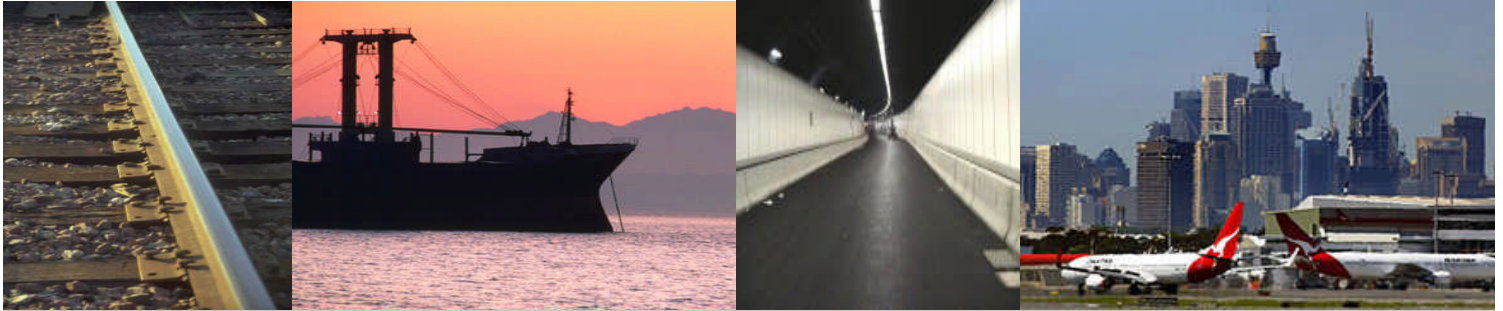


Integrated Infrastructure Planning – A New Way Forward



Report to Infrastructure Partnerships Australia A Case Study – Sydney Airport and Port Botany Precinct

July 2007



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Infrastructure Partnerships Australia (Including AusCID)

Leading the National Debate on Infrastructure

Infrastructure Partnerships Australia (IPA) is the nation's peak infrastructure body.

IPA actively brings together governments, private stakeholders and the community to advance the public debate and champion infrastructure development and service delivery.

Saha International was commissioned by IPA to undertake a research paper which chronicled the benefits of strategic infrastructure planning specifically exploring the options for the provision of strategic transport links and systems servicing major economic assets, with a view to broader implications for the development of a national freight strategy. The project identified the precinct including Sydney Airport and the Sydney Ports Corporation's Port Botany facility as a defined area which provides a major economic contribution to Sydney, NSW and Australia.

This document is the Report from Saha International to IPA.

www.infrastructure.org.au

EXECUTIVE SUMMARY

Infrastructure Partnerships Australia (IPA) has commissioned SAHA International to examine the case for integrated infrastructure planning where major infrastructure assets and investments reside alongside each another and to suggest possible solutions that can overcome the present restrictive planning practices that tend to examine one project in isolation rather than as part of a broader economic or industrial environment.

IPA intends to complete a number of case studies across jurisdictions to highlight the importance of the need to plan strategically and collaboratively across local, state and federal government jurisdictions. The first precinct chosen is the area that includes Sydney's Airport and Seaport as this is a defined area which provides a major contribution to the local, state and national economies.

Sydney Airport and Port Botany are economic power houses injecting billions of dollars worth of economic value and providing hundreds and thousands of jobs to NSW every year. These major gateways to Australia face substantial and inevitable growth. The ability to service both, together rather than in isolation, along with the rest of the precinct will be critical to Sydney's functionality and its prosperous future.

The issues surrounding the Sydney Airport and Port Botany precinct are not unique to Sydney as they reflect a more systemic problem which may be manifesting itself in a number of locations around Australia where population is growing and urban density increasing. In this instance, the main challenge is reflected in the ability of the transport infrastructure to cope, however in other areas the issues may manifest themselves in other key infrastructure areas such as water or power generation.

The case study for the Sydney Airport and Port Botany precinct shows that there are emerging challenges facing Government and Industry. These challenges include significant forecast growth through both the port and airport, adjacent residential developments in the area such as Green Square and Cooks Cove and multiple planning authorities interacting with the precinct including local, state and federal governments.

Integrated infrastructure planning should be undertaken to address future constraints which may limit the productivity and efficiency of the precinct and its nationally important economic drivers – the port and airport. Networks, both road and rail, that service the area will come under increasing pressure as volumes grow across the city. Improvements are likely to be needed on local and arterial roads into and out of the precinct. The rail network capacity should be planned in a timely manner to ensure that it will cater to future demands of both passenger and freight movements. In addition intermodal terminal capacity within the Sydney metropolitan area will also need to be enhanced to support increased container movements through Port Botany

PROPOSED ALTERNATIVES

The present situation of trying to address infrastructure requirements across multiple agencies across three tiers of Government reduces clarity and direction. There is a need for greater leadership to determine the optimal way forward for the precinct that brings together the views of the industry, the community and the Government. A framework of high level planning principles and criteria would assist with coordinating the tasks, prioritising investment across projects and assessing the most suitable methods for funding development.

A model for managing “precincts of higher economic importance” is presented that encompasses governance models and examines the crucial areas of Strategic Infrastructure Planning and Investment. The ongoing management and planning of such a precinct could take one of many forms including: an Advisory Board with representatives of all the major stakeholders; a Statutory Authority or Commission with legislative backing; Ministerial responsibility and dedicated resources for planning and project implementation; or governance by existing bureaucracy, e.g. the Office of the Coordinator General at a state level or DoTaRS at a federal level. Multiple precincts could emerge and be administered and/or coordinated from a single point.

Under any of these models the governance would include the coordination of strategic infrastructure planning including cross modal network planning and project identification as well as prioritisation, sequencing and delivery of the infrastructure.

MAJOR THEMES

A number of themes have emerged that need to be addressed to ensure the long term sustainability and economic prosperity of precincts, such as the Airport and Seaport area:

1. The economic importance of key regions with multiple infrastructure facilities must be recognised and frameworks established to ensure meaningful strategic planning for infrastructure.
2. Externalities and impacts from major developments cannot be managed on a case by case basis. Incremental or marginal approaches could fail to capture the full impact and may underestimate future requirements.
3. Implementing infrastructure requirements across multiple agencies across three tiers of Government reduces clarity and direction.
4. Leadership is needed to determine the optimal way forward for the precinct that brings together the views of the industry, the community and the Government.
5. A framework of high level planning principles and criteria would assist with coordinating the tasks and prioritising the outcomes.
6. The failure to develop appropriate frameworks currently results in significantly sub-optimal economic and social outcomes.

