

Thank you for the opportunity to make corrections to the transcript. This is the very first time we have ever done something like this. We prepared as much as possible, but there was some confusion on our side and made mistakes.

I hope that from all these detailed comments, our main messages can still be heard:

- The NSW Government option of supplying the future growth area through railing freight from Port-Botany to Moorebank, and then trucking the freight to the growth area is a half-baked solution, that has been poorly thought through
- From a society's point of view, a thorough study, should be considered on how best serve the new development – as shown on Page 5 of our tabled report.

We are more than happy to answer any question.

Kind regards

Narelle and Paul van den Bos

Correction to Page 6 – in the tabled report

The boxes with the words “Badgerys Creek” and its green star and pink arrow have been shifted. The same applies to Eastern Creek.

I wonder if the corrected version of Page 6 could be used instead – see attachment.

Comment on Narelle's opening statement

The report that Narelle tabled “Narelle and Paul van den Bos, Freight – and the (potential) role of Newcastle”, contained mostly maps and pictures.

In her opening statement, Narelle pointed to the images but made no reference to the page numbers. She used words along the lines of “on the next page”.

We think it would be helpful if the references to the page numbers could be made, and that would assist the reader in reconciling Narelle's words and images. We have inserted the page numbers in the margins.

Wrong statements

Note 1: on page 50: “**we give the indication that**”

Narelle is wrong in stating those words. It is the “NSW Freight and Ports Strategy” that gives that indication. Refer to Page 5. (*See Note 1 below for the book's history*).

On page 51, Narelle used the word “**growth**”, but she really meant to say “**size**”.

On Page 52

Paul said **20** million, but should it be **1** million

Paul said “**draft Western City District Plan**”, he meant to say “**Draft Broader Western Sydney Employment Area Structure Plan**”.

Paul said “There is a reference for it here, **where ever it is.**” The reference is on Page 19, under the image of the artist impression of Badgerys Creek (Southern) Intermodal.

Books

We have written two books:

Moorebank Intermodals, Key Assumptions Require Closer Scrutiny

http://lccit.com.au/wp-content/uploads/2013/06/Intermodals_Book_Web_V19.pdf

Moorebank Intermodal, Better Options

www.transportmodelling.com.au/Intermodal/MoorebankIntermodal_BetterOptions.pdf

On page 51, Narelle held up the wrong book.

We have added the correct book titles in the margins

Questions

Most of the questions that were asked of Paul, were technical in nature and it would have been better, if we had more time to answer them properly.

In the margins, we have added the words Note 1, Note 2, ... Note 9 and the Notes below, to help with understanding Paul's comments.

I strongly suspect that I in some cases, I did not answer the question fully.

Hopefully, this background does supply more information.

I hope that there are other questions that are asked of this work, because I like to help the committee in this inquiry.

Note 1 – table report

Narelle did not actually table the second book.

We wrote this second book for Craig Kelly MP. He used it in the cabinet meetings. We remember seeing his web site acknowledging this book in his speech in Parliament.

Note 2 – 85% consumption within Sydney

Page 41 shows the proportion of containers that are transported **to and from Port Botany**, to destinations outside Sydney. This data comes from the NSW Freight model, when it was freely available on the NSW Government web site. This is 2011 data.

- 7% crosses the Hawksbury River
- 4% crosses the Nepean River
- 1% goes to the southern Highland and beyond
- 2% goes to Wollongong and the South Coast

Total about 14% is transported to destinations outside Sydney.

- Hence about 85% (rounded off for simplicity) of the containers remain in Sydney. This 85% percentage of containers remaining in Sydney would have changed slightly between 2011 and 2016, but probably not by a very large amount.
- The precise percentage depends on where the Sydney Boundary is drawn.

Pages 45 – 49 give an indication of the truck movements to and from the intermodals. The thickness of the line represents the traffic flow to and from the intermodal.

- By visual inspection, few trucks from the intermodals travel north.

Summary: About 85% of the containers are remain in Sydney and about 85% of the goods are consumed in Sydney.

Note 3 – Chullora + definitions of “western Sydney” + “inner west”

Page 40 shows the destinations of the Port Botany container trucks.

- The red vertical bars represent the “articulated trucks” (bogy + trailers).
- The Blue bars represent the “rigid trucks”, and
- The yellow bars represent the “white utes and vans”.

The height of the bars represents the number of trucks - 24-hour (2011).

This was extracted from the NSW Government Freight model data.

Image 1 in the attachment, shows the same data a Google Map background.

For clarity, the width of the bars has been reduced, and a different scale is used. Now the following observations can be made:

- Port Botany truck movements are to industrial areas. (On Google Maps, industrial areas are easily identified as the white areas on the map corresponding to the white roofs of warehouses).
- The Sydney Intermodals are marked with name and asterisk.
- This data is 2011 data, and therefore no information was available on the recently opened Enfield Intermodal.
- Google Maps highlight the words land use planners use:
 - “green fields” - shown on Google maps with the predominant green colour, and
 - “brown fields - shown on Google maps with the brown colour, for the existing developments.

Sydney’s future growth will be in the “green fields”.

