

MOOREBANK INTERMODALS

KEY ASSUMPTIONS REQUIRE DEEPER SCRUTINY

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Acknowledgements

MOOREBANK INTERMODALS

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*An informative and concise brief revealing the vast discrepancy
between what you've been told and the real situation.*

Narelle van den Bos
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Contents

Introduction	2	Jobs	33
Executive Summary	2	Employment Density	34
Basic Information	3	1,250 hectares of employment land encouraged for warehousing	35
Useful Definitions	4	Jobs from an intermodal come with at least five times more trucks	36
Liverpool in 2031 - Second most populous local government area in NSW	5	Pollution	37
Moorebank	6	Liverpool pollution monitoring station was not compliant	38
Not just one, but two intermodals proposed for Moorebank	7	Asthma-causing particle limits exceeded	39
The Big Picture: Sydney Freight in 2031	8	Cancer-causing particle limits exceeded	40
Existing and proposed intermodals in Sydney	9	Diesel exhaust emissions contain carcinogens	41
Containers not going to Moorebank Zone in 2031	10	Carcinogens are 100 to 1000 x higher from diesel engines	42
Claims of reduced truck movements grossly exaggerated	11	Cancer-causing particle studies (PM _{2.5}) not necessary under Australian law	43
Do the Big Picture Figures Actually Make Sense?		SIMTA needs to redo pollution studies with at least 30 x more traffic	44
A Sanity Check	12	Environment	45
SIMTA could generate 52,000 truck trips a day – not 2,600	13	Endangered ecological communities and high biodiversity values	46
Warehousing: Implications of Induced Traffic	15	Georges River – One of Western Sydney's most valuable assets	47
Warehousing and induced traffic	16	Economics	48
NO traffic from other warehouses included in SIMTA's estimates!	17	\$10 billion economic benefit actually \$2.3 billion in today's terms	49
Liverpool: Questionable Figures and Inadequate Studies	18	Community to underwrite fat profit for investors	50
Physical difficulties with M5 access	19	Massive disbenefits to the community	51
Hume Highway gains 27% of the Intermodals traffic	21	Economic information hidden from public	52
Intermodal traffic added to Sydney's worst accident black spot	22	More Economical, More Efficient Solutions:	
SIMTA Traffic study area excluded worst problems	23	Eastern Creek	53
Trucks may tend to take inappropriate routes to avoid congestion	24	Eastern Creek identified as best location in important studies	54
Liverpool CBD and Hospital will be difficult to access	25	Eastern Creek: Cost of railway could be offset by significantly lower on-costs	55
What does "Level of Service F" mean?	26	Eastern Creek: Important comparisons with Moorebank	56
In a formal capacity, the traffic is already at Level of Service F	27	More Economical, More Efficient Solutions:	
Extended waiting times at traffic lights	28	Port Kembla	57
You'll have so many traffic problems, you won't even notice us...	29	Port Kembla and the Maldon-Dombarton rail link	58
Intersections in urgent need of upgrades now	30	Finishing Maldon-Dombarton link is 1/7 the cost of M5 East duplication	59
Population Growth	31	Conclusion	60
Background growth of population not included in SIMTA estimates	32		

Introduction

History has proved that no situation can ever be advanced until ALL the facts have been squarely faced and submitted to the analysis of reason.

In previous eras, decision makers had the luxury of time to marshal the facts and interrogate the assumptions underlying any decision. Through this method of scientific and logical reasoning, Australia earned a reputation for good governance.

However in our era of the five-minute news cycle and the half-hour briefing cycle, decision makers are overstretched and overwhelmed with communications. Instead of being able to verify information for themselves, they are forced to rely on summaries and bullet points from consultants. The background from which massive decisions are made is reduced to a few sentences.

This is treacherous territory when the material under consideration is complex and specialised, for the decision maker may have no concepts of their own from which to critique the information.

This is the position in which we find ourselves with the Moorebank Intermodals. **A decision making process vital to the nation has bypassed the fundamental analysis of reason, and has moved into the action phase based on flawed assumptions.**

This book does not attempt to address every single reason why the Intermodals are not suitable for Moorebank, and neither is it intended to act as an authoritative source on the viability of any project.

Rather it hopes to call to your attention some very significant issues with the information that may have been previously seen on the subject. It also points out where you may go to ascertain for yourself that our concerns are real.

The product of extensive research, this book has been over a year in the making. Each page explains a different facet of the proposals. We explain simply how we came to our conclusions and reference all our statements with legitimate current reports.

Some of the figures which have been hitherto presented as fact are deconstructed, thereby giving you the ability to see through the jargon and technical language.

You will see that this major infrastructure is being delivered on flawed assumptions.

We call on leaders at all levels of government to revisit the decision making process after more extensive scientific information has been obtained and properly understood.

Our economy needs another intermodal. However, Australia deserves far better than badly located facilities that may haemorrhage billions of dollars in infrastructure and other costs, decade after decade, into the future.

Sources

The sources for most of the figures in this publication are current government studies, plans, and statistical data. References are given throughout.

Additional calculations and modelling, where required, were conducted using international industry standard softwares and methods.

Executive Summary

This whole book is the very briefest of summaries. You are encouraged to read it from cover to cover.

It will be shown:

That not one, but two intermodals are proposed for Moorebank. One proponent is a private consortium and the other is the Federal Government. Together they could potentially produce more traffic than that which travels daily over the Sydney Harbour Bridge. (Using one truck equals two passenger cars units.)

That traffic flows from the intermodals have been grossly underestimated. We observe that the developer's figures do not include a massive predicted population growth.

That intermodals in Moorebank could not be functional without extensive city-wide infrastructure investment. Particular challenges of geography and road access are identified. We note that 27% of the traffic from the intermodals will be forced to use the Hume Highway. It will pass through the worst accident black spot in Sydney.

That exaggerated claims of reduced truck movements and economic benefits have been promoted to the public. That economic information has been hidden from the public.

How the traffic implications of intermodals in Moorebank have not been sufficiently studied. This includes the implications of induced traffic, warehousing, rat running and levels of service.

How placing the intermodals in Moorebank may possibly lock Liverpool into low employment density industries, which will make it more difficult to meet the expected jobs shortfall of 150,000.

That jobs from an intermodal and warehousing come with many times more trucks than other kinds of jobs.

How the intermodals may carry a huge cost into the future through increased cancers, asthmas, injury management and other health costs.

That disbenefits to the community do not appear to have been properly studied, and how the community may underwrite a large profit for investors by paying for these costly disbenefits.

How pollution modelling based on the traffic estimates has been grossly underestimated and does not reflect population growth. That diesel exhaust contains 100 to 1000 times more carcinogens than exhaust from petrol. That Liverpool's pollution readings have exceeded recommended limits for 9 out of the last 10 years.

That the intermodals would impinge on residential areas and impair access to the Liverpool CBD and the recently upgraded hospital.

That placing the intermodals at Moorebank would counteract efforts to improve the health of the Georges River. How there are endangered ecological communities and threatened species on the sites.

That the intermodals would diminish the Casula Powerhouse Art Centre and Georges River Casula Parklands.

That there appear to be more appropriate, more efficient, more economical solutions for an intermodal, including Eastern Creek and Port Kembla and the Maldon-Dombarton rail link.

Basic Information

Useful Definitions

Some brief definitions of things we will refer to throughout this book:

Freight Terminology

TEU

Twenty-foot Equivalent Unit, better known as a twenty foot container. The type of container one would commonly see on the freight trains that go past when waiting at a railway station.

Intermodal

When a container ship arrives from an overseas port, its containers are placed en masse onto rail or road for the next stage of their journey. This change of "mode" of transportation is the source of the terms "modal interchange" and its abbreviation "intermodal".

An intermodal is attended 24 hours a day by huge numbers of heavy trucks and heavy freight trains.

Warehousing and Distribution

At warehousing and distribution facilities, full containers are received, unpacked, reshuffled, forwarded, stored and distributed to multiple destinations as required. This involves a very large amount of both light and heavy traffic, since at this stage of its life cycle, one container may represent many trips.

We will use the term "Warehousing" to refer to both Distribution and Warehousing.

Truck Terminology

Rigid



Semi-Trailer



B-Double



B-Triple



We will use the term "Truck" as a general term to refer to all of these

Major Roads

Hume Highway

A number of old roads that originally followed the route taken by early explorers travelling south. Over time these roads have evolved into the major inter-city highway that runs between Sydney and Melbourne. The section between Summer Hill and Liverpool runs through busy Sydney suburbs. There are many signalised intersections, and long queues at peak hours. The possibility of widening is generally challenging.

M7

Westlink M7 is part of the Sydney Orbital Network. It connects the M5 at Prestons, the M4 at Eastern Creek and the M2 at Baulkham Hills. It is a new, high capacity toll road which was completed in 2005. There is still much capacity in the M7.

M5

The M5 consists of two separate entities, the M5 South West Motorway (Private) and the M5 East (Public), which join at King Georges Road. This road system is at or over capacity for much of the time. The M5 East, which contains a 4km tunnel, requires duplication and the M5 West has limited options for increased capacity.

Ramp Metering

Traffic lights are placed at an on-ramp to stop traffic before it is able to merge onto another, busier road.

Eastern Creek

Suburb at the junction of the M4 and M7 near Wetherill Park, in close proximity to a major Industrial Growth corridor. This zone has a high proportion of industrial land use and is predicted to be the destination for a large percentage of the freight coming to Western Sydney in future years. Eastern Creek has been identified as an optimum location for an Intermodal in major government studies.

Previous Proposal for Moorebank Intermodal Site

In 2003, a section of Moorebank, including the SIMTA site, was designated for a technology park: (Liverpool Council Development Control Plan No.49 Amiens, Yulong and DNSDC sites Moorebank International Technology Park Moorebank Ave Moorebank). A technology park can potentially provide 10 times more jobs per hectare than intermodals and related industries.

EIS

Environmental Impact Statement.

Backloading

When a truck picks up freight from a destination it has delivered to, thereby saving two movements.

School of Military Engineering (SME)

To allow for the federal intermodal to be built, the Army's School of Military Engineering is to be moved about 5km, and the site cleared. This will cost the taxpayer in the order of \$900 million.

Conflicting information about moving the School of Military Engineering

The Federal Intermodal Terminal is to be built on the current site of the School of Military Engineering (SME) at Steele Barracks. The site is currently occupied by 13 Defence units and four Defence facilities. The largest unit is SME, which has been on the site since 1940 and is the home of the Royal Australian Engineers.

Defence will vacate the Moorebank site by the end of 2014 under the Moorebank Units Relocation project. Construction at the new site will commence in late 2012 and there will be progressive occupation from late 2013 through to the end of 2014. The 5th Brigade facilities and Physical Fitness Complex will be completed in mid to late 2015.

Source: www.army.gov.au/Our-work/News-and-media/News-and-media-May-2012/SME-to-Holdfast-at-Holsworthy Accessed 8/4/2013

Also on the army website in the FAQ section:

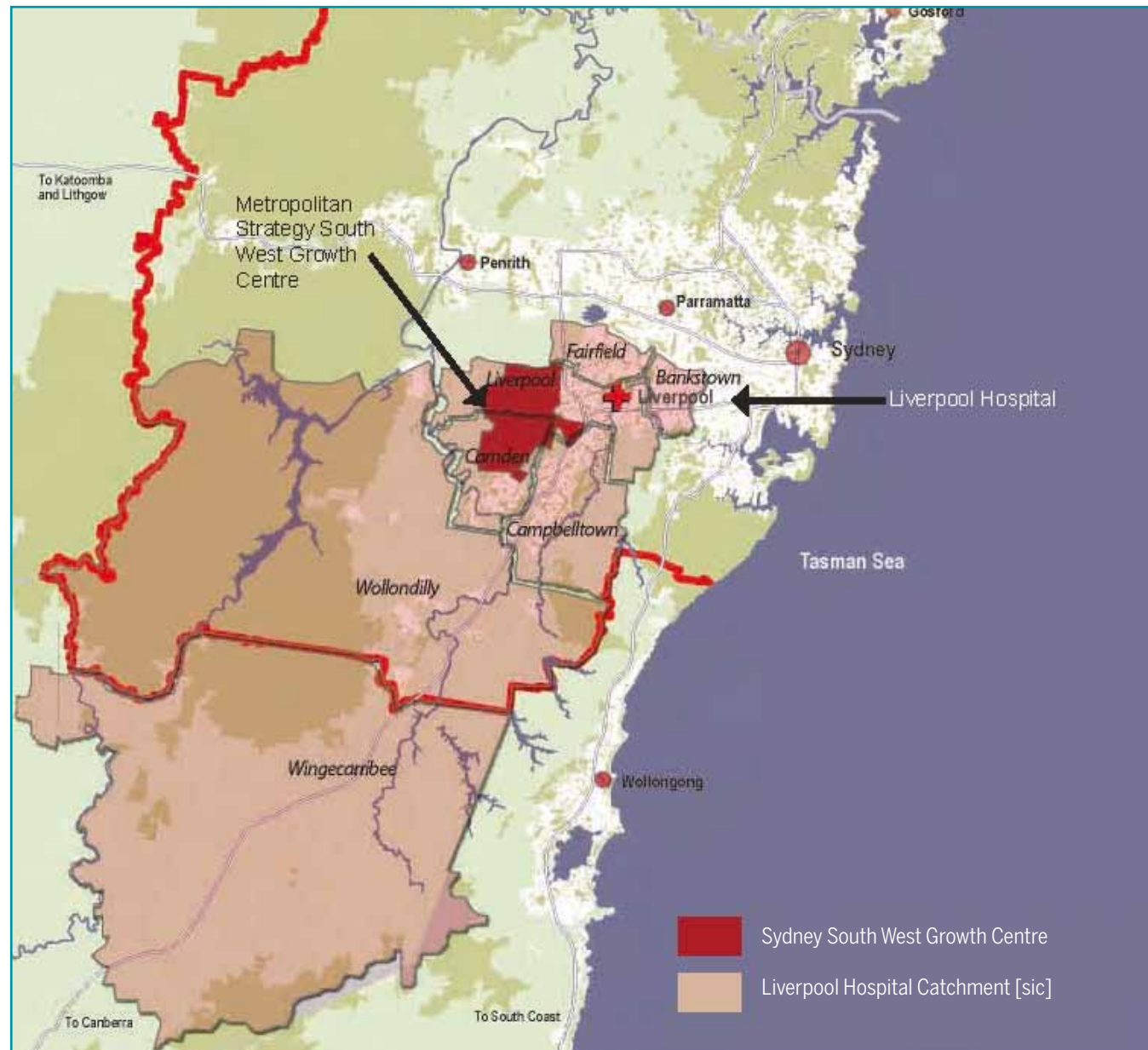
Q: If the intermodal terminal at Moorebank doesn't get approved, will the Moorebank unit still move?

A: No. The move is contingent on the IMT project being approved. This is dated 7/4/2013.

Confusing, since work for the new school of military engineering appears to be already underway. At time of writing in April 2013 site sheds are already up. This would seem to indicate that contracts are already signed.

If the Moorebank Intermodal were not to proceed what will they do with the new School of Military Engineering that is being built? Is it normal procedure to initiate construction before a development is approved?

Liverpool in 2031 - Second most populous local government area in NSW



"The region [of Bankstown, Camden, Campbelltown, Fairfield, Liverpool, Wingecaribee and Wollondilly] has a total population in the order of 800,000 which is expected to grow to 925,000 by 2016 and to 1.25 million by 2021.

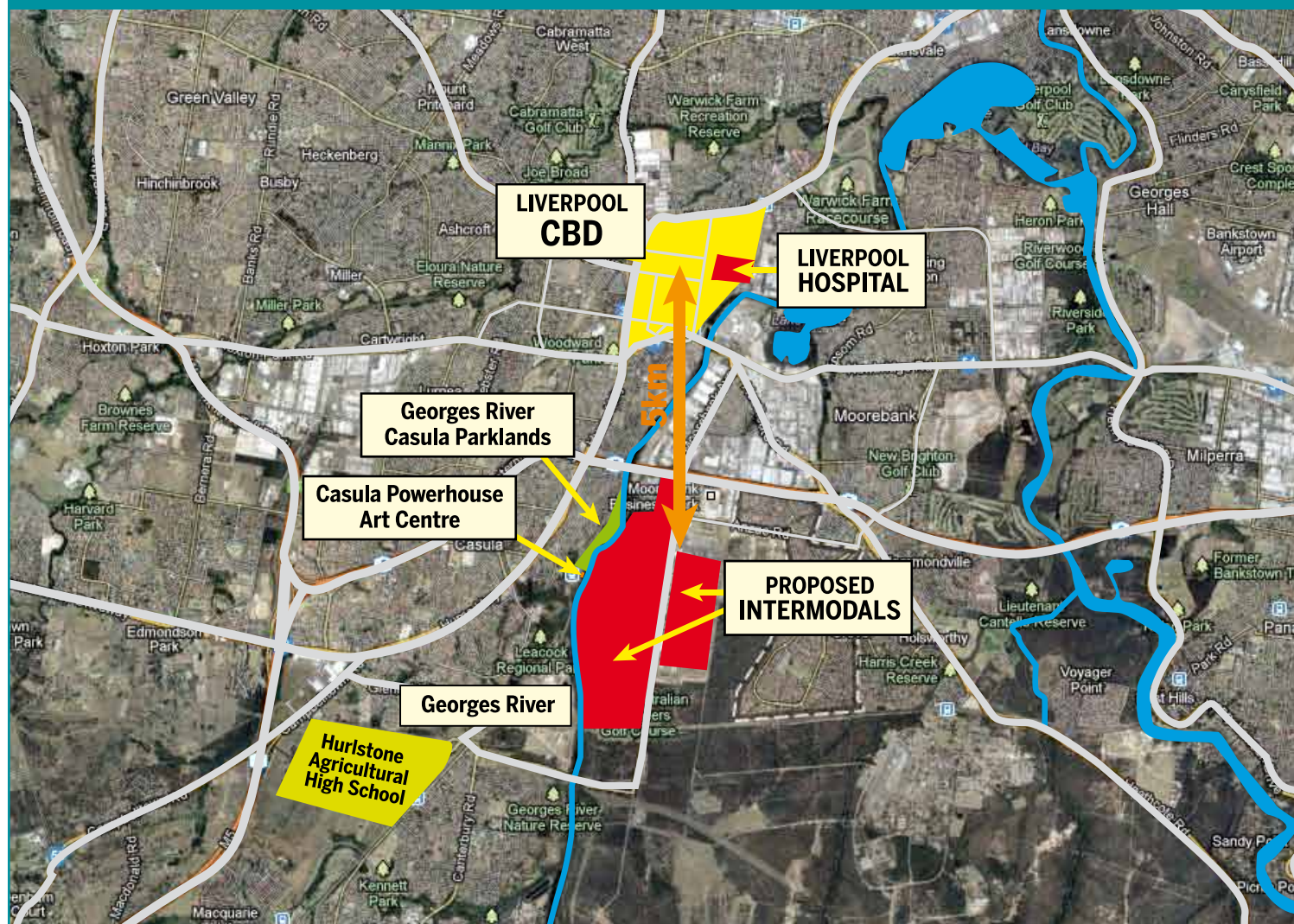
"Liverpool has been identified as one of the river cities in the Metropolitan Strategy together with Penrith and Parramatta. It is planned that a full range of business, government, retail, cultural, entertainment and recreational activities will be provided in or near to the City Centre."

