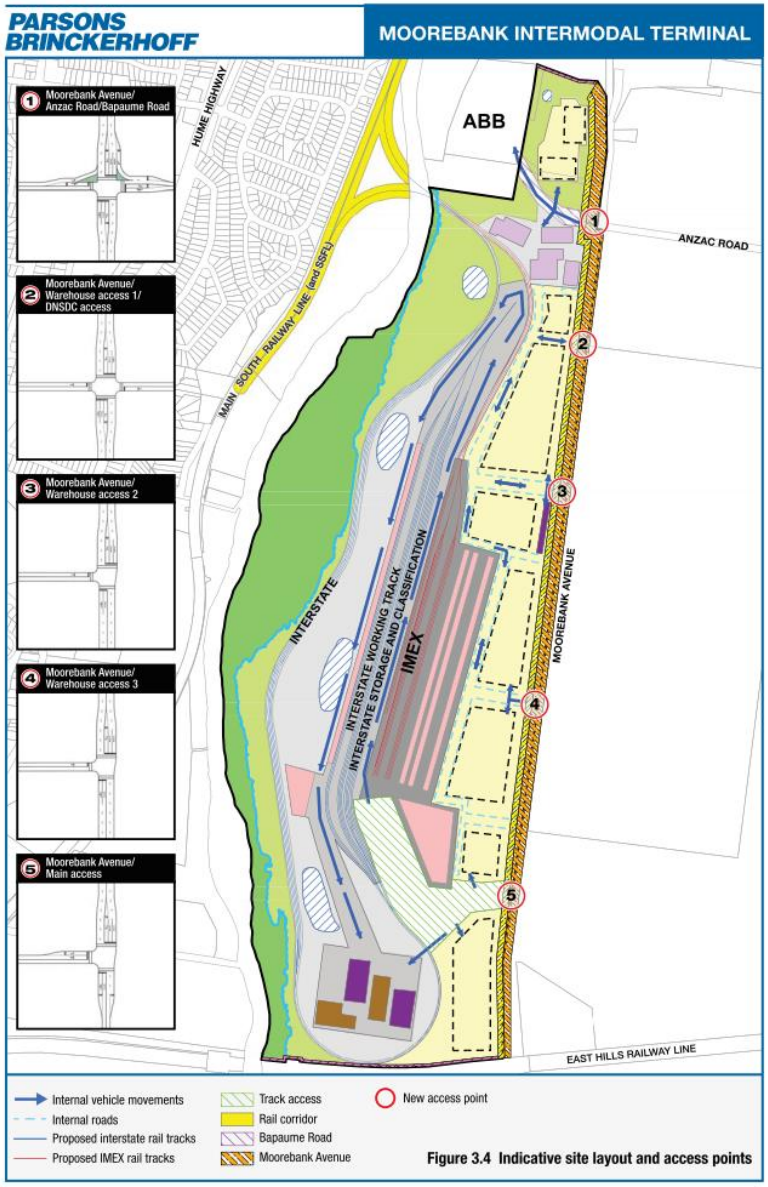
Anzac Rd 3hr counts

Anzac Rd at Nuwarra Rd intersection	Total vehicles	% Heavy
AM to Anzac Rd (westbound)	708	36 / 5%
AM from Anzac Rd (eastbound)	1289	62 / 5%
PM to Anzac Rd (westbound)	1432	30 / 2%
PM from Anzac Rd(westbound)	975	21 / 2%

Anzac Rd at Moorebank Av intersection	Total vehicles	% Heavy
AM Eastbound	4289	272 / 6%
AM Westbound	3277	176 / 5%
PM Eastbound	3385	96 / 3%
PM Westbound	5212	176 / 3%

Road solutions in EIS

- Moorebank Avenue
  - widen to four lanes, add extra turning lanes
  - upgrade intersections
  - hand over upgraded road to Roads and Maritime Services
- Anzac Road
  - load limit required
  - hand to Liverpool City Council
  - traffic counts suggest rat running of heavy vehicles does not occur
- Terminal access designed so trucks enter from/exit to the north
- On-site heavy vehicle parking and timed access to the terminal
- On-site parking to avoid parking on local streets
- On going discussions with TfNSW to identify capacity solutions where required to cater for background growth



Questions?