



**ITS (Monash)**

**Decision to Close the  
Newcastle Branch Rail Line  
- Independent Review of  
Transport Reports**

**FINAL REPORT**

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ATTACHMENT A. LIST OF MATERIAL REVIEWED

ATTACHMENT B. LIST OF PEOPLE CONSULTED.

## 1. INTRODUCTION

### 1.1 Project Aims and Objectives

This report details the findings of an independent review of recent reports regarding the NSW State Government's decision to close the rail line to Newcastle Station (NSW). It is undertaken by Professor Graham Currie, Chair of Public Transport at the Institute of Transport Studies, Monash University on behalf of Newcastle City Council and the Lower Hunter Councils Transport Group.

The following tasks were required in the review:

- A. Review the reports of the Lower Hunter Transport Working Group which preceded the *Broadmeadow Transport Interchange Feasibility Study* (TIDC, November 2004) and the *Economic Impact Of Rail Closure In Newcastle* (GHD, November 2004) and report on:
- Methodologies employed;
  - The extent to which the terms of reference were met;
  - The validity of conclusions reached.

The submissions of Professor Warren Pengilley and Dr Bruce McFarling are also to be reviewed and reported in relation to these reports.

- B. The impacts of the following reports on the provision of high quality, sustainable public transport services within the Lower Hunter are to be reported - *Broadmeadow Transport Interchange Feasibility Study* (TIDC, November 2004) and the *Economic Impact Of Rail Closure In Newcastle* (GHD, November 2004). For each of these reports the consultant must:
- Review and report on the extent to which the terms of reference and the direction by the Ministry of Transport to consider criteria provided by members of the Central Consultation Group were met;
  - Review and report on the methodologies used;
  - Review and report on the validity of the findings.
- C. Review and Report on the State Governments decision to close the Newcastle Branch Line in terms of its consistency with the Metropolitan Strategy
- D. Undertake at least one site visit during the review
- E. Consult with a range of persons/organizations to glean local knowledge of transport issues including, but not limited to Professor Warren Pengilley and Dr Bruce McFarling. A report in writing on material reviewed and individuals/organizations consulted is to be made.

This report presents the findings of the review. This is based on:

- a review of the reports identified above
- A site visit undertaken between Wednesday 17<sup>th</sup> and Friday 19<sup>th</sup> August 2005
- Meetings with Professor Warren Pengilley and Dr Bruce McFarling held on Friday 19<sup>th</sup> August 2005.

### 1.2 Review Scope

This review examines the documentation and information provided in the identified reports. It does not have access to the information used to compile these reports. Hence in many cases it can only raise questions about points made in the reports. It cannot provide conclusions in all cases unless adequate information is provided in the source documents.

### 1.3 Report Structure

This report is structured as follows:

2. Review of Reports of the Lower Hunter Transport Working Group
3. Consultant Report Review
4. Rail Closure Decisions and the Metropolitan Strategy
5. Conclusions.

In addition the following attachments are presented:

- A. List of Material Reviewed
- B. List of People Consulted.

## **2. REVIEW OF REPORTS OF THE LOWER HUNTER TRANSPORT WORKING GROUP**

### **2.1 Evaluation Objectives**

The terms of reference of this assignment require a review of the reports of the Lower Hunter Transport Working Group (LHTWG) to report on:

- Methodologies employed;
- The extent to which the terms of reference were met;
- The validity of conclusions reached.

In addition the submissions of Professor Warren Pengilly and Dr Bruce McFarling are also to be reviewed and reported in relation to these reports.

The reports reviewed included:

- Lower Hunter Transport Working Group – First Report – 19 September 2003
- Lower Hunter Transport Working Group – Second Report – 21 November 2003
- Lower Hunter Transport Working Group – Final Report – 22 December 2003

### **2.2 LHTWG Terms of Reference**

The LHTWG terms of reference were:

1. Assessment of current routes and patronage of rail and bus services in the Lower Hunter;
2. Review of existing proposals for improvement of transport services, including the evaluation of Woodville Junction proposal, by SGS/Maunsell commissioned by Newcastle City Council;
3. Investigation of the replacement of the rail line to Newcastle City with a dedicated transport corridor for a superior frequent bus service;
4. A revision of bus routes in the Newcastle and Lake Macquarie area; and
5. Consideration of funding options including private sector investment through a mix of residential and commercial development, such as restaurants and shops, and preservation of all heritage sites including Newcastle Station.

### **2.3 Report 1 – First Report**

The following comments are made on the report in relation to the terms of reference (TOR) identified:

#### ***TOR 1. Assessment of current routes and patronage of rail and bus services in the Lower Hunter***

##### **Rail**

- Report only focuses on patronage associated with the proposed closure section of the line. It does not concern rail or bus patronage in a wider regional context with the minor exception of broad mode share data.
- Table at bottom of page 13 – There may be errors between the second column of the table stating data for 1997 and the text noting it as 1994/95. However it is unclear if this data is complete or of value because:
  - It covers passenger entry and exits and hence may double count an individual passenger, particularly if they get on and alight at stations within the survey (the Table on page 14 suggests that around 6% will do this). It is unclear if this double counting has been allowed for since this is not stated.
  - It is not clear if this is data from a station (or platform) entry and exit survey and hence whether people passing through Hamilton on trains are counted.

- The handling of transfers between trains within the Interchange at Hamilton is not explained. It is also not clear if these are double counted i.e. as an exit and an entry or if double counting problems have been removed from the data..
- Overall this is a misleading and at least unclear table. It is not clear what the unit of analysis is. Is it people, boardings plus alightings or something else. There is very poor documentation of the table's content.
- An important question which cannot be answered from the data presented is “what proportion of the Hunter Valley rail market would be affected by the rail line closure?”

#### Bus

- There is little coverage of bus patronage in the Lower Hunter region. The main area of interest in the review appears to be bus services and bus capacity in relation to services running parallel to the section of the rail line where closure is proposed. Reference to other inquiries and reports is made but general bus patronage is hardly considered within this framework.

#### Bus Rail Comparisons

- P11 second and third last paragraph – A discussion of the merits of bus versus rail is undertaken where bus is associated with efficient carriage of lower density areas. This is purported to be reflected in the higher usage of buses using data showing a 4.2% share to bus and 0.8% to rail. This is clearly an inappropriate ‘proof’ of the statements since rail is a medium to long distance mode in this case while bus is a short distance mode. The same data is used later (p17) to suggest “buses are clearly the preferred mode”. This is not a valid conclusion since rail does not cater for the wider bus catchment and hence is not a part of any choice preference i.e. bus is used because there is no rail not because rail is deficient in any way.

#### Conclusion

- The report shows a lack of concern with current rail and bus routes and patronage and a clear focus on the rail line closure issue. It does not meet its terms of reference because it does not examine current routes/patronage in the Lower Hunter with the single exception of that associated with proposed rail closure.

#### ***TOR 2. Review of existing proposals for improvement of transport services, including the Evaluation of Woodville Junction Proposal, by SGS/Maunsell commissioned by Newcastle City Council***

P22 paragraph 6 – Report argues that retention of rail services on the basis of high urban growth forecasts is ‘fanciful’ and that “there is no evidence that increased population growth would result in any increase in public transport levels”. However there is substantial Australian experience that increased public transport usage is often caused by population growth. A critical issue is where the population growth occurs i.e. adjacent to transit or away from services. If as the report suggests urban growth is to be “dispersed” then the likelihood of public transport market growth is likely to be low and car dependence will be enhanced. No data to support the report’s assertion that growth will be dispersed is presented. However later in the report it notes that much urban development is occurring next to the rail line in the section proposed for rail closure. This seems inconsistent.

A valid strategy is to encourage population growth near to public transport services and stations. This can act to increase usage of public transport and can also increase mode share of travel by public transport reducing car dependence. This is the approach suggested by the DIPNR discussion paper ‘Metropolitan Strategy’ (DIPNR, 2004); “new housing will be located in existing areas, focused in centres and corridors. It will be planned and designed with access to good public transport”. This approach is consistent with international ‘smart growth’ strategies which are often termed ‘transit oriented development’. No discussion of this option is made in the reports.

Other options are reviewed and commented on. It is difficult for this reviewer to comment on the extent to which the reports meet their requirement to review other reports without having also reviewed them as part of the assignment.

***TOR 3. Investigation of the replacement of the rail line to Newcastle City with a dedicated transport corridor for a superior frequent bus service;***

A generally negative picture of the performance of the existing rail line is presented prior to development of options. Public support for the line is noted but discounted because “people like the idea of a train being available, even if they rarely use it”.

The report emphasizes the importance of the line acting as a barrier to urban and economic revitalization. This is strange since it makes earlier reference to growth being dispersed away from the rail line. Certainly no attempt to associate opportunities for transit oriented development are considered. The rail line is seen to be a problem rather than an opportunity.

Four options are developed which actually include a base case (current service patterns) and three options. The base case involves no service improvements. Rather the lines infrastructure is better managed:

- Improved road and pedestrian links across the tracks
- Upgrade of Broadmeadow station with easy access
- Upgraded signaling.

Each of the three options involve closure of the line to some degree. The first to Civic, the second to Woodville Junction and the third to Broadmeadow.