Source: NSW Health, Liverpool Hospital Redevelopment Stage 2.1 Major Project Application (MP 08_0036) July 2008 P10

Liverpool is expecting a jobs shortfall of 150,000, and has a lower employment participation rate than some other cities in the Sydney region. There is a pressing need for high density employment. (Refer P35)

Regional infrastructure is already showing the strain of population growth, and to date there appears to be little in the way of planned upgrades to enable it to cope with the magnitude of demands to be faced in the near future. (Refer P30)

A sense of scale: Intermodals challenge Liverpool CBD for size and impinge on residential areas and major educational, recreational and cultural facilities



Land Usage

Moorebank has a mix of residential and industrial land usage, but the area around the sites has a significant amount of residential.

Distance from Liverpool CBD and Hospital:

Approximately 5km by road

The main roads that service the locality:

M5 South Western Motorway

Hume Highway

M7 Western Sydney Orbital

Current condition of roads

Main roads are at or over capacity much of the time, and particularly at peak hours.

Many of the local intersections are in need of upgrade to meet current traffic demands. (Refer P30)

The Hume Highway presents particular problems as it is already over capacity and there are limited opportunities for increasing capacity. A large percentage of the Intermodals traffic would be forced to use the Hume. This will create problems of exacerbated congestion, pollution, rat-running and access to CBD. (Refer P21)

Access to the M5 will also present serious problems to traffic from the Intermodals. (Refer P20)

Proximity

The proposed developments are very close to homes and schools, and directly across the river from Liverpool's multi-million dollar cultural centre: the Casula Powerhouse; and the Georges River Casula Parklands.

Not just one, but two intermodals proposed for Moorebank

The Federal Government Proposal

- **Forecast Capacity:**
1,700,000 containers per year
- **Daily Truck Trips:**
EIS* Pending;
Information not
yet available to public
- **Land Area: 220 Hectares**

*Environmental Impact Study



The SIMTA Proposal (Private Consortium)

- **Forecast Capacity:**
1,000,000 containers per year
- **Claimed Daily Truck Trips: 2,638**
- **Likely Actual Daily Truck Trips:**
Many times more than current
reports claim (Refer P13)
- **Land Area: 83 Hectares**



There are two intermodal developments currently proposed for Moorebank.

One proponent is Sydney Intermodal Terminal Alliance (SIMTA) which is a private consortium.

The other proponent is the Federal Government, the operational agency of which is the Moorebank Project Office.

The site for the Federal Intermodal is the former School of Military Engineering. To enable this development, the SME is being moved approximately 5 km, at a cost of \$900 million.

The two proposed intermodals would be facing each other across Moorebank Avenue.

The two developments combined would cover an area of over 300 hectares and with unconstrained conditions (trucks converted to car units), could possibly generate an amount of traffic exceeding that which travels daily over Sydney Harbour Bridge.

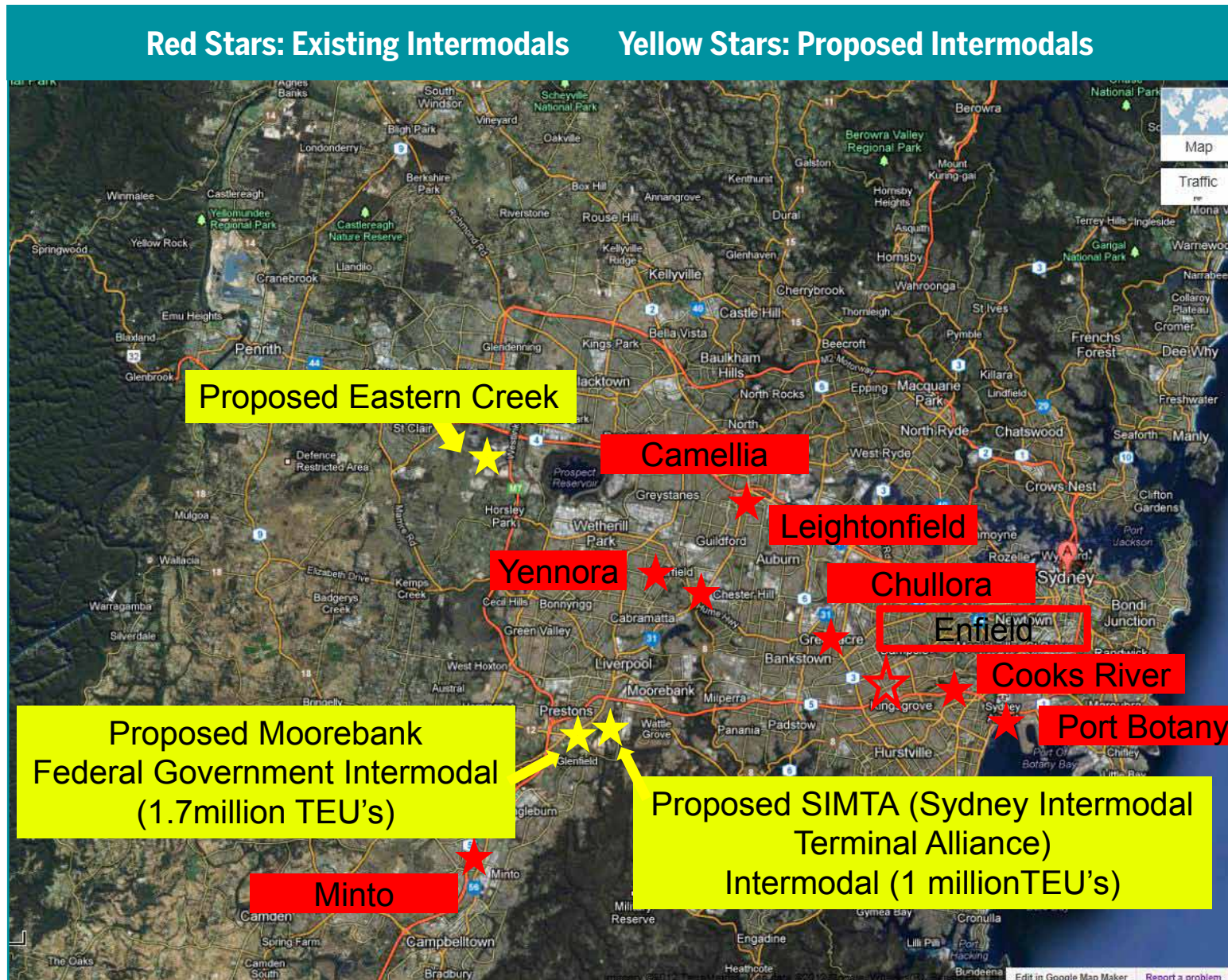
In order to build any Intermodal at Moorebank, a new rail spur is being planned.

The SIMTA proposal was audited by Halcrow (Appendix G: Paramics (traffic) Model audit report by Halcrow; Part of SIMTA Sydney Intermodal Terminal Alliance, Part 3A Concept Application, Traffic and Transport).

There appears to have been a consistently high level of inaccuracies in press releases and other material about the Moorebank Intermodals disseminated by both SIMTA and the Federal government.

The Big Picture: Sydney Freight in 2031

Existing and proposed intermodals in Sydney



This plot shows approximately where the existing intermodals are located (red stars) and where the proposed intermodals are expected to be (yellow stars).

Note: The Enfield intermodal is still under construction.

Each container typically generates four truck movements unless it has backloading:

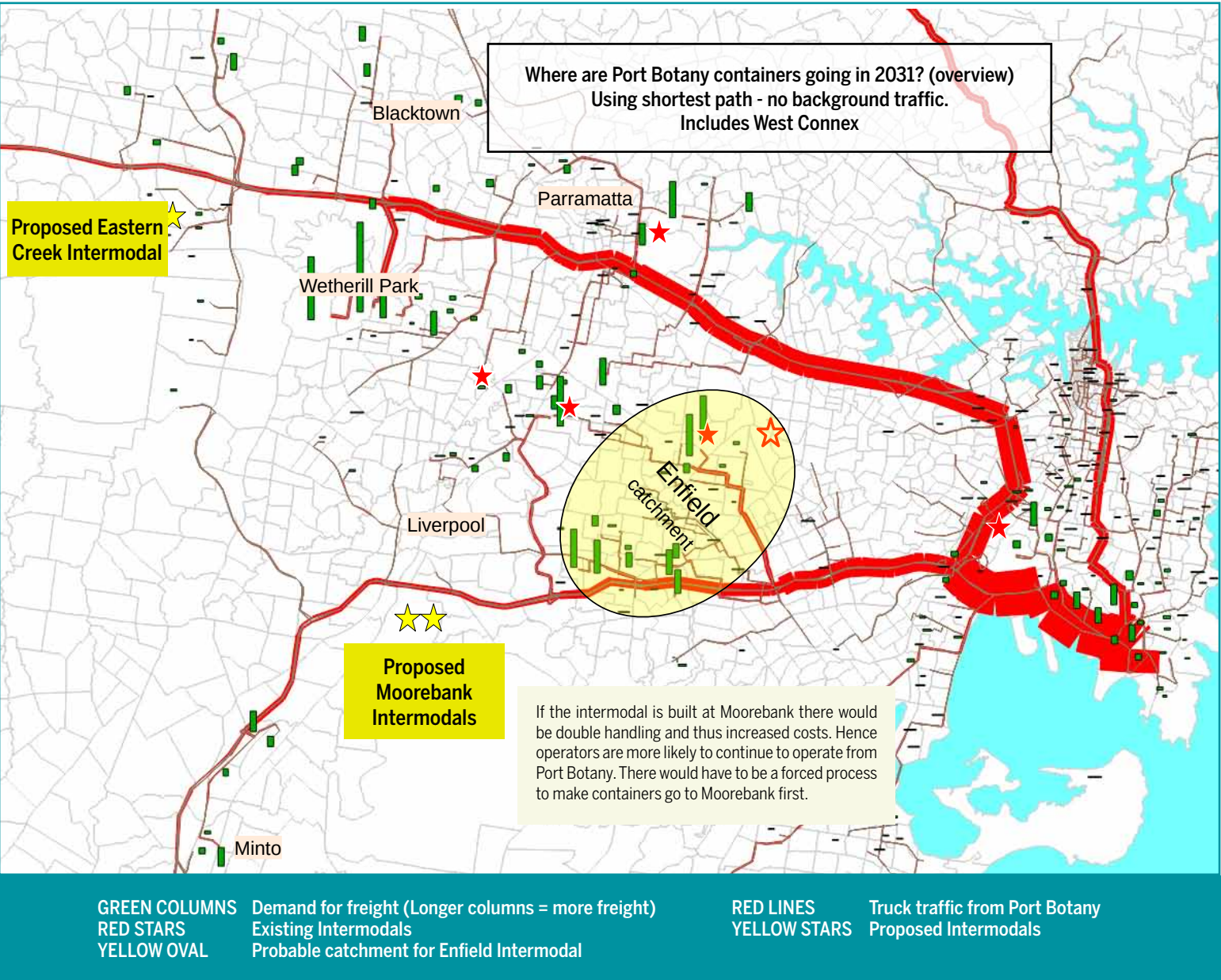
- Drive into Intermodal warehouse to pick up full container
- Drive out of Intermodal with full container
- Drive into Intermodal to return empty container
- Drive out of Intermodal having returned empty container

Hence if you have one million containers arriving in a year, for every extra kilometre they need to traverse there will be a minimum of four million extra truck kilometres to travel in that year.

This gives an insight into the kind of harsh, unforgiving mathematics involved in planning an Intermodal.

It is absolutely crucial to place an intermodal in the correct location. There is no place for unsubstantiated mathematics, wishful thinking or guesswork.

Containers not going to Moorebank Zone in 2031



The green columns show where the Port Botany containers are destined in 2031. The taller the column, the more containers going to that zone.

Note that virtually no freight will be required in the Moorebank zone.

Other than the area serviced by the Enfield Intermodal, the vast majority of the freight that is expected to be coming into Western Sydney in 2031 is likely to be going to the Wetherill Park / Blacktown / Parramatta region.

In fact, Moorebank is in the centre of a very large area where the requirement for freight is almost nil.

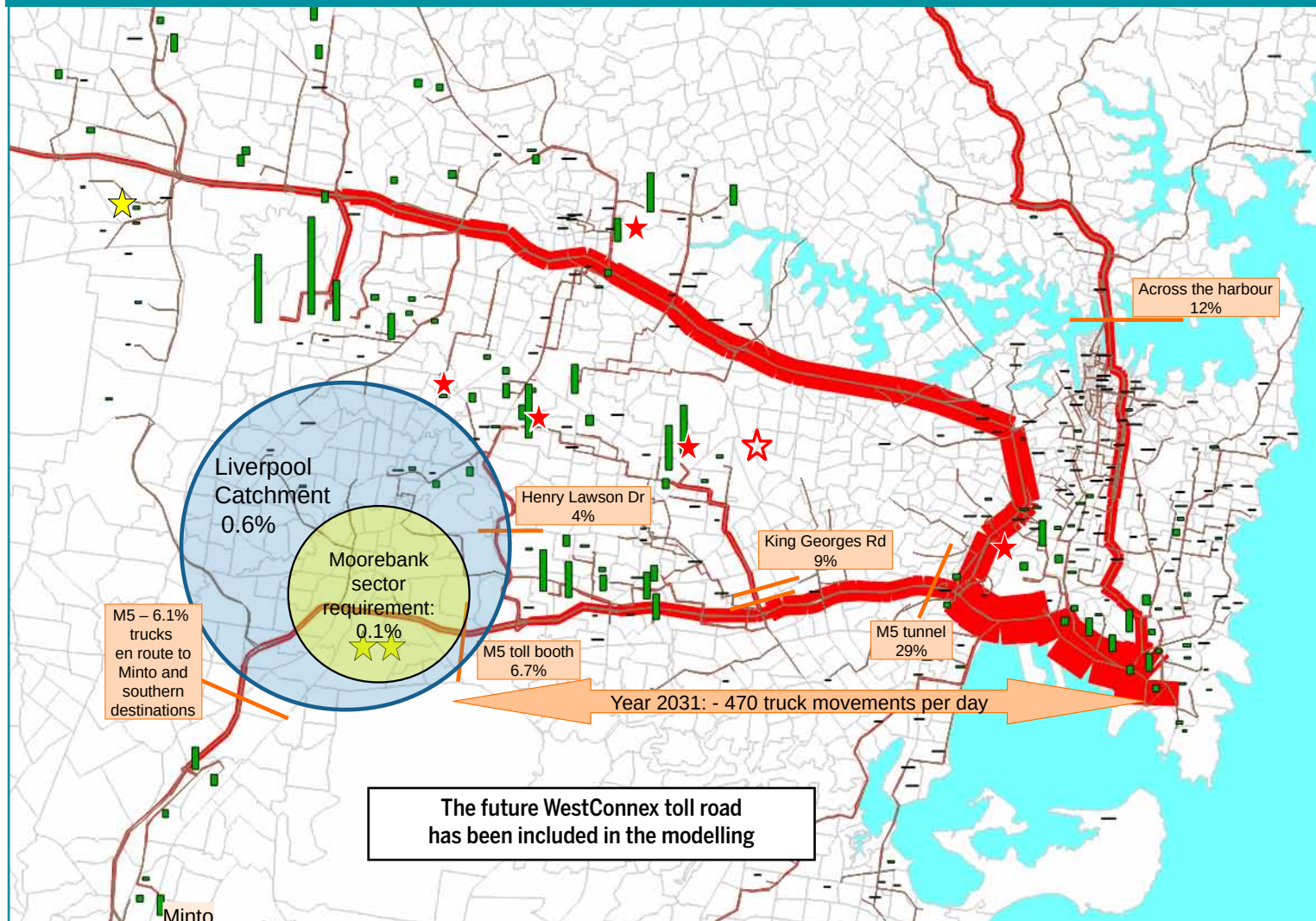
This would mean more pollution and road damage as millions of trucks will be forced, year after year, to transit intervening suburbs to get the freight to and from its destination. **This is illogical, unsustainable planning.**

Why would an intermodal be built in the very location where it is least needed?

Data source: Bureau of Transport Statistics

Claims of reduced truck movements grossly exaggerated

Very few future trucks need to come to Moorebank (certainly not 6,000 per day)



Official information provided to the public from both Federal Government and SIMTA stated that because freight will be moved from Port Botany to Moorebank by rail, large numbers of trucks will be removed from the M5 between Moorebank and Port Botany.

Federal Government stated its intermodal will remove 3,300 trucks per day

SIMTA stated its intermodal will remove 2,700 trucks per day

On the map, the orange lines represent locations where truck numbers are estimated as a percentage of total truck movements emanating from Port Botany.

For 2031 there are 470 daily truck movements expected to go through the toll booth at Moorebank. This is 6.7% of Port Botany's truck movements. However, only 0.1% is required at Moorebank. The rest are going elsewhere.

This represents a total of about 10 trucks per day. Not 6,000.

Data source: Bureau of Transport Statistics

Do the Big Picture Figures
Actually Make Sense?
A Sanity Check

SIMTA could generate 52,000 truck trips a day – not 2,600

SIMTA estimates that it will create 2,600 truck movements per day. Hard, cold figures from existing Sydney intermodals indicate that the number of daily trucks that may come from a development this size is likely to be much greater than SIMTA's estimates or even the Transport for NSW estimates. Note: These numbers include articulated, rigid and light commercial vehicles

We know the numbers of trucks emanating from existing intermodals in Sydney as these are available from the Bureau of Transport Statistics.

Chullora, for example, has a capacity of 300,000 TEU's. That is about one third the size of SIMTA, which has a capacity of one million. Therefore we need to multiply Chullora's daily truck flow by about three to gain an estimate of the daily flow for one million TEU's.

If each intermodal has the daily traffic flow factored so that the number of TEU's being processed at the site is converted to 1,000,000, then this provides an estimate of the traffic that could come from a new intermodal with a capacity of 1,000,000 TEU's.

If these numbers of truck movements for the intermodals are averaged (after being factored to 1,000,000 TEU's) then we have a 'sanity check' which indicates possibly

**52,000 truck trips per day.
Just from the SIMTA intermodal.**

Much higher than current SIMTA estimates of 2,600 trips.

**Note that even with an estimate of 2,600, SIMTA's studies predict LoS F*.
(* Refer P26)**

Enfield is still under construction, hence the very low estimate compared with live intermodals. Even with this left in, we can see that from a 'sanity check' point of view the number of daily trucks likely from SIMTA is much greater than SIMTA's estimates or even the Transport for NSW estimates.

INTERMODAL	TEU CAPACITY	DAILY FLOW	FACTORED TO 1 MIL TEU	COMMENT
Port Botany	2,000,000	6,700	3,400	No warehousing
Camellia	80,000	5,800	72,500	Warehousing
Chullora	300,000	12,000	40,000	Warehousing
Enfield (Estimate)	300,000	1,500	5,000	Warehousing Still under construction
Leightonfield	80,000	9,600	120,000	Warehousing
Minto	150,000	9,800	65,300	Warehousing
Yennora	170,000	8,000	47,100	Warehousing
SIMTA (Estimate)	1,000,000	2,600	2,600	Warehousing
AVERAGE			52,000	(Mean)
TfNSW (Estimate)	2,200,000	20,700	9,400	

If there is an intermodal on the other side of the road with 1,700,000 TEU then this number would more than double!