- The Bankstown Industrial area will be served by the Enfield Intermodal.
- Moorebank is rather isolated from the existing market (Wetherill Park), and even further from the future market (“green fields”).

Image 2, in the attachment, summarises Pages 45 to 49.

It shows articulated truck movements from all the intermodals in Sydney (2011 data – 24-hour – articulated truck movements only).

The thickness of the lines represents the number of trucks.

- Note the thick lines from Port Botany, and the immediate surroundings of any intermodal, and how quickly the lines reduce in size.
- From a technical point of view, there is a limit to the thinness of the pen size and the truck volume it represents. If more detailed information is required it is best to turn to the appropriate Pages 45 to 49.

This image was meant not meant for publication, but rather part of a very early working document. Please ignore the legends, because they are wrong. This image is put here to provide a general idea of truck movements to and from all the intermodals.

Image 2 shows that trucks travel all over Sydney, but are generally concentrated around the intermodals.

Definitions

- Many people in the freight business refer to the catchment area of Chullora, Yennora and Villawood, as the “inner west”.
The inner west is now well established with respect to population growth. There will be some infill, rather than large developments.
- **Rail capacity:** Page 55 shows the locations of Sydney’s Intermodals, together with their capacities.
 - SIMTA engineers, have calculated the rail capacity – see bottom of the page.
 - In the right-hand-side of this image there is the Federal Government’s announcement about the increased rail capacity.
 - Page 7 shows that the next stage of the duplication will be through a mainly residential area.
Intermodal capacities far exceed the rail capacity.
That means whatever cannot be moved by rail has to be moved by truck.
See Note 9 on road capacity.
- “Western Sydney”, Page 5, shows the new developments
 - South West Growth Area = 300, 000 people (size of Canberra)
 - North West Growth Area = 200,000 people (size of Townsville)
Combined: 500,000 people
 - Draft Broader Western Sydney Employment Area Structure Plan expects that 1.5 million TEU will be required at Badgerys Creek and 0.5 million TEU is expected at Easter Creek.
Combined 2 million TEUs.
 - This is only slightly less than current Port Botany TEU movements.

More complete answer

The “inner west” is expected to be served by the existing intermodals and the new Enfield intermodal.

I have not seen any modelling for the future freight. However, I understand that Moorebank will supply 0.5 million TEUs to Eastern Creek, and 1.0 Million to Badgerys Creek. (Moorebank will have 1.55 million TEU capacity).

Since In the future of Baderys Creek and Eastern Creek required 2 million TEU’s, and 1.5 million TEUs come from Moorebank, then 0.5 million TEUs must come from the existing Intermodals.

It is possible that Chullora would contribute to those TEUs.

There was a clear misunderstanding by Paul when he was asked about the 1 mil TEU by the NSW Government representations, and my 2 million TEU.

With benefit of reading the complete transcript, but not having access to the latest NSW Government plans regarding Badgerys Creek and Eastern Creek Intermodals, or private companies developing St Marys, Paul likes to provide the following information.

Note 4 - demand 2 mil TEUs – supply 1 mil TEUs

See Page 5. Western Sydney contains the

- “South West Growth Area” – 300,000 people, about the size of Canberra, and
- “North West Growth Area: – 200,000 people the size of Townsville.

Combined growth areas: 500,000 people (about ½ the size of Brisbane).
Total including “infill” the population is expected to house the 2.2 million people (shown in the Yellow blob).

The TEU data comes from the Draft Broader Western Sydney Employment Area Structure Plan. The Plan states that Badgerys Creek (Southern Intermodal) requires 1.5 mil TEUs, and Eastern Creek Intermodal 0.5 million TEUs. Combined, the demand of 2 million TEUs in 20 years’ time.

This should be compared to the current 2.4 mil TEU at Port Botany. Unless this freight is delivered by rail, all the 2 mil TEUs will need to be trucks. This roughly equates to all of Port Botany’s truck movements.

When Ian Hunt, then CEO of MICL and his entourage were at our home, his technical people advised us that Moorebank Intermodal will supply 1 mil TEUs to Badgerys Creek and 0.5 mil TEUs to Wetherill Park (Moorebank will process 1.55 mil TEU).

We suspect that the NSW Government meant that 1 mil TEU would be supplied by Moorebank in 15 years’ time.

Note 5 – economic analysis

The Federal Department of Finance and Deregulation, Moorebank Intermodal Terminal Project, Detailed Business Case, 6 February 2012, was highly redacted.

Working backwards, the following conclusions can be made:

1. Moorebank Intermodal was assumed to exist and was already fully functional
2. The containers were being delivered by truck from Port Botany.

The economic analysis concentrated on making this operation more efficient – by shifting the truck movements on to rail. To achieve this, the only costs incurred were

- building of a rail bridge over the Georges River, and
- the widening of Moorebank Av in 2029/30.

See Page 54 – reference Page 19 in the Detailed Business Case.

Page 11 shows the Federal Government’s web page at that time – stating that the benefits that when those 3,300 trucks were shifted onto rail, there would be \$10 billion of economic benefits.