The terms of reference refer to the replacement of rail with a ‘superior frequent bus service’. There is no consideration in the report about what this might be. Certainly later discussion refers to free buses with good schedule coordination. However it is clear that this includes passengers having to transfer between train and bus. It is this reviewer’s opinion that this will be very unlikely to be ‘superior’ from a passengers journey quality viewpoint. However it is likely to be superior from a ‘financial cost recovery’ perspective. The emphasis of the words ‘superior bus’ in the title is suggestive that those writing the terms of reference already have a view about the outcome of the review.

**Conclusion**

The investigation of rail closure options has not considered a wider range of reasonable options such as improving the effectiveness of rail service or enhancing it with transit oriented development. Rather ideas for improving transit are considered ‘fanciful’ and discounted as such. Only rail closure is emphasized. This is unfortunate since the full range of possible options has not been considered. The patronage performance of rail in lower density circumstances such as Newcastle is comparatively poor compared to high density areas. However this does not mean that rail is not a high quality or valued service. Performance assessment should consider the full range of performance values which represent the varied and often conflicting objectives which drive our provision of public transport services. It would have been a valid approach to demonstrate this via an objective assessment of the performance of a range of options and a more complete range of performance measures.

***TOR 4. A revision of bus routes in the Newcastle and Lake Macquarie area***

The report does not meet the requirement to review bus routes in Newcastle/Lake Macquarie. Rather it refers to considerable overlap with other studies and inquiries. This does not stop the report trying to demonstrate that rail ‘does not meet the needs of some key activity centres’ by showing a table of areas where rail does not operate. Such a clumsy attempt to discredit rail seems to this reviewer to be a clear indication that objective assessment of the options is not being considered.

***TOR 5. Consideration of funding options including private sector investment through a mix of residential and commercial development, such as restaurants and shops, and preservation of all heritage sites including Newcastle Station.***

The report discusses development issues and opportunities. It notes the ‘transit funnel’ which concentrates traffic congestion in the entrance to Newcastle City and the problems of developing a sustainable environment for development around traffic congestion.

The Honeysuckle Development Corporation and its role in coordinating development is discussed. However no wider coverage of funding options are discussed. Heritage issues are hardly mentioned.

#### Conclusion

Little consideration of alternative funding options or heritage issues are made in the report.

## **2.4 Report 2 – Second Report**

The second report deals more directly with terms of reference 2 (review of proposals) and 3 (investigate replacement of the rail line). Its focus is presenting broad cost and benefit information of the options identified in Report 1. It is also to examine how a ‘superior frequent bus service’ can be effectively introduced into the corridor.

The report confirms that its primary focus is “identifying options for enhanced public transport services”. There is no basis for this from a passenger perspective since no options for improving the quality of public transport have been considered. Hence this claim is incorrect (from the passengers perspective). Certainly all the rail closure options will act to improve the financial sustainability of the services i.e. by reducing the subsidies required to support public transport in the region. If this is the sole consideration of the report then its claim to identify options for ‘enhanced’ public transport is correct but only in these terms.

Report 2 identifies the following results from the evaluation:

Option (Base Case)	Undiscounted capital (\$M)	Financial NPV (\$M)
Base Case	148	181
Civic	191	230
Woodville Junction	253	273
Broadmeadow 1	121	148
Broadmeadow 2	111	138

It notes that this ‘evaluation’ only covers rail costs and revenues. No bus costs or development impacts are considered.

The report notes that decontamination costs associated with decommissioning the track have not been included in the costings. This is a significant cost which should be considered. There is some suggestion that these costs could be built into developer contributions. Whether this is true or not is not relevant. A comprehensive objective economic evaluation should identify and value the costs and benefits of project impacts on society. Hence their inclusion would be valid.

Closer examination of the evaluation presented in Appendix 2 to the report shows:

- There is no evidence of any patronage impacts being forecast. This is problematic since it is clear that the options assessed would reduce the demand for rail and thus reduce farebox revenue
- There is no evidence that farebox revenue changes have been considered in the analysis of options.

The report notes that this is a preliminary financial evaluation and that the next stage in the project is to consider passenger interchange, access and community costs and benefits. However farebox revenue is a valid measure to include in a financial evaluation and it cannot be undertaken without a patronage forecast.

The report does note that a patronage impact review should be undertaken. It suggests that Sydney/Central Coast markets would not be affected. It also notes:

- rail travel time for the 5kms between Hamilton-Newcastle is 10-12 minutes
- bus travel time is 15 minutes (however it is suggested that a free bus may be quicker particularly with on-road priority measures and limited stops).

The report does include a review of items which may be of heritage significance (associated with TOR 5).

Attachment 1 to the Appendix 2 report also includes patronage data suggesting the Hamilton-Newcastle section of the line carries about 25% of the Newcastle Area and Hunter region passenger market. However as with previous patronage information it is very unclear what this data represents.

## Conclusion

Report 2 covers only a costing analysis of options although some useful pieces of additional information are identified e.g. heritage issues. The evaluation is very limited and only really considers direct costs. Patronage and revenue impacts appear to be omitted and bus, development impacts and decontamination costs are also omitted.

## 2.5 Report 3 – Final Report

Report 3 brings together the previous reports and includes an analysis of bus services, urban design issues and development opportunities associated with a new transport interchange.

The coverage of the report from the perspective of the terms of reference are identified below:

### *TOR 1. Assessment of current routes and patronage of rail and bus services in the Lower Hunter*

No substantive additional information to that in Report 1 is provided.

### *TOR 2. Review of existing proposals for improvement of transport services,*

No substantive additional information to that in Report 1 is provided.

***TOR 3. Replacement of the rail line to Newcastle City***

The cost based analysis presented in Report 2 is presented again in Report 3. The design requirements for the Broadmeadow option (the cheapest of those identified in the evaluation) is presented including design for bus treatments including on-road priority and interchange planning requirements. Some preliminary costs are identified (but not included in the evaluation).

Bus priority on Hunter Street is discussed. The PTIPS (Public transport information and priority system, signal pre-emption based) system is discussed. No discussion of the significant traffic flow disruptions which would be associated with adopting a bus signal pre-emption system within a CBD are identified.

***TOR 4. A revision of bus routes in the Newcastle and Lake Macquarie area***

No plans or proposal for the revision of bus routes in the area are presented. Rather a new state owned corporation ‘Hunter Buses and Ferries’ is proposed. Service principles for this organisation and for private bus companies are outlined. Recommendations from the Unsworth Review of bus services in NSW concerning Newcastle Strategic Bus Routes are presented.

***TOR 5. Funding Options and Development Issues***

A report by the Urban Design Advisory Service is presented identifying funding generated from urban redevelopment of Newcastle, Civic and Hamilton Stations. This assumes the stations are closed but allows for a future possibility of light rail or a busway on the rail alignment. A wider range of funding opportunities are identified and described.

**2.6 Extent to Which Terms of Reference Were Met**

Table 2.1 presents a summary of the key points. In general the reports reviewed were considered biased towards the rail closure option with little comprehensive consideration of the alternatives. The final preferred option is removal of the rail line to Broadmeadow although this recommendation is not based on a full evaluation of alternative options. Rather rail closure is based on an outline analysis of rail closure options.

**2.7 Comments on Methodologies Employed**

The reports display little direct evidence of an objective development or assessment of options. Rather a number of clear indications of bias are apparent e.g. :

- in the identification of the bus replacement service as “superior”
- in statements suggesting the use of a high volume of public transport on bus as ‘evidence’ of preference for bus rather than rail.

It is difficult to comment on rail operations or costing approaches since a review must rely on what is reported rather than a review of the raw data (which is not accessible to the reader).

The evaluation is clearly simplistic although the reports identify these as preliminary. Nevertheless the ‘preferred option’ is recommended based on an evaluation which the report itself identifies as preliminary.

**Table 2.1 Extent to Which Terms of Reference Were Met**

<b>Term of Reference</b>	<b>Met TOR</b>	<b>Explanation</b>
1. Assessment of current routes and patronage of rail and bus services in the Lower Hunter	No/ Limited	<ul style="list-style-type: none"> <li>• Over emphasis on rail closure issue</li> <li>• No/limited coverage of wider bus issues</li> </ul>
2. Review of existing proposals for improvement of transport services, including the evaluation of Woodville Junction proposal, by SGS/Maunsell commissioned by Newcastle City Council	No/Limited	<ul style="list-style-type: none"> <li>• Options for expansion of rail using transit oriented principle rejected without any objective assessment</li> <li>• No options for improvement of services from a passenger perspective considered</li> <li>• Only ‘improvements’ likely to result in financial cost recovery</li> </ul>
3. Investigation of the replacement of the rail line to Newcastle City with a dedicated transport corridor for a superior frequent bus service	No/Limited	<ul style="list-style-type: none"> <li>• As above</li> <li>• Evaluation undertaken is very limited and does not include a patronage forecast</li> </ul>
4. A revision of bus routes in the Newcastle and Lake Macquarie area	None	<ul style="list-style-type: none"> <li>• The study deferred its terms of reference to other studies and enquiries</li> </ul>
5. Consideration of funding options including private sector investment through a mix of residential and commercial development, such as restaurants and shops, and preservation of all heritage sites including Newcastle Station.	Yes/ Limited	<ul style="list-style-type: none"> <li>• A reasonable range of options noted for funding</li> <li>• Land development options associated with transit oriented development not considered</li> </ul>