RECOMMENDATIONS

The case study for the Sydney Airport and Port Botany precincts has identified the following areas for moving forward:

1. **Special Economic Zones:** Creation and definition of strategically important areas, such as the Port Botany/Sydney Airport precinct as a Special Economic Zone where there is clustering of major industries or economic assets in order to capture the value or be cost effective through synergy. Planning for these zones may incorporate critical linkages which may fall outside the zone and be a collaborative venture between commonwealth, state and local government.
2. **Leadership and single points of contact within Governments:** Identification of the agency that will have lead responsibility for strategic planning as well as leading infrastructure planning and delivery.
3. **Development of a Governance process:** There should be a Governance framework for the precinct that results in the development and management of consistent, cohesive policies, processes and decisions regarding the infrastructure planning for the precinct.

A taskforce should be created, which includes major stakeholders, to operate for a six month period to recommend a preferred governance structure. The Taskforce should explore a number of options which may include the creation of an Advisory Board; creation of a Statutory Authority or Commission; or assigning bureaucratic responsibility for coordination of the precinct under a Coordinator-General or similar office.

The governing or coordinating body would also undertake joint strategic planning to address the needs of both major assets. The chosen entity should support and facilitate the identification and prioritisation of infrastructure investment across the precinct. The framework would enable the improvement of cross-modal network planning, addressing both freight and passenger requirements as well as across agencies and jurisdictions.

Once planning is complete and key projects are identified, the entity would determine the priorities for investment, manage the sequencing of development and either lead or advise on procurement options.

INTRODUCTION

Infrastructure is the word on everyone's lips. It's ageing, it's under pressure and it's attracting massive investment by both the public and private sectors across the world. Australia is no exception. This paper seeks to start a discussion – a discussion about how infrastructure is planned, a discussion about the need to look beyond one project in isolation in order to plan better environments and solutions where major infrastructure assets and investments sit along side one another.

A case study is a useful and practical way to initiate the discussion and Infrastructure Partnerships Australia's (IPA) ambition is to complete a number of case studies across jurisdictions to highlight the importance of the need to plan strategically and collaboratively across both state and federal jurisdictions.

To initiate this process IPA has identified the precinct including Sydney Airport and the Sydney Ports Corporation's Port Botany facility as a good example of a defined area which provides a major contribution to not only at a local level but also to the state and national economies. These established and important assets – two major gateways to Australia – both face substantial and inevitable growth. The ability to service them both, together rather than in isolation, along with the rest of the precinct will be critical to Sydney's functionality and its prosperous future.

The issues surrounding this area are not unique to Sydney, they reflect a more systemic problem which may be manifesting itself in a number of locations around Australia where population is growing and urban density increasing. In this instance, the challenges are reflected in the ability of the transport infrastructure to cope but the phenomenon is not isolated to transport – in other areas the issues may manifest themselves in water or power generation.

The challenge we face is the way in which they are addressed, which to date in most instances has been on a case by case basis and only when the situation reaches crisis. We need to move beyond a project mentality towards building an integrated, reliable and efficient network that anticipates future demands, and allows for investment in critical new infrastructure in a timely and innovative way.

Benefit of Infrastructure Development

Not only does infrastructure represent a substantial share of the economy, but it also plays an essential role in supporting nearly all aspects of society's operations.

Sydney Airport and Port Botany are economic power houses injecting billions of dollars worth of economic value and providing hundreds and thousands of jobs to NSW every year.

A report commissioned by Sydney Airport Corporation Limited (SACL) during 2001/2002 identified that Sydney Airport's operations:

"Public infrastructure provision and growth are linked..... Infrastructure is a key driver of prosperity."

CIE - Building Wealth through Infrastructure

- Directly contributed \$6.6 billion in NSW Gross State Product and accounting for the flow-on impacts a total contribution of \$13.6 billion to the NSW Gross State Product;
- Directly generated \$12.1 billion in output and accounting for the flow-on impacts a total contribution of \$24.9 billion in output;
- Directly provided \$2.7 billion in household income. After taking into account of flow-on impacts, a provision of \$6 billion; and
- Directly and indirectly provided full time employment to 100,450 people.

The report shows Sydney Airport as a major employment generator and a significant hub for airport-related business activity.

SPC commissioned a similar Economic Impact Study based on 2001/2002 data to quantify the contribution Sydney's ports have on the economy. The study showed that in 2001/2002 Port Botany:

- Contributed over \$1.48 billion to the NSW economy;
- Generated 10,063 jobs; and
- Contributed over \$437.7 million in household income.

Sydney Airport and Port Botany are expected to continue playing pivotal roles in the growth of the NSW economy. It is predicted that the Port Botany Expansion will generate 9,000 new jobs by 2024/2025 and inject \$16 billion into the NSW economy over the next two decades.

These activities, combined with other manufacturing and service industries within the precinct (Kelloggs and Orica to name two) highlight how important this area is to the state and to the nation and what is at risk if it becomes inefficient or highly constrained.

Putting it in context

Sydney is a global city – a key gateway to Australia and a thriving economic powerhouse in its own right. Access to Sydney by road, rail, sea and air is crucial for both domestic and international trade and tourism. NSW has the largest economy in Australia, representing about 34% of the national GDP in 2005-06¹ and Sydney itself accounts for almost one quarter of Australia's GDP.

The ability to move freight and people is vital to economic growth. Estimates by the BTRE in 2001 put the transport and logistics sector as contributing over 9% of GDP and the Australian Logistics Council has recently quoted the BTRE as saying that the sector could be contributing over 14% to the nation's GDP.

Sydney is a growing city with an expectation that a further one million people will make it their home over the next 15 years. This

The smooth and efficient operation of this network is a crucial element in achieving integration of all transport modes and supporting economic development.

***National Farmers Federation
Submission to
DOTARS - 2006***

¹ NSW Urban Taskforce – No Growth Scenario "Imagine NSW without Development" January 2007

growth in population has the potential to contribute to economic growth and prosperity but will also place additional pressure on the transport networks, both road and rail, as people commute and need to be supplied with goods and services for everyday life.

Both Sydney Airport and Port Botany, along with the road and rail links to them and intermodal terminals supporting them, have been identified as key elements of the AusLink National Network, the backbone of Australia's national land transport system supporting economic development.

Sydney Airport makes a significant contribution to both national and regional economic activity catering for nearly half of Australia's international visitors and approximately a third of its domestic passengers² and over 50% of total air cargo movements in Australia.

Similarly Port Botany, located only a short distance away, plays a pivotal role in the NSW and Australian economy. Sydney's major port serves over 20 shipping lines and over 100 overseas destinations with provision for container, bulk liquid and gas vessels. It is Australia's second largest container port and handles nearly a third of all containerised cargo in Australia.

The broad area or precinct encompassing the Port and Airport also contains two passenger rail lines: the Airport Line and the Illawarra line, as well as the Enfield to Botany freight line and key road networks via the Eastern Distributor, the M5 East and the Princes Highway. The CBD to airport/seaport corridor is extremely important to sustaining a healthy and strong economy in New South Wales and providing opportunities for much-needed population growth.

In addition the University of New South Wales and the four hospitals on the Prince of Wales campus are to the immediate east and traffic attracters, such as Fox Studios, Aussie Stadium, the Sydney Cricket Ground, Centennial Park, and the beaches of the eastern suburbs are within close proximity and add to the number of people who travel to and within the area.

Both the Airport and Port have expanded over the last 15 years and they are expected to continue to experience significant growth over the next 15 to 20 years, bringing major economic benefits to NSW and Australia. The question remains as to whether the growth will be constrained by the capacity of Sydney's existing infrastructure system and if so what projects should be prioritised and how will they be delivered using a mix of public and private finance?

MAJOR INFLUENCES

Population growth

Sydney's population of 4.2 million will on average grow by 42,000 per year until 2020³. It is expected to grow by over a million people in the next 25 years and will hit 5.3 million by

² Sydney Urban Draft Corridor Strategy 2007

³ Sydney's Transport Infrastructure -The real Economics, prepared by Centre for International Economics for The Sydney Morning Herald

2031. Seventy percent of that growth will occur in existing areas, along transport corridors and close to jobs. And, while population is expected to grow by 30% the total demand for housing is expected to grow by 46%.

Once industrial areas are now making way for new villages and dwellings and the area surrounding the Port and Airport is no exception. Places like Green Square and Cooks Cove are located with only a few kilometres of the airport/seaport and are earmarked to cater to significant increases in population and employment. Green Square alone is planned to accommodate 25,000 people and 7,000 new jobs. The challenge for all – the owners, operators of transport infrastructure and all levels of Government – is to plan effectively to be able to respond to growth in a timely and efficient manner.

Congestion on the network

Traffic congestion is a common sight on Sydney roads. The question is – at what point will it become intolerable?

The BTRE estimated that Sydney currently incurs between \$3 billion and \$6 billion of economic and social costs each year through congestion, accidents and air pollution. It has been projected that Sydney's congestion cost will more than double with the potential to increase to \$20 billion per annum within the next decade⁴ with private vehicles currently accounting for 70% of all trips travelled in Sydney⁵. Austroads calculated that Sydneysiders' reliance on passenger motor vehicles on average causes 33 seconds of traffic congestion delay for every kilometre travelled by motorists.

From an environmental perspective it should be assumed that carbon abatement will evolve. Sydney's road congestion is responsible for 4 million tonnes of carbon dioxide emission every year.

Rail movements are increasing as well. Passenger patronage on the rail network has turned the corner and is now seeing steady growth in numbers and network enhancements such as the opening of the Epping to Chatswood Rail Line, and planned increased frequency of passenger services in the offpeak will continue to put pressure on freight movements on the shared network. Rail freight volumes are also expected to grow substantially. The NSW Government has set a target of achieving a 40% rail market share in container movement to and from Port Botany, which will potentially lift the number of containers transported by rail from 250,000 twenty-foot container units (TEU) in 2004 to 1.2 million TEU by 2021.

Airport Growth

During 2004/2005, 28.3 million passengers travelled through Sydney Airport and they handled 286,484 aircraft movements representing a 7% growth in patronage movements and 6% increase in aircraft movements⁶. Since 2002 (following the events of September 11), Sydney Airport has been experiencing an average annual growth of 6% in passenger

⁴ BTRE Information Sheet 16 or BTRE Working Paper 71

⁵ "Sydney's Transport Infrastructure The real Economics, prepared by Centre for International Economics for The Sydney Morning Herald

⁶ Sydney Airport Corporation Annual Report 2005

movements. The growth trend in air travel has largely been supported by economic development in China and renewed confidence in air safety reflected in the commencement of new international services (e.g. Virgin Atlantic and Royal Brunei).

Unless the airline industry is hit by another adverse shock like September 11 or the collapse of Ansett, the demand for air travel is likely to continue growing at 4-6% per annum. Sydney Airport Corporation forecasts that passenger movements at the international terminal will nearly treble within the next 20 years while domestic passenger movements will increase by 140%.

In line with passenger growth, the demand for air freight soared to a staggering 16.5% increase during 2005 from 476,000 tonnes to 554,000 tonnes a year. This represented over half of Australia's total air cargo.

Given the improvement in flexibility, accessibility and efficiency on the movement of air freight in NSW, strong demand for international movement of high value perishable goods is expected to continue⁷.

Sydney Airport has already planned for development of the Northern Lands Freight Precinct at Sydney Airport which, following approval and building, should be open by approximately 2011. The new facilities will provide a total space of 209,000 m², more than three times the current capacity.

The growth phenomenon is not confined to Sydney Airport.

Port Botany Growth

The latest figures from Sydney Ports Corporation showed that Port Botany now handles 1.5 million TEUs⁸ each year, a figure which has grown at an average rate of 8% since 2001/2002 and 11% in the last year alone.

The BTRE forecast that the number of containers into and out of the port is likely to continue increasing at a rate of at least 5% per annum driven by predicted increases in employment levels and increases in consumer and business demand for imported goods⁹. With the expectation that the port throughput will reach 3.0m TEU by 2020 the NSW Government has approved the Port Botany Expansion, adding approximately 60 additional hectares of terminal, with completion due in 2011.

Growth in freight is not limited to import and export movements.

On average freight movements are growing at twice the rate of GDP and total freight movements are expected to double by 2020¹⁰. The National Transport Commission's report *Twice the Task* suggests that "forecasts clearly indicate that adverse impacts will be greatest in urban areasthat most of the growth will be on road" and that "the great

⁷ Air freight export council NSW business plan 2004/05

⁸ Twenty Foot Equivalent Units - a standard unit of measurement for shipping containers

⁹ Bureau of Transport and Regional Economics (BTRE) Working Paper 65

¹⁰ National Transport Commission - *Twice the Task*

impacts from the freight task growth.....will be in, near and between ports, intermodal freight terminals and outer industrial suburbs”.

THE CHALLENGES

Emerging Network Constraints

Because of the expected growth in Sydney Airport and Port Botany, the landside interface issues such as rail and road transfer are commonly debated topics.

Due to the close proximity of the Airport and Port, the two sites are serviced by the same key major roads including General Holmes Drive, Princes Highway, the M5 East, Southern Cross Drive, whilst the Airport is serviced by the Airport / East Hills Rail-Line and the seaport by the Port Botany freight rail line. Each route faces major capacity constraints or delays in the future.

In its Ground Transportation Plan, SACL has forecasted that by 2023/2024, the existing traffic level in the vicinity of the airport will increase by 31,500 additional vehicles per hour during the morning peak period. This is a cumulative figure factoring in the growth of Sydney Airport and Port Botany on top of other major developments in the area including the Green Square development, the Cooks Cove redevelopment, and other developments at Arncliffe and Tempe.

The NSW Government estimated that in 2003 there were 15,000 landside person trips (passengers and meeter/greeters) to the airport during the airport peak.

Road volumes are also expected to increase out of the Port. Currently 80% of containers, travel to and from the port on road – on average 2,900 per day. In addition the port currently generates around 26-28 train movements per day. Even with the Government target of trebling the volumes on rail to achieve a 40% rail mode share split – the volumes on road will more than double to an estimated 1.5 million TEU or over 4,000 trucks per day within 15 years. This is getting closer to the same volume as current number of trucks on Sydney’s busiest main roads into and out of the region¹¹. It is important to remember that the biggest demand on the road network is from cars and that road capacity is generally built based on the private motor vehicle task rather than the road freight task.

“By 2020, trips equivalent to the entire current commuter load of Sydney CBD could be entering and leaving Sydney Airport daily.”

SSROC Supplementary
Submission to the Metropolitan
Strategy consultation.

The east west transport task is expected to grow rapidly as residential and industrial areas expand in western and south western Sydney. This directly affects, in particular, cargo movements, with a large proportion of port containers moving to and from distribution centres around western Sydney and the M7. They may make up only 10% of the total metropolitan freight task¹² but they can impact on major bottlenecks along major roads like the M5 East and can have direct and significant local impacts

¹¹ AusLink Draft Strategy estimates that 5000 heavy vehicles per day on key AusLink routes including F3, Pennant Hills Road, M5, M4 etc

¹² NSW Seafreight Council LCIC report

in particular locations associated with the port, like empty container parks.

Intermodal terminal capacity is also a growing concern. The Sydney metropolitan area currently does not have sufficient intermodal terminal capacity to cater to forecast growth through the Ports and also interstate movements on rail. It is not just a matter of if new terminals are required, it is a matter of when.

The NSW Government has recently announced its Rail Freight Plan, with the Commonwealth School of Military Engineering at Moorebank in the south west as its preferred site for Sydney's major intermodal terminal. It is understood that discussions have commenced with the Federal Government to secure the site for that purpose. The Plan also includes the decision that environmental assessment will resume for a 300,000 TEUs Intermodal Logistics Centre at Enfield, which suggests that Enfield is likely to go ahead first with Moorebank, as the major terminal, to follow. Other proposals such as those at Enfield, Eastern Creek, Moorebank and Minto have been considered by the Government and it would be prudent to take steps, where possible, to protect and preserve the options for the future. While these are positive initiatives there is a need for an overall freight strategy for the metropolitan area to prioritise the necessary public investment in supporting infrastructure and to provide a framework within which the private sector can make complementary investment with reasonable certainty.

There are a number of key elements of infrastructure where coordinated planning and investment is required to meet future demand:

A summary of major future constraints include:

- M5 East – already operating close to capacity for most of the day;
- Princes Highway and Sydenham Road connecting the area to the south and west via the M4
- Qantas Drive, General Holmes Drive and Foreshore Road; and
- The interface between the stevedores and the rail system at Port Botany,
- Intermodal terminal capacity in metropolitan Sydney, to receive containers railed to and from the port

Servicing both passenger vehicles and the freight task will become more difficult unless road, rail and intermodal terminal capacity is expanded ahead of the anticipated surge in demand.

If the transport network is not capable of handling the growth, Sydney's congestion will limit the level of economic benefits generated from these two precincts with ramifications for the broader economy.

Statutory Planning Challenges

Another of the challenges for the area and its key connections is that it is covered by no fewer than six different planning authorities:

- the four local councils,
- the Federal Government, which oversees planning at Sydney Airport,

- o the State Government, which determines proposals of State significance, such as the expansion of Port Botany

As a consequence the Port, Airport and surrounding area is covered by a wide range of existing plans and policies that have been prepared by these authorities, often in isolation from each other.

At a regional level there are policies and plans prepared by the various State Government agencies. Some of these apply to the whole State and aim to set long term goals. A good example is "Action for Air" - the State Government's 25 Year Air-Quality Management Plan whilst others are more specific with regard to infrastructure investment like the *State Infrastructure Strategy*. Others, like *City of Cities – A Plan for Sydney's Future*, the State Government's vision for the growth and development of the Sydney metropolitan basin and particular State Environmental Planning Policies (SEPP's), provide more explicit guidance on the State's strategic planning objectives for the region as a whole including key infrastructure which may be required to be reflected in site-specific land use and environmental outcomes.

There are also local plans prepared by local councils, for example *Botany Local Environmental Plan 1995* which outlines planning controls for the local government area of Botany Bay City and directs the manner in which growth and change are proposed to be managed. While it is a statutory planning instrument, its aims and objectives are relevant to the land use and environmental outcomes.

Cost of Limiting Investment

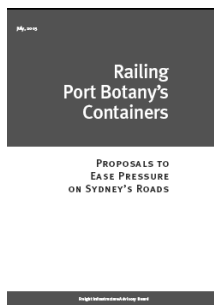
The cost of not doing anything could have a major impact. Private consultancy firms such as The Centre for International Economics (CIE) suggests that Sydney's economy, and indeed the country's economy, is likely to lose out if new approaches to dealing with the transport problems are not adopted. They predict that if improvements are not made, by 2020 Sydney's real gross regional product (GRP) will be 0.9% lower than the current level, real investment inflow will drop by 0.7%, employment levels will decrease by 0.3% and household welfare will decline by 0.9%.