This conclusion is further reinforced, in the EIS released to the community for comment. That EIS, contained a statement referring to the local committee benefits, when the 3,300 trucks would also be removed from Moorebank Av.

Page 12 (from MICL EIS) shows that if Moorebank was opened, fewer trucks would start from Port Botany (green colour) and more trucks would start from Moorebank (red colour).

There is a green line between Port Botany and Moorebank (reduction of truck movements). If all the 3,300 trucks are transported by rail, the green line, between Port Botany, should be as thick as shown.

By visual inspection, the MICL plot, shown the green line between Port Botany and Moorebank is not as thick as width.

Importance of this fact:

Page 13 (Detailed Business Case) shows the allocation of the project benefits.
In this case, 73% of all the economic benefits as based on shifting the 3,300 trucks.

Challenging this fact:

We have tried every avenue to obtain the traffic counts that show that 3,300 trucks travel between Port Botany and Newcastle. The agencies we have contacted include the proponents, Liverpool Council, NSW Government, PAC (see Image 3 in the attached document) and Infrastructure Australia. As yet, this data has not yet been provided.

Cost of obtaining this data: trivial

Our argument is that this data is extremely cheap to obtain:

- one GoPro-type camera on Foreshore Rd in Botany and
- another camera on the Moorebank Av bridge over the M5.
- Collect just 1-day worth of data.

The analysis: first examine the inbound trucks and then the outbound trucks.

- The videos would be displayed on two separate screens.
- The two screens would be analysed with the time shifted, that is
 - A truck passing the Foreshore camera on the first screen, would pass the second camera a short time later on the second screen.

Conclusion: Those 3,300 trucks do not exist. Therefore, the economic analysis is invalid.

Why is not a single organisation prepared to invest a few 100 dollars to debunk us?

Does the community have a right to be cynical?

Note 6 – visit to Newcastle

Background to my response

Pages 45 – 49 show the truck movements from existing intermodals. (2011 data). Each of these images emphasises the depth of penetration of the truck movements associated with intermodals.

Page 43 shows a table of the truck movements from intermodals in Sydney. In order to obtain a magnitude of truck trips from a typical intermodal, the truck trips from each Intermodal have been factored to 1 million TEUs -- see the column "Factored to 1 Mil TEU"

- Note the low numbers for the Enfield Intermodal and SIMTA (Moorebank) intermodal. These numbers have been extracted from their EIS documents.

From visual observation, it is clear that for the Enfield and SIMTA figures, and additional "zero" (0) would put the numbers in line with the other figures.

Notes:

- Port Botany does not have any warehousing.
- Moorebank (SIMTA in this table) is planned to have vast amounts of warehousing.
 - The actual number (including the additional zero) could be significantly higher.

My response

The purpose of my visit to Newcastle, was to forewarn them and not to get caught out on the traffic as Enfield and Moorebank are experiencing.

The obvious solution is to built an industry park- intermodal outside Newcastle, and from there, rail the containers to the port.

Note 8 – long term rail planning

This image comes from the Draft Broader Western Sydney Employment Area Structure Plan.

Note 9 – road capacity

The Inquiry discussed rail capacity, I like to add a few additional thoughts about road capacity.

Refer to Page 37.

This is a “fundamental diagram” – in transportation and traffic engineering this curve has the same status as “rules” in mathematics, and “laws” of physics etc.

This is known as a Speed-flow curve.

- On the X axis: the traffic flow
- On the Y axis: the traffic speed
- There is a “maximum” flow – also known as capacity
- The green line shows the traffic flow, in what is known as “free flow” conditions. Average traffic speed is close to the sign posted speed.
- Once the “maximum flow” condition has been reached, and more traffic is added, the gaps between the vehicles become shorter, and drivers reduce their speed to maintain their “3-second” gaps.
 - The result is that both speed flow reduces.
 - This condition is known as the “forced flow” condition – shown in red.
 - In simple terms: there are too many cars on the road
- As more vehicles are added, both the flow and speed reduce even further, following the arrow.

Different modelling tools

Just as a carpenter has big hammers one and small hammers, a traffic engineer has different transport modelling packages.

A mesoscopic modelling software is used if the principles of the fundamental diagram need to be followed. Under heavy traffic flow conditions, the model will show that queues will restrict intersection flows and generally impede the network flow. When the network extremely congested, some traffic is not allowed to enter the network.

Strategic modelling software is used to examine potential issues in future scenarios. This is achieved by overwriting the “maximum flow” condition, by using the Brown curve.

It is tradition that all the links that exceed the maximum flow, as shown in red. The observer can see where the network work issues are expected to be – because of the red links.

Once the maximum flow is exceeded there is a difference between the modelled flow (brown curve) and the flow on the fundamental diagram (red curve).

Sadly, the NSW Government continues to use the strategic modelling software, rather than the mesoscopic modelling software.

This leads to unrealistic comments about the expected time savings and counter intuitive economic analyses. For example, when I was asked to review some West Connex modelling results, I observed volume capacity ratios (modelled flow / capacity) of 1.4, and 1.6 and higher. That means that the modelled flows were 40% higher than the maximum, 60% higher than the maximum etc. The same results can be expected if freight modelling is done.