Note also that Port Botany has a very low number for the daily truck flow because there is no warehousing at the port.

The estimates for the SIMTA traffic were developed from Port Melbourne which has little warehousing, unlike the proposed Moorebank developments.

Data source: Bureau of Transport Statistics

The auditors of SIMTA's report* questioned:

- **Why was Port Melbourne (which has no warehousing) used for developing truck trip estimates when in fact warehousing is to be a part of the Moorebank Intermodal?**
- **How was 30% backloading for trucks achieved?**
- **Why were existing, rather than future traffic estimates used for the traffic modelling?**

*The SIMTA proposal was audited by Halcrow (Appendix G: Paramics (traffic) Model audit report by Halcrow; Part of SIMTA Sydney Intermodal Terminal Alliance, Part 3A Concept Application, Traffic and Transport)

WHAT WOULD HAPPEN IF BOTH SIMTA AND FEDERAL INTERMODALS WERE BUILT?

The Federal Government Intermodal Project has a much larger capacity than SIMTA: It is planning for 1.7 million containers. Together they would have a capacity of 2.7 million containers.

This could potentially mean not 50,000 truck trips a day but over 100,000 truck trips per day.

Traffic engineers calculate each truck as equal to 2 passenger car units, so 100,000 truck trips would equate to 200,000 passenger cars. Sydney Harbour Bridge has about 160,000 trips per day. So we are looking at a traffic volume exceeding that of the Sydney Harbour Bridge.

Consider the support infrastructure for the Sydney Harbour Bridge.

Do we see that in Liverpool? This will give you some concept of the amount of infrastructure that will have to be built so the intermodals can reach their potential.



If both intermodals are built we could be looking at a daily traffic volume exceeding that of the Sydney Harbour Bridge

This sanity check alerts us to the fact that there may be huge infrastructure shortfalls which should be accurately quantified and addressed before approval.

The actual number of physically possible daily truck flows would be limited by road infrastructure and land that is set aside for distribution and warehousing. It will be shown there is not much capacity left in the road infrastructure but there is quite a lot of land that is available for warehousing.

Moorebank Project Office is encouraging private industry to take up the 1,250 ha of employment land for warehousing to feed the Moorebank Intermodals! (Refer P35)

Why should we care about warehousing?

Warehousing means a much higher volume of traffic. Warehousing jobs require trucks and so produce more congestion on our roads.

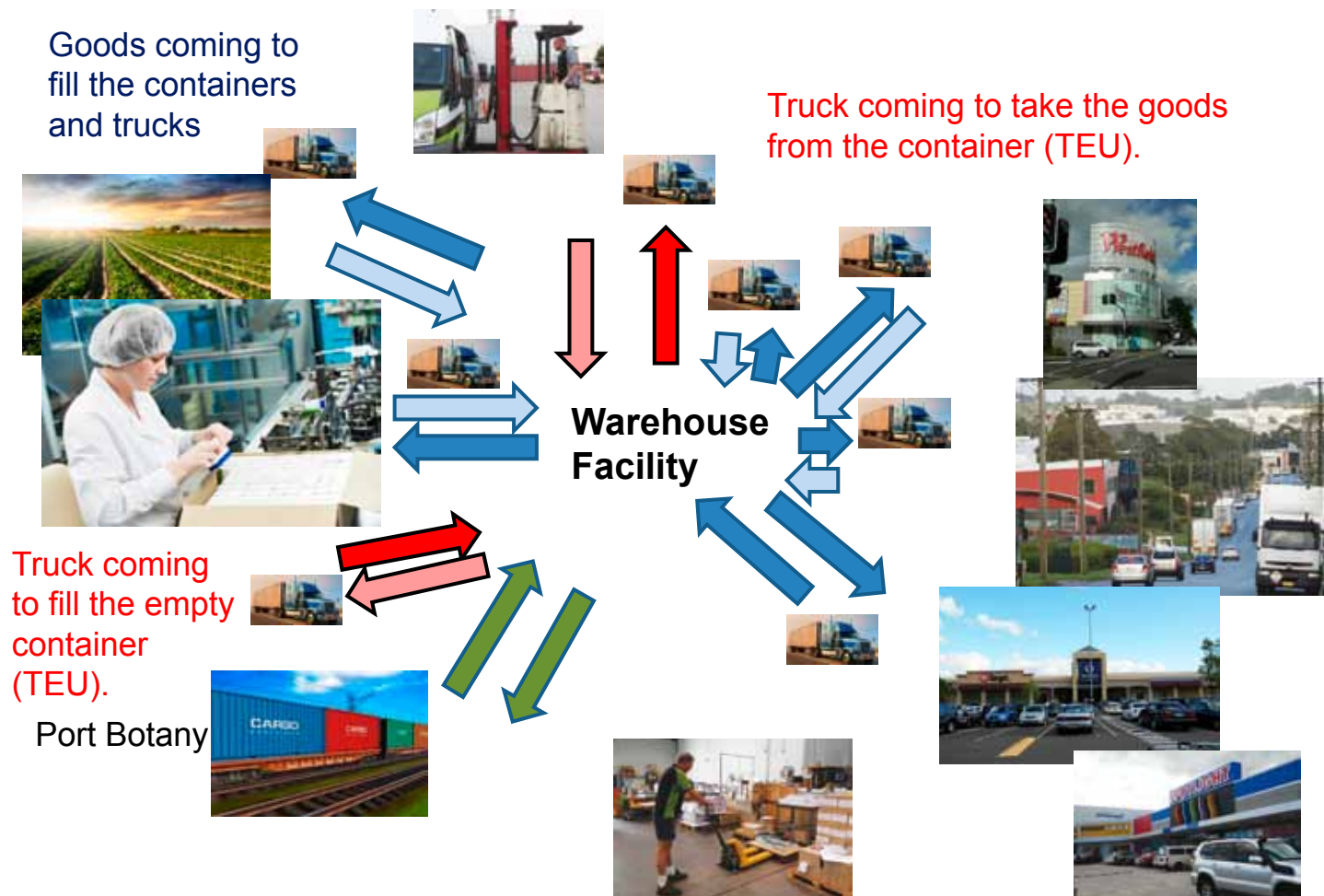
(More about this in the next section.)

This is the wrong way to solve a jobs shortfall, the right way to encourage a long-term jobs shortage for Liverpool.

Warehousing: Implications of Induced Traffic

Warehousing and induced traffic

**WHERE THERE IS WAREHOUSING, ONE CONTAINER
CAN MEAN 16 OR MORE TRUCK TRIPS**



Because of the intermodals, other warehousing industries may locate in the area. There may be a large amount of traffic to and from these industries. Even though this traffic may not enter the intermodals, it is there because of the intermodals. **This is induced traffic.**

Page 9 showed how a container generates about four truck movements. Where there is distribution and warehousing, this number increases, as one container may contain freight from many shippers.

Thus, where you may have four truck movements for one single container, where there is warehousing you may have 16 or more.

This is why the presence of warehousing is so significant for the purposes of transport modelling.

The table on page 13 showed the huge difference in truck movements between the intermodals with and without warehousing.

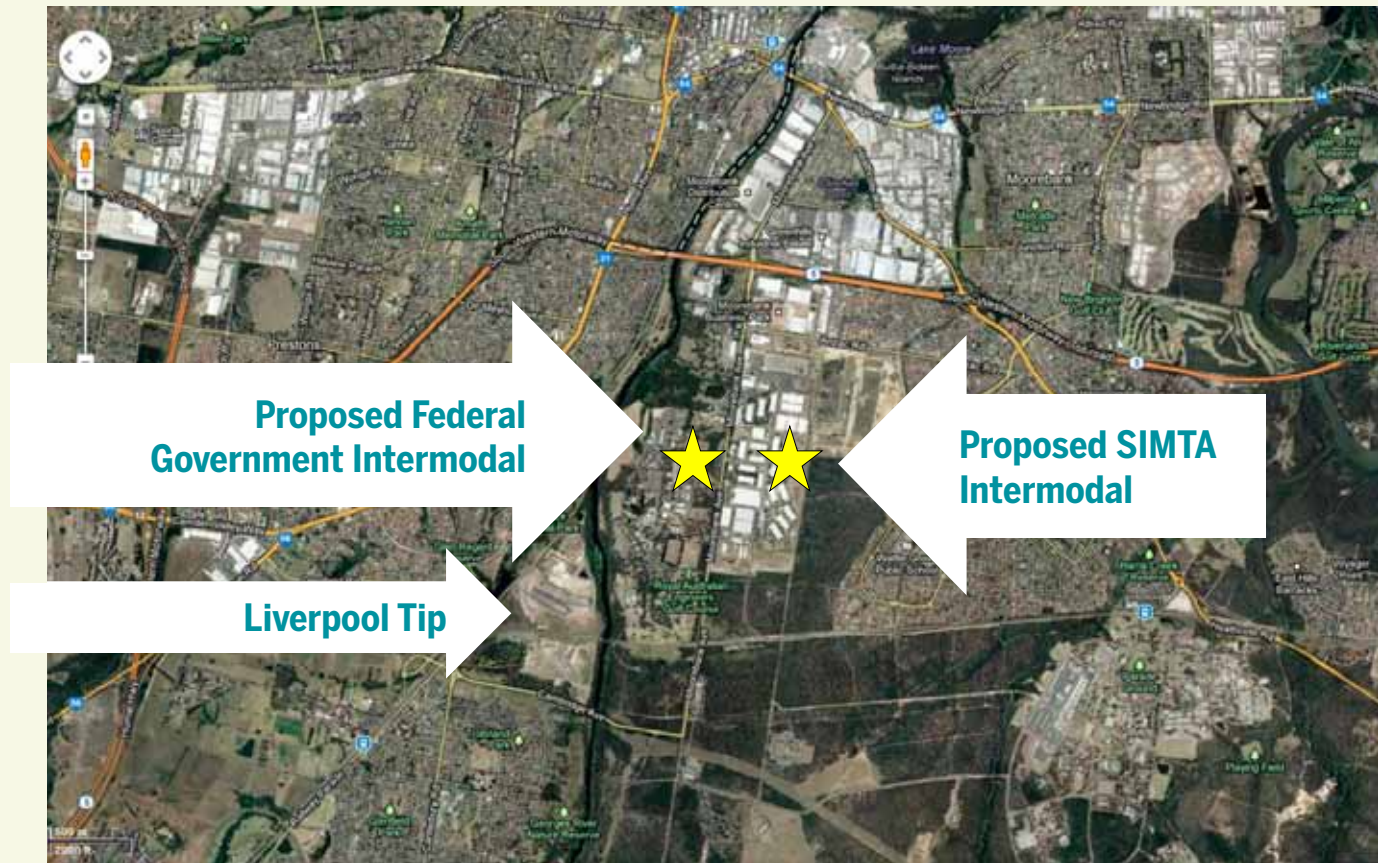
The Moorebank Project Office is encouraging private industry to take up some 1250 hectares of warehousing. Except for Port Botany, all the Intermodals in Sydney have warehousing.

Yet SIMTA drew its figures, not from any of the working Sydney intermodals with warehousing, but from Port Melbourne, which has no warehousing.

**Warehousing can mean
MULTIPLE trucks per
container**

NO traffic from other warehouses included in SIMTA's estimates!

**1,200 Hectares of warehousing are being encouraged...
including converting Liverpool tip to warehousing**



The TfNSW (Transport for NSW) estimate of trucks emanating from the intermodals is believed to be low because:

- The estimated 20,700 daily truck flow could not reflect all the induced traffic from the warehousing **within** SIMTA
- Induced traffic will also arise from trucks travelling from warehouse **outside** SIMTA.

These warehouses will locate in the vicinity because of its proximity to the inland port.

The TRADE PRESS already refers to the potential of the Liverpool tip being turned into a warehouse precinct. The map shows the size of the tip - nearly as big as an intermodal itself.

**Because SIMTA figures
DO NOT REFLECT THIS
INDUCED TRAFFIC, they
are grossly underestimated**

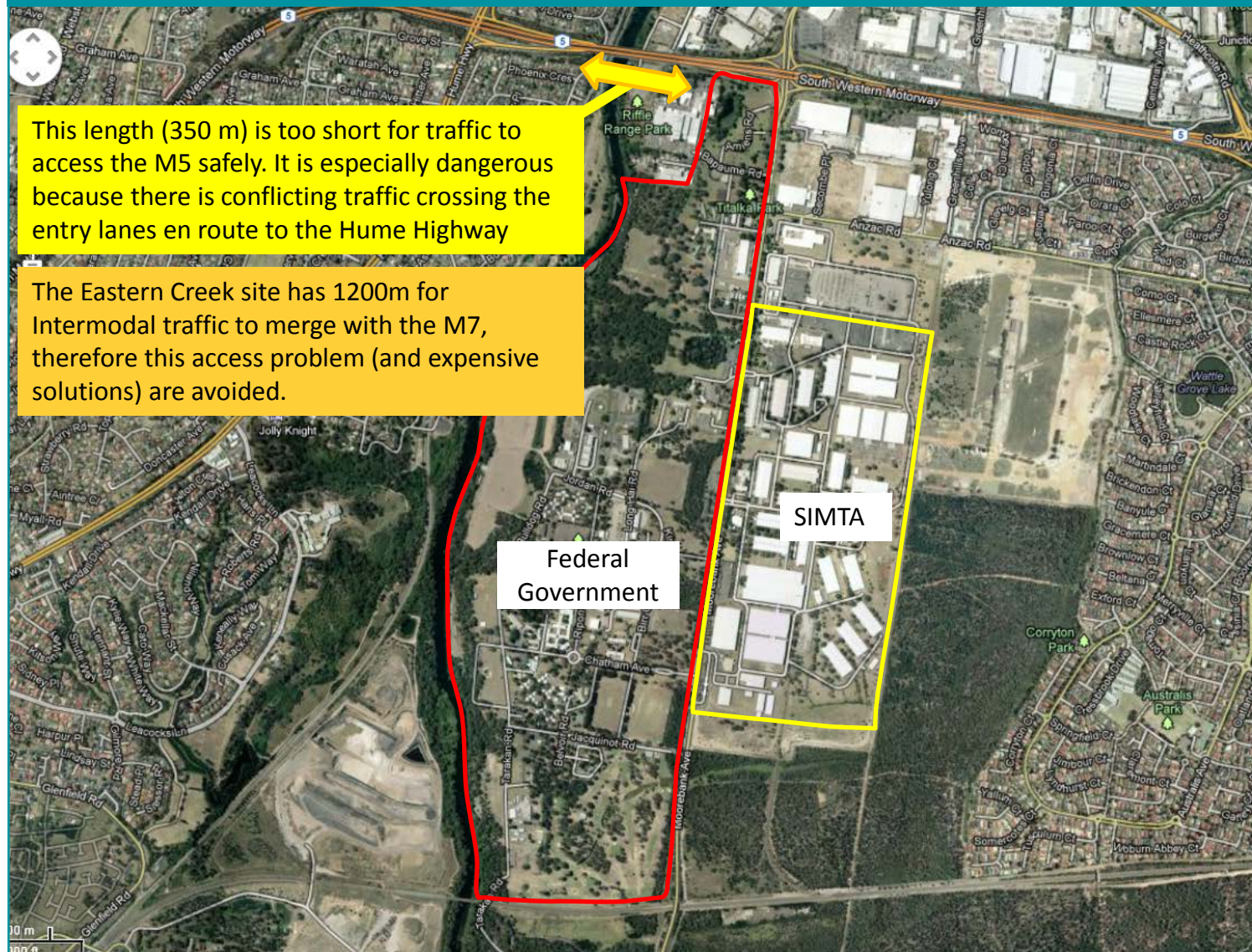
Liverpool: Questionable Figures and Inadequate Studies

Physical difficulties with M5 access

0 - 100kph in 350 metres in vehicles weighing up to 24 tons? I don't think so.

This length (350 m) is too short for traffic to access the M5 safely. It is especially dangerous because there is conflicting traffic crossing the entry lanes en route to the Hume Highway

The Eastern Creek site has 1200m for Intermodal traffic to merge with the M7, therefore this access problem (and expensive solutions) are avoided.



Thousands of intermodal-related trucks per day will need to access the M5.

To enter the M5 from Moorebank Avenue, traffic needs to merge whilst conflicting traffic is leaving the M5 to access the Hume Highway – an extremely dangerous situation.

With the ramp metering (next page) recommended by SIMTA, B-doubles and B-triples will need to reach 100kph from a standing start in 350 metres, whilst merging and negotiating the conflicting traffic.

It is obvious that this is not going to work.

Any potential infrastructure solutions would be expensive, and who will pay? Has this been costed into the project?

In stark contrast, the identified site for an Intermodal at Eastern Creek*:

- Has a safer 1200m for traffic to merge with the M7, and therefore
- Will not require expensive solutions
- Has no dangerous traffic conflict

(*Refer P 54)

The M5 / Moorebank Avenue intersection may require expensive infrastructure for a major expansion.

SIMTA identifies M5 as having EXISTING traffic issues but does not provide a costing. They merely recommend ramp metering* as the answer to the problem.

* Ramp metering simply means installing a traffic light so that the trucks must stop before entering the M5. Despite the technical sounding title, it does nothing whatsoever to address the problem of over-capacity roads and dangerous access. It would merely slow trucks to a stop and force them to form a queue. It provides no solution. It would achieve absolutely nothing.