## **2.8 Review of the Pengilley/ McFarling Submissions**

The terms of reference for this review require that the submissions of Professor Warren Pengilley and Dr Bruce McFarling are also to be reviewed and reported in relation to these reports. The relevant reports by these authors have been identified as:

Pengilley W (2005) ‘An Analysis Of The Newcastle Rail Position And The Recommendations Of The Lower Hunter Transport Working Group’ prepared as background material to a meeting of the Australian Labor party, Newcastle Branch, 5 January 2005

Pengilley W (2004) ‘The Railroading of Newcastle Rail’ text of an address given to a public meeting held at Maitland Town Hall, 10 March 2004

McFarling BR (2004) ‘Financial and Transport Performance of the Newcastle Rail Line’

The following comments are made on each report:

**Pengilley W (2005) ‘An Analysis Of The Newcastle Rail Position And The Recommendations Of The Lower Hunter Transport Working Group’**

- This reviewer cannot comment on the political background to the project or the allegations relating to bias in the formation of the Lower Hunter Transport Working Group (due to lack of knowledge).
- There is some suggestion that the reports were ‘rushed’. Certainly they are very closely spaced together in time.
- The weaknesses of the evaluation included in the reports as preliminary is highlighted (to which this reviewer and the reports concur).
- A contradiction between the State Rail Appendix 2 (Report 2) statement that ‘patronage has slowly increased since the dramatic decline in 1996/7’ and the third report’s view that patronage “has declined significantly in recent years” is noted. The LHTWG reports make statements suggesting decline but annual figures (attachment 1 to Appendix 2, Report 2) shows quite stable demand since 1988/89. This criticism is quite valid.
- The failings of the LHTWG reports in not examining wider options is highlighted.
- Professor Pengilley suggests members of the LHTWG had vested interests as members of the Honeysuckle Development Corporation. This reviewer cannot comment on such issues.
- Professor Pengilley asserts that the LHTWG was a ‘sham’. This is colorful language which implies premeditation. This reviewer cannot comment on such matters however an assessment of the facts presented in the LHTWG reports suggests that rail closure was favoured in the analysis and that wider options were quickly discarded with little objective consideration.

The report then proceeds to make a commentary on assertions in the LHTWG Reports. An assessment of them is presented in Table 2.2.

**Table 2.2 : Review of Commentary Points on LHTWG Reports**

<b>LHTWG Point</b>	<b>Pengilley Assessment</b>	<b>Review</b>
1. Chronic decline in rail patronage	Recent growth identified	Evidence of stable rail market presented in LHTWG Reports
2. Rail Patronage a. An average of 42 passengers per train was identified, highest was 100. b. Patronage east of Hamilton was 23% seating capacity.	Counts are an average - understanding peak hour loads is necessary to identify if bus can carry the market. Need for balance of seated vs standing on bus vs rail.	Agree peaked nature of market is important issue, also the peak direction vs off peak direction. Most significant issue for bus vs rail is the transfer penalty. This not mentioned by Pengilley.
2. Rail Patronage c. Count on 8 Dec 2003 was 18% less than May count	Count in December not a representative one due to school holidays.	This retort is very credible. An understanding of ‘seasonality’ is an essential requirement to monitor market trends.
3. Working Groups Assertions	a. Almost 50% of the patronage on the Lower Hunter use a station earmarked for closure	This is an important point but it is unclear if it is correct. The figure in attachment 1 of Report 2 Appendix 2 suggests station closures would represent about a quarter of the market. However this data is not definitive because it quotes ticket sales, which may not be made at destination stations

**Table 2.2 : Review of Commentary Points on LHTWG Reports**

<b>LHTWG Point</b>	<b>Pengilley Assessment</b>	<b>Review</b>
	b. Scone/Morisset etc services will be less used	Agree.
	c. Could affect competitiveness of the Newcastle CBD to Sydney CBD link	Agreed.
	d. Passengers do not transfer from rail to bus.	Disagree, some will do this particularly those with little choice. However many will decide to no longer use rail when a transfer is 'forced' onto them. Certainly the transfer is the most significant issue in this project design.
4. Costing – Working Group Assertions	a. Farebox revenue not a good criteria to assess Newcastle rail line	Partly agree, however an accurate assessment is a worthwhile number to know. Governments have every right to identify performance of services from a financial viewpoint and take actions to improve performance as long as the public understands the value trade-off involved
	b. Questions costs of signalling and its need.	This is a specialist area. However this reviewer is not surprised at the costs identified.
	c. Double counting of periodic maintenance as both an annual outgoing and capitalized cost.	Cannot comment on the validity of this, however it is a good question to ask. Discussion of this issue during the interview with Professor Pengilley has clarified some of the points raised however this reviewer is unable to substantiate the accuracy of the claim from the data provided in the report.
	d. Staff savings may not be realised unless staff made redundant	Disagree. In an economic sense the value of the salaries can be used to estimate the value of the services provided. They could be redeployed to provide benefit elsewhere.
	e. Bus costs ignored	Agree but the report also noted this.
	f. Many costs ignored – stabling at Broadmeadow, decontamination costs, heritage costs, decommissioning costs	This reviewer's reading of the reports suggests stabling has been considered. Section 4.4.3 of the State Rail report (Report 2 Appendix 2) identified contamination issues. Heritage costs have not been identified, however they may be valid for both the base case as well as the options. No references to decommissioning costs have been identified.
5. Bussing – The Preferred Mode	Key points against bus: <ul style="list-style-type: none"> <li>- lack of luggage capacity</li> <li>- bus costs not considered</li> <li>- effect on bus priority on cross traffic not considered</li> <li>- bus service spans shorter than rail</li> <li>- more buses may be required</li> <li>- cost of real time passenger information system not included</li> <li>- buses will add to traffic congestion</li> </ul>	In general agree with all these points. They are valid impacts which need consideration in an objective assessment of the facts.

**Table 2.2 : Review of Commentary Points on LHTWG Reports**

<b>LHTWG Point</b>	<b>Pengilley Assessment</b>	<b>Review</b>
	- people unlikely to transfer from bus to train	
6. Parking Fees – a parking levy to fund transport improvements	Prime importance is removing cars from the CBD – the public will be suspicious of taxes not used to improve services.	Agree but as long as monies are hypothecated to transit then this is a progressive way of managing car demand and improving transit.
7. Other Funding	Suggests moneys from the sale of rail land should be used for transit	Unclear what is being suggested

**Pengilley W (2004) ‘The Railroading of Newcastle Rail’**

This paper provides little additional factual data in relation to the above document. The framing of the text is more ‘political’ than technical.

**McFarling BR (2004) ‘Financial and Transport Performance of the Newcastle Rail Line’**

- Evidence suggesting Newcastle, Hamilton and Civic provide over half the regions patronage, (and greater during the midday period) is presented. This data is for the five busiest stations and hence is not a system wide assessment of overall usage.
- Annual data suggesting Newcastle-Hamilton trips (at 600,000 p.a., 02/03) have increased in recent years more than total rail trips (at 2.1Million p.a.). This is an interesting valid point. It is evidence that CBD growth has impacted rail usage positively.
- Suggests closure of the rail line will increase already difficult CBD parking demand. This reviewer agrees with this.
- Analysis is presented suggesting revenue from stations proposed for closure cover more than their marginal operating costs. This is a very outline assessment where some very broad assumptions have been made e.g. half ticket revenue can be allocated to origin and destination station. A major problem is that only a small share of the rail operating costs associated with the service are compared in this equation with the revenues. It is not a valid comparison. However a direct allocation of revenue taken at stations is inappropriate since most destination station users buy tickets at origin stations.

The rest of the McFarling paper is difficult to read or understand (despite several concerted efforts). However during the interview with the author a clearer picture of some of Dr McFarling’s concerns emerged. These and an assessment follow.

The major concern identified by Dr McFarling was the validity of the financial assessment of the cost recovery of the branch line proposed for closure. Costs are suggested to be inflated and an untrue representation of the marginal costs of closure. The LHTWG report identifies marginal costs as \$15M p.a. and revenue of \$5.7M p.a. suggesting a loss of just over \$9M p.a.

Dr McFarling suggests the costs are inflated because Major Periodic Maintenance (MPM) is included. It is suggested these are a major element of maintenance costs (this fact is corroborated by Table 9.2 in Report 2 which suggests MPM is 49% of all maintenance costs identified). Dr McFarling suggests these should not be included in an assessment of marginal cost recovery because:

- Signalling upgrades are a part of these costs. He argues a full upgrade is not required. He notes that it is State Rail policy that elements of signalling upgrades are only undertaken if they are cost-effective from a benefit cost trade-off viewpoint i.e. they are profitable. It is suggested therefore that the benefits of these measures should be included as well as the costs. Either that or no costs should be included since the benefits (which are not included) cover the costs.

- It is suggested that much of the upgrade is to cover access to stabling for North Coast line trains. This stabling is needed for the whole of the North Coast line not just for the branch line hence it is not a marginal item of relevance to only the branch line closure.

This reviewer's assessment of these arguments is that that they are entirely plausible. However this reviewer cannot verify from the reports whether signalling upgrades are or are not included in the marginal costing or if stabling is being treated on a whole of cost basis. If, as Dr McFarling suggests, these items are being included in these costs then this reviewer concurs that the assessment is invalid and costs inflated.

