

Submission

No 11

INQUIRY INTO THE UTILISATION OF RAIL CORRIDORS

Organisation: Hunter Independent Public Transport Inquiry

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Date Received: 21/02/2012

*Hunter Independent Public Transport Inquiry (HIPTI)**

**Submission to the Legislative Assembly
Inquiry into the Utilisation of rail corridors**

14 February 2012

The Hunter Independent Public Transport Inquiry (HIPTI), sponsored by ‘The Newcastle Herald’, has been investigating and making recommendations for improvement of *public transport in the Lower Hunter*. Its brief includes the Sydney-Gosford-Newcastle intercity service, the Morisset-Newcastle and Maitland-Newcastle commuter rail services, and the connectivity of bus, ferry and private vehicle access to them.

Newcastle/Lower Hunter, a growing city of 540,000 people, is the second city in NSW. The Hunter is the State’s economic powerhouse and a major source of State revenue.

The intercity corridor from Sydney to the Central Coast and the Hunter, as also its southern extension to the Illawarra, is therefore the State’s *prime intercity corridor*. This corridor is much more dependent upon rail than that between Sydney and Canberra.

However, the infrastructure of the corridor, especially for passenger rail, has seen little improvement since electrification was completed in 1984. Over that time, population and traffic growth has led to worsening congestion on the F3 and overcrowding on slow and insufficient passenger trains.

Substantial investment in passenger rail needs to be programmed as high priority to bring it up to a 21st century international standard.

High Speed Rail. Despite the merits of High Speed Rail (HSR), HIPTI does not believe it is the solution to the commuter problem. A commuter network demands *fairly fast rail* with multiple stations to pick up and put down close to main activity centres. The present rail corridor is in the right place but poorly networked with local transport systems. It can be greatly improved at more modest cost than HSR.

HIPTI does support High Speed Rail but as a point-to-point *intercity* mode, that is Melbourne-Canberra-Sydney-Newcastle-Brisbane as the alternative to air travel and obviating the need for a second Sydney airport. Slowing down HSR to serve commuters would compromise it as an intercity mode but not provide the door-to-door accessibility needed by commuters.

Freight. HIPTI believes that the Western Freight Bypass of Newcastle should be reactivated as an ARTC priority and that freight separation should be the long-term aim for the corridor through to Hornsby.

This submission defines the problem, suggests an approach to solving it, and proposes a long-term Passenger Transport Strategy.

Identifying the Problem

1. *Newcastle is the junction of four different rail systems pretending to be a single system but failing to achieve proper system integration :*

- (1) The Sydney-Gosford-Newcastle intercity line is essentially a late-19th century alignment as opened in 1889 to provide an intercity passenger service by steam locomotives.
- In 1984 Gosford-Newcastle was electrified to meet the commuting needs of the fast-growing large population of the Central Coast and Lake Macquarie-Newcastle. The line has also been reballasted to carry heavy intermodal freight and some coal in the northern section: these long, heavy diesel trains mix awkwardly with stopping passenger trains.
- (2) However, electrification was not carried through to Maitland, resulting in an awkward combination of electric and diesel traction on Hunter commuter lines and preventing the intercity service from running through to Maitland, as the logic of population growth might suggest. The historic disjunction of the Northern and New England lines still persists.
- (3) Meanwhile, there has been massive investment in coal freight lines from the Upper Hunter to the Port of Newcastle, some of which is now being triple-tracked.
- (4) The fourth system is the freight/Countrylink line from Maitland to the Queensland border. This was designed before World War I as a secondary coastal railway to the North Coast. Its sharp curves make it unsatisfactory as either an intercity or a heavy-freight line.

2. *By the criteria of a 21st-century rail system, neither passenger nor freight objectives are met satisfactorily and there is increasing conflict between their investment and access needs and the means of providing them.*

- ARTC has been given a charter and access to Federal funding to improve the line for freight movements but has no obligation, incentive or funding to facilitate improved passenger movements, which it views as 'encroachment'.
- The outcome of this partial solution has been a dramatic improvement in the quality of rail freight infrastructure but an even more perverse set of incentives for improvement of passenger rail.
- Hence passenger rail is increasingly underfunded in regards to track, signalling, stations, interchanges, rolling stock, security, ticketing and access to information.

3. *Passenger service levels are declining:*

- The intercity passenger service is also slow. *Good rail systems around the world have reduced transit times over the last century: NSW railways have increased them!* In the Age of Steam the trip could be done in 2 hours. Now 2:29 hours is the fastest connection between Newcastle and Central (2:02 Fassifern-Central). What used to be 'The Flyer' (now 6:12 ex Newcastle) takes 2:36. The previous 5:25 am takes 2:55. This is not Progress!
- The Liberal-National State Government has committed to improve the frequency of service between Central, Hornsby and Central Coast. *There is as yet no commitment to improve the frequency of service north of Wyong.* Even though the Central Coast is identified as a growth area, as is the Lower Hunter and Lake Macquarie and Maitland in particular, for most of the day the frequency of connection north of Wyong is 60 minutes.
- The half-hourly daytime commuter service (2-car) from Morisset/Lake Macquarie to Newcastle is a stopping-all-stations 'sweeper' that shadows (or follows) the intercity, meaning that outside peak hours the effective frequency is no better than 60-minutes (the intercity).
- Better frequency is now being provided by diesel sets on the Maitland-Newcastle line and patronage is rising, but here also there is increasing pressure on passenger capacity from freight, especially coal.

Zero-sum game of Win-Win outcome?

With outmoded infrastructure, present legislation and current operating procedures, it is a zero-sum game between passengers and freight.

The Inquiry should be looking ahead to a Win-Win outcome whereby both passengers and freight enjoy a 21st-century level of service.

The old chestnut that Australia and/or NSW have too small a population and cannot afford to build rail infrastructure is just an excuse for inaction. Australia and NSW are very wealthy by world standards and Sydney is a large urban conurbation, albeit not a megacity.

China, Korea and Taiwan have joined Japan in investing in High Speed Rail. Malaysia is considering doing so. Australia/NSW is quickly falling far behind international best practice, not just in Europe but even in Asia.

The challenge is to devise a new model in which funding for rail infrastructure is not stand-alone and not about loss minimisation but about mobilizing resources for state and national benefit.

A Better Approach

In 2012 it should be asked what kind and standard of passenger service and freight carriage is needed in the 21st century, thinking ahead to the 2030s, then a funding model should be determined to deliver it.

Principles

Forward planning can no longer be done properly on a partial, incremental basis, as has been the case ever since rail operations commenced in NSW in the 1850s.

A good analogy is telecommunications, which used to be a relatively simple matter of extending and broadening the copper wire network. Now there are competing modes of fibre-optic and wireless that require system integration.

In the case of rail, strategic decisions have to be made in the 2010s as to:

- whether, where and when to begin constructing a high-speed rail network for intercity travel;
- where and when to begin constructing a separate heavy freight lines, and
- what level of commuter service to provide in the Illawarra-Sydney-Hunter conurbation.

Such long-term planning for the (rail) transport system is the *necessary precondition* for the long-term planning of specific transport corridors.

Transport corridors must be wide enough and high enough to be a safe right-of-way and to minimize visual and noise impacts on adjacent areas. Loss of these attributes, or inability to enhance them, will compromise the long-term efficiency of the transport system.

Transport corridors must also be planned in conjunction with adjacent land use, most notably the spread of residential areas. The previous State government made a start with the 25-year strategy plans for the Central Coast and Hunter but failed to follow through with the complementary transport plans, that for the Central Coast being log delayed and that for the Hunter never being released.

The difficulties of achieving coordination between the mega-departments of Planning and Transport are not underestimated, but without such coordination there is chaos. Cabinet should insist that both departments, the right hand ad the left had, sign off as public documents before any major development be approved.

The Department of Transport should have veto power over developments, major or minor, that would compromise transport corridors under the masterplan template.

The Inquiry might consider whether development controls around strategic rail corridors should be monitored by designated joint government agencies (Transport and Planning) working closely with respective local governments.

Such agencies might have authority to work with the private sector and access private funds.

However, *the model of public-private partnership is not appropriate*. Government must retain control of these corridors and avoid financial structures that pay out large fees before projects are demonstrated to have been successful. Governments have good access to funds at lower rates than the private sector. Long-term lease of land and air-space on a build and operate basis is a better model for this purpose.

Overseas best practice is *Transit Oriented Development* immediately adjacent rail corridors and stations. Good examples are Westfield's massive retail complex at Hammersmith (outer London): Westfield built and paid for two additional above ground stations and one underground station. Another example is Salford Quays at Manchester, whereby an up-market apartment, retail and media headquarters complex was developed alongside a rail corridor utilising light rail vehicles on an existing standard freight line. In both cases, proximity to rail corridor was the main factor in success.

In inner-city and suburban locations such as Central Coast and the Hunter, *Transit Oriented* projects would allow access by other public transport modes or private vehicles (cars, bicycles) to be integrated within the complex along with safe and convenient means to cross rail lines without stand-alone overhead pedestrian walkways or underpasses that are a barrier and impassable for those with disabilities.

Passenger transit needs

HIPTI recommends:

A. Frequency and transit time:

- Frequent intercity services: 30 minute frequency between Sydney-C. Coast-Newcastle (limited stops) by extending the Sydney-Wyong service limited stops through to Newcastle.
- Transit times reduced by 2020 to 2 hours from Hamilton-Broadmeadow to Central and to 1.5 hours by 2025.
- Intermediate commuter trains between Newcastle and Morisset, eventually extended through to Wyong, to reduce the number of stops made by the half-hourly limited express.

B. Interchanges

1. The catchment of a commuter rail system and its ability to serve local communities depends upon the efficiency of its interchange with other modes, from walking and cycling to buses, taxis, cars and ferries. This requires well designed and efficient interchanges.

2. Rail stations in the Central Coast-Hunter are presently little better than stand-alone facilities:

- *Tuggerah*: a simple roadside stop.
- *Wyong*: no good access to the F3
- *Morisset*: as reconstructed adequate on the west side as a low-level bus interchange with some park-n-ride but no opportunity to develop the east side for commuters to the peninsula, who also have no good bus service. Infrequent service to Eastlakes, Cessnock.
- *Fassifern*. Good park-n-ride but insufficient room for buses (in conflict with kiss-n-ride), unreliable connections, no taxi rank and no secure bike racks. Awkward access to F3 and not close to Toronto.
- *Cardiff*: a 4-carriage station halfway up a hill with poor bus access and minimal parking.
- *Broadmeadow*. No good bus access, limited parking.
- *Hamilton*. Awkward connection to/from Maitland; no close bus access; no parking.
- *Newcastle*. Coach and bus access at the terminus of all routes; no parking.

3. HIPTI urges that high priority should be given to locating primary multi-modal interchanges at GLENDALE (for Lake Macquarie) and HAMILTON (for Newcastle).

4. *Fassifern* should be redesigned to separate bus stops from kiss-n-ride and also provide a taxi rank and secure bike storage.

5. *Morisset* should be further developed with bus access and parking on the eastern side to serve the Morisset Peninsula.

C. Funding issues

1. 1. Rail investments generate a social return - if that were not the case there would be no justification for them – but the allocation of property rights does not achieve a balance between funding and the distribution of benefits. J.K. Galbraith pointed out this problem of ‘public squalor, private affluence’ in the *The Affluent Society* (1958). The policy challenge is one of structuring taxes and subsidies to achieve desired social outcomes, a challenge magnified in Australia by the complications of the three levels of government.

2. The underfunding of passenger rail arises from the failure of the funding model to accommodate *externalities*.

3. In the case of rail freight, ARTC can recover its costs from access charges, which are in turn passed on by operators to customers.

4. Passenger fares, however, are constrained by the absence of significant road-user charges, so that less than 20% of costs may be recovered from farebox – Railcorp figures make accurate calculation impossible. The massive and growing deficit is grudgingly made up by Treasury, which then imposes tight rein on operations and infrastructure spending on the presumption that it would be throwing good money after bad. This is a model that admits defeat and guarantees that the system will continue to deteriorate (except for the visible aspect of new Sydney trains).

5. The *first-best economic solution* would involve re-imposing modest tolls on the F3 and earmarking the revenue for upgrading the intercity rail link. An F3 toll is logical for four reasons:

- a) the F3 is near capacity,
- b) it is the only high-capacity access route,
- c) a toll would be an incentive for modal shift to rail,
- d) a toll would provide money to fund rail infrastructure.

As an order of magnitude, a \$2 toll on 70,000 vehicles per day would raise around \$50 million a year (\$500m. over 10 years), a significant contribution towards improving the corridor.

The politics will not appeal, but it is the least worst option: worsening congestion, rising deaths and increasing disruption from sudden F3 closures are not good outcomes either.

Even if, for political reasons, a toll was not imposed, it would be reasonable to devote an equivalent sum from state revenue to improving the rail corridor, just as untolled roads are funded from state revenue.

6. A *second part* of the solution, in line with the terms of the Inquiry, is to raise revenue streams from better use of land along the corridor, in particular by ensuring that new stations and redevelopments are no longer stand-alone projects but integrated ones. New shopping and activity centres should be built around stations rather than at a distance. The Central Coast and Lower Hunter offer many examples of how NOT to do it.

7. *Thirdly*, there needs to be a better mechanism to ensure that councils and the State governments can constrain new residential and industrial developments to transport corridors. This vital aspect of the Lower Hunter Regional Strategy (2006) has never been followed through and the consequence has been eccentric projects like Catherine Hill Bay (no transport rationale) or Huntlee (no actual or projected commuter rail access).

8. *Fourthly*, there needs to be a mechanism to channel a larger part of the betterment value of large new housing and industrial projects to fund associated infrastructure

instead of creating poverty traps to the immediate benefit of developers and their agents. The reduction in developer levies by the previous Labor Government was perverse.

9. All this is politically difficult but if the problem is not addressed, our growing cities will slowly strangle themselves. Planning requires something more than short-term expediency. Evading the problem simply mortgages the future at the cost of the next generation.

Attachments

- Passenger Transport Strategy
- Intercity
- Freight discussion paper

Other documents are available at HIPTI WEBSITE: www.hipti.org.au

*** Steering Committee Members**

Edward Duc (Convenor), Practising Architect and Urban Designer; Chair of the Business Improvement Association (Newcastle NOW)

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Alan Squire, Former Manager Legal of a large public company; experienced in planning, development and construction

David Stewart, Consultant Transport Engineer and Planner, specializing in land use and transport systems.

Hunter Independent Public Transport Inquiry

The Hunter Needs a Passenger Transport Strategy

Good urban planning is more than fighting the last war. Yet most of the ‘solutions’ being put forward for urban transport in the Hunter still prioritise the private motor vehicle. Since the trams were abolished in the late 1940s, cars and buses have served the region well, but we are now at the threshold where peak-hour congestion is accelerating. Road investments like the Hunter Expressway have their benefits but create new bottlenecks while boosting the total volume of traffic.

The obvious solution is where possible to shift peak-hour trips off road and onto rail. Trouble is that passenger rail capacity is being marginalized by rapid growth of coal and general freight traffic. The Australian Rail Track Corporation (ARTC) has a legislative obligation to make slots available for passenger trains, but it makes its money from freight. If a line is not very soon drawn in the sand, there will be no spare capacity left in the Hunter for the necessary growth in passenger transport.

Hence the vital recommendation of the Hunter Independent Public Transport Inquiry (HIPTI) is that Local, State and Federal governments prepare a *long-term urban passenger transport strategy* for the Hunter that ensures adequate capacity for growth in off-road trips. This should have been done six years ago to give structure to the Lower Hunter Regional Strategy (2006-2031).

An urban passenger transport *strategy* would not be a vision or a wish list but flow from the logic of the transport system as a complex network according to sound operational principles.

The ten key elements can be summarised as follows:

Operational

1. A 15-minute clock-face timetable in peak hours on the West Lake and Maitland lines, including a 30-minute intercity connection to and from Sydney-Central Coast;
2. Express/metro bus lines between Swansea-Belmont and Newcastle and an Orbital line (clockwise and anti-clockwise) between main hubs to a 15-minute clockface timetable;
3. More frequent local connections to main suburban centres and stations;
4. Train and bus tracking to provide intending passengers with real time information;
5. Integrated, multi-modal (bus, rail and ferry), cashless ticketing;

Capital Works

1. Construction of Glendale station and interchange;
2. Design of a proper Newcastle bus-rail interchange at Hamilton East (see below);
3. Design and route designation for Western Freight By-pass to take freight out of the urban area and provide a single dedicated freight corridor into the port;
4. Designation of a High Speed Rail corridor and Hunter station(s);
5. Reservation of a Light Rail corridor from Newcastle to Callaghan, Wallsend and the nearest prospective HSR station;

The proposed bus-rail interchange at Hamilton East is driven by the need to rationalize bus operations rather than the contested benefits of terminating Intercity trains closer to Hamilton/Broadmeadow. Nowhere does Newcastle have a proper bus-rail interchange.

In 2012 Newcastle Buses are still pretending they are trams, running most routes like the old trams along Hunter Street to and from the 'top of Town'. The horseshoe of land around Hamilton station is close by the bus depot: with dedicated bus lanes and overpasses it will be possible to turn around many buses at this point while reducing dead running to and from the depot. This interchange would also reduce bus movements along Hunter Street, which is slated to be reduced to two traffic lanes and made more friendly for bicycles and pedestrians. It should include an Airport link.

The option of terminating Intercity trains at Hamilton East would take the long 8-car trains out of the Newcastle peninsula while allowing 2-car sets to continue to run through with tighter signaling times and a greater number of controlled at-ground road and pedestrian crossings (as widely used in Melbourne).

Such partial termination of heavy rail would not require Maitland or Westlake commuters to change trains at Hamilton East for the short journey to and from Town. Intercity passengers would be inconvenienced but a two-track, U-shaped island platform would facilitate across-platform transfer to commuter trains running in both directions.

Full termination of heavy rail in favour of a short light-rail shuttle will be more expensive for no net public transport benefit. However, the option should be explored of a Light Rail link from Newcastle via the University to the western suburbs and a likely High Speed Rail Station in that vicinity.

This strategy could be funded and/or, in the case of the Glendale and Newcastle interchanges, seeded from the Hunter Infrastructure Fund. The Western Freight Bypass, however, should be funded by ARTC as a priority project and charged through to the coal and general freight industries.

Hunter Independent Public Transport Inquiry

Intercity Passenger Trains

The 'Newcastle Flyer' used to be the pride of Newcastle. Sleek 38-class steam locomotives whisked passengers in comfort from Newcastle to Central in just over two hours. Then came diesel power and, in 1984, electrification. Along the way the Flyer disappeared with the refreshment car. Under the present Costa-era timetable, the fastest train now takes 2½ hours: most take 2¾ hours and the slowest over 3 hours.

So while other rich countries have been investing in faster intercity trains, NSW goes backwards, making its trains slower and less reliable. The workhorse electrics are outmoded, a 40-year-old design with none of the comforts of a modern intercity train. There are no refreshments, no work spaces and no IT connections. Room for luggage is minimal, as also for bikes, strollers and wheelchairs. And the toilets are abominable.

An instructive comparison is the Norwich-London. Norwich city and district in Norfolk has a population of around half a million, the same as the Lower Hunter. Modern intercity express trains cover the 180 kilometres, slightly more than from Newcastle to Sydney, in under two hours every half hour.

As the second and most prosperous city in NSW, Newcastle needs a fast, frequent, comfortable and reliable intercity rail link to Sydney. This 21st-century Flyer should be a prestige inter-city train, not an outer suburban one serving the Central Coast but happening, once an hour, to run through to Newcastle.

A proper intercity train has become imperative because of the congestion and unreliability of the F3, which has reached capacity, especially at Mooney bridge, and is now subject to unpredictable but almost weekly closures. Give projected growth in the Hunter, politicians should be treating the matter as a crisis.

One suggested solution has been a *Very Fast Train (VFT)*, on which initial feasibility studies are now being done. The Inquiry is confident that a VFT will be under construction in NSW by the end of the decade, if for no other reason than to avoid the enormous cost and political pain of building a second Sydney airport.

However, the Inquiry does not believe that the initial section will be built between Sydney and Newcastle. The high-density corridor lies between Sydney, Canberra and Melbourne. Sydney-Canberra is the logical first section, then Canberra-Melbourne. Sydney-Newcastle with extension to Brisbane would come later and probably not before the late 2020s, that is 15 to 20 years away.

In any case, the inevitably high fares for a VFT and the likelihood of only one Newcastle station somewhere on the western side, means that there will continue to be a need for an improved, reasonably fast intercity rail link along the existing rail corridor. This should now be high priority in State investment plans.

Planning for a 21st-century 'Flyer' has three key aspects: schedule, trains and stations.

Schedule is a matter of *journey time* and *frequency*. The Inquiry has determined that a 2-hour journey time is achievable between Broadmeadow and Central with only modest improvements in track and signalling – travel time from Newcastle would be a bit longer because of the extra stations and the slower speed through that city section.

To achieve that 2-hour journey, each intercity must be a *limited express*, stopping at not more than Broadmeadow, Glendale (when completed), Fassifern, Morisset, Wyong, Gosford, Hornsby, Strathfield and Sydney.

Even with existing trains, there is scope to run faster than the current timetable, not least between Hornsby and Strathfield. Cutting out the loop at Booragul, as also improving the alignment of sub-standard curves between Morisset and Fassifern, would give further time savings.

Frequency should be increased from hourly to half-hourly. Given that both the Lower Hunter and the Central Coast are designated as growth areas for both population and employment, the need for a half-hourly express service is unarguable.

This faster Newcastle intercity should be separate from the Central Coast-Sydney commuter service, a shorter trip for which the 5-seats-across Oscar trains are more suitable.

Modified off-the-shelf European 'tilt' trains can now be purchased overseas with a 2-deck configuration, wider stairways, better-positioned doors, more generous storage spaces and IT access. These could be combined with single-deck business cars having improved seating, work tables and refreshment service.

Precise specifications and costs should be the subject of an urgent design study. At this point, the Inquiry does not seek to go into the fine detail but to emphasise that:

- 1) no existing rolling stock, including the outer suburban Oscars, meet modern intercity specifications in amenities, riding comfort or noise;
- 2) the need to invest in new intercity trains does not depend on whether or not there is eventually a Very Fast Train.
- 3) the need for new intercity trains ties in with the need for new intercity stations in both Newcastle and Lake Macquarie. Broadmeadow is a tired, 1960s station with minimal amenities and poor access, especially to the local bus network. Put bluntly, it is a

disgrace. Glendale, a key node for future Newcastle area public transport, has yet to be funded but should be built as a dual commuter/ intercity station.

Logically, Newcastle's new intercity station (Newcastle Central) would be built not at Broadmeadow but at Hamilton, where it would allow easy transfer to and from the Maitland line. It also requires a good circulation of traffic so that buses, coaches, taxis and private cars (kiss-and-ride) can enjoy rapid entry and exit. Good access via Donald Street to the west of the city also makes Hamilton is a better location than either Broadmeadow or Wickham.

Newcastle Central could be built as either a terminus or a through station for intercity trains. A terminus would eliminate long trains from the contentious Hamilton-Newcastle section. Conversely, it would impose more demands on the limited space at Hamilton and involve more complex train operations.

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12 June 2011

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Hunter Independent Public Transport Inquiry

Rail Passengers and Freight

A Win-Win Outcome

Efficient freight and passenger rail transport are both essential to a strong regional and State economy. The *Hunter Independent Public Transport Inquiry* is not directly concerned with freight transport but takes the view that improvement in passenger rail services must recognise the needs of the freight sector and involve a strategy that provides a win-win outcome for both. .

Since the 1850s, NSW railways have carried passengers and freight on the same track as part of a *shared transport task*. In the 21st century, however, passenger rail and freight rail are becoming *less and less compatible*.

Under ideal operating conditions, the number of trains able to pass through any section of track is maximized by homogenous trains all running at the same speed. A mix of stopping and express passenger trains, likewise heavy freight and passenger trains, therefore 'wastes' track capacity.

The *National Land Freight Strategy Discussion Paper* (Feb. 2011) refers to the encroachment of passengers upon freight in metropolitan areas, especially Sydney.

Hitherto in the Hunter region, freight and passenger trains have been able to operate quite adequately on shared tracks. Although freight trains are longer and heavier than several decades ago, in general, time-sensitive freight (particularly inter-modal) and empty freight trains can keep up with passenger services as currently run. However, loaded bulk (coal) trains are normally slower.

So far this has not been a problem in the Hunter, but the need for more frequent passenger services makes it likely additional investment will be required to allow the continued reliable operation of both passenger and freight trains.

Rapid growth in coal exports transported through the fastest-growing urban region in NSW is a huge challenge that demands vision and careful planning, not just for the Coal Chain but also for the city and its region.

However, the NSW *State Infrastructure Strategy* does not yet recognise this challenge. In part this is because the rail network in the Hunter divides awkwardly between RailCorp (State) and ARTC (Federal) jurisdiction.

Transport planning must take a whole-of-network approach to the key Hunter region so that essential projects are identified and properly prioritised.

Key Element of HIPTI's Passenger Transport Strategy

a) *Short- and Medium-term Strategy (to year 2015)*

- A '**clockface**' **15-minute all-day/every-day** rail service along both the Newcastle-Maitland and Newcastle-Morriset corridors (including a half-hourly **fast intercity connection** to the Central Coast and Sydney).
- Connection at main stations with **express bus services** running to the same frequency across the rest of the urban area.
- Minor stations served hourly outside peak periods (more important to provide fast and frequent service to main stations than to slow the whole system, both passengers and freight, for minor stops).

b) *Long-term Strategy (by 2020)*

* **Light-rail** between the CBDF and Callaghan campuses and extending through to Jesmond and Wallsend. Construction of the missing link in the Highway 23 road bypass could allow this line to link to operate through to John Hunter hospital.

Key Elements of a compatible Freight Transport Strategy

- **Fassifern – Hexham Freight By-pass** as the key to accommodating freight growth without impinging upon passenger rail frequencies.
- **Refuge loops and/or passing lanes** for freight and slow passenger trains at critical locations.
- **High speed/low maintenance turnouts** wherever freight trains enter or leave shared main lines.
- **Junctions** – targeted improvements to minimise conflict times arising from crossovers and cross moves.
- **Curve Easing and Regrading** to improve coal train operations on the Wyong to Newcastle section.
- Endorsement of an **Inland Freight Rail Line** for through freight between Melbourne and Brisbane (which in the long-term will do more to free up track capacity in the Newcastle area than any other single action).

KEY ISSUE

The **Fassifern-Hexham Rail Freight Bypass** has been identified as a priority project by the Hunter Business Chamber, as also by ARTC. A viable route is known. Part of Newcastle expansion plans, and the prospect of significant export coal from Wyong,

reinforce the case. Action is required now to determine the exact route and to reserve land before encroaching housing development

However, this line is not part of ARTC's Hunter network but of the North-South route straddling RailCorp/ARTC territory and without clear division of responsibilities. There is a need for a whole of network National and State rail freight strategy in which Hunter rail freight is a key component.

EXISTING SITUATION

The rail lines from Sydney to Maitland and beyond are *shared* freight and passenger routes.

Passenger services decrease in density going away from Sydney as far as Berowra, are reasonably constant to Wyong, then a bit less again through to Hamilton. Beyond Maitland there are limited passenger services to the north coast and northwest.

Freight can be segregated into four groups:

- Freight between Sydney and Newcastle (local freight)
- Freight from Sydney (or beyond) *through* Newcastle to points further north
- Freight to/from Newcastle from/to north-northwest (notably export grain and ore)
- Coal freight – predominately on the Hunter Valley line but with small quantities on the North Coast and Sydney lines.

Freight density north of Sydney is fairly constant with a small jump in train numbers at the Newcastle end because of export and power station coal movements. General freight on the North Coast line (other than to Brisbane) is very modest but coal freight on the Hunter Valley lines into Newcastle is prodigious and growing rapidly.

Coal movement to the port of Newcastle is the biggest rail freight task carried out through any city in Australia, now around 125 million tonnes per annum (mtpa) or 340,000 tonnes per day.

From Sydney through to Adamstown is mainly shared double track. From Adamstown through to Maitland, apart from a very short section at Islington Junction, there are four tracks: one pair dedicated to freight (mainly coal) while the other pair is shared between passenger and freight.

From Maitland towards Muswellbrook there is double track with a third track being added much of the way to Singleton.

The North Coast line, however, is single track apart from the 2 km between Maitland and Telarah.

Thus, in the near future, four tracks north and west of Maitland will feed into four existing tracks east of Maitland – two shared ‘main line’ tracks and two ‘coal road’ tracks.

ARTC planning identifies that the coal road tracks have a capacity roughly double the volume now being handled – 103 loaded trains per day / 270 million tonnes per annum. After T4 is built, tonnage predictions are for 270 mtpa no earlier than 2016. Should coal tonnages exceed capacity of the existing tracks between Maitland and the port, then further enhancements will be needed with adjustments to the ‘Regulated Asset Base’ whereby the coal industry pays ARTC for its capacity.

The number of freight trains varies day by day across the week, with intermodal trains being much more variable than coal trains. Weekly train numbers are therefore used in the following:

At present there are around 84 freight trains per week each way on the Hunter end of the Sydney-Newcastle line. Of these 54 run through to somewhere beyond Newcastle (25 to the North Coast line; 13 to the Gunnedah/Narrabri area, and 16 domestic coal) while 30 terminate in Newcastle (primarily at Port Waratah).

North and NW of Newcastle, there are typically 78 general freight trains per week (54 through from ‘south’ and 24 originating from Port Waratah), plus around 370 export coal trains per week.

Coal Trains now comprise 43 fixed-consist trains with a standing capacity of 300,000 tonnes, in aggregate around 43 km of train.

GROWTH PROJECTIONS

Coal

Predictions, based on ‘booked’ rail and port utilisation indicate that tonnage will grow in line with port capacity from around 125 mtpa in 2011 to 210 mtpa by 2014, and will be able to expand to 270 mtpa by 2016 if the proposed T4 loader goes ahead.

Coal capacity on the Maitland-Sandgate section (coal roads) is listed as being 270 mtpa already, so in principle there is sufficient capacity for the export task after T4 is completed, provided that the non-export coal and all the general freight uses the main lines between Maitland and Sandgate (as is more or less the case now).

At current tonnage, ARTC calculates a coal train every 27 minutes. By 2015 coal trains will need to run every 18 minutes. With T4, trains may be running every 14 minutes.

It is inevitable that additional freight will be diverted onto the main lines in the 4-track section from time to time. ARTC’s proposed holding tracks at Hexham, along with the planned QRN servicing facility in the same area, will alleviate some of the pressure to

use the main lines, as will the ability to re-sequence coal trains at Hexham and Sandgate on the 'coal roads'.

The existing 'main line' tracks from Maitland toward Newcastle are quite capable of handling all the existing general freight and domestic coal along with the proposed high frequency passenger service. The biggest future capacity constraints will arise from mixing frequently stopping and semi-fast passenger trains.

Additional capacity for export coal should rightly be a matter for the coal industry and presumably will be dealt with in the same way that capacity enhancement has been done further up the Hunter network.

Coal trains from Lake Macquarie (Fassifern, Teralba and probably in the future Wyong) and other freight trains requiring to access the port currently need to cross the Newcastle-Maitland line between Woodville Junction and Islington Jn (roughly 250 metres apart). While this is a conflict that can be addressed by careful timetabling of more frequent passenger trains, it has the potential to cause periodic delays and unreliability. The Fassifern-Hexham freight by-pass would overcome this problem.

South of Newcastle

There are no reliable growth projections for the non-coal freight rail sector.

The NSW Submission to Infrastructure Australia in August 2010 predicted Interstate Inter-modal to grow from around 18 trains per week now to as many as 102 trains per week by 2018 and 166 trains per week by 2038.

Given that the North Coast line beyond Maitland is incapable of handling such volumes and that rail is currently losing market share on the East Coast corridors, a growth scenario of maybe half that would be more realistic.

Newcastle Port Corporation has long-term plans to develop Newcastle as the State's *second container port*. This will become necessary beyond the third stage of Port Botany, which has no further room for expansion beyond about 2020. The likely impact upon road and rail freight is a matter of some dispute but the Port Corporation estimates that 40% of the additional cargo will be shipped by rail. Some regard this estimate as much too high for the short distance to Sydney and the multiplicity of freight destinations in the Sydney Metropolitan Area.

Coal growth will be significantly increased by prospective Wyong export coal from around 2018, and to a much lesser extent to growth in power station coal to Eraring and Vales Point.

The net predicted growth in rail freight train numbers, after adjusting Interstate Inter-modal and other traffics to more accurately reflect likely developments would be for growth from the current 84 trains per week to around 240 train per week by 2038 (nearly

60 of which would be coal in the Wyong-Newcastle area). This would equate to 30-40 freight trains per day.

An Inland freight route between Melbourne and Brisbane would reduce the weekly number of trains between Sydney and Newcastle from 240 to around 180 by 2038 (a reduction of 10 trains each way per day) – three times the number of interstate intermodal trains than currently operate.

The controlling factor for freight capacity on this corridor will still be the Sydney suburban area tracks out to Hornsby and, to a lesser extent, between Hornsby and the Hawkesbury River. However, to accommodate a higher-frequency passenger service north of Morisset, provision of suitable refuge loops and/or passing lanes may be required.

North of Newcastle

The main element of growth in non-coal freight is expected to be Interstate Inter-modal between Melbourne and Brisbane – the very traffic that would be diverted away from this route by an Inland Line.

Assuming that the Inland Route draws off Melbourne-Brisbane inter-modal freight, and that residual regional traffic is progressively absorbed into longer and more productive trains, then the numbers of general freight trains north of Newcastle should increase by only around 30% by 2038 on the present modest number of 74 (i.e. to around 100 per week]

THE SOLUTION: KEY ELEMENTS

As a long-term strategy, the only good way to accommodate growth in freight with growth in intercity and commuter rail, each with very different rolling stock and operational requirements, is **track separation**. This will require a rolling program of investments over the next decade.

Freight By-pass

Benefits

- Allow all freight for Newcastle from the south and north to feed into Port Waratah and Kooragang from one direction with reduced potential for conflicts;
- reduce the distance for through trains from the Sydney direction to the North Coast and North West;
- reduce freight times Fassifern to Hexham by up to 20 minutes;
- facilitate higher coal train loads from Wyong (and possibly Fassifern);

- facilitate increased frequency and reliability of intercity and local commuter trains.

Other points:

- ARTC's proposed holding tracks at Hexham could facilitate a junction for the bypass;
- Apart from a tunnel at George Booth Drive, the line would be on the surface;
- The old J & A Brown 2-track embankment across Hexham Swamp still exists and may be able to be re-used;
- However, land acquisition will become more pressing with urban development.

Refuge Loops

Since diesels and electrification, the maximum length of freight trains has grown from 300-400 metres to 1550 metres, although the majority of trains other than Interstate Intermodal and export coal normally do not exceed 1000 metres. The infrastructure has not been upgraded to refuge such long freight trains, which impairs the ability of freight trains and passenger trains to co-exist on the main line, especially between Sydney and Newcastle.

Such facilities at appropriate places between Hornsby and Newcastle will allow faster passenger timetables and/or higher frequencies. They would also allow slower passenger trains to be overtaken by intercity Flyers.

High speed turnouts

The Maitland line needs turnouts and crossovers that are designed for freight trains at relatively high speeds (>50 km/h vs present standard of 25 km/h) to minimise headways with following trains. It is noted that reconfiguration of the Maitland Junctions is included in the ARTC Hunter Valley Capacity Strategy (March 2011).

Maitland, Thornton, Warabrook and (potentially) Waratah are locations where such low-cost improvements can be made.

Junctions

Every junction potentially slows train movements and reduces track capacity. This applies particularly to Islington Jn, Waratah/Warabrook/Sandgate, Thornton, Maitland and, in future, the end of the 3-track section just north of Maitland.

The archaic method of terminating trains at Morisset needs to be improved so the local train does not block the main line.

Realignment and Regrading

The track between Morisset and Teralba has some constraining curvature and also a potential grade problem for northbound coal trains between Dora Ck and Eraring Junction and again north of Fassifern.

If this section of track was regraded and straightened, curve easing continued through to Awaba and the proposed 'short cut' reinstated between Fassifern and Teralba would allow a complementary gain in passenger train timings of at least 10 minutes. It would also allow longer (but fewer) export coal trains from Wyong.

Inland Freight Line

Melbourne-Brisbane interstate freight is expected to show steady growth but it need not be routed through the congested urban area and mixed in with coal freight between Sydney and the Hunter Valley. Only an Inland Route can relieve these constraints and allow significant growth on this corridor.

An Inland Route via Parkes and Moree has been projected for 'some time in the future'. Even if work commenced immediately, it could not be completed before around 2020. Given the importance to the Hunter Region of removing the Melbourne-Brisbane intermodal trains from the local mix, it is highly desirable that this project be brought forward to the earliest possible date.

Funding Issues

The coal industry already pays for coal capacity improvements through the Regulated Asset Base mechanism. Provision of additional capacity for passengers and other freight is normally a combination of State capital funding (presumably in future through the Infrastructure NSW mechanism), Federal capital and ARTC funds. In general, ARTC does not get involved in passenger capacity issues (or associated infrastructure such as stations) which are clearly in the State domain. For suitable candidate infrastructure projects, particularly those involved in import/export freight or urban passenger the Federal government may be willing to support projects via Infrastructure Australia. However the significant deficit of infrastructure in Sydney (in particular) will demand a very strong case for regional funding support.

ARTC is under a statutory obligation to allow access to passenger trains, including commuter services. However, it is not clear whether ARTC is required to provide capacity for increased frequency of passenger services, particularly where new infrastructure is required.

CONCLUSION

The Inquiry believes that the needs of both passengers and freight can be accommodated in the Hunter in a way that recognises the Region's importance as both the powerhouse of the NSW economy and the State's second city. The predicted growth of both population and the freight task are such that this must now be an urgent priority for state planning.

The NSW State Infrastructure Strategy does not yet recognise this challenge. In part this is because the rail network in the Hunter divides awkwardly between RailCorp (State) and ARTC (Federal) jurisdiction. Transport planning must take a whole-of-network approach to the key Hunter region so that essential projects are identified and properly prioritised.

In the absence of such State and/or Federal initiative, the Inquiry believes that key stakeholders within the Region need to agree upon a win-win transport action plan for both freight and passengers that can be endorsed and funded by State and Federal Governments.

The coal industry, the port and the city have a common interest in ensuring that Newcastle as the second city in NSW is efficient for business, prosperous for its people, and livable as an urban community. If freight is routed around the city instead of through it, the existing shared track will have more than adequate capacity for passenger rail movements at higher frequency.