Same in City bound direction

M5 traffic must change lanes for Hume Highway off ramp

Access to the Hume Highway

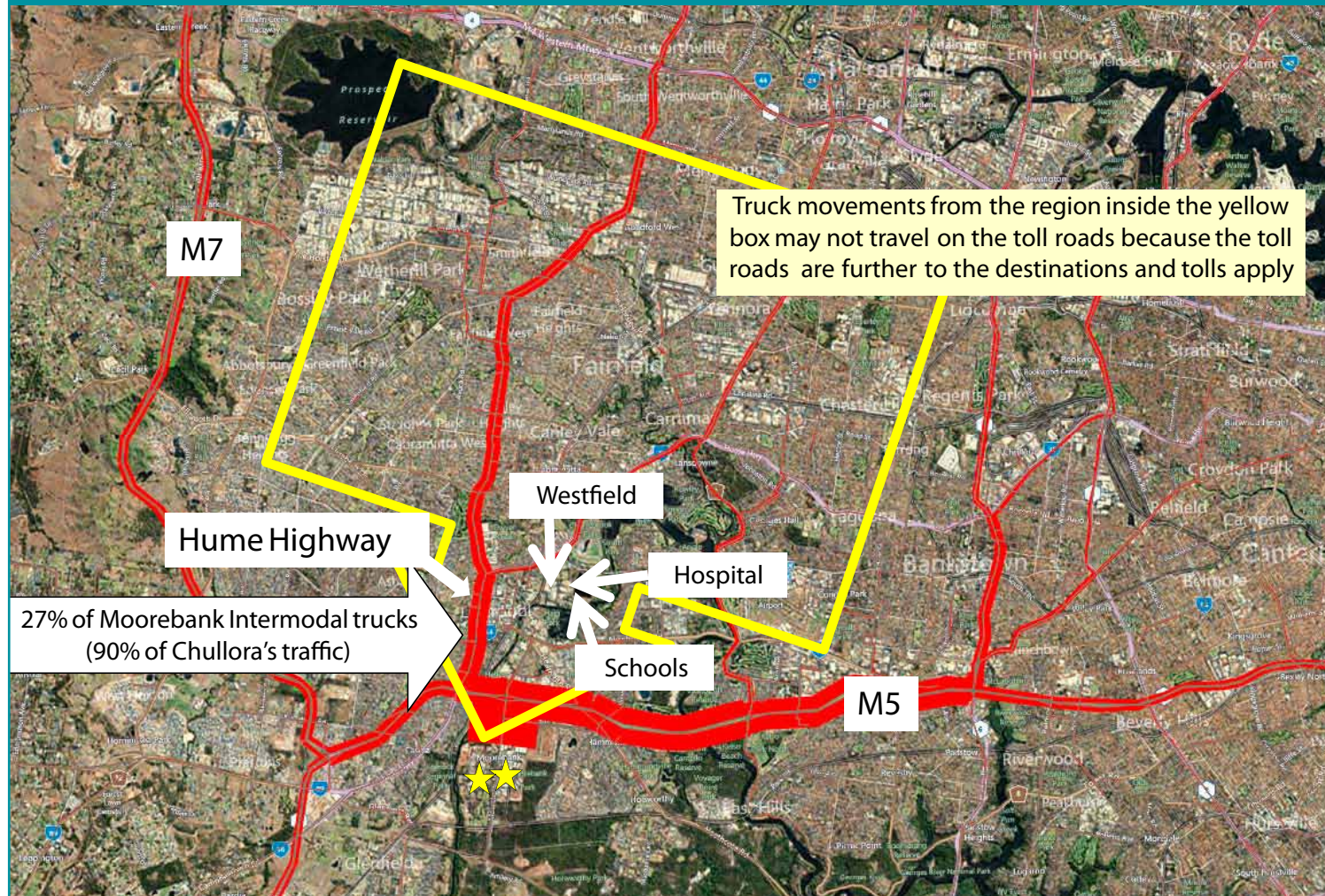
Length is too short for high speed roadway

Moorebank Intermodals traffic requires crossing of one lane and merging with the second.

EXISTING CONDITION: Traffic speed between 50-60 km/hr. Sign posted speed: 100 km/hr

Hume Highway gains 27% of the Intermodals traffic

**OVER A MILLION TRUCKS A YEAR
COULD BE FORCED ONTO THE HUME HIGHWAY**



RED LINES: Predicted traffic movement from the intermodals.

YELLOW STARS: SIMTA and Federal intermodals.

YELLOW BOX: The zone trapped to this route.

27% of the intermodals traffic is forced to use the Hume Highway, representing over a million truck movements a year.

Access to the Liverpool CBD is via the Hume Highway. The CBD may become virtually inaccessible for long periods of the day if the Hume is clogged with trucks.

This situation would have negative consequences for businesses in the CBD, including the Westfield shopping centre.

The Liverpool Hospital is of major importance and serves a very large area from Bankstown to Wingecarribee. See p25. Impaired access to the hospital will affect patients, staff and visitors. **It would be particularly bad for ambulance emergencies.**

The over-burdened Hume Highway cannot handle this volume of extra traffic.

Intermodal traffic added to Sydney's worst accident black spot

A TRUCK EVERY SIX SECONDS ADDED TO SYDNEY'S WORST BLACK SPOT

Hume Highway at Liverpool - Worst Spot for Car Crashes

Insurer reveals Sydney's worst car accident

Posted Tue Aug 21, 2012 7:43am AEST

A national insurer has named Sydney's five worst spots for car crashes - with the Hume Highway at Liverpool topping the list.

Insurer AAMI says it has examined around 775,000 accident claims across Australia over the past 12 months.

In Sydney, the other main hot spots include Pennant Hills Road at Pennant Hills, the Princes Highway Rockdale, the M4 Motorway at Silverwater and Epping Road at Macquarie Park.

The Insurer's Spokesman Reuben Aitchinson says on average there were roughly two crashes every day at each of the five worst spots.

"Most of these accident hot spots tend to be high traffic and tend to have relatively high speed limits and whenever you get that many cars and that concentration, all it takes is very simple lapses in concentration for something to go wrong," he said.

He says there were almost 200 crashes in the worst area.

"You're looking at about 190 accidents for the top spot in Sydney which doesn't sound like a lot on its own but that's more than one every two days and when you think there's 4 and a half kilometres of roadway in Sydney itself, that's quite a concentration."

SIMTA will add 27% of their traffic to this accident hot spot.



The map at the bottom right is from SIMTA, Traffic and Transport, Volume 1. The blue line indicates the area SIMTA studied for the traffic implications of the Intermodals.

RMS (Roads and Maritime Services) indicated that the SIMTA proposal should have modelled for 20,700 trucks per day. That implies adding an additional $27\% \times 20,700 = 5,600$ truck movements per day at this accident hot spot section of the Hume Highway between Elizabeth Drive and the Cumberland Highway.

That is one truck every 6 seconds (during peak hour using SIMTA truck profile) being added to the highest accident hot spot in Sydney.

Since the local infrastructure would be receiving millions of extra heavy vehicles, it is logical to expect that provisions have been made to enable upgrades to this and other problem intersections in the vicinity.

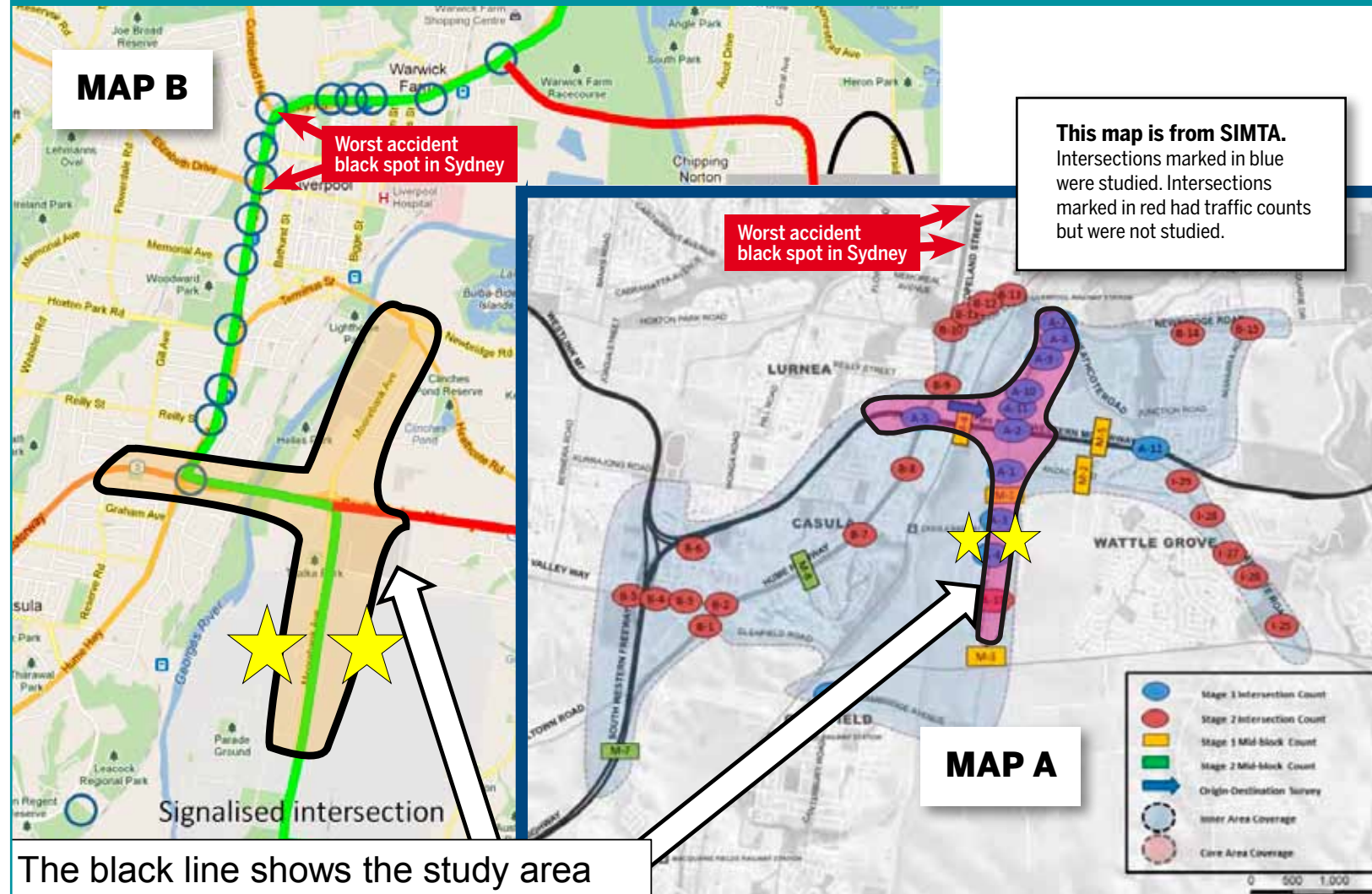
The only reference that we can find to a planned upgrade is - Federal Intermodal has allocated money to upgrade Moorebank Ave in 17 or 18 years time.

No upgrades to local infrastructure appear to have been planned? Can this be possible? **It is clear that the traffic issues have not been thought out.**

Worst black spot in Sydney is expected to receive 27% of intermodal traffic - an extra truck every 6 seconds

SIMTA Traffic study area excluded worst problems

27% of the truck traffic from the Intermodals will travel along the Hume Highway, passing through the accident hotspot of Sydney.



27% of the Intermodals traffic will be travelling along the Hume Highway, past the Liverpool CBD and passing through the worst accident black spot in Sydney.

There are fourteen signalised intersections in this section of the Hume, many of them with severe existing problems.

Map A shows the intersections that were studied by SIMTA. (pink shaded area).

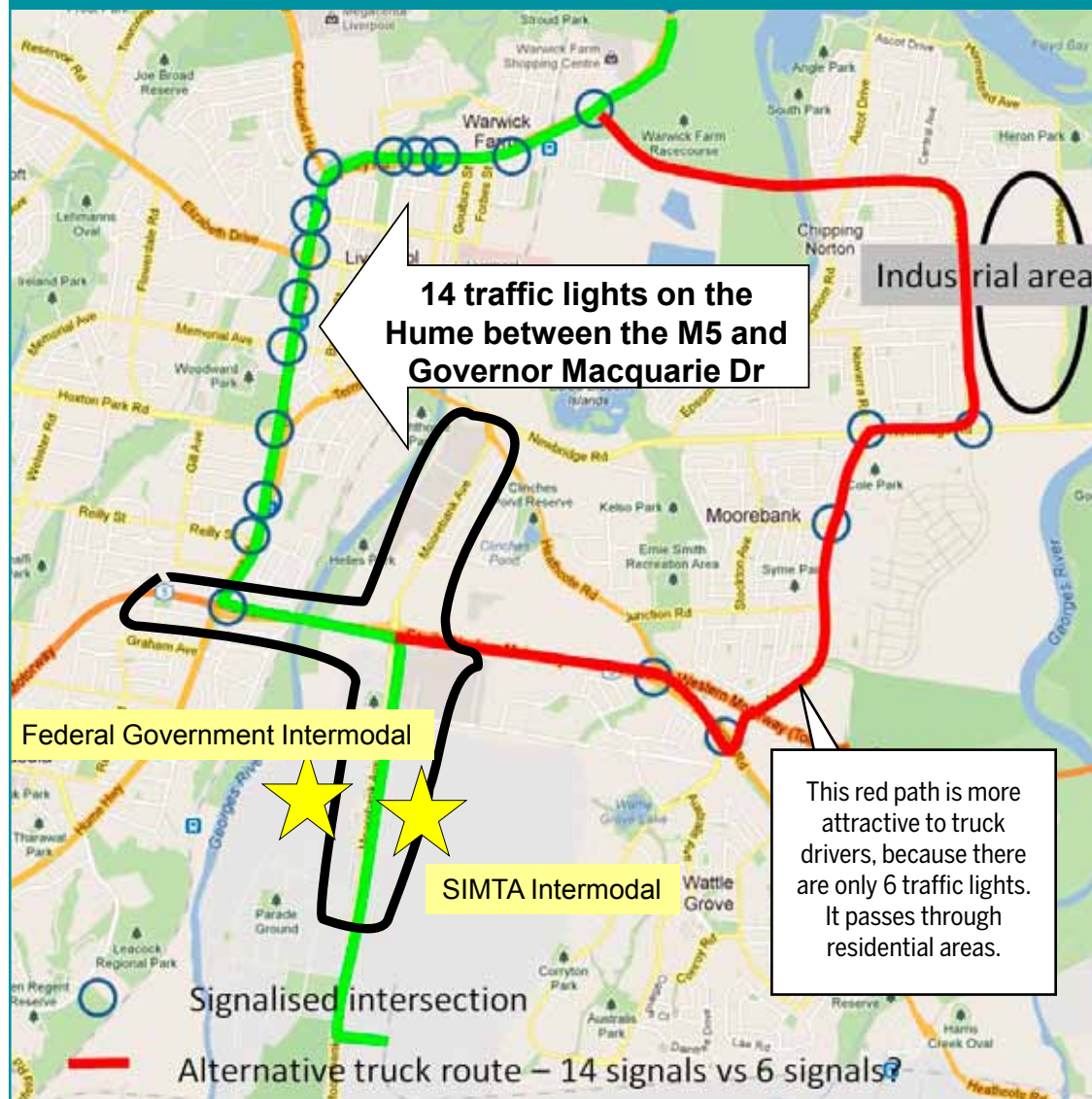
Map B is a closer view, showing the Hume Highway and its signalised intersections (blue circles) as it passes around the Liverpool CBD. The orange shaded area denotes the SIMTA study area. As you can see, only one Hume Highway intersection was studied.

Even the section between Elizabeth Drive and the Cumberland Highway - the single worst black spot in Sydney - has not been studied.

Implications for the Hume Highway have not been properly studied and as far as we can find, no solutions or improvements have been proposed.

Trucks may take inappropriate routes to avoid congestion

TRUCKS LIKELY TO “RAT RUN” THROUGH INAPPROPRIATE AREAS



THE RED PATH IS INAPPROPRIATE BECAUSE:

- It bisects the residential area (too close for carcinogen exposure)
- It has a Pre-School on the north side
- It is already congested due to traffic avoiding tolls
- It has extensive queues at peak hours
- An adjoining area is being developed, with more than 200 houses, which could also be used as a rat run

What is rat-running?

Traffic will typically take alternative paths when a main route is congested. This is called rat-running. It is necessary to consider where the trucks will rat run, because rat runs have a tendency to become major thoroughfares.

Rat runs can develop through residential areas, school zones and other localities which are not suited, either in land use or infrastructure, for a high burden of traffic.

The green line is the path that SIMTA nominates as the route that trucks from the intermodals will choose to follow.

However, trucks will more likely take the path with fewer traffic lights (red path).

This path is already congested with traffic trying to avoid the M5 tolls and also trying to bypass the signals along the Hume.

Two B-triples waiting at a traffic light cause huge problems for congestion as they may not both be able to get through the lights on one cycle.

These other routes are not required to be studied. This seems to be irresponsible.

B-doubles and B-triples stop-starting at 14 sets of traffic lights along the Hume Highway will certainly add to the pollution and congestion.

Liverpool CBD and Hospital will be difficult to access



This map shows the Hume Highway, the Liverpool CBD and the hospital (marked in yellow).

The blue lines show traffic from the Inter-modals only, with no background traffic (the everyday traffic that we see now).

Even with absolutely no other traffic on the road, the heavy trucks from the intermodal could create so much congestion on the Hume, they could rat-run through the CBD, taking the shortest path north-south or east-west.

It would particularly affect Bigge Street.

With this in mind, consider adding into the equation the normal amount of traffic that already exists on the Hume Highway, and in the CBD of Liverpool, and around the Hospital. Then, of course, you need to add 300,000 new residents in the locality. (Refer P32) This is simply not going to work.

Difficulties accessing the hospital by road will make life problematic for:

Ambulances and emergencies
Patients, Outpatients
Visitors
Doctors and Staff

The recent major Liverpool Hospital upgrade will be significantly undermined if the hospital is very difficult to access by road.

The quote at right talks about visions for developing the City of Liverpool with "a full range of business, government, retail, cultural, entertainment and recreational activities ... in or near to the City Centre."

This traffic scenario is counterproductive to the fulfilment of these objectives.

It would be difficult to access anything near the CBD, and the experience is likely to be time-consuming and unpleasant.

"Liverpool is a major commercial centre within the southwest region of Greater Sydney and Southern Highlands. Liverpool Hospital, located within the Liverpool Central Business District, is the primary medical facility within this region and serves the local government areas of

- Bankstown
- Camden
- Campbelltown
- Fairfield
- Liverpool
- Wingecarribee
- Wollondilly

"The region has a total population in the order of 800,000 which is expected to grow to 925,000 by 2016 and to 1.25 million by 2021.

"Liverpool and Camden LGAs are expected to experience the highest growth of all LGAs in NSW over the next 20 years with a significant proportion of this growth occurring by 2016. After Blacktown, Liverpool is predicted to become the second most populous Local Government Area in NSW."

"Liverpool has been identified as one of the river cities in the Metropolitan Strategy together with Penrith and Parramatta. It is planned that a full range of business, government, retail, cultural, entertainment and recreational activities will be provided in or near to the City Centre."

"The Southwest growth centre identified in the Metropolitan Strategy (located 10km west of Liverpool) will contribute a substantial proportion of the new population in the region and Liverpool Hospital will be the major health facility servicing this area."

Source: NSW Health, Liverpool Hospital Redevelopment Stage 2.1 - Major Project Application (MP 08_0036) July 2008 P10

What does “Level of Service F” mean?

“LEVEL OF SERVICE” is a term used by traffic modellers internationally to describe degrees of traffic congestion on roads



Illustration 3-5
LEVEL OF SERVICE A
This is the condition you typically see in car ads. No congestion at all.



Illustration 3-6
LEVEL OF SERVICE B
There is traffic, but it is moving smoothly. This is not considered congested.



Illustration 3-7
LEVEL OF SERVICE C
There is considerable traffic, but the road is within capacity and still functioning if contingencies arise.



Illustration 3-8
LEVEL OF SERVICE D
This is the point at which transport authorities begin to be concerned. There is a high volume of traffic, and contingencies such as events or breakdowns become a problem.



Illustration 3-9
LEVEL OF SERVICE E
This is like Sydney Peak Hour. The road is not coping with the volume of traffic it is carrying. Even small glitches cause delays, and the traffic flow frequently slows to a crawl or a standstill.



Illustration 3-10
LEVEL OF SERVICE F
This is when long delays and “car park” scenarios are the norm. Picture the M4 or the M5 at peak hour - except **ALL THE TIME**. It is the worst congestion on the scale, but represents all that is “**OFF THE SCALE**” too.

The “Level of Service” (LoS) is a term used by traffic modellers to describe traffic congestion. Many road authorities throughout the world have adopted the same concept, but have slightly different variations between the definitions of the six levels of service. (Note that a different set of definitions exists for the LoS of intersections.)

Level of Service F has traffic that is at capacity and very vulnerable to small changes in traffic conditions such as a slight increase in the number of vehicles, rain, slow vehicles or an accident.

In this context, consider the consequences of trying to add millions of heavy vehicles to a road complex already at Level of Service F.