## **2.8 Conclusions**

The reports of the Lower Hunter Transport Working Group are clearly limited in meeting the terms of reference which they were given. They display a bias in favour of consideration of the closure of the rail line to Newcastle in exclusion of almost anything else. A small part of this bias may be explained by the large number of studies and inquiries regarding bus services in NSW which the reports deferred to. Despite claims in the reports that their focus was identifying options to improve public transport, no options have been considered which improve services to passengers.

A wide number of claims have been made about the accuracy of the analysis included in the reports. In general these seem highly plausible although it is difficult to corroborate all assertions using the data available in the reports.

### **3. CONSULTANT REPORT REVIEW**

#### **3.1 Evaluation Objectives**

The terms of reference for the review state that the impacts of the following reports on the provision of high quality, sustainable public transport services within the Lower Hunter are to be reported

- *Broadmeadow Transport Interchange Feasibility Study* (TIDC, November 2004) and
- *Economic Impact of Rail Closure in Newcastle* (GHD, November 2004).

The following tasks must be undertaken for each of these reports:

- Review and report on the extent to which the terms of reference and the direction by the Ministry of Transport to consider criteria provided by members of the Central Consultation Group were met;
- Review and report on the methodologies used;
- Review and report on the validity of the findings.

#### **3.2 Consultant Report Terms of Reference**

The following terms of reference applied to the reports:

##### *Broadmeadow Transport Interchange Feasibility Study*

The objective of this report is to prepare a feasibility study for the proposed Broadmeadow Transport Interchange. The terms of reference include:

1. Establish a design concept of the Broadmeadow Transport Interchange and the transport corridor from Hamilton to Newcastle
2. Establish an overall concept cost for retaining the existing service
3. Establish an overall concept cost for the Broadmeadow Interchange covering capital and operating costs for rail maintenance, buses and infrastructure
4. Assess the impact, if any, on patronage/revenue as a result of the implementation of the Broadmeadow Interchange
5. Establish an operations plan for the proposed Broadmeadow Interchange covering both trains and buses
6. Identify the extent of the RailCorp holdings along the Newcastle Branch line corridor and assess the extent and value of the land available for redevelopment
7. Undertake an initial assessment of the environmental factors and provide advice on planning issues associated with the proposal, factoring in the Ministers commitment to preservation of a transport corridor into Newcastle
8. Prepare a delivery plan and program for implementation.

##### *Economic Impact of Rail Closure in Newcastle*

This report aims to assess the potential economic impact of removal of the rail line from Broadmeadow to Newcastle. The study does not address whether or not the line should be closed, rather it concerns the potential impact if it is closed. The terms of reference from the brief require consideration of :

1. The types and mix of buildings/developments that could realistically be built in the CBD area freed up as a result of any decision to remove the rail line;

2. Views on what viable businesses/developments could be constructed over this timeframe, their estimated costs of construction, estimated infrastructure costs and the projected timeframe for the developments;
3. Commercial construction development – the development of hotels with a waterfront view may attract tourists. Other commercial developments may generate rental income
4. Government and business expenditure entailed in the construction of new developments
5. Potential rates revenue to the local council
6. Zoning issues and any council regulations that affect development
7. Residential housing development/apartments – this may lead to increases in values of land in front of the water and may be a driver for developers
8. The State Government’s commitment to retain a transport corridor
9. Recognition of appropriate open space for the public
10. Assumptions detailed
11. Economic impact to include additional direct and flow on jobs created over the medium to long term, types of jobs created, and projected downstream impacts on tourism
12. The once off construction impacts
13. The economic impact of loss of patronage.

### **3.3 Broadmeadow Transport Interchange Feasibility Study**

The review of this report follows the structure of the terms of reference.

#### ***TOR 1. Establish a design concept of the Broadmeadow Transport Interchange and the transport corridor from Hamilton to Newcastle***

The design concept is primarily covered in Section 2: Architectural Concept Design Report.

#### **The Interchange Design**

Three main schemes for the interchange are examined. Scheme 3 is preferred. This incorporates the use of existing platform faces (plus a new dock platform) linked to the Lambton Road Bridge which is modified to include a bus interchange on either side of the bridge.

The design provided meets the requirements of the terms of reference and is the best of the options provided. A negative aspect of the design is the need to use stairs to gain access between the platforms and between each platform and the bus interchange. While lifts are provided this will none the less be an unattractive feature of the design. The authors note that “the level of patronage expected for this interchange is unlikely to be of a volume which would demand escalators”. However no evidence of the application of a demand threshold is provided.

#### **Design of the Transport Corridor**

Reference is made to a report by the Urban Design Advisory Service (December 2003) which does not cover the whole of the corridor. Rather the following three areas are considered:

- Hamilton Station and surrounds
- Civic Station and surrounds
- Corridor adjacent to Scott St terminating at Newcastle Station (from Perkins to Watt Street).

The report notes that the “UDAS report, and further work and analyses will need to be undertaken”.

The report outlines an assessment of design issues around the three identified precincts. No design concept is provided for the transport corridor.

#### Conclusion

The report meets its TOR in providing a design for the Broadmeadow Interchange. The design is the optimal of those presented. However the decision for stair and lift access between platforms and between platforms and the bus interchange will be sub-optimal from a passenger viewpoint. The report suggests that demand is too low for escalators. No supporting evidence of a threshold for demand is provided.

No design concept for the transport corridor is provided. The report does not meet its terms of reference in full in this regard.

***TOR 2. Establish an overall concept cost for retaining the existing service; and  
TOR 3. Establish an overall concept cost for the Broadmeadow Interchange covering capital and operating costs for rail maintenance, buses and infrastructure***

The costing analysis aspects of the report are detailed in Section 4: Project Cost Study. However this report links in with the engineering and operational studies in other reports.

The Base Case option (existing rail line) costing is largely based on previous reports and retains much of the assumptions (and associated review issues identified) of previous work.

Base Case revenues of \$5.67M p.a. are assumed and increased by CPI (as fares increase annually) and a patronage growth expectation of 0.54% p.a.. The Broadmeadow option has a 34% decline in revenue based on patronage forecast but applying a consistent CPI and 0.54% p.a. growth rate. This approach makes the unidentified assumption that closure of the rail line will not affect the growth rate of the rail market.

Train operating costs are estimated for the base case at \$4.67 M p.a. and are stated as those apportioned to the branch line. Overheads for crew and equipment have also been included. These are reduced by a nominal 10% in the Broadmeadow case as a representative saving in fuel and power. It is not clear why such a broad assessment is used. A traditional rail operations costing model would be easily applicable in this case.

It is not possible to undertake a detailed assessment of the validity of the costing analysis without access to the raw data used to compile the reports. On the basis of the reports a reasonably broad analysis of costs has been undertaken.

***TOR 4. Assess the impact, if any, on patronage/revenue as a result of the implementation of the Broadmeadow Interchange***

Section 5 of the report concerns the Patronage Review where patronage and revenue impacts of closure of the line are identified. Demand forecasts are based on a generalised cost model and also by applying an elasticity of demand for the change in generalised cost of travel between the base (existing rail) and option (Broadmeadow option) models.

Table 3.1 shows an assessment of the assumptions made in the generalised cost calculations.

**Table 3.1: Assessment of Identified Generalised Cost Assumptions**

<b>Assumption</b>	<b>Assessment</b>	<b>Details</b>
Fares – No Change	Reasonable	Consistent with the design
Transfer Penalty of 10 mins is applied	Low/Very Low	International experience suggests values much higher than those used. For local travel an average of international evidence would be 13 mins (see Currie, 2005). Values for long distance travel (e.g. travel to Sydney) can be as high as 43-53 mins (see British Railways Board, 1994).
+ 5 mins in vehicle journey time for people transferring from rail at Broadmeadow to use bus to Newcastle	Possibly high/Low	Only a proportion of the market will be travelling to Newcastle. Other travelling to closer station will have lower travel time
+5 mins in vehicle rail journey time to travel between Waratah and Broadmeadow	Possibly high	Seems a high additional time to travel for the Hunter Valley market. The rail operations analysis suggests a 5 minute travel time saving.
Interchange and Waiting Time - +5 minutes to access bus and wait for the bus	Low	Perceptual research suggests passengers weight time walking and waiting by a factor of 2. Hence 5 mins represents an actual time of 2.5 mins. With stairs and access walks this seems a low value to use for both walk and wait times.

Most of the identified assumptions seem low and some high. Overall our assessment would be that the model is likely to considerably under-represent the disadvantages of the forced transfer identified. This would underestimate demand declines in the forecasts made using this model.

In addition to being incorrect some modelling is simplistic. The following should also have been considered:

- Separate times for individual station to station movements should have been considered. The impact of rail closure on travel to Newcastle Station will be different from travel to Civic Station.
- No benefits or dis-benefits resulting from passengers having to walk from bus stops rather than stations within the CBD have been identified.
- Impacts of bus vs rail reliability have not been identified.
- An examination of individual trip origin and destination patterns of displaced rail users would have been a useful way to estimate market impacts.

In addition an important assumption which is missing from the model is the use of ‘mode specific factors’ (often termed mode specific constants). These represent the perceived value of factors when using a train versus a bus excluding direct aspects like direct travel, walk, wait times or fare. Typically it represents intangible ‘soft’ issues such as ride quality, ease of understanding of how to use the system and quality of stations versus bus stops. In general international evidence suggests passengers prefer trains to bus, with all other things being equal. The average of international evidence is that the preference is worth around four minutes of equivalent in vehicle travel time, although values as high as 33 minutes is quoted in the literature (Currie, 2005).