Poor planning, including high density residential development alongside the rail corridor, has the potential to restrict operations and the ability to increase volumes on rail and could result in greater movements on road.

Safety issues, such as level crossings for both vehicles and people, need to be managed. The separation of passenger and freight vehicles should be treated as a common issue across all major traffic generators in the area, not necessarily on a case by case basis. Incremental growth in volumes on multiple sites will not be readily captured in formal planning processes but collectively will have a major impact on not only traffic levels but also noise and air pollution, affecting the whole precinct.

If infrastructure planning for the whole area is not done strategically and the operations at either the port or airport become so restricted by conflicting development or lack of

supporting infrastructure, it will become less and less attractive for passengers and freight to use the facilities. It will end up costing more for freight and passengers to access the area. We don't want to see freight destined for markets in Sydney having to come through Brisbane or Melbourne and being trucked or railed adding unnecessary costs because a coordinated strategic planning framework could not be developed. These additional commercial and environmental freight costs, together with other costs of undertaking business in NSW, could influence industry to relocate to other States or other countries, impacting on the ability to remain competitive and grow both investment and employment.



The Freight Infrastructure Advisory Board's report recognised the potential social and environmental costs of relying on road to carry the burden of additional freight expansion at the port and supported the target of getting 40% of containers into and out of the port on rail. It made 23 recommendations including the need to deal with local issues like grade separation at General Holmes Drive of road and rail and Banksia Street, Botany of rail and pedestrians as well as future capacity issues such as improvements to the Botany rail line and potential new major road connections to service the West and the Government has broadly endorsed the report's recommendations.

The NSW Seafreight Council estimated that the social cost of not achieving 40% rail mode share for 600,000 TEU over the next twenty years was \$67 million dollars¹³. And that only looked at the issues of noise, greenhouse gas and safety and road maintenance. It did not take into account the extra time and kilometres trucks have to travel because of the lack of direct links to the West (the M5 only links to the West via the southwest and WestLinkM7), and the congestion impacts on other road users.

RECOGNITION vs IMPLEMENTATION

The issue of recognising the problems and the need to plan is not new at either a state or federal level.

Multiple metropolitan strategies (with the latest in 2005 – "Sydney, City of Cities") recognise the Port and Airport separately as key specialised centres as well as nodes in major corridors. Over the last two years, work has been underway to produce an integrated airport to CBD corridor strategy. Clarification of this study should be undertaken immediately.

The Prime Minister's Export and Infrastructure Task Force also recognised potential issues when charged with the task of identifying bottlenecks (both physical and regulatory) affecting key export infrastructure. It identified deficiencies in regulation as a major impediment to efficient infrastructure investment which has led the Australian Logistics Council (ALC) to its four action priorities:

1. Preparing the rail system for future challenges

¹³ NSW Seafreight Council – Landside Capacity for International Containers Report 2006

2. Investing in access to ports and intermodal terminals
3. The need for clearly articulated freight transport plans; and
4. Regulatory consistency

The ALC has also pointed out that industry planning for future supply chain development would be greatly assisted by the clear communication by Government of:

- Where the key freight routes and interchange points will be;
- What infrastructure will be developed on these routes and at these interchange points;
- How the land occupied by and surrounding this infrastructure will be protected to ensure that freight operations can be conducted efficiently; and
- What the national transport system performance targets will be.

And most recently the CIE suggest that 3 of the top 5 priorities for infrastructure investment are projects located within the precinct or providing links and supporting capacity (in the case of an intermodal terminal network) to the precinct. However, the three levels of government (Federal, State and local) who operate in the region, all have a stake in the region, and as a consequence, are preparing plans for their respective activities, often in isolation of each other. There is a case for more coordinated investment decisions.

The examples above highlight the fact that everyone appears to be good at listing problems and even identifying potential project solutions, but the real issue that remains unresolved is how to translate these well-worn paths into meaningful strategic and integrated action.

Unfortunately to date no government, group or individual has been able to provide the leadership to deliver a framework or way forward that can bring together the different parties including the various levels of Government, the operators and users of the area, the community and infrastructure providers to plan cooperatively and strategically for the future.

**CIE Report to Property Council of Australia:
Top 10 infrastructure projects for investment
(10yr timeframe)**

1. **Sydney Port intermodal freight network**
2. **North West Rail Link**
3. **Southern Sydney Freight Line**
4. **Peak load electricity generators (gas fired)**
5. **M4East and M4 to Botany Tunnel**
6. **Pacific Highway upgrades**
7. **Western Sydney bus transitways**
8. **Harbour rail link**
9. **Sydney water recycling projects**
10. **Electricity distribution upgrades**

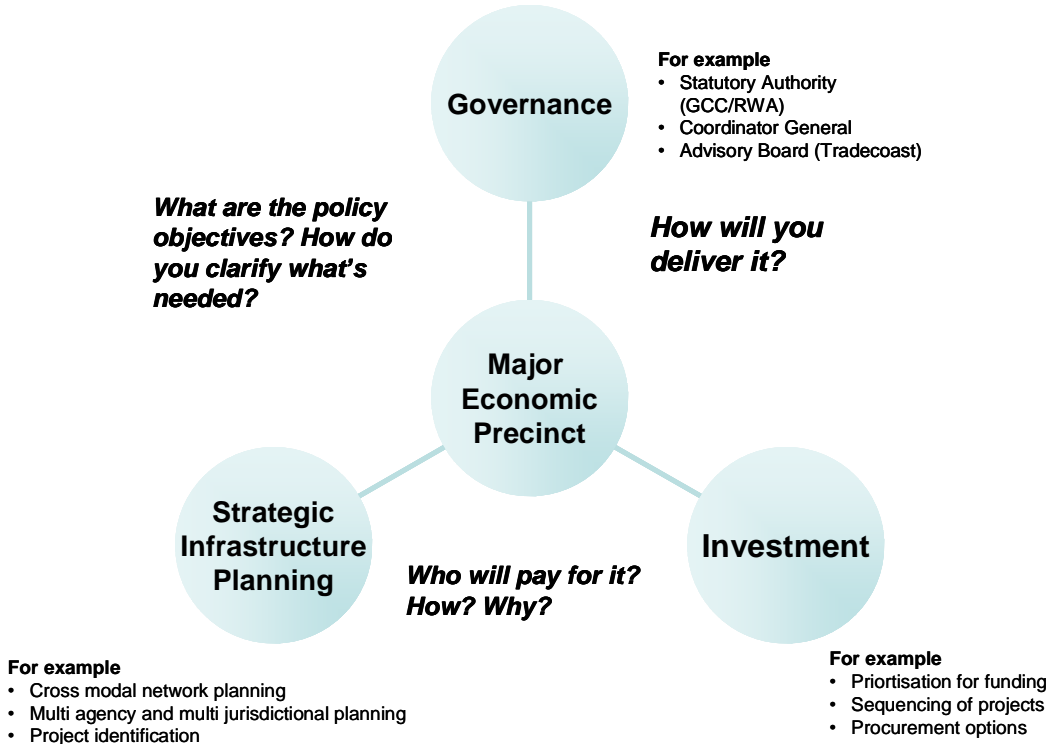
LOOK FOR ALTERNATIVES

The present situation of trying to address infrastructure requirements across multiple agencies across three tiers of Government reduces clarity and direction. There are no clear lines of responsibility – there is a need to sort out who is accountable for specific actions. There is a need for greater leadership to determine the best way forward for the

precinct that brings together the views of the industry, the community and the Government. Providing a framework of high level planning principles and criteria could assist with coordinating the tasks, prioritising investment across projects and also assess the most suitable methods for funding development.

Figure 1 outlines the issues that need to be addressed and a high level framework that may be applicable to support a sustainable solution for precincts of high economic performance.

Figure 1: **A new model for managing “precincts of higher economic importance”.**



The ongoing management and planning of such a precinct could take many forms including: an Advisory Board with representatives of all the major stakeholders; a Statutory Authority or Commission with legislative backing, Ministerial responsibility and dedicated resources for planning and implementing recommendations or it could be governed by one part of the existing bureaucracy e.g. the Office of the Coordinator General at a state level or DoTARS at a federal level. Multiple precincts could emerge and be administered and/or coordinated from a single point.

Under any of these models the governance would include the coordination of strategic infrastructure planning including cross modal network planning and project identification as well as prioritisation, sequencing and delivery (or at least procurement) of the infrastructure.

Possible terms of reference for such a governing body are outlined below.

**Proposed Governance Terms of Reference
Sydney Airport / Port Botany Precinct**

The governing or coordinating body would:

- undertake joint strategic planning to address the needs of both major assets and the community within the precinct;
- support and facilitate the identification and prioritisation of infrastructure investment across the precinct;
- facilitate the improvement of cross modal network planning, addressing both freight and passenger requirements as well as across agencies and jurisdictions;
- determine the priorities for investment, manage the sequencing of development and either lead or advise on procurement options;
- address a range of issues including rail and intermodal capacity in the port logistics chain as well as considering the issues of road capacity in the precinct to the M4 corridor; and
- be responsible for development of a thematic based template that covers issues such as long term sustainable planning (including throughput forecasting, time horizons and delivery options), community/stakeholder threshold levels for determining acceptable levels of growth and infrastructure development and finally stakeholder accountability and ownership (including who will be responsible for resolution of issues within the governance model)

A more strategic approach to planning for a precinct is preferred. An illustration of one approach is in Queensland with the development of TradeCoast which was formed in 1999 as a strategic alliance between Government and the private sector to promote the region, which includes Brisbane's Air and Sea ports, as the major trade and industry hub on Australia's east coast. The concept was championed by the Queensland Premier who supported the formation of a partnership between the local oil refineries, State, City, airport and the port to drive the project forward.

Whilst the focus of TradeCoast is developing new industry around existing assets as opposed to infrastructure to support industry it is a useful illustration of how Government and the private sector can work together to undertake strategic planning for an economically important geographical area.

The alliance is based on combining the strengths of each of the partner organisations to promote the region and the partners jointly prepare a strategic plan, including prioritising and sequencing the infrastructure projects for the precinct. These priorities have since been recognised in the wider regional planning undertaken in South East Queensland.

Since it was formed, seven years ago, the partners are well on their way towards achieving their goal. In that time, total industrial development in Australia TradeCoast has reached more than 690,000m² in building area across more than 100 developments. Australia TradeCoast's contribution to the economy in 2003/04 was \$10.5 billion compared with \$6.7 billion in 1999/00, a growth rate of \$950 million per year. For an overview of the concept see the outline on the next page.

Tradecoast – An example of integrated development planning

Like Sydney, Brisbane has a major port and airport in close proximity and within easy access of the CBD. However, unlike Sydney, both facilities have been surrounded by land ripe for development and, with the local and state Government have started working together to plan for the future of the precinct.

Australia TradeCoast is a strategic alliance between four partners – Queensland's Department of Infrastructure and Department of State Development, Brisbane City Council, Brisbane Airport Corporation and Port of Brisbane Corporation - to promote the region as the major trade and industry hub. This unique four-way public private partnership is led by a Board comprising the partners and receives guidance from two working groups - marketing and infrastructure - whose members are drawn from the partner organisations.

Its success is based on several advantages but in particular: a shared vision between the partners has created a multiplier effect; and the recognition that a fundamental enabler of growth in Australia TradeCoast is Infrastructure. They have implemented several initiatives including

- The formation of an Australia TradeCoast Infrastructure Working Group working in parallel with the organisation's Marketing Working Group;
- The appointment of an Infrastructure Project Manager dedicated to Australia TradeCoast;
- The commissioning of major studies worth more than \$500,000 undertaken to determine infrastructure priorities for the area during the next 20 years. Based on these studies, an Australia TradeCoast Strategic Infrastructure Plan was created in 2005.

In additions to the infrastructure provision by its partners, Australia TradeCoast is undertaking its own planning to examine road networks, water supply, drainage and fill requirements, and public transport to determine infrastructure priorities for the next 20 years.

The strategic plan also performs the important role of coordinating and consolidating the various master planning activities undertaken by parties with a stake in the area. While the Port of Brisbane and Brisbane Airport have their own master plans, the Queensland Government also has undertaken detailed planning that directly impacts on Australia TradeCoast.

The South East Queensland Regional Plan 2005 – 2026 recognises the economic importance of Australia TradeCoast within the region and the subsequent SEQ Infrastructure Plan and Program (SQIPP) has also recognised the importance of the road and rail transport corridors that service Australia TradeCoast.

STRATEGIC RESPONSIBILITY AND COORDINATION ISSUES

In contrast, planning for the Port Botany/Sydney Airport precinct occurs across multiple agencies, Ministers and levels of Government, and there are no clear lines of responsibility for such a strategically important area.

As a result strategic planning at a disaggregated level has often resulted in significant time delays in authorities making key decisions and created significant uncertainty around key infrastructure assets:

- Planning for Port Botany's expansion commenced prior to 2000 with the formal planning approval process taking over 4 years at an estimated cost of approximately \$10 million.
- The development of an intermodal terminal at Enfield to support the port expansion was proposed back in the 1990's by National Rail but has been the subject of debate and two Commissions of Inquiry over the past 10 years and is only now being resolved. Without the additional capacity to cater for increases in rail movements, roads into and out of the precinct will come under increasing pressure.
- The NSW Government's preferred site for Sydney's major intermodal terminal at Moorebank is still subject to Commonwealth agreement. Even if the Commonwealth makes a firm commitment before the next Federal Election, the site is not likely to be operational within the next five years.
- The future timing, location and role of a second airport in Sydney have yet to be determined.
- While the NSW Ports Growth Plan (October 2003) identifies that the Port of Newcastle will be developed as a Container Facility for NSW when Port Botany reaches capacity, the future long term capacity of Port Botany beyond 3.2m TEU and resulting landside transport impacts have not been addressed.
- The Metropolitan Rail Freight Network remains under 'caretaker' management by RailCorp until ARTC takes over control in 1-2 years. It is critical that an investment hiatus be avoided during the transition to ARTC management. ARTC is understood to be developing a metropolitan freight investment program; however, it is imperative that ARTC and NSW agencies work cooperatively to facilitate the development and implementation of that program. The NSW Government granted planning approval to the Southern Sydney Freight Line, approved December 2006, with completion date mid 2009.
- Future intermodal terminal capacity planning must be managed proactively. Sydney Ports Corporation have taken the lead to try to establish new capacity at Enfield, other Government agencies have struggled to determine who should have carriage of ensuring proposed new integrated, multi user terminals have the necessary support, planning and protection in place to come to fruition. This is a particular challenge where land, such as Eastern Creek, may be held in private ownership.

- Finally the future of the key proposed road links to connect the area such as the F6, potential M5 East expansion and a new connection between the area and the M4 remain unclear.

PROGRESS TO DATE

Notwithstanding these issues, both State and Federal Governments have taken steps to recognise the need for strategic infrastructure planning on a broader geographic level. However they could go further.

Over the last 3 years the NSW Government has worked towards delivering a coordinated framework for strategic infrastructure investment in an attempt to provide integrated solutions to some of the most pressing infrastructure issues. They have released a series of strategies including the Sydney Metropolitan Strategy, the State Infrastructure Strategy, the State Plan, an Urban Transport Statement and a series of regional and sub-regional strategies in an effort to provide direction and clarity to the market on the key drivers and priorities for infrastructure development. This provides a very firm foundation to move forward quickly.

NSW's 2004 Metropolitan Strategy recognised the importance of the key gateways (i.e. the port and airport) but currently treats them both as separate specialised centres at a very high level. It cascades planning for the area to local council with a focus on the urban planning elements of housing and employment. Further work needs to be done to provide a clear framework for strategic planning in key economic precincts with multiple jurisdictional interests such as around Port Botany and Sydney Airport.

NSW have introduced reforms to the planning system in an effort to develop a "one stop shop" but the overlapping jurisdictions of government departments can still create an administrative challenge and lead to long delays for major developments.

At a local level, NSW's Environmental Planning and Assessment Act amendments have gone some way to help improve the master planning, local environment planning and development control plan process. For local environmental plans, the reduction in zoning categories from over 3,000 now to around 25 and the introduction of a standard template is a step in the right direction. Now only one development control plan will apply to each site and may cover a whole local government area, precinct, or site.

The assessment and approval system for major development and infrastructure projects has also been streamlined and the Minister for Planning now has additional power to determine strategic sites and projects of State significance, and resolve issues associated with them. The more integrated assessment process has helped remove many of the impediments to project approval for strategic infrastructure but still focuses on a site by site basis.

Most recently the NSW Government have also created a Transport Planning Directorate to centralise and coordinate strategic transport planning and an Office of the Coordinator General to provide a single point of contact for major investment projects in an effort to ensure a more coordinated whole of government approach to the planning, investment and delivery of projects. Their challenge will be to ensure Government commitment to the projects move beyond announcement to delivery with some of the crucial missing links in transport (M4 East, F2 and F6 extensions) already earmarked for their attention.

As noted earlier, In July 2005, the Freight Infrastructure Advisory Board made several recommendations regarding future freight policy, pricing options and priority projects to deal with forecast growth through the port. In particular it proposed:

1. Road and rail improvements;
2. Resolution of planning approval for Enfield and other identified terminals to support growth;
3. Engagement with Commonwealth to resolve a future intermodal terminal at Moorebank;
4. Protection of land and rail corridors for future terminals in the West e.g. Eastern Creek; and
5. Engagement with the Airport and Commonwealth to find alternative options to the General Holmes Drive Level Crossing.

In response to calls from industry, the Government has now released its review and endorsed most of the FIAB recommendations as well as allowing Enfield planning assessment to proceed.

At the federal level the Government released its White Paper in 2004 creating AusLink and the National Land Transport Plan. This was a new move towards joint planning at a strategic level for key corridors, regardless of mode, around Australia. A series of studies have been undertaken on each corridor and draft strategies have been prepared but the focus addresses issues on only the roads and rail networks designated as part of the national network. Public transport is not addressed.

In 2006 the Council of Australian Governments (COAG) noted a variety of initiatives aimed at improving national transport planning and facilitating infrastructure development. These included committing to completing the AusLink strategies by 30 June 2007, extending the strategies to include ports, conducting infrastructure audits in each jurisdiction and undertaking a stocktake of nationally important logistics chains.

The AusLink program provides a significant improvement to the road funding arrangements compared with the past arrangements, however there is scope for further changes to enhance its effectiveness and deliver better collaboration with the states. While the states may not see AusLink as the panacea, their concerns would be largely addressed with a longer funding cycle of up to 10-12 years. This could be further refined with greater certainty toward nationally significant projects. Further work needs to be done within AusLink to recognise nationally important local areas like the Sydney Airport/Port Precinct and to commit to bilateral development of strategic plans for these areas.

EMERGENCE of MAJOR THEMES

A number of themes have emerged that need to be addressed to ensure the long term sustainability and economic prosperity of precincts such as the Airport and Port area:

1. The economic importance of key regions with multiple infrastructure facilities must be recognised and frameworks established to ensure meaningful strategic planning for infrastructure.
2. There is a current expectation that externalities and impacts from major developments can be managed on a case by case basis. They cannot. Incremental or marginal approaches could fail to capture the full impact and may underestimate future requirements.
3. Trying to address infrastructure requirements across multiple agencies across three tiers of Government reduces clarity and direction. There are not clear lines of responsibility – there is a need to sort out who is accountable for specific actions.
4. There is a need for leadership to determine the best way forward for the precinct that brings together the views of the industry, the community and the Government.
5. A framework of high level planning principles and criteria would assist with coordinating the tasks prioritising the outcomes.
6. The failure to develop appropriate frameworks currently results in significantly sub-optimal economic and social outcomes.

RISING TO THE CHALLENGE

This case study outlines the importance and need for strategic infrastructure planning in key areas around Australia. Organisations such as Infrastructure Partnerships Australia, the various tiers of Government and industry need to work together to ensure that this strategic planning occurs and a mixture of process and institutional options are required to resolve the issues.

A new integrated planning model

Firstly, at the highest level, there is a need for a new integrated planning model for strategic infrastructure - one that optimises current resources and provides a framework to encourage private sector finance and enterprise. There needs to be a more proactive approach towards strategic infrastructure planning where industry, together with government at all levels, cooperate and develop a system wide view.

This new model should look beyond the physical asset's boundaries and take in the complementary roles of infrastructure within a given area. It needs to take a system wide view across modes on a proactive basis, not only when an approval or expansion is required – the onus cannot fall solely on the party that is seeking the approval. Mismatch of planning, infrastructure and approvals will cause major long term issues that are beyond the scope of local government, the Port or Airport Corporations.

Process for identifying and prioritising key infrastructure projects to support the precinct

Secondly there has to be a process for identifying key infrastructure projects which need to be addressed to overcome capacity constraints that will emerge as a result of future growth in the precinct. A number of priority projects to improve infrastructure within and servicing the precinct should be resolved for example addressing road capacity improvement to the West and Southwest.

Outstanding issues include:

- The status and future of the road corridor connecting the precinct to the M4, and the surrounding arterial road network.
- Solutions for managing the increasing truck volumes that are likely to utilise the M5 East need to be addressed - can its capacity be increased? If not, how will the traffic levels be managed to meet both the needs of industry and commuters?
- The F6 – what is the future of the corridor? Will a decision be made to proceed with the F6 to improve travel to the South?
- Local road and rail issues such as the grade separation of General Holmes Drive and Banksia Street - though agreed in principle, there is no timeline for delivery.
- There is a need for an integrated plan for the Botany rail line which addresses the rail-port interface and longer term capacity enhancement, with timing for implementation linked to growth in demand.
- When and where will additional intermodal terminal capacity beyond Enfield be developed to cater for forecast growth?
- The future of broader policy issues such as road pricing and demand management for network infrastructure.

There is also a need for a framework of planning principles and criteria that can be applied to like circumstances. Why reinvent the wheel every time this occurs in a strategically important area either across a state or across the country?

Improved coordinated approach or institutional frameworks between state and federal government

And finally, institutional frameworks within and between governments have to be improved to realise the delivery of optimum public policy outcomes.

There is a need for a simplified point of contact in both State and Federal Government that can deal with major infrastructure of national importance. The appointment of a Coordinator General should be an important step towards one agency taking the lead overseeing the coordination of infrastructure planning and delivery. At a national level, there would similarly be strong benefit in establishing a Federal Department of Infrastructure or Minister responsible for ensuring economically and strategically important locations have the proper resources to plan and deliver the infrastructure they require to support the nation.

Industry and the community are looking to Government to rise to the challenge and show leadership in dealing with some of these issues – it is outside both the capability and expertise of individual organisations and infrastructure operators to plan the future on this scale. That is not to say that these other stakeholders should sit back and wait for a comprehensive plan to magically appear. An action plan should be developed to address the tasks that need to be undertaken, with timeframes and responsible parties clearly articulated.

RECOMMENDATIONS FOR MOVING FORWARD

1. **Special Economic Zones:** Creation and definition of strategically important areas, such as the Port Botany/Sydney Airport precinct as a Special Economic Zone where there is clustering of major industries or economic assets in order to capture the value or be cost effective through synergy. Planning for these zones may incorporate critical linkages which may fall outside the zone and be a collaborative venture between commonwealth, state and local government.
2. **Leadership and single points of contact within Governments:** Identification, at both the state and federal level, of the agency that will have lead responsibility for strategic planning as well as leading infrastructure planning and delivery for freight. The Department of Transport and Regional Services at the Federal level is the closest to delivering this at present. However a similar "one stop shop" in NSW within the Co-coordinator General's Office would provide clarity, focus and leadership for addressing the issues.
3. **Development of a Governance process:** There should be a Governance framework for the precinct that results in the development and management of consistent, cohesive policies, processes and decisions regarding the infrastructure planning for the precinct.

A taskforce should be created which could include major stakeholders (e.g. the Port and Airport, transport infrastructure providers, representatives from the three tiers of Government, the private sector and the community) to operate for a six month period to recommend a preferred governance structure. The Taskforce should explore a number of options which may include (but not be restricted to):

- Creation of an Advisory Board which could include major stakeholders (e.g. the Port and Airport, transport infrastructure providers, representatives from the three tiers of Government, the private sector and the community); or
- Creation of a Statutory Authority or Commission, along similar lines as the Redfern Waterloo Authority or Growth Centres Commission, where there is legislative backing, Ministerial responsibility and dedicated resources for planning and implementing recommendations; or
- Bureaucratic responsibility for coordination of the precinct under the Coordinator General or similar office. Multiple precincts could emerge and be administered and/or coordinated from a single point.

The governing or coordinating body would also undertake joint strategic planning to address the needs of both major assets.

Whichever model is adopted, the entity should support and facilitate the identification and prioritisation of infrastructure investment across the precinct. The framework would enable the improvement of cross modal network modal planning, addressing both freight and passenger requirements as well as across agencies and jurisdictions.

A range of issues could be addressed including ensuring that the capacity on the Botany to Enfield rail line and the Southern Sydney Freight line stays ahead of demand as well as considering the issues of road capacity in the precinct to the M4 corridor.

Once planning is complete and key projects are identified, the entity would determine the priorities for investment, manage the sequencing of development and either lead or advise on procurement options.

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