At Level of Service F small changes in traffic can lead to huge queues

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In a formal capacity, the traffic is already at Level of Service F

Table 7-7 Level of Service Summary PM Peak (2031 Future Base Case with SIMTA)

Model :2031 Base PM					
Intersection	Approach	Average Delay	LoS (Delay)	Average Delay	LoS
Moorebank Avenue-Anzac Road	North	98	F	127	F
	East	205	F		
	South	128	F		
M5 Motorway-Moorebank Avenue	North - Slip Lane	2	A	96	F
	North - Right Turn	98	F		
	North - Through	64	E		
	East	23	B		
	South - Right Turn	58	E		
	South - Through	47	D		
	West	122	F		
	North - Slip Lane	24	B		
	East - Slip Lane	183	F		
M5 Motorway-Hume Highway	South - Slip Lane	148	F	135	F
	North	68	E		
	East - Right Turn	78	F		
	South - Right Turn	>300	F		
	South - Through	214	F		
	East - Left Turn	59	E		
Moorebank Avenue-Heathcote Road	North - Slip Lane	72	F	161	F
	North	15	B		
	East	>300	F		
	South - Right Turn	128	F		
Moorebank Avenue-Newbridge Road	South - Through	180	F	120	F
	East - Through	142	F		
	East - Left Turn	137	F		
	South - Right Turn	106	F		
	South - Left Turn	18	B		
	West - Right Turn	188	F		
	West - Through	86	F		

Paramics Model Code: 2031 PM_TZ022_Stg2_RevD

Link: F:\AA003210\Calculations\Traffic and Modelling_POST DGR\Modelling\Paramics\1- Hyder's Paramics\3-2031

Stg2\2031 PM_TZ022_Stg2\2031 PM_TZ022_Stg2_RevD

Moorebank Intermodal Terminal Facility (MITF)—Traffic and Transport

Hyder Consulting Pty Ltd ABN 78 104 485 289

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Page 108

Moorebank Ave - Anzac Ave
Level of Service F

M5 Motorway - Moorebank Ave
Level of Service F

M5 Motorway - Hume Highway
Level of Service F

Moorebank Ave - Heathcote Rd
Level of Service F

Moorebank Ave - Newbridge Rd
Level of Service F

Moorebank Intermodal Terminal Facility (MITF) – Traffic and Transport, Page 108

The auditors for SIMTA's report*, states:

"Halcrow's traffic and transport report prepared for the proposed M5 West Widening Project indicates Level of Service F at Moorebank Avenue and Heathcote Road for 2010."

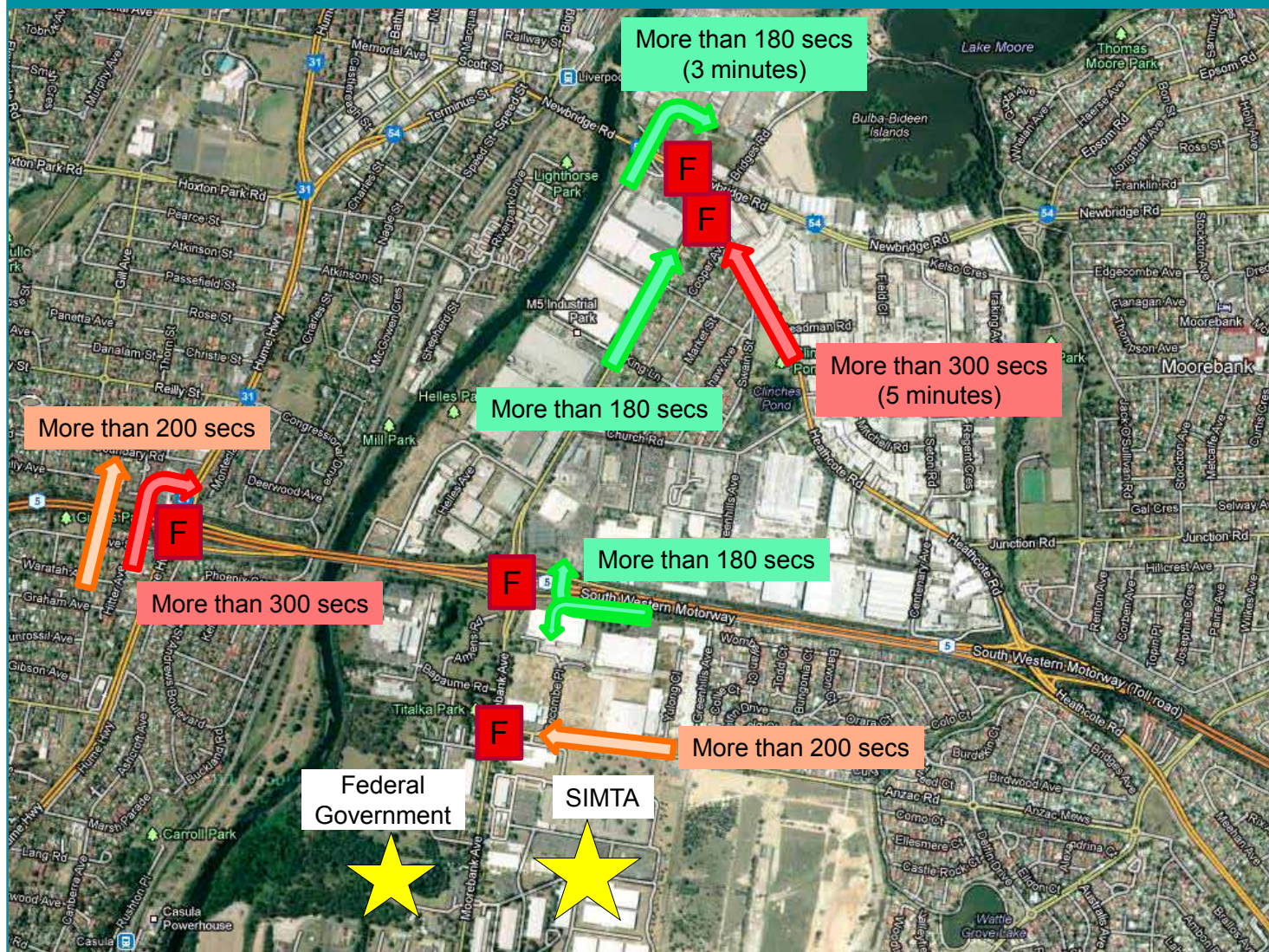
These results claim to be for 2031, however, according to the auditors, it is actually using 2011 base calculations plus SIMTA traffic.

When modelling traffic, it is usual to include future population and traffic for a future development.

*Page 13 and 14 Appendix A SIMTA proposal audit by Halcrow. Appendix G: Paramics (traffic) Model audit report by Halcrow; Part of SIMTA Sydney Intermodal Terminal Alliance, Part 3A Concept Application, Traffic and Transport

Extended waiting times at traffic lights

This is the scenario using SIMTA's low figures!
Contemplate the impact if more likely figures were used!



This diagram interprets the results in the table on the previous page. It shows the waiting times at the intersections required to perform the movement indicated by the arrow. For example:

- making a right hand turn from Heathcote Road into Moorebank Ave is predicted to take 300 seconds (5 minutes).
- then to continue on and make a right hand turn from Moorebank Avenue into Newbridge Rd is estimated to take 180 seconds (3 minutes). This is considered to be a level of service F.

Making the complete right hand movement, just a few metres of travel from Heathcote Rd into Moorebank Ave and then Newbridge Road, could routinely take 8 minutes.

This is even more alarming when it is realized that these huge queue times are calculated...

- using the SIMTA estimated traffic, which is one tenth the traffic that TfNSW has estimated
- without using the future traffic (i.e. the traffic produced by an additional 300,000 residents, has not been included. See P32) If this was to be included, the queuing times would be even greater. In transport modelling, if a future development is being considered it is usual to use the background traffic predicted for the future.
- It is also very alarming to realize that these were the only intersections examined in detail. **The intersections along the Hume Highway, Nuwarra Road and Governor Macquarie Drive have not been studied.**

You'll have so many traffic problems, you won't even notice us...

Harsh traffic conditions are predicted using the SIMTA estimates for the daily number of trucks coming from the intermodal. SIMTA claims that the daily truck flow is approximately 2,600 while the current recommendation from TfNSW (Transport for NSW) is to use 20,700 trucks as the daily traffic flow for modelling purposes.

The TfNSW estimate is nearly 10 times the number of trucks that SIMTA initially predicted would come out of the intermodal.

SIMTA concludes that there are traffic problems using one tenth the daily traffic flows that it should be using, and without taking into account the traffic generated by future populations in the South West of Sydney.

SIMTA has acknowledged that the traffic is going to be very bad – but adding vast amounts of heavy traffic is not a solution

“There are forecast capacity issues for the local and regional road network, however, it has been demonstrated that these are irrespective of whether or not the SIMTA proposal proceeds.”

Refer - Environmental Assessment SIMTA Part 3A –Concept Application Page 4

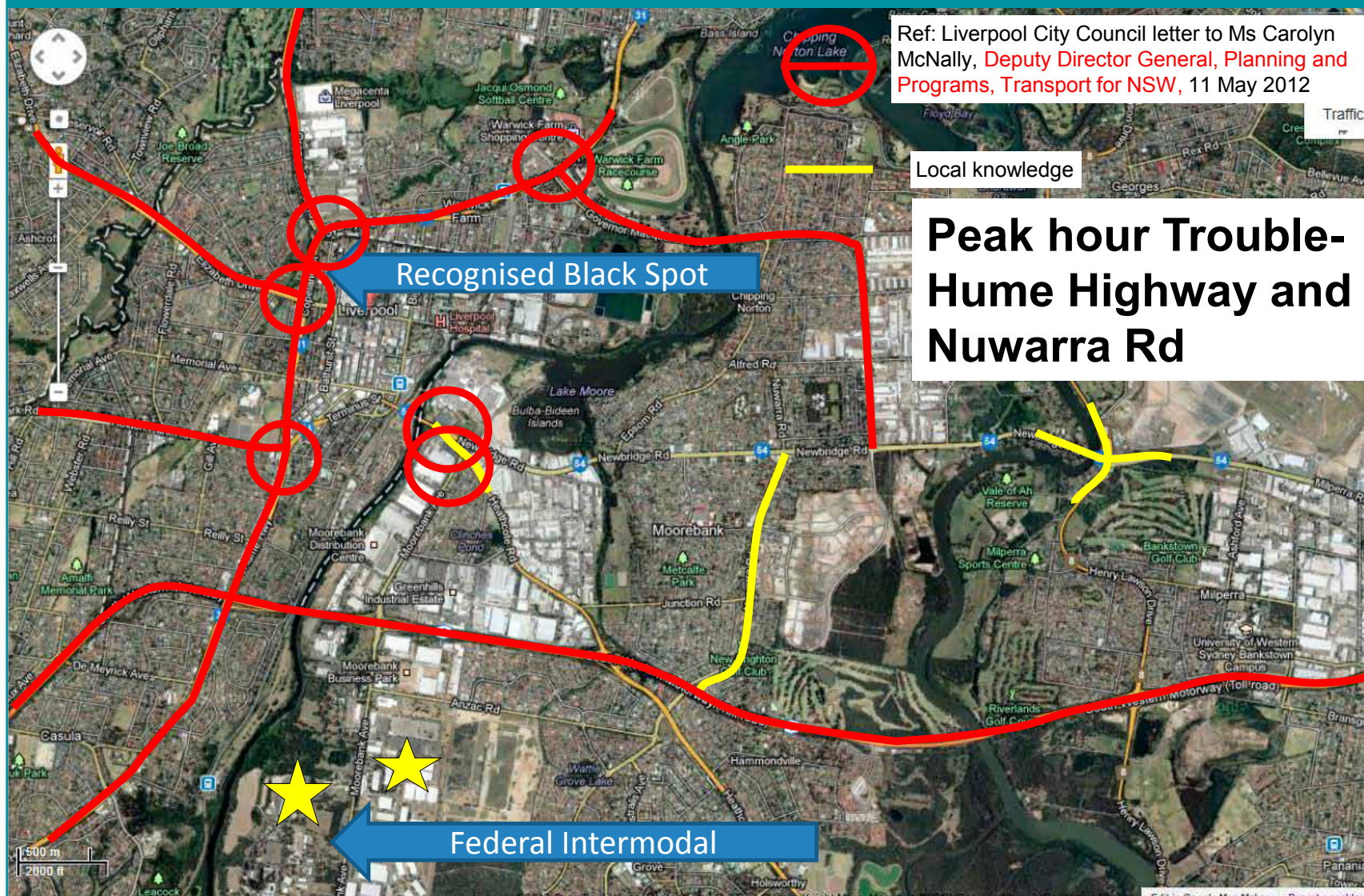
Is there any way to view this statement without seeing it as an insult to the residents of Liverpool?

**To put it another way:
"Traffic is going to be bad.
We might as well add a few million heavy vehicles per year, because there are going to be capacity issues anyway."**

Even using figures a fraction of the size of official estimates, SIMTA still concludes there are capacity issues.

Intersections in urgent need of upgrades now

Visual summary of Liverpool Council requests for Intersection Upgrades



Liverpool Council has requested upgrades for these heavily congested intersections.

These intersections are in trouble now - without any added population growth or heavy traffic from intermodals.

Exactly how is it going to be fixed to enable such a high volume of additional heavy traffic?

Who will be paying to upgrade the roads to the necessary level to support the intermodals and to repair the continual damage from heavy vehicles?

Federal Government?
State Government (RMS)?
Liverpool Council?
The Developers?

Taxpayers and Ratepayers should not be paying for bad decisions.

To accommodate the Intermodals, intersection upgrades are inevitable, but who will be paying for them?

Population Growth

Jobs

Employment Density

INTERMODALS AND WAREHOUSING GIVE LOW EMPLOYMENT DENSITY

Business Park
High Employment Density:
140 Jobs per hectare*

*Based on average job density of 10 business parks



Intermodals / Warehousing
Low Employment Density:
13.1 Jobs per hectare*

SIMTA: 27.2 jobs per hectare

Federal Intermodal: 7.7 jobs per hectare

*Average of SIMTA and Federal Intermodals: 13.1 jobs per hectare



**WAREHOUSING PROVIDES $\frac{1}{10}$ OF BUSINESS PARK LAND / JOB DENSITY,
AND $\frac{1}{3}$ TO $\frac{1}{2}$ OF NORMAL INDUSTRIAL LAND DENSITY.**

Employment Density

Employment density is evaluated on a jobs per hectare basis. Industries which are large scale and largely automated, such as intermodals and warehousing, produce very few jobs per hectare, and thus have **low employment density**.

Industries having **high employment density** because they require larger numbers of employees per hectare include technology, public sector offices, manufacturing, business and retail.

Shortfall of 150,000 jobs

By 2031 Liverpool is predicted to have absorbed a huge influx of population. These residents would require employment. The predicted shortfall in jobs as of 2031 is expected to be around 150,000.

Source: Bureau of Statistics Australia

That is 150,000 people who would have to travel to other localities if they were to work, increasing the burden on the roads and public transport.

Liverpool already has a low employment participation rate, compared to other cities. For example, the Sydney Significant Urban Area has a work participation rate of 69%, and Canberra around 78%. Liverpool, on the other hand, has a participation rate of 61%.

High density employment would help to fill the predicted shortfall of 150,000 jobs.

1,250 hectares of employment land encouraged for warehousing

THE INDUSTRY WE CHOOSE NOW MAY INFLUENCE LIVERPOOL'S FUTURE

With **HIGH DENSITY** land usage such as a business park, how many jobs could exist on the combined 303 hectares of the intermodals sites?

Business Park: 140 jobs/hectare
Combined land size: 303 hectares

140 x 303 = 42,420 jobs

The Intermodals sites could provide almost a third of the jobs we need to fill the shortfall of 150,000 if we choose high density employment usage.

The complementary industries which will develop in the area will also tend to have high employment density.

With **LOW DENSITY** land usage such as intermodals and warehousing, how many jobs could exist on the combined 303 hectares of the intermodals sites?

Intermodals: 13.1 jobs/hectare
Combined land size: 303 hectares

13.1 x 303 = 3,970 jobs

Even general industrial land usage would produce 3 times this number of jobs.

The complementary industries which will probably develop in the area will also tend to have low employment density, so the problem is likely to get worse, not better, over the years.

In 2003, this district, including the SIMTA site, was designated for a technology park, which would bring much needed jobs to Liverpool (Liverpool Council Development Control Plan No.49 Amiens, Yulong and DNSDC sites Moorebank International Technology Park Moorebank Ave Moorebank).

Moorebank Project Office is encouraging private industry to take up the 1,250 hectares of employment land for warehousing to feed the intermodals.

This may mean employment, but it is low density employment and it comes with trucks.

In order for one person to be employed at the intermodal there will need to be at least 5 more trucks per day coming to the Moorebank area.

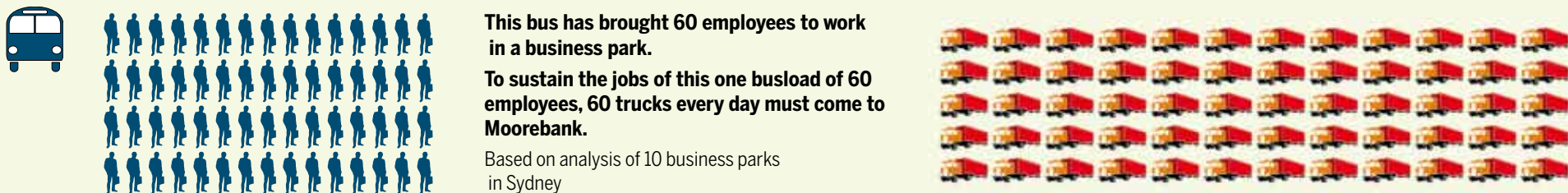
These figures were calculated using Federal Intermodal estimated job figures and the conservative TfNSW estimates of truck numbers. If "Sanity Check" figures (Refer P13) were used, this could be 20 or more trucks per day per employee.

Employee transport is not the problem as employees can travel on public transport. The problem is the number of trucks that need to come in to keep them in their jobs.

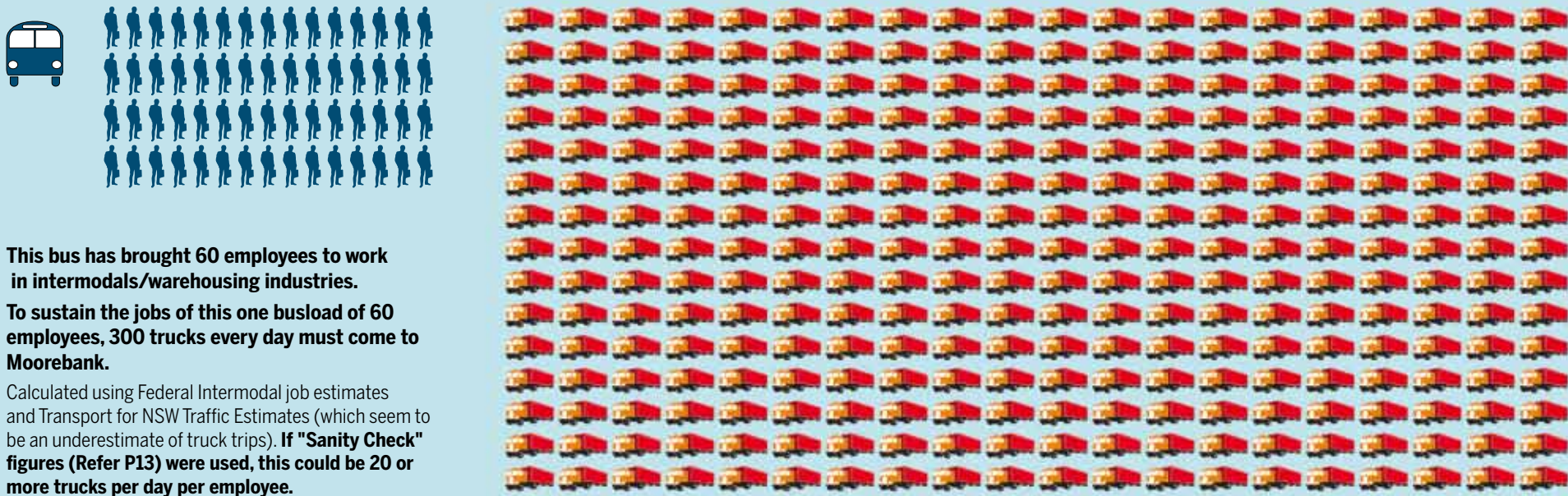
Liverpool needs jobs but it does not have the infrastructure necessary to accommodate such huge numbers of trucks. Jobs with trucks are the wrong kind of jobs for Liverpool.

Jobs from an intermodal come with at least five times more trucks

BUSINESS PARK: 2,260 jobs require 2,260 trucks per day = 1 truck per day per employee



FEDERAL INTERMODAL: 2,260 jobs require 11,290 trucks per day = 5 trucks per day per employee



Pollution

Liverpool pollution monitoring station was not compliant

Clear Sky Angle <120°
Trees have grown since establishing stations

As the report on the left indicates, Liverpool’s pollution monitoring station did not comply with all siting and exposure criteria.

Source: National Environment Protection (Ambient Air Quality) Measure
NSW Annual Compliance Report 2009

A pollution monitoring station must have at least a 120° clear view of the sky to be compliant.

We believe that this has recently been rectified.

More stations need to be independently erected at the Moorebank intermodal site for an independent study to be carried out.

Station siting and exposure

All stations within the network meet all of the Ambient Air Quality NEPM siting and exposure criteria with the exceptions of Earlwood, Liverpool, Rozelle, Tamworth, and Wagga Wagga (see Table 2 for further details).

Table 2: Stations not complying with all siting and exposure criteria

Station	Siting criteria not met	Comments
Earlwood	Clear sky angle <120°. Less than 20m from trees.	Trees have grown since establishment of station.
Liverpool	Clear sky angle <120°.	Trees have grown since establishment of station.
Rozelle	Clear sky angle <120°. Less than 20m from trees.	Trees have grown since establishment of station.
Tamworth	Less than 20m from trees.	Best location in urban area specifically targeted for monitoring.
Wagga Wagga	Less than 20m from trees.	Street trees within about 15 m of station



New South Wales Annual Compliance Report 2009, Final Version
Revised 30th Nov 2010, Page 7 of 95

Asthma-causing particle limits exceeded

**PM₁₀ Was Exceeded Every Year Since 2000 (24 hour averages)
NEPM Recommends Maximum Measure of 50 µg/m³**

Trend analysis

Table 106: Maximum 24-hour average concentrations for PM₁₀ (µg/m³)

Region/ Performance monitoring Station	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Sydney										
Blacktown/ Prospect	34.9	127.4	117.7	187.8	44.1			46.3*	41.8*	1680.3*
Bringelly	37.4	98.4	118.6	275.1	62.5	54.5	72.2	51.0	62.7	1683.9
Chullora				213.7	55.8	50.7	66.1	66.5	44.3	1474.7
Liverpool	66.0	63.2	126.3	283.3	62.1	55.5	75.2	53.1	53.8	1579.8
Macarthur					60.6	53.2	92.3	53.1	65.5	1146.3
Oakdale					41.3	42.3	56.5	49.2	68.2	1528.3
Richmond	43.1	120.5	127.3	196.4	46.6	47.4	63.1	43.0	39.0	1637.3
Rozelle				38.1	54.1	46.8	50.3	54.4	43.1	1562.8
Illawarra										
Albion Park Sth							61.4	53.8	96.1	1359.6
Kembla Grange					58.8	60.5	86.0	59.2	100.8	1174.0
Wollongong	57.9	68.1	75.6	280.5	49.0	56.5	63.3	58.5	78.3	1145.4
lower Hunter										
Beresfield	55.7	82.0	165.6	87.0	53.1	53.1	51.9	64.0	59.9	1999.0
Newcastle					46.7	48.3	51.2	58.1	54.4	2426.8
Regional										
Albury		29.8	86.2	940.2	56.0	56.9	213.0	212.8	124.8	249.7
Bathurst	34.9	35.8	256.7	622.3	68.5	44.9	59.6	162.8	63.0	2114.4
Tamworth	21.5	32.6	197.1	241.6	56.2	88.7	47.8	48.8	100.4	1791.4
Wagga Wagga		69.6	193.2	970.0	109.0	161.9	188.3	110.3	294.9	297.4

AAQ NEPM Standard – 50 µg/m³ (24-hour average)

Bold font indicates values that exceed the AAQ NEPM standard

**NEPM
Max = 50 µg/m³**

New South Wales Annual
Compliance Report 2009,
Final Version
Revised 30th Nov 2010,
Page 74 of 95

PM₁₀ (Particulate Matter 10) is the larger particulate matter in pollutants and tends to be responsible for respiratory illnesses such as asthma caused by pollution.

The Australian National Environment Protection Measure recommends a concentration of no more than 50 µg/m³ for safe air quality.

At Liverpool, even with a non-compliant measuring station, the PM₁₀ has been higher than that concentration for the 10 years covered in this report.

Liverpool needs to be looking at ways of improving the air quality for the health of its residents.

Source: National Environment Protection (Ambient Air Quality) Measure
NSW Annual Compliance Report 2009

Cancer-causing particle limits exceeded

PM_{2.5} Was Exceeded in 9 Out of Last 10 Years (24 hour averages) NEPM Recommends Maximum Measure of 25 µg/m³

Trend data

Annual averages and annual maximum 24-hour averages for all stations are given below.

Table 125: Maximum 24-hour average concentrations for PM_{2.5} (µg/m³) – continuous TEOM method

Region/ Performance monitoring Station	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Sydney										
Chullora				81.2	23.5	25.4	32.8	20.5	19.5	183.2
Earlwood	31.4	76.4	50.5	35.3	20.1	26.8	29.0	19.8	18.3	186.7
Liverpool	42.7	112.2	78.7	45.9	38.9	30.8	48.1	23.0	32.1	268.2
Richmond	13.6	95.5	95.4	57.2	23.3	22.7	31.6	21.1	17.7	192.3
Illawarra										
Warrawong	30.8	19.8	83.5	152.6	23.6	24.0	15.0			
Wollongong	28.7	46.7	86.2	106.0	22.6	22.0	26.6	22.5	14.7	241.0
lower Hunter										
Beresfield	31.9	62.5	47.0	42.8	27.8	19.5	24.9	23.0	16.9	230.9
Wallsend	59.1	51.7	55.6	30.2	23.5	18.0	25.6	18.0	22.7	415.6

AAQ NEPM advisory reporting standard - 25µg/m³ (24-hour average)

Bold font indicates values in excess of the AAQ NEPM advisory reporting standard

* Please note that all PM_{2.5} TEOM data-uses USEPA factors of A=0 and B=1.00

PM_{2.5} 24 hour average

NEPM Annual Compliance reports prior to 2009 included 24 hour daily average calculations for PM_{2.5} using hours 0 to 23. Daily averages are now calculated using hours 1 to 24 as detailed in the NEPM

Final version – Revised 30th Nov 2010

81 of 95

NEPM
Max = 25 µg/m³

New South Wales
Annual Compliance
Report 2009,
Final Version
Revised 30th Nov
2010,
Page 81 of 95

PM_{2.5} (Particulate Matter 2.5) is the very fine particulate matter in pollutants responsible for some cancers.

The Australian National Environment Protection Measure recommends a concentration of no more than 25 µg/m³ for safe air quality.

At Liverpool, even with a non-compliant measuring station, the PM_{2.5} has been higher than the recommended concentration for the 10 years covered in this report.

This is the case even without adding the additional volumes of emissions that the Intermodals would produce. (See next page)

Adding millions of diesel-burning vehicles could make the situation much worse.

Diesel exhaust emissions contain carcinogens

“Carcinogenic substances... [are] particularly significant for **diesel exhaust emissions** which are predominantly comprised of fine ($PM_{2.5}$) and ultra-fine particulate matter ($<PM_1$) and can **contain carcinogenic compounds** such as benzene and polycyclic aromatic hydrocarbons (PAHs).”



elements of the environment. In practice, particles larger than 30 to 50 μm settle out of the atmosphere too quickly to be regarded as air pollutants but are considered for their impacts on amenity.

The health-based assessment criteria used by NSW OEH (**DEC, 2005**) have, to a large extent, been developed by reference to epidemiological studies undertaken in urban areas with large populations where the primary pollutants are the products of combustion. This means that, in contrast to dust of crustal² origin, the particulate matter would be composed of smaller particles and would generally contain acidic and carcinogenic substances that are associated with combustion. This is particularly significant for diesel exhaust emissions which are predominantly comprised of fine ($PM_{2.5}$) and ultra-fine particulate matter ($< PM_1$) and can contain carcinogenic compounds such as benzene and polycyclic aromatic hydrocarbons (PAHs).

Appendix J: Air Quality Impact Assessment, SIMTA, SYDNEY INTERMODAL TERMINAL ALLIANCE, Part 3A Concept Plan Application.
Queensland Environment Pty Ltd trading as **PAEHolmes** ABN 86 127 101 642 - Page 13

Diesel Exhaust Emissions contain cancer causing agents e.g. $PM_{2.5}$ benzene and polycyclic aromatic hydrocarbons.

The higher a person's exposure to these emissions, the more chance he or she has of getting various cancers.

Even children will be exposed to these highly dangerous conditions.

Diesel (the fuel that most trucks use) produces carcinogenic emissions.

Carcinogens are 100 to 1000 x higher from diesel engines

Contribution from diesel engines is two to three magnitudes higher than petrol vehicles

However modelling data relating to particulate matter did not specify the size fraction modelled and is assumed to represent PM10.

As such the modelled data provided by PAE(2011) for particulate matter was apportioned to the PM10 and PM2.5 fractions before being used in the current assessment.

This apportionment requires an understanding of the emissions associated with increased freight transport, including the proportion comprised of fine particles and that of coarse particles. Page 24 of 85

Within the context of the current assessment, fine particles are likely to be largely comprised of vehicle exhaust emissions. According to Morawska (2002), particulate matter emitted from exhausts “*are mostly submicrometre agglomerates of solid phase carbonaceous material ranging in size from 30 to 500nm and residing mainly in the accumulation mode*”. Vehicle exhausts are a major emitter of fine particles present in traffic influenced urban environments with the majority of the **contribution from diesel engines that is two to three magnitudes higher than petrol vehicles** (Morawska et al., 2005; Ristovski et al., 2005; Ristovski et al., 2006, Morawska 2002)
Page 24 of 85

Screening Level Health Risk Assessment, Sydney Intermodal Terminal Alliance, Part 3A Concept Plan Application for Test of Adequacy, Page 24 of 85, 24/8/2011

From the information on the preceeding page it is shown that Liverpool already exceeds pollution advisory standards. The PM_{2.5} pollution is the one that causes cancer (a major source of this pollutant is diesel emissions) and yet it is not required to be studied by the Director General's Office.

Although deaths may occur because of diesel engine emissions, in Australia PM_{2.5} does not have to be included in environmental impact studies.

Australia's pollution standards are in urgent need of review and modernisation. We should at least equal the standards of the rest of the developed world.

The statement "two to three magnitudes higher" means that carcinogens in diesel exhaust are 100 to 1,000 times higher than those in exhaust from petrol.

Cancer-causing particle studies (PM_{2.5}) not necessary under Australian law

Director General requires PM₁₀ to be studied, but not PM_{2.5} (which causes cancer)

Table S.1: Health cost of air pollution in the GMR

Assumptions	Estimated annual health cost of 2000–2002 mean ambient pollution levels		
	Low	High	Midpoint
Cost based on PM ₁₀ indicator with threshold of 7.5 µg/m ³	\$1.0 billion	\$8.4 billion	\$4.7 billion
Cost per capita	\$192	\$1,594	\$893
Cost as percentage of gross state product	0.4%	3.4%	1.9%

Notes:

1. Costs are given in year 2003 dollars.
2. Costs primarily reflect long-term mortality, for which a value of statistical life of \$1m to \$2.5m is used.
3. Resident population of GMR for study period estimated at 5.27 million.
4. The range of costs shown in Table S.1 is calculated by multiplying low and high estimates of (a) the statistical likelihood of an adverse health outcome per unit increase in air pollution by (b) the economic cost estimated for each health endpoint.

Air Pollution Economics: Health Costs of Air Pollution in the Greater Sydney Metropolitan Region
Department of Environment and Conservation NSW ISBN 1.74137 736 6 Dec 2005/623 Found in section:Summary

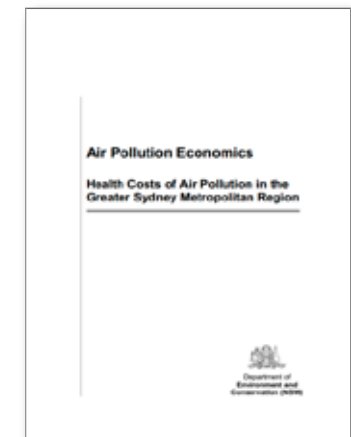
Illness caused by pollution can cost the taxpayer billions of dollars in health bills. This should be correctly represented in the economic reports for the Intermodals.

The table at left places an annual cost per capita of population of up to \$1,594 for readings of PM₁₀ at a level of 7.5 µg/m³.

The cost of health due to pollution PM₁₀ and PM_{2.5} in Liverpool could be expected to be much higher as the readings for the last 10 years have been above 55.5 µg/m³. That is over 7 times higher than the readings these health costs have been estimated from.

The carcinogens in PM_{2.5} are greatly increased with diesel emissions. How does our health system absorb the consequences of such levels of Particulate Matter?

Note that the developer will not be paying these high health costs, the taxpayer will.



SIMTA needs to redo pollution studies with at least 30 x more traffic

Questionable assumptions have created a distorted image of the consequences of the SIMTA proposal

6.5 Truck traffic generation – what the response to the submissions should provide

TfNSW considers that the estimated truck traffic generated from the SIMTA proposal (approximately 2,600 daily truck movements) appears low. TfNSW considers it more likely that an intermodal terminal with 1 million TEU from Port Botany and a 1.0 million TEU rail operation from Inter State will generate approximate 20,700 daily truck movements. **This is ten times more than the truck generation estimated for the SIMTA proposal.**

“Government Agencies Submissions”
Downloaded from the Department of Planning CD 12/05199

Page 9

at least 30 x what they say!

Questionable assumptions have produced very low pollution outcomes because:

- 1:** SIMTA grossly underestimated their traffic count. Even using the most conservative figures supplied by Transport for NSW, (Refer P13), which are themselves far too low, SIMTA should multiply its traffic count by 10 times. (*See the extract at left.*)
- 2:** For some unknown reason, SIMTA's pollution modellers **used only one third of the trucks** that SIMTA claimed would be present for their busiest hour. That's one third of SIMTA's already underestimated figures.

At this point, by even the most conservative estimate, SIMTA ought to multiply their traffic figures by 30.

But wait, there's more!

- 3:** SIMTA's pollution modelling fails to include all the induced traffic from over one thousand hectares of warehousing which is being encouraged.
- 4:** SIMTA failed to incorporate future population growth into the pollution modelling.

Environment

Endangered ecological communities and high biodiversity values



Vegetation communities mapped on site by the National Parks and Wildlife Service in 2002. The orange shading indicates core habitat.

THE SIMTA STUDY AREA

National Parks and Wildlife mapped the vegetation communities in the SIMTA study area. (Map above)

FIVE endangered ecological communities were found in the rail corridor land.

"CORE HABITAT: two patches of **Cooks River Castlereagh Ironbark Forest** in the north-west and west of the SIMTA site, the **large patch of Castlereagh Scribbly Gum Woodland** and **Castlereagh Swamp Woodland** to the south of the SIMTA site in rail corridor lands, the strip of **Cooks**

River Castlereagh Ironbark Forest adjoining the eastern edge of the golf course, and the patches of **Riparian Forest** adjoining the Georges River.

"Support to core habitat: Alluvial Woodland and Riparian Forest adjoining the north-eastern edge of the waste disposal site and extending on to the northern tip of this site.

"Other remnant vegetation: the small patch of Shale Plains Woodland that falls partially within the south-western corner of the study area.

"Urban remnant trees (critically endangered community): two patches of Cooks River Castlereagh Ironbark Forest in the east of the SIMTA site."

"The requirement for a 30 metre wide zone of clearing and/or disturbance will result in the removal and fragmentation of threatened communities and threatened plant populations."

Source: SIMTA Moorebank Intermodal Terminal Facility – Flora and Fauna Assessment - Hyder Consulting Pty Ltd

As mentioned earlier, the construction of the Inter-modals at Moorebank will require the building of a rail spur line.

The rail corridor contains endangered ecological communities and threatened plant species.



The coloured shading shows ground truthed vegetation communities

THE FEDERAL GOVERNMENT STUDY AREA

Some vegetation communities on the Federal Intermodal site have high value classification. "The high value classification includes all native vegetation communities of moderate to high ecological integrity as all native communities on site are threat-listed communities under the Threatened Species Conservation Act 1995 (TSC Act)... and have similarly moderate to high value as potential habitat for threat-listed species of animal and plant. Several patches of vegetation with high ecological integrity are inhabited by two plant species listed under the EPBC Act and TSC Act." "The Georges River is a major waterway and the aquatic environment of the river and major tributaries are a high constraint to development. Development within the waterway may affect fish habitat and hence best practice as presented by the

requirements of the NSW Fisheries Management Act 1994 with regard to fish passage need to be considered."

"Riparian land (within 50 m of the river and second order or larger tributaries) is also considered of high value due to the function of vegetation in this area as a wildlife corridor and a buffer for the protection of soil stability, water quality and aquatic habitats."

FOUR endangered ecological communities identified on the Federal Intermodal site:

"The following threat-listed communities were found on site.

- **Riparian Forest** located along the Cooks River forms part of River-flat Eucalypt Forest, listed as Endangered under the TSC Act.

- **Alluvial Woodland** located chiefly as a large patch in the north-west of the site forms part of River-flat Eucalypt Forest, listed as Endangered under the TSC Act.

- **Castlereagh Swamp Woodland** is found in small patches in low-lying areas in the east of the site and is listed as Endangered under the TSC Act.

- **Castlereagh Scribbly Gum Woodland** primarily in the east of the site along Moorebank Avenue is listed as Vulnerable under the TSC Act."

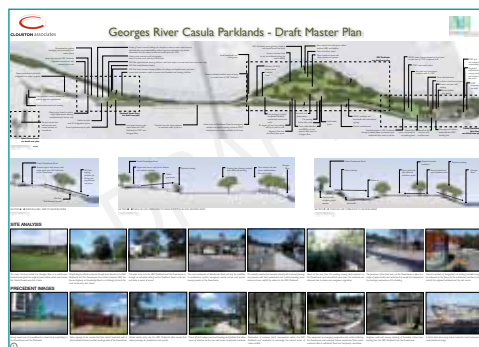
Source: Moorebank Intermodal Freight Terminal Existing Ecological Values, August 2011. Department of Finance and Deregulation, Parsons Brinckerhoff Australia Pty Limited.

The Federal Intermodal site contains important ecological values and is on a major waterway.

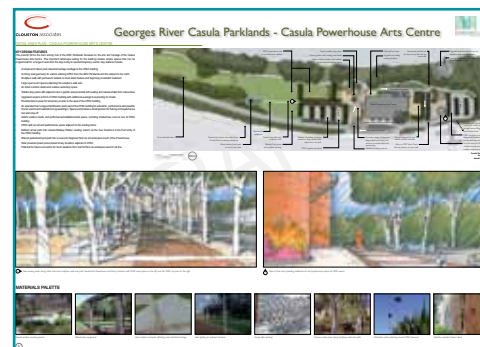
Georges River – One of Western Sydney's most valuable assets



This photo is taken from the Georges River Casula Parklands, about 100 metres north of the Casula Powerhouse Art Centre. The cleared area you can see is part of the Federal Intermodal site.



These are concept drawings by for the Georges River Casula Parklands. Source: Liverpool City Council website. This will be an important focus of cultural and recreational activity for the City of Liverpool. The photo above shows that the park looks directly across the river at the proposed Federal Intermodals site.



Urban Stream Syndrome

This is a term used by scientists to describe a river which is sick. By measuring water quality, flow patterns and the organisms living in the river, scientists are able to evaluate a river's health.

By far the largest contributor to urban stream syndrome is stormwater runoff from impervious surfaces delivered through pipes and sealed drains.

Source: The urban stream syndrome: current knowledge and the search for a cure J. N., 2005 by The North American Benthological Society

The Georges River is Sick

"We found that as the percentage of EI (Effective Imperviousness) increased, the condition of riparian vegetation, macroinvertebrate communities and water quality declined. **The results indicate that waterways draining urban catchments of the Georges River are highly degraded and are consistent with the 'urban stream syndrome'** (Meyer et al., 2005) and that waterways of low disturbance catchments had clean near-pristine qualities."

"This study found that freshwater aquatic ecosystems across the Georges River catchment varied from near-pristine to highly degraded. The waterways in the most degraded ecological condition were typically flowing in highly urbanised catchments with high effective imperviousness. The degree of impact to macroinvertebrate communities ... was generally associated with the extent of EI and urban land uses."

Source: Tippler C., Wright I.A and Hanlon A. (2012) Development of regional water quality and catchment guidelines for the conservation of aquatic ecosystems: a case study from the Georges River catchment, in Grove, J.R and Rutherford, I.D (eds). Published by the River Basin Management Society, pp 519-526.

Defeating our own objectives

As it passes through Liverpool, the Georges River is in a most compromised and degraded condition. Council and State governments are continually working to improve the health and cleanliness of the river.

Adding 303 hectares of hard stand surface next to the river and filling them with carcinogen-belching diesel trucks and trains is not a way to improve river health.

River City

Liverpool has been named one of the River Cities. It is clearly a high priority civic duty, as well as civic pride, to protect and restore the river which is so important to our economy, identity and ecology.

The Georges River deserves and needs our protection.

Georges River Casula Parklands

Liverpool is currently unveiling plans for the Georges River Casula Parklands – an important public recreation area and a major civic asset. Together with the Casula Powerhouse Art Centre, this precinct is intended to be a focus for the cultural life of the City of Liverpool. **THE FEDERAL INTERMODAL SITE IS DIRECTLY ACROSS THE RIVER.** (Refer photo, top left.)

How diminished would this major public recreation space be by the noise, smell, sight and light spill of the intermodals?

Economics

\$10 billion economic benefit actually \$2.3 billion in today's terms

Was the economic benefit in today's terms ever promoted to the public?

Table 1.30 – Evaluation of the proposed solution against the Commonwealth's Project objectives

Objectives	Evaluation
	1,700 people being employed in the region.
5. Achieve sound environmental and social outcomes that are considerate of community views.	<p>The environmental and social benefits that an IMT at Moorebank would deliver are derived from a range of sources:</p> <ul style="list-style-type: none"> The community would benefit from a reduction in road congestion and road accident costs. For example without the Moorebank IMT from 2020 onwards truck volumes would be 3,300 vehicles per day higher. The Moorebank IMT would bring about a reduction in environmental costs associated with road transport – in particular a reduction in noise, greenhouse gas emissions and other air pollution. For example, the Moorebank IMT would save 9,500 tonnes of Co2-e greenhouse gases for every 1 million TEU containers that are transported by rail instead of road for IMEX traffic. Journey reliability benefits – this social benefit reflects the savings achieved through more reliable road travel times. Road damage cost savings – these social benefits measure the cost savings derived from less road damage caused by freight trucks. The local community would benefit through the creation of 1,650 full time jobs during Stage 1 and approximately 975 full time jobs during Stage 2 construction of the interstate terminal. The operation of both terminals together with warehousing could see an additional 1,700 people being employed in the region. Overall, the total Project benefits over the 30 year evaluation period are valued at approximately \$10 billion in nominal dollars or \$2.3 billion in present value terms.
6. Optimise value for money for the Commonwealth	The proposed procurement approach was designed to achieve value for money. The Project would facilitate the modal shift from road to rail, would further enhance the Commonwealth's investment in rail infrastructure, would assist in reducing road congestion and road accidents and would assist in raising Port



This is the report from the Department of Finance and Deregulation in which these figures appear.

\$2.3 billion in present value terms

It has been broadcast that there is \$10 billion worth of benefits from the Federal intermodal. This report from the Department of Finance and Deregulation revealed that this is a future projection covering 30 years, and amounts to \$2.3 billion benefits in today's terms.

Is this an inadequate grasp of the facts or deliberate deception? Neither is acceptable.

You don't tell people your house is worth \$3 million because some time in the future it might be worth \$3 million. You tell them what it is worth in today's market conditions.

Community to underwrite fat profit for investors

EXCELLENT RETURN FOR THE INVESTOR... BUT AT WHAT COST TO THE COMMUNITY?

BENEFITS AND COSTS OF THE MOOREBANK IMT PROJECT

- The Project would generate substantial economic benefits:
- The Moorebank IMT has a positive economic net present value of almost \$1 billion and achieves a benefit-cost ratio of 1.72. This compares very favourably with a range of other transport-related projects submitted to Infrastructure Australia.

Moorebank Intermodal Terminal Project
Summary: Detailed Business Case, April 2012, Moorebank Project Office, Page 4

With this kind of projected return, investors are likely to be queuing up for a slice of the action!

However, the taxpayer may have to underwrite this huge return in a number of ways, including:

- The massive infrastructure investments that may be required to make the intermodals even functional in this location
- Massive health costs into the future
- Suffering the loss of opportunity caused by ill-suited land usage for the second most populous LGA in NSW - Liverpool could have low job density land usage for a long time to come.

The developers will not be responsible for any of these costs, which will be ongoing into perpetuity. The community will have to pay the price.

There is a major social injustice here.

See next page for an indication of some disbenefits that should be evaluated to find the genuine cost of this development.

Massive disbenefits to the community

COSTS OF DISBENEFITS: WHO PAYS?	
Moving the Army	.9 billion ie. 900 million
Remediation of the land	100 million to 200 million (anecdotal information)
Road infrastructure to cope with additional traffic	HUGE cost, includes following works: <ul style="list-style-type: none"> Improving access to the M5 Increasing capacity on the M5 Increasing capacity on the Hume Highway and other hot spots Very costly intersection improvements required including: Hume + M5, Hume + West Hoxton Park Road, Hume + Moore Street (bus priority), Hume + Elizabeth Drive, Hume + Campbell Street (Westfield), Hume + Orange Grove Road, Moorebank Ave + Heathcote Road, Moorebank Ave + Newbridge Road, Nuwarra Road + Heathcote Road, two bus priority measures. Developing toll roads around Liverpool CBD is highly inappropriate, particularly when it is considered to be one of the more economically challenged regions in Australia.
Building the rail spur over the Georges River	Elevated and bypassing endangered species
Increased accidents - based on increased truck VKT (Vehicle Kilometres Travelled)	<ul style="list-style-type: none"> At Moorebank accessing the M5 Children crossing busy roads to go to school Due to general increase in traffic movements (For every person killed there are people "seriously injured" ie paraplegic or quadriplegic; the costs for these are incalculable.)
Congestion	Increased travel delay for local travellers
Inaccessibility to Liverpool CBD	Loss of business
Poor accessibility to hospital	Loss of life
Health care costs	Increased asthmas and cancers from pollution, injury management
Environment	Endangered Ecological Communities <ul style="list-style-type: none"> Castlereagh Scribbly Gum Woodland • Castlereagh Swamp Woodland Alluvial Woodland • Riparian Forest Endangered Species <ul style="list-style-type: none"> Nodding Geebung <i>Peersoonia mutans</i> Small-Flower Grevillea <i>Grevillea parviflora subsp. Parviflora</i>
Amenity	Loss of rare, quality river frontage close to CBD Loss of quality of life

A thorough economic analysis by a reputable consultant is required.

Here are some of the disbenefits to the community that need to be evaluated and costed into the project. There would have to be some extremely phenomenal benefits to outweigh the mighty disbenefits cited here.

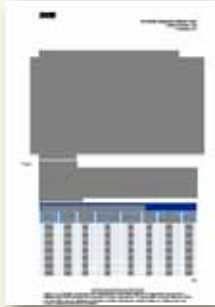
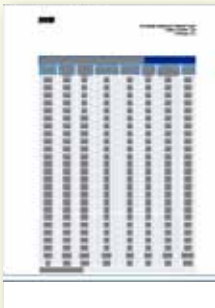
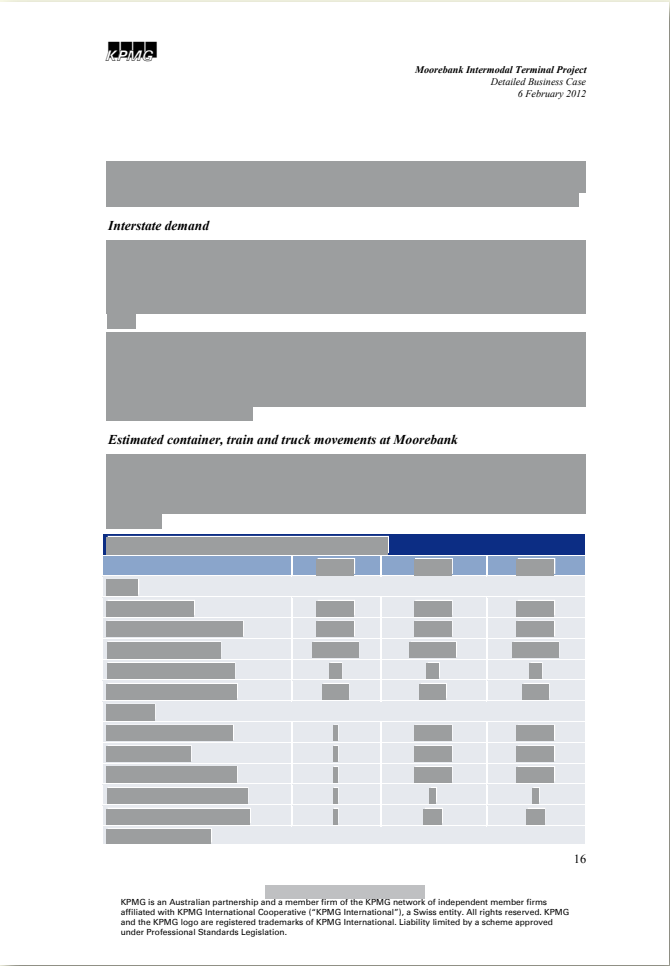
Presumably it is difficult to prove that the intermodals are actually economical or a report demonstrating this would have been available for everyone to see.

A comprehensive economic analysis would include these costs as disbenefits to society.

There is a huge real cost to the community because the location is not appropriate. A more suitable location should reflect far lower disbenefit costs.

Economic information hidden from public

Samples of Redacted Pages in Dept of Finance and Deregulation Report on Moorebank Intermodal Terminal Project



This report was downloaded from the Dept of Finance and Deregulation to find out whether any consideration had been given to injury management and other consequences of accidents arising from unsafe merging onto the M5.

We were unable to find any of the economic figures we sought. Most of the information in the report was redacted (blacked out).

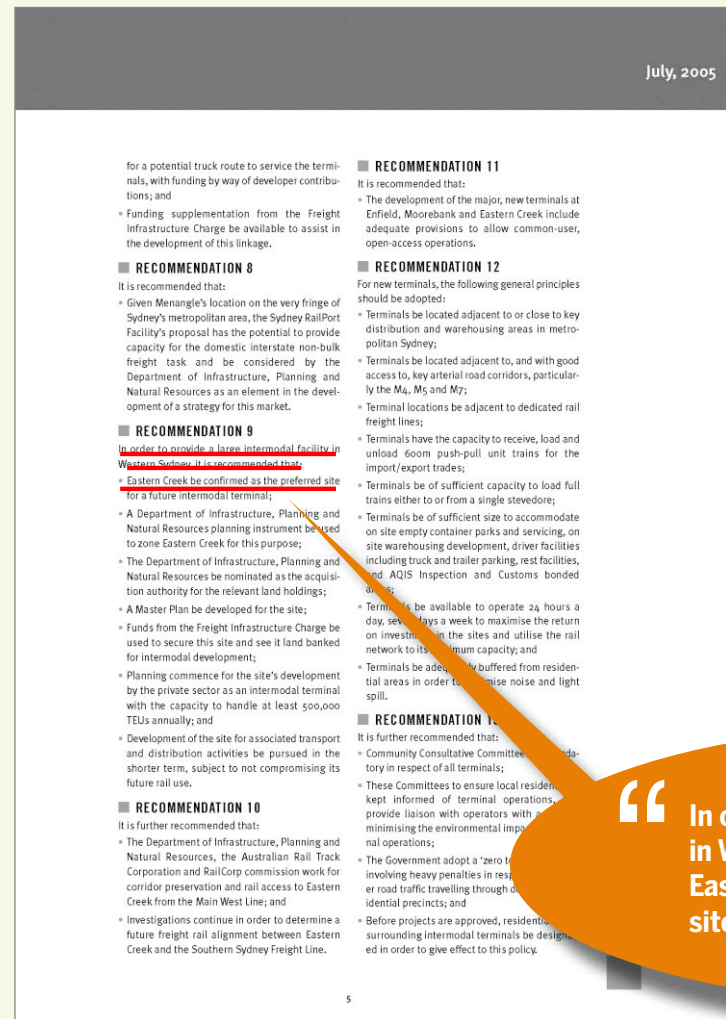
How was the figure of \$2.3 billion in benefits attained? This information is not available for public consideration.

The public should be permitted to see how the federal government arrived at its economic conclusions.

More Economical,
More Efficient Solutions:
Eastern Creek

Eastern Creek identified as best location in important studies

Eastern Creek has already been established as the recommended location



“ In order to provide a large intermodal facility in Western Sydney, it is recommended that Eastern Creek be confirmed as the preferred site for a future intermodal terminal. ”

Bring forward the recommendation that the Eastern Creek Intermodal should be built.

"The report by the Freight Infrastructure Advisory Board (FIAB), recommended that a site be reserved for a large intermodal terminal on land in the vicinity of Eastern Creek with potential for connection by rail to the Main West Line in the short term, and that further investigation be undertaken for potential connection in the longer term to the Southern Sydney Freight Line.

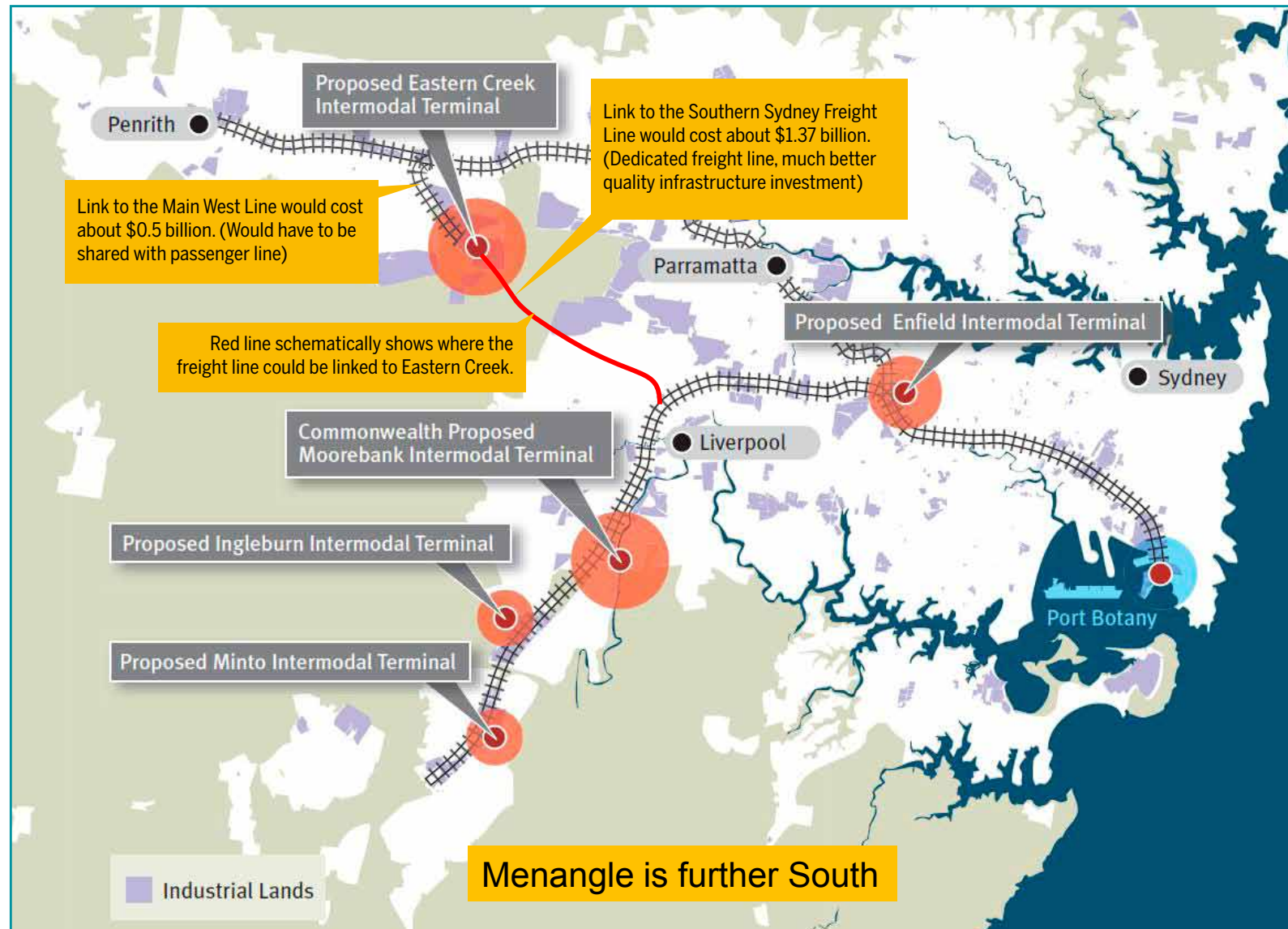
Source: Review by the Infrastructure Implementation Group of the Freight Infrastructure Advisory Board, Report and Recommendations, May 2007, P4 of 18.

Eastern Creek is better because:

- It is closer to where the freight is needed
- It is not so close to residential areas
- There is no difficulty with access to M7
- The economics appear better
- Better infrastructure already exists
- There are two practicable spur lines:
 - To Western Rail Line (Approx \$500 million)
 - To Southern Sydney Freight Line (Approx \$1.37 billion*)
- (Possibly offset by cost of upgrading Liverpool's infrastructure to the necessary level and moving the School of Military Engineering)
- There would be reduced health care issues from pollution and accidents due to congestion
- Liverpool CBD and Hospital still accessible

*Report prepared by Halcrow commissioned by Department of Infrastructure Planning and Natural Resources June 2005.

Eastern Creek: Cost of railway could be offset by significantly lower on-costs



"Grade-separated access to the Main West Line would cost about \$500 million. A freight only rail line connecting to the Southern Sydney Freight Line in the vicinity of Leightonfield would cost over \$1 billion."

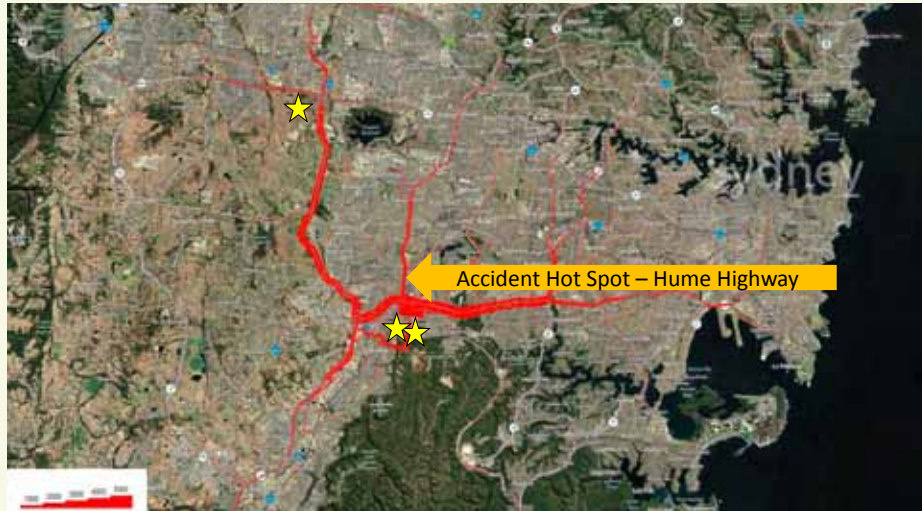
"The Review concluded that neither of these expenditures is at present warranted – but the issue will need to be reconsidered if the Moorebank option is not available. Eastern Creek will become an increasingly important location for warehousing and distribution in western Sydney, and an intermodal terminal at Eastern Creek remains a possible future option."

Source: Review by the Infrastructure Implementation Group of the Freight Infrastructure Advisory Board, Report and Recommendations, May 2007, P4 of 18.



From "Railing Port Botany's Containers: Proposals to Ease Pressure on Sydney's Roads"
Produced by the Freight Infrastructure Advisory Board July 2005. Page 8.

Eastern Creek: Important comparisons with Moorebank



MOOREBANK HAS MAJOR HIGHWAY ISSUES

- The Hume Highway is a federal highway providing access to the Liverpool CBD
- M5 is at capacity, with limited opportunities for increasing capacity



EASTERN CREEK DOES NOT HAVE MAJOR HIGHWAY ISSUES

- M7 has more available capacity than the M5
- The Horsley Drive is not a federal highway providing access to a CBD. It has a large median treatment and fewer traffic lights. It is purpose built for trucks



MOOREBANK HAS HOUSING IN VERY CLOSE PROXIMITY

- Intermodal nearest houses within 500metres
- High density housing on the highways



EASTERN CREEK IS MUCH FURTHER FROM HOUSING

- Nearest houses approximately 1500 metres away
(Every metre further from an intermodal means fewer cancers)

More Economical,
More Efficient Solutions:
Port Kembla

Port Kembla and the Maldon-Dombarton rail link

This avoids extra pressure to upgrade the Hume Highway and M5 & solves massive pollution problems

Proposed Eastern Creek Intermodal

Proposed Moorebank Intermodal

Possible Intermodals

Port Botany

Proposed Ingleburn Intermodal

Proposed Menangle Intermodal

Minto Intermodal

Maldon / Dombarton Rail Link to Existing Rail Line ≈ \$624 million to \$667 million

Port Kembla

Use Port Kembla and finish the Maldon-Dombarton Rail already started in 1983.

Extend Port Kembla and rail containers to a proposed site further west where there is little or no housing and industry can develop around it.

Also use Port Newcastle to take the containers that are being trucked back to the north.



Using the Port Kembla solution could mean that trucks are removed from Sydney CBDs providing genuine congestion relief.

Maldon-Dombarton Rail Line Pre-Feasibility Study for Port Kembla Port Corporation
7 July 2009

Finishing Maldon-Dombarton link is 1/7 the cost of M5 East duplication

2011 FEASIBILITY STUDY ESTIMATES COST OF COMPLETING THE MALDON-DOBARTON RAIL LINK AT \$624-\$667 MILLION

“Port Botany has had for some years a NSW planning cap of 3.2m TEU per annum. At the present growth rate, this limit will be reached later this decade. To support further growth, a 2010 NSW Government application to Infrastructure Australia asked for federal funds to duplicate the M5 East freeway at a cost of \$4.5 billion. This is a costly proposal, and it would be more cost effective to get more containers moving through Port Botany onto rail and/or expand other ports.

“It could well be better to expand Port Kembla for Port Botany container overflow and to complete the 35 km Maldon-Dombarton rail link. This project, started by the Wran government in 1983, is well advanced. A 2009 pre-feasibility study found at least ten reasons for completing the railway, and in October 2011 the Prime Minister committed \$25.5 million towards pre-construction work. The cost in a 2011 feasibility study gave an estimated cost between \$624 million and \$667 million. That is about one seventh of the cost of the M5 east duplication.”

**M5 Duplication:
\$4.5 billion**

**Maldon-Dombarton:
\$0.67 billion**

This gives a perspective on the cost. Relative to the cost of the M5 East, the Maldon-Dombarton Rail Link is quality infrastructure at a relatively low cost.

Completing this project could make the Port Kembla solution, with its numerous benefits, a reality.

The Maldon-Dombarton rail link is already well advanced.

New South Wales Transport - New Directions Needed
A Position Paper for the NSW Section of CILTA by Phillip Laird, December 2011, Page 5

Conclusion

This book is the very briefest of summaries. It took a year to prepare. We hope that you have taken the time to read it from cover to cover.

In our examination of the proposed Intermodals and their implications to the community, we were concerned to find that:

The freight will not be needed at Moorebank. The lion's share of freight in 2031 needs to go to Wetherill Park/Parramatta/Blacktown. Almost none of it is required in the Liverpool area. Only about ten truck movements per day need to travel to Moorebank, not the 6000 total that SIMTA and the Federal developers were proposing.

Official information provided to the public by both SIMTA and the Federal Government claiming that large numbers of trucks will be removed from the M5 between Port Botany and Moorebank are grossly exaggerated.

Truck movements could be as high as the flow over the Harbour Bridge

A reality (sanity) check of the proponents' estimates of truck movements, using real world, functioning Sydney intermodals as a comparison are grossly underestimated. If both intermodals were built, a traffic volume possibly exceeding that of the Sydney Harbour Bridge could result. (One truck is considered equivalent to two passenger car units.)

We note that Liverpool does not have the kind of infrastructure necessary to carry this volume of traffic. The figures used by SIMTA for their traffic study are a fraction of this.

Liverpool's infrastructure cannot cope with current traffic volumes. Urgent requests for intersection upgrades have been submitted by Liverpool Council to remedy existing problems.

Adding millions of heavy trucks to the equation will likely require massive city-wide infrastructure upgrades.

SIMTA's transport figures are grossly underestimated because:

- No population growth was included (300,000 new residents expected in Liverpool LGA)
- No warehousing was included (unpacking and repacking trucks)
- No induced traffic was included (traffic from other warehouses built in the area to make use of the intermodal)
- They assumed an unrealistic 30% backloading for trucks

Even using these low traffic estimates, SIMTA have arrived at a conclusion that important intersections of Liverpool will be at Level of Service F (road service with traffic queues being the norm).

SIMTA acknowledges that there are forecast capacity issues for the local and regional road network. Adding vast amounts of heavy traffic is not a solution.

It appears that the cost of Infrastructure is not factored into the site development.

The solution to intermodal M5 access is likely to be very costly but yet there is no indication that this has been costed in by any party.

We note that SIMTA does not offer any solution at all.

A rail spur will need to be built for the intermodals to function. It will be built in environmentally sensitive land which will greatly increase the cost. There are endangered ecological communities supporting high biodiversity values in the sites.

Hard stand surfaces are harmful to rivers. Placing the intermodals in Moorebank will not be beneficial to the health of the Georges River.

Liverpool has been identified as one of the river cities in the Metropolitan Strategy. The intermodals and their effects are likely to make it much more difficult for the City of Liverpool to achieve its objectives to create a vibrant city centre.

City-wide infrastructure upgrades will be required, simply to make the intermodals functional. Who pays for this?

Access to Liverpool CBD and the recently upgraded hospital will likely be impaired due to severe congestion on the Hume Highway. Rat running may occur through inappropriate areas.

SIMTA estimates that 27% of the traffic going to and from the Intermodals will be forced to use the Hume Highway. This amounts to a truck about every six seconds.

Only one signalized intersection out of 14 on the Hume Highway was studied by SIMTA. SIMTA did not study the worst accident black spot in Sydney, which is in close proximity to the site.

Warehousing jobs bring many times more trucks than other types of jobs.

Jobs from an intermodal come with trucks. Every person employed in this industry requires at least

five trucks per day to come to Moorebank to keep their job viable. (This is a very low estimate using SIMTA figures. It could, in actuality, be twenty or more.)

Intermodals and warehousing are largely automated industries that generate much fewer jobs per hectare than other land usages. General industry generates 2-3 times more jobs per hectare. Business Parks and other high density land usages generate up to 10 times more jobs per hectare.

Liverpool is expected to have a jobs shortfall of 150,000.

The pollution could potentially create a huge health cost for the nation.

Even with a non-compliant monitoring station, Liverpool's pollution levels for both PM₁₀ and PM_{2.5} (which causes some cancers) have exceeded recommended safe levels for most of the last ten years. Australia's pollution laws do not require PM_{2.5} to be studied. Fine particulates (PM_{2.5}) are 100 to 1000 times higher in diesel emissions than petrol emissions. Australia's pollution laws appear to be overdue for review.

Health costs per capita will most likely increase significantly as pollution increases. Health costs arising from turning the second most populous LGA into being more polluted do not appear to have been considered. When the potential pollution is considered it is alarming to note that the two Intermodals are proposed in a location which is predominantly residential and in very close proximity to five schools.

Liverpool has been identified as one of the river cities in the metropolitan strategy. The Georges River suffers from urban stream syndrome and adding 303 hectares of hard surface development may have serious implications for river health. The

Georges River is one of Western Sydney's greatest assets and it deserves and needs our protection.

SIMTA needs to re-do its pollution studies using traffic counts at least 30 times higher. Then it must factor in induced traffic, warehousing and population growth.

The economics is secret and potentially a huge cost to the taxpayer.

The public was led to believe that there were \$10 billion in economic benefits from the Federal Government development. However, this is a projected return using estimated money value for 30 years' time. Benefits in today's dollars amount to only \$2.3 billion and the public is unable to read the report detailing this as it has been mostly redacted. The economic information is shrouded in an excessive degree of secrecy. The public cannot even see the basis for their conclusions.

The disbenefits listed on p 51 do not appear to have been acknowledged, evaluated or costed in by any stakeholder.

A giant cost-benefit ratio for investors of 1.72 could be underwritten by massive disbenefits, costs which may be paid for by the community.

There appear to be better alternatives.

Eastern Creek has been previously identified in important studies as the best site for a Western Sydney Intermodal. It has two possible rail links, and both appear to be far more cost effective when the costs have been offset by the disbenefits at Moorebank. There are fundamental, physical differences between Moorebank and Eastern Creek that make Eastern Creek a superior location.

Port Kembla could be a genuine solution, which would offer congestion relief to Sydney's CBDs. It would require the completion of the Maldon-Dombarton rail link, which was started in 1983 and is well under way. Finishing this rail could be 1/7 the cost of the M5 East duplication.

Due to these disturbing discoveries it is our [lay] opinion that the following should happen:

- 1) The previous transport and pollution modelling should be redone.
 - 2) The new modelling should be full, ethical, and thorough. It should:
 - Use realistic figures derived from suitable real life examples
 - Factor in traffic from population growth, induced traffic, internal warehouse and distribution traffic, future background traffic and traffic resulting from the other intermodal.
 - Include in the study area all the roads that will be affected including:
Local, State and Federal roads
Liverpool CBD and Hospital
Sydney's worst accident hot spot
 - Provide costings of necessary future infrastructure upgrades.
 - 3) An impeccably credible economic analysis be conducted, properly evaluating all the disbenefits including health costs (such as the cost of treating cancer patients sometime in the future) and the cost of opting for lower employment density land usage.

It should also include finance that comes from different baskets.
 - 4) Credible pollution modelling be conducted, using accurate traffic volumes and factoring in population growth and warehousing. In order to be considered ethical, it should include cancer-causing PM_{2.5} studies, even though this is not yet mandatory under Australian law.
 - 5) That full environmental studies be performed including day and night fauna surveys at appropriate times of the year. Studies should examine the effects of the proposals on the endangered ecological communities and the Georges River.
 - 6) A thorough and objective analysis of the other potential sites for an Intermodal should be performed, including Eastern Creek, Port Kembla and Port Newcastle. It should acknowledge the need for long term vision, including defence.
 - 7) The new traffic, environmental, pollution and economic studies should be fully and independently audited.
 - 8) The complete studies should be made accessible to the public in a form that is totally readable without redaction, and showing the reasoning for all assumptions made.
- We trust that, having seen the overwhelming contra-indications to locating any kind of Intermodal at Moorebank, governments will revisit the decision making process with improved scientific information, and choose to locate them in a place where they will become an asset to the nation, not a liability for generations to come.

We trust that, having seen the overwhelming contra-indications to locating any kind of Intermodal at Moorebank, governments will revisit the decision making process with improved scientific information, and choose to locate them in a place where they will become an asset to the nation, not a liability for generations to come.

Copies of this book have been forwarded to numerous recipients, including the National and State Libraries.

There will be a permanent record that the decision makers of this era were warned about the potential consequences of delivery of this major infrastructure based on flawed assumptions.

Dear Reader,

After reading this book, you may well feel like saying something to the people who are making these decisions.

We have provided an e-letter which will enable you to communicate instantly with over 40 relevant decision makers in Federal, State and Local Government.

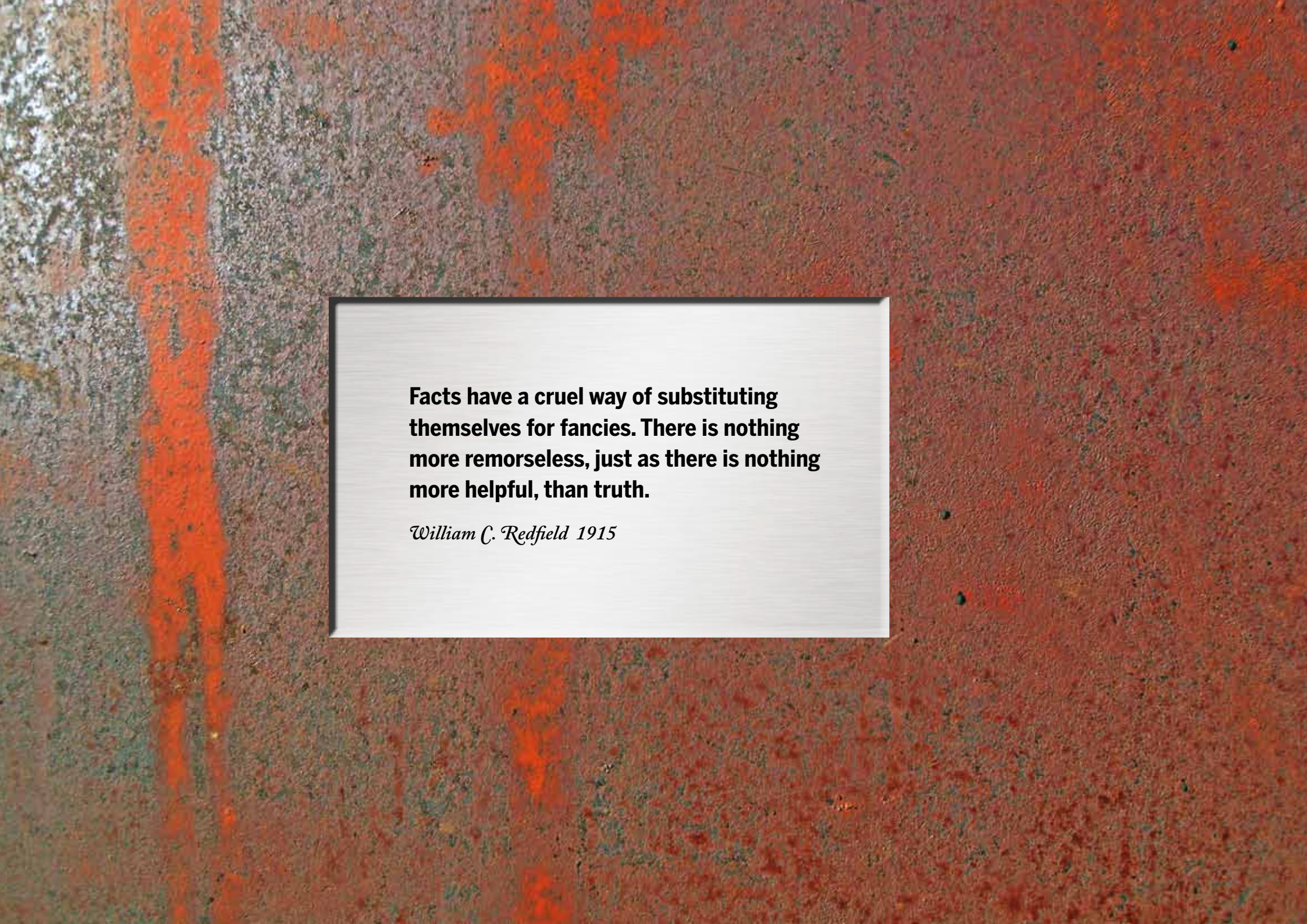
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**Facts have a cruel way of substituting
themselves for fancies. There is nothing
more remorseless, just as there is nothing
more helpful, than truth.**

William C. Redfield 1915