The adoption of a mode specific factor in the modelling would have been highly appropriate because mode substitution was the central focus of the forecast being modelled. Its omission would again act to reduce the scale of the market impacts forecast.

The elasticity of demand applied to the generalised cost model is -0.6 with a sensitivity range of -0.3 to -0.9. This is said to be sourced from 'The Demand for Public Transport: A Practical Guide' which is said to "give a number of values from various studies, with -0.6 being the frequently quoted".

This is a very important parameter since it determines the size of the forecast change in demand. If the costs of travel increase by 10% the parameter (-0.6) results in a forecast of demand of about -6%. If the parameter is larger e.g. -1.0 it would forecast a greater loss of demand (about -10%).

The value of the generalised cost elasticity applied in this case is incorrect. The quoted source ('The Demand for Public Transport: A Practical Guide') does mention -0.6 on a number of occasions however these are generally always relative to the lower end of the range of elasticities or applied in specific markets. To quote from the source:

"Halcrow Fox et al (1993) reported generalised cost elasticities for bus in the range of -0.4 to -1.7, for underground of -0.4 to -1.85 and for British Rail of between -0.6 and -2.0"

A more localised assessment of generalised cost elasticities in the Australasian environment was undertaken by Transfund New Zealand (2003). This concluded, from a range of evidence from 13 studies, that a short-medium term range should be -0.6 to -1.8 whilst a longer term range would be -0.9 to -1.5.

This reviewer concludes from this evidence that the market forecasts of rail closure are substantially underestimated in the TIDC report. The report estimates a demand decline from 9,940 trips (2008) to 6,180 after closure, a decline of 38%. This is based on a generalised cost elasticity of -0.6. A value of -1.0 would be more appropriate to the circumstances of the corridor. This would result in a market decline closer to 60%. - a significantly different outcome. In addition the modelling of passenger impacts is considerably under estimated. This would act to increase the level of market decline above the already adjusted 60% suggested.

From a revenue perspective a forecast of a 34% decline occurs as a result of line closure. It is not clear why this is less than the 38% forecast decline in patronage. Clearly a far greater loss of revenue would be expected if the suggested higher drop in patronage occurs. In addition there is a good case to suppose that most of the patronage lost as a result of the rail closure would tend to be 'higher yield' or full fare paying passengers rather than concession based passengers. The latter tend to have less choice about car versus public transport use and hence have no other options than using a poorer quality transport service. This would act to further increase the revenue loss suggested.

## Conclusion

Patronage forecasts have been provided for the project case as required in the terms of reference. Our analysis suggests these are very broad in nature and simplistic. Incorrect assumptions have been adopted to model passenger impacts of rail closure. Most would act to underestimate demand loss associated with closure. The parameter chosen for the generalised cost elasticity is incorrect. More appropriate values for this parameter would suggest a market decline of the order of 60% rather than

the 38% suggested. Combined with the incorrect modelling assumptions a more realistic forecast substantially above 60% loss in demand might be expected. This is a significantly different outcome.

Revenue forecasts suggest a decline in revenue of 34%. It is unclear why this would be less than the 38% forecast decline in patronage. Revenue loss would be expected to be much higher with the suggested higher drop in patronage which is suggested. In addition it is expected that fare yield will decline further adding to revenue loss beyond that suggested.

***TOR 5. Establish an operations plan for the proposed Broadmeadow Interchange covering both trains and buses***

Sections 6 and 7 of the report detail issues associated with operations.

Sections 6 concerning bus and multi-modal operations plans takes the market forecasts identified in Section 5 and generates peak hour rail flows which are used to estimate bus capacity requirements resulting from rail closure. The assumptions used to create these numbers are not detailed. The forecasts fit within the available capacity of existing bus services.

The concept of a shuttle bus replacing existing bus services at Broadmeadow is quickly discarded. This makes sense based on the evidence provided.

A number of options for bus-rail interchange at Broadmeadow are considered and the Lambton Road Bridge option is preferred. This seems to make sense on the evidence presented. However the assertion that “the travel time of existing bus passengers on the Lambton Road corridor would not be increased” is an exaggeration. The transfer of passengers from rail to bus will increase dwell times at the stations, particularly for passengers with luggage. This will impact bus travel times, although not by a large margin.

The rest of the design inputs for bus and multi-modal facilities appear adequate if somewhat broad. Two small points of view are worth noting:

- There will be a need to protect passengers waiting on the bridge from the elements. There is a danger that this design provides a minimalist solution which is unattractive i.e. passengers waiting on the road side next to traffic on an exposed bridge. The design should seek to provide quality protection from the weather and traffic.
- Kiss and ride facilities are to be provided on both sides of the station. However it is likely that many passenger ‘drop offs’ will occur from cars parked on the bridge which is the natural access point to access platforms. This will conflict with bus movements and parking on the bridge (and may be difficult to avoid).

The rail operations plan (Section 7) examines operations and rollingstock stabling issues associated with the Broadmeadow option.

The rail operations analysis has been undertaken by examining the requirements of the various service types and schedules and establishing a preferred operating pattern for the Broadmeadow facility. A need for timetable adjustments is noted in the preferred plan but these are stated as minor in nature.

The freight train operations section notes a preference for through trains to use the relief lines. A problem of long trains potentially blocking access between the Endeavour Service Centre and

Broadmeadow Station is noted. It is not clear if this issue has been adequately considered. The report suggests that “it needs to be accepted that these are long distance trains and may be susceptible to late running”. It is unclear if there is an adequate allowance for the issue in the operations plan. The potential impacts of the plan on the reliability and travel time of long distance freight trains are issues of national significance as evidenced by current Federal transport policy.

Following the site visit of Broadmeadow the following additional points are made:

- The northern entrance to Lambton Road Bridge is a curved road. Traffic was observed to traverse this bend at high speed. There are likely to be concerns about the sight distances for buses emerging from the proposed bus interchange and potential traffic conflicts and safety issues. Buses are relatively slow to emerge from a standing position, particularly if they have to pass other buses parking in a parallel fashion to the kerb (as is proposed). Care needs to be taken to ensure safety for buses in this design. No consideration of this significant issue is made in the reports.
- The same road curve issue and sight distances are also a concern for pedestrian crossing of the road. To avoid this the road barriers will have to be erected. These could be a safety concern for traffic. No consideration of these significant issues is made in the reports.
- Substantial numbers of school children use Broadmeadow station in the peaks. Some 100 children waiting for a single train were counted during the site visit. It is in the nature of unsupervised school children to be a disruptive influence on station order. If large numbers of long distance passengers with luggage are combined with this volume of school children (as is proposed) this would not be a promising basis for ‘seamless’ interchange when loading and unloading trains at Broadmeadow. Again this issue does not seem to be noted in the report.
- Significant traffic congestion was observed on Lambton Road Bridge during the site visit. This included a tail back of traffic queuing from the Chatham Road intersection (to the East) for some 500 metres with queues reaching across the bridge itself. This is clearly not a desirable feature for the proposed interchange on the bridge. Whilst this may only be a peak period issue, the road traffic peak coincides with rail travel peaks and hence will exacerbate peak rail problems (as well as issues of on road traffic congestion). Again no mention of these issues is apparent in the reports.

## Conclusion

The operations analysis for bus and rail services meets the requirement for operations design in the terms of reference. A few operations questions have been raised which cannot be addressed through a review of reports alone. Significant safety issues have been identified which also need to be addressed. It is unclear if adequate allowance for freight train access has been provided.

While the bus operations plan has considered access issues to the interchange (as required in its terms of reference) an important set of network planning assumptions have been pre-supposed and not stated in this report. Currently it is possible to travel by bus from all parts of the Newcastle urban area to catch rail at the CBD stations. Upon removal of rail from these stations only use of existing services, notably those using the Lambton Bridge corridor are assumed to provide a replacement to rail. This is an important assumption to make and one which has considerable implications for the ease of use of Hunter region rail services after the proposed line closure. It means that most of the residents of Newcastle who do not live or work near the Lambton Road corridor bus services will have to travel by bus to transfer to a connecting bus and then transfer again to rail at Broadmeadow i.e. two transfers will be required. This phenomenon will affect most of the Newcastle region since the Lambton Road corridor bus services cover only a small proportion of the City. The alternative would be to redesign Newcastle bus services to feed to Broadmeadow as well as to the CBD. This would either cost a great deal to achieve and/or would require redistribution of bus resources within the city including some

reduction in service levels in parts of the city. Clearly none of these issues have been considered (although they are not directly required of the terms of reference).

***TOR 6. Identify the extent of the Railcorp holdings along the Newcastle Branch line corridor and assess the extent and value of the land available for redevelopment***

This work is undertaken in Section 8: Land Assessment and Development Report. This identifies 38 surplus sites on the existing rail corridor and makes a value estimate of current market value of \$24.25M. Several pockets of land were identified and valued which could be sold without affecting rail operations. Estimates assume rezoning of land.

The same report examines improvement values for works associated with the Urban Design Advisory Service program.

Based on the evidence provided it seems to meet the requirements of its brief.

***TOR 7. Undertake an initial assessment of the environmental factors and provide advice on planning issues associated with the proposal, factoring in the Minister's commitment to preservation of a transport corridor into Newcastle***

This term of reference is addressed in Section 9: Environment and Planning Review. A wide range of impacts are considered and the scale and types of impact outlined. A major problem in identifying if the terms of reference have been met is that the terms ask for an 'initial' assessment and not a 'full' assessment. Hence it is a vague and broad requirement which might be met with the weakest coverage of the issues. Identifying what the term 'initial' means is a key issue of relevance to the assessment of this requirement.

The socio-economic impacts of the rail closure are outlined in the briefest terms with no quantification of impacts. Positive and negative factors are noted but no overall conclusion of net impact identified. Some aspects of impacts are omitted or hardly covered:

- The reduced accessibility to the CBD for elderly and physically impaired passengers is not developed far. In practice an interchange to bus at Broadmeadow will be a significant issue for a wheelchair bound passenger.
- Parking impacts concern the opportunities for utilisation of car parks at closed railway stations. No mention of the impacts of increased demands for CBD parking is mentioned or how this will impact on road congestion.

A range of other impacts are noted in the briefest detail but are consistent with the requirement to provide an initial assessment of the impacts. Planning regulation issues are also identified.

***TOR 8. Prepare a delivery plan and program for implementation.***

Section 10 of the report: Delivery Strategy and Program covers the main elements of this requirement. A 36 month time frame is identified including a 12 month construction phase. The delivery plan and program are presented in the broadest terms with little detail.

**Summary of Assessment – TIDC Report Meeting TOR**

Table 3.2 provides a summary of the assessment regarding the TIDC report on the Broadmeadow Interchange Feasibility Study. In general most of the requirements of the brief have been met. However there are some serious errors with the demand forecast. Also the report lacks detail and coverage in some areas.

**Table 3.2: Summary Assessment – Did the TIDC report Meet the Requirements of Its Terms of Reference?**

<b>Terms of Reference</b>	<b>Assessment</b>	<b>Notes</b>
1. Establish a design concept of the Broadmeadow Transport Interchange and the transport corridor from Hamilton to Newcastle	Meets requirements of terms of reference	Need for stair/lift access between platforms and between platform and bus interchange will be a negative feature of the design.
2. Establish an overall concept cost for retaining the existing service	Meets requirements of terms of reference	
3. Establish an overall concept cost for the Broadmeadow Interchange covering capital and operating costs for rail maintenance, buses and infrastructure		
4. Assess the impact, if any, on patronage/revenue as a result of the implementation of the Broadmeadow Interchange	A forecast is made but seriously underestimates demand/revenue decline	Forecasts are simplistic and broad. Forecasts suggest a 38% decline in rail usage in the corridor. Incorrect assumptions are adopted. A more appropriate forecast might be considerably above a 60% decline using reasonable parameters for these circumstances.
5. Establish an operations plan for the proposed Broadmeadow Interchange covering both trains and buses	Meets requirements of terms of reference	Some questions have been raised regarding aspects of design. A major undisclosed assumption is that Lambton Road corridor buses will replace rail. This means most Newcastle residents will have to use two buses to access Broadmeadow.
6. Identify the extent of the Ralcorp holdings along the Newcastle Branch line corridor and assess the extent and value of the land available for redevelopment	Meets requirements of terms of reference	
7. Undertake an initial assessment of the environmental factors and provide advice on planning issues associated with the proposal, factoring in the Minister’s commitment to preservation of a transport corridor into Newcastle	Meets the very broad and open requirements of terms of reference	Some environmental issues not addressed e.g. car parking demand increases in the CBD, accessibility issues for aged and disabled persons.
8. Prepare a delivery plan and program for implementation.	Meets requirements of terms of reference	A brief outline assessment given.

**3.4 Economic Impact of Rail Closure in Newcastle**

This report aims to assess the potential economic impact of removal of the rail line from Broadmeadow to Newcastle. The study does not address whether or not the line should be closed, rather it concerns the potential impact if it is closed. The terms of reference from the brief require:

1. The types and mix of buildings/developments that could realistically be built in the CBD area freed up as a result of any decision to remove the rail line;
2. Views on what viable businesses/developments could be constructed over this timeframe, their estimated costs of construction, estimated infrastructure costs and the projected timeframe for the developments;
3. Commercial construction development – the development of hotels with a waterfront view may attract tourists. Other commercial developments may generate rental income;
4. Government and business expenditure entailed in the construction of new developments;
5. Potential rates revenue to the local council;
6. Zoning issues and any council regulations that attract development;
7. Residential housing development/apartments – this may lead to increases in values of land in front of the water and may be a driver for developers;
8. The State Government's commitment to retain a transport corridor;
9. Recognition of appropriate open space for the public;
10. Assumptions detailed;
11. Economic impact to include additional direct and flow on jobs created over the medium to long term, types of jobs created, and projected downstream impacts on tourism;
12. The once off construction impacts;
13. The economic impact of loss of patronage.

The review of this report follows the report structure rather than the terms of reference. The extent to which terms of reference are covered is identified at the end of the review.

### ***Chapters 1-3 Preliminaries***

Chapters 1 to 3 of the report summarise previous studies, much of which has already been covered in this report.

### ***Chapter 4 Property Value Impact of Closure***

The report details several examples of 'property value capture' resulting from upgrades of transit systems. It identifies a key question: does this conventional wisdom (that railways cause economic benefits) apply in the Newcastle case?

The report quotes Dupont Fagan Valuers (DFV) who note the relationship between accessibility and property values. They argue the Honeysuckle Development Area is divorced from Newcastle because of the physical barriers of the railway line because of two main issues:

- Lack of accessibility – access ways are narrow which affects the attractiveness of the development sites; and
- Lack of built form – only more accessible parts of the development area have been developed due to lack of access.

The report goes on to quote DFV estimates of property value increases if the rail line is closed and improved rail crossing access provided. It also suggests that the TIDC report (Section 8) provides evidence that land values would increase as a result of rail closure and hence that economic benefits would result. To quote the consultant:

“Both reports indicate an increase in property values if closure occurs – driven by the opportunity for businesses that would benefit and the development opportunities for property owners and developers.”

Effectively the economic report adopts the premise that “property values will increase if the rail line closes”. The “evidence” of the TIDC report and the DFV report are used as the basis for the economic benefits which are then estimated.

This reviewer’s assessment is that the report’s assertion that “both reports indicate an increase in property values if closure occurs” is not at all as clear as is suggested. Following discussion with Dr McFarling the reviewer has been provided with a copy of the DFV report which was obtained as a result of a ‘freedom of information’ request. This document has been reviewed and it is noted that:

- The DFV report does not base land value growth on removal of rail from the corridor as is proposed in the consultant’s report
- The valuation is based on two things:
  - a. Provision of three new railway crossings; and
  - b. Replacement of the present railway with light rail.

The consultant’s report fails to note the substantial investment in urban light rail which is being included in the DFV assessment. Benefits are assumed to be solely due to the removal of rail rather than upgrading rail - a substantially different interpretation of the facts and a misleading representation in the economic report.

This reviewer can also confirm that the use of the TIDC report as a basis for the assessment of economic benefits is also very misleading. This is expanded in relation to the next chapter.

### ***Chapter 5 Economic Impact of Removal of Physical Presence of the Railway Line***

This chapter notes small CBD land value declines between 1991-2000 and recent substantial increases between 2000-2003 (98.4%). It would appear that the rail service has not had sufficient impact to stop urban land value growth. However this is not commented on in the report.

A consistent long term growth in CBD employment is also noted.

The opening up of the harbour area to the CBD is purported to act as a catalyst for growth. The Sydney Darling Harbour and Melbourne Docklands Developments are quoted as examples where such economic benefits accrue. No mention is made of the substantial upgrades in transit access to these sites which are associated with these developments (the Sydney Monorail and Light Railway and the Melbourne Tram Extensions). In both cases it was seen as an essential part of the development project that public transport access between the CBDs and the development be enhanced. Car access is clearly inappropriate in these conditions due to parking and congestion issues. Rather the report assumes removing a transit system will assist in the development of these areas. This does not seem to make sense.

The fundamental basis of the economic benefit assessment is then undertaken. This has the following components:

- a. The report adopts an estimate of land value growth resulting from rail closure from the TIDC report. The consultant quotes an estimate that a 78% increase in property value will occur and state that this comes from the TIDC report.
- b. The consultant then assumes this value will occur throughout the CBD.
- c. The consultant adopts the assumption that employment will increase by 20% of the increase in property value, based largely on recent historical employment and property trends. The result is a suggested 16% increase in total CBD employment.
- d. The consultant then states they are making a ‘conservative approach to forecasts’ by assuming only a 10% increase in CBD employment (rather than the 16% suggested by their assumptions a, b and c above).
- e. Based on the above an additional 1,681 jobs is forecast
- f. This is then used to suggest a ‘flow on’ effect to the economy of \$300M in turnover and a region wide increase of 3,041 jobs in total.

This approach is extremely weak and is incorrectly applied:

1. The TIDC report in section 8 estimates the value of existing rail land. It estimates value with current rail operations at \$24.25M. Most of this is surplus land which could be sold without affecting current rail operations. In addition if the line is closed properties such as Newcastle Station could be sold off. A value estimated at \$17M (deferred for 5 years) is made by the TIDC report. Other station land assuming rail closure could be worth an additional \$8.25M making an estimated \$25M in total increase in the value of rail land if the line was closed and station land developed.
2. It is unclear where the consultant’s report of 78% increase in land value has come from. No 78% growth is quoted in the TIDC report and the values noted above come to over 100%.
3. Of more concern is how the TIDC land value growth estimate is applied. The TIDC quoted ‘estimate’ of 78% is applied for the whole of the CBD in the consultant report. This is highly inappropriate because the land value released by using Newcastle station for purposes other than rail will have significantly greater impact on land values than rail closure would on CBD properties by affecting accessibility to the core of the CBD. The large majority of CBD properties will receive no accessibility benefits at all from rail closure since they are already located in parts of the CBD where rail is not acting to reduce accessibility. To assume accessibility benefits equate to the value of selling a station is a gross misrepresentation of economics effects. To then apply this on a CBD wide basis is equally irrational.
4. The consultant then assumes that 20% of the growth in property values would be an estimate of employment growth. This is based on historical data presented showing increases in employment and property values. Unfortunately this assumption is also very weak since the data they quote also shows property value decline whilst employment increases in the earlier dates quoted in the same data set.

Overall the approach used to estimate economic benefits is invalid. Secondary data is falsely represented and invalid and misleading assumptions adopted. The negative implications on accessibility of rail closure are not considered.

### ***Chapter 6 Potential Impacts of Closure on Travel Patterns of Rail Patrons***

The report notes that closure of the line will create new demand patrons for travel. Much secondary evidence is presented including the TIDC forecasts of patronage impacts of rail line closure. This leads to the conclusion that some loss in CBD shopping will occur due to the rail closure however this is not expected to be significant (less than 1%).

The report assumes there will be no employment impacts of removing the railway. This is incorrect although it is true that employment impacts would be modest.

There is no consideration of CBD parking demand impacts of rail closure in the work. Impacts on CBD traffic congestion are also ignored. The impact of congestion on the attractiveness of Newcastle CBD compared to out of town destinations is not considered.

The report does not consider longer term impacts of increased car ownership and hence traffic congestion in the region. This is an important issue since it is clear that congestion is already a concern of the Newcastle Peninsula and that there are parking issues in the area. The opportunities to increase parking and also road capacity access are likely to be limited. These issues are not mentioned.

Finally the report does not consider the longer term impact of branch line closure on the Hunter Region passenger rail service in total. With the substantial patronage decline which is likely to result it is quite likely that the viability of the Hunter Line and the North Coast line may be questionable when the branch line is closed. The Newcastle CBD stations are clearly the most important parts of the Hunter rail system. Cutting off the ‘head’ can often have severe implications for the ‘body’ of the rail system. If the Hunter passenger rail system were to close it would have significant wider economic impacts on the region which are not considered in the consultant report.

### ***Chapter 7 Net Economic Effect***

The net economic effects are identified as highly positive.

### ***Overall Assessment - Meeting the Reports Terms of Reference***

Table 3.3 presents a summary of the assessment of the report in relation to the degree to which it met its terms of reference.

**Table 3.3: Summary Assessment – Did the Economic Impact of Rail Closure in Newcastle Report Meet the Requirements of Its Terms of Reference?**

<b>Goals/Terms of Reference (Numbered)</b>	<b>Assessment</b>	<b>Notes</b>
Goal - to assess the potential economic impact of removal of the rail line from Broadmeadow to Newcastle	Yes	Assessment is broad, simplistic and incorrect
1. The types and mix of buildings/developments that could realistically be built in the CBD area freed up as a result of any decision to remove the rail line;	Yes	
2. Views on what viable businesses/developments could be constructed over this timeframe, their estimated costs of construction, estimated infrastructure costs and the projected timeframe for the developments;	Included	Based on secondary evidence which is incorrectly quoted and misrepresented
3. Commercial construction development – the development of hotels with a waterfront view may attract tourists. Other commercial developments may generate rental income	Included	Based on secondary evidence which is incorrectly quoted and misrepresented
4. Government and business expenditure entailed in the construction of new developments	Included	Covered in only the broadest sense
5. Potential rates revenue to the local council	Not Included	No mention of this in the report
6. Zoning issues and any council regulations that	Considered	Not specifically mentioned

**Table 3.3: Summary Assessment – Did the Economic Impact of Rail Closure in Newcastle Report Meet the Requirements of Its Terms of Reference?**

<b>Goals/Terms of Reference (Numbered)</b>	<b>Assessment</b>	<b>Notes</b>
attract development		but is considered
7. Residential housing development/apartments – this may lead to increases in values of land in front of the water and may be a driver for developers	Mentioned	Is identified in the final chapter
8. The State Government’s commitment to retain a transport corridor	Mentioned	Noted in the introduction
9. Recognition of appropriate open space for the public	Not Mentioned	No mention of this in the report
10. Assumptions detailed.	Yes	In general these are covered
11. Economic impact to include additional direct and flow on jobs created over the medium to long term, types of jobs created, and projected downstream impacts on tourism	Yes	Included but based on incorrect assumptions. No consideration of employment loss or the impacts of increased road congestion.
12. The once off construction impacts	Mentioned	
13. The economic impact of loss of patronage	Mentioned	No employment impacts considered

In general most of the terms of reference have been met though not all. However the scope of coverage of impacts was weak and based on misrepresentation of secondary evidence. No consideration of employment impacts of rail closure or the secondary impacts of associated traffic congestion and parking demand growth in the CBD are provided. The longer term impacts of these issues in an economy with growing car usage are important to the economic sustainability of the region. The long term viability of passenger rail in the Hunter is not considered.

Another major concern of the economic review is in the focus of the terms of reference on only rail closure. This omits any opportunity to consider ‘conventional wisdom’ of rail land value capture. The report makes note of the opportunities to develop a harbour side development associated with a CBD much like Melbourne Docklands and Sydney’s Darling Harbour. However it does not note that in both these cases significant investments in public transport infrastructure were undertaken (The Sydney monorail and light rail and the Melbourne tram extensions). The need for high quality public transport links between the development and the CBD was seen as essential in the Melbourne and Sydney examples but not in the case of Newcastle. Rather in the economic report, and the wider study reports reviewed, it is assumed that rail closure will assist in these developments.

### **3.5 Criteria Provided by the Central Consultation Group**

The terms of reference for this review require that the reports be reviewed in relation to the direction by the Ministry of Transport to consider criteria provided by members of the Central Consultation Group.

Finding 18 of the Third Report of the LHTWG was that the Government coordinate a whole of government response to the Working Groups findings in Reports 1, 2 and 3”. The Central Consultation Group included representatives of Local Government and other organizations, and was chaired by the Director of Community Transport Division, Ministry of Transport.

A range of criteria identified by the Central Consultation Group in relation to the study. These were sourced from:

- Letter to Director, Community Transport Division, Ministry of Transport, June 2004 from Group Manager City Strategy, City of Newcastle “Specification for Broadmeadow Interchange Feasibility Study”
- Letter to Director General, Ministry of Transport, 18<sup>th</sup> June 2004 from Group Manager City Strategy, City of Newcastle “Lower Hunter Integrated Transport Plan”
- Broadmeadow Interchange – Advice Received from Central Consultation Group Members.

Table 3.5 identifies the criteria which were not considered in the consulting reports reviewed. It also identified items only partly considered. There are many of these. However many criteria identified were covered in the analysis.

**Table 3.4: Summary Assessment – Did the Consulting Reports Consider Criteria for the Studies Identified by the Central Consultation Group? – Items NOT or only Partly Considered Identified**

<b>Terms of Reference</b>	<b>Assessment</b>	<b>Notes</b>
Public transport model required to undertake the study	Not Included	Studies note this was not ready yet
Need to examine a wider range of alternative transport options	Not Included	Rail closure was the main focus of all the studies
Commercial development to be considered as part of the interchange	Not Included	
Analysis of impacts on vehicular and pedestrian movements including modelling of patronage targets up to 20%	Not Included	
Full consideration of the impacts of travel time of public transport users in the region	Partly included	Results are not clear and undertaken at very broad level
Feasibility study should include social impact assessment, notably in relation to impacts on residents of Broadmeadow, and those with changed travel patterns	Partly included	Again only the broadest mention was made of these issues
Concept of linking the study to a Lower Hunter Integrated Transport Plan	Not Included	No mention of an integrated plan is made in the reports
Consideration of sustainable transport target of 20% mode share to public transport	Not Included	
Consider pricing and regulation policies	Not Included	
The project should not increase travel times	Not Included	All evidence from the reports is that significant increases in travel times and cost will occur
Economic benefits of retention are explored	Not Included	No benefits considered
Look at Light Rail in the region	Not Included	
Study should revisit all options in the feasibility study to check they are still viable	Not Included	
Need for a seamless rail to bus interchange	Not Included	Stairs and a lift access are used.
Need to define the objectives of the interchange	Partially included	No statement of objectives has been fully included
What is the direct cost revenue balance (financial impact) on Railcorp of the measures	Partially included	Not directly noted in the reports but some elements are included
What is the financial impact on the viability of regional rail in the Hunter Valley		
Refinement and review of costing analysis	Partially included	
Consideration of access issues by users e.g. elderly, youth disabled, people with prams etc	Partially included	In the broadest and outline terms

## 4. RAIL CLOSURE DECISIONS AND THE METROPOLITAN STRATEGY

### 4.1 Terms of Reference

The terms of reference of the study requires a review on the State Governments decision to close the Newcastle Branch Line in terms of its consistency with the Metropolitan Strategy. The document reviewed in this case is:

Department of Infrastructure Planning and Natural Resources (2004) ‘Metropolitan Strategy Planning for a Better Future’ Discussion Paper Sydney Greater Metropolitan Region September 2004

### 4.2 Consistency with the Metropolitan Strategy

Table 4.1 presents selected elements of the Metropolitan Strategy which are of relevance to the proposed closure of the Newcastle Rail Line. It also includes an assessment of the consistency of planning for the rail line closure in relation to these.

In general it is difficult to assess the metropolitan strategy because it does not seem to make any commitments or identify any clear directions for policy. Rather global terms such as “managed or balanced growth” are used without saying what this means. Another good example is ‘strengthening the regions’. It mentions priority actions and ideas in this context without saying what these are.

**Table 4.1 : Assessment of Consistency Between Selected Elements of the Metropolitan Strategy and Rail Closure Decisions**

<b>Selected Elements of the Metropolitan Strategy</b>	<b>Assessment</b>	<b>Notes</b>
Direction 3 Manage Growth and Value Non-Urban Areas – means limiting urban sprawl and directing growth to growth centres – non urban land is protected	Poor consistency	Removal of the railway will considerably degrade the rail service and encourage car dependence. Improving the railway is consistent with urban densification objectives and encouraging growth in ‘growth centres’
Direct 4 Build Livable New Communities – including access to reliable public transport	Poor consistency	Heavy rail is often considered the highest quality of public transport. Removal of this can reduce the viability of the rest of the regional service.
Direction 5 Review Existing Areas – New housing planning in existing areas with good public transport access		
Direct 6 Strengthen Employment Centres and Precincts – Jobs need to be handy to transport	Poor consistency	Rail is currently highly accessible. Little consideration of the future sustainability of car access in the area
Direction 7 Connect Centres with Transport Network – need to connect jobs and services with people	Poor consistency	Removes a significant connection and relies on potentially unsustainable car access

In general the major points of poor consistency between rail closure and the Metropolitan Strategy concern the sustainability of relying on future car access to the area and the substantial reduction in service quality by public transport which will result. In short there is a gap between closing the line and the sustainability of non-rail transport strategies in the region.

## **5. CONCLUSIONS**

This report is an independent review of the documented analysis which has been used as a basis for the NSW State Government's decision to close the Newcastle Branch Line.

### **Reports of the Lower Hunter Transport Working Group**

The reports of the Lower Hunter Transport Working Group are clearly limited in meeting the objectives which they were given. They display a bias in favour of consideration of the closure of the rail line to Newcastle in exclusion of almost anything else. A small part of this bias may be explained by the large number of studies and inquiries regarding bus services in NSW which the reports deferred to. Despite claims in the reports that their focus was identifying options to improve public transport, no options have been considered which improve services to passengers.

A wider number of claims have been made about the accuracy of the analysis included in the reports. In general these seem plausible although it is difficult to corroborate all assertions using the data available.

### **Consultant Reports**

The consultant reports reviewed concerning the planning for the proposed Broadmeadow interchange in general meet their terms of reference. However significant issues associated with the safety of the interchange design have been identified and are not addressed in the planning documents. In addition the demand and revenue forecast which suggests rail demand will reduce by 38% (and revenue 34%) are found to be flawed. A more appropriate adoption of conventional planning practices for an interchange of this type would suggest a decline well over 60% and larger impacts than forecast in reducing farebox revenue.

In general most of the terms of reference of the economic impact assessment of rail closure have been met though not all. However the scope of coverage of impacts was weak and based on misrepresentation of secondary evidence. No consideration of employment impacts of rail closure or the secondary impacts of associated traffic congestion and parking demand growth in the CBD are provided. The longer term impacts of these issues in an economy with growing car usage are important to the economic sustainability of the region. The long term viability of passenger rail in the Hunter is not considered.

Another major concern of the economic review is in the focus of the terms of reference on only rail closure. This omits any opportunity to consider what the report agrees is 'conventional wisdom' that rail services can increase land value. The report makes note of the opportunities to develop a harbour side development associated with a CBD much like Melbourne Docklands and Sydney's Darling Harbour. However it does not note that in both these cases significant investments in public transport infrastructure were undertaken (the Sydney monorail and light rail and the Melbourne tram extensions).

### **Directions to Consider Views of the Central Consultation Group**

This report also reviewed the consultant reports from the perspective of the direction from the Ministry of Transport to consider the views of the 'Central Consultant Group' in its work. Many issues

identified by this group were not considered and others only partly included. Some were covered in the work.

### **Consistency with the Metropolitan Strategy**

Finally the review has examined the consistency of the rail closure from the context of the Metropolitan Strategy. In general major points of poor consistency were identified. There is a substantive gap between the desires in the Metropolitan strategy for Growth associated with quality public transport and the poor sustainability which will result if rail services are closed and car dependency encouraged.

### **Reports Impacts on High Quality Sustainable Public Transport in the Lower Hunter**

The proposed Broadmeadow option including closure of the Newcastle Branch line will considerably reduce the rail travel market in the Hunter region. The viability of the remaining Hunter passenger rail service will be reduced since effectively the ‘head’ of the rail system will be removed from its ‘body’. The design of Broadmeadow interchange is in general a feasible low cost and low quality means of undertaking the rail closure option although important safety and quality issues remain with this design.

In short the impact of the proposal on high quality sustainable public transport is negative. Increased car dependence and transport disadvantage will result for the people of the Hunter region.

### **Closing Comments**

The term ‘sham’ has been used to describe the analysis which has been used to assist the NSW State Government make its decision to close the Newcastle Branch line. This is a colourful description of events which implies premeditation. This reviewer is unable to comment on such issues however it is clear that an assessment of the facts presented suggests that rail closure was favoured in the analysis and that wider options were not objectively considered. In addition there are significant errors, misrepresentations and omissions in the technical work. It is at least highly suspicious that in almost every case these act to make rail closure seem more attractive and retaining the line less attractive.

The State Government has every right to review the future of expensive rail services and to test and evaluate options for improved performance. This is how the general public can be assured of value for money in the taxes they pay for the services they demand. However this reviewer is surprised at the minimalist level of analysis displayed in the work presented. Each of the reports reviewed admitted to presenting preliminary and outline assessments but these were nevertheless used to make substantive decisions involving potentially hundreds of millions of dollars.

The passenger rail services in the Hunter region are a high quality feature of the regions public transport system. Many cities of substantially greater size than Newcastle lack rail services of this scale and would covet the opportunity for such a substantive resource as a means for providing sustainable transport into the future. Newcastle is clearly gifted in the physical and natural resources it possesses. It is unfortunate that its sustainable transport system is to be discarded so easily based what can be factually identified as biased, flawed and misrepresented advice.

# **APPENDIX A : LIST OF MATERIAL REVIEWED**

**List of Material reviewed:**

- Broadmeadow Transport Interchange Feasibility Study (TIDC, November 2004)
- Broadmeadow Interchange – Advice Received from Central Consultation Group Members
- Department of Infrastructure Planning and Natural Resources (2004) ‘Metropolitan Strategy – Planning for a Better Future’ Discussion Paper Sydney Greater Metropolitan Region September 2004
- Dupont Fagan Valuers (2000) ‘Impact of Improved Access across the rail corridor to the Honeysuckle Land’ October 2000
- Economic Impact of Rail Closure in Newcastle (GHD, November 2004).
- Letter to Director, Community Transport Division, Ministry of Transport, June 2004 from Group Manager City Strategy, City of Newcastle “Specification for Broadmeadow Interchange Feasibility Study”
- Letter to Director General, Ministry of Transport, 18th June 2004 from Group Manager City Strategy, City of Newcastle “Lower Hunter Integrated Transport Plan”
- Lower Hunter Transport Working Group – First Report – 19 September 2003
- Lower Hunter Transport Working Group – Second Report – 21 November 2003
- Lower Hunter Transport Working Group – Final Report – 22 December 2003
- McFarling BR (2005) ‘Financial and Transport Performance of the Newcastle Rail Line’
- Pengilley W (2005) ‘An Analysis of the Newcastle Rail Position and the recommendations of the Lower Hunter Transport Working Group’ prepared as background material to a meeting of the Australian Labour party, Newcastle Branch, 5 January 2005
- Pengilley W (2004) ‘The Railroading of Newcastle Rail’ text of an address given to a public meeting held at Maitland Town Hall, 10 March 2004

**References:**

- Balcombe R Mackett R Paulley N Preston J Shires J Titheridge H Wardman M White P (2004) ‘The Demand for Public Transport; A Practical Guide’ TRL Report TRL593
- British Railways Board (1994) ‘Passenger Demand Forecasting Handbook’ June 1994.
- Currie G (2005) ‘The Demand Performance of Bus Rapid Transit’ Journal of Public Transportation Vol 8 No 1 2005
- Transfund New Zealand ‘Passenger Transport Demand Elasticities’ Wellington NZ January 2003

# **APPENDIX B : LIST OF PEOPLE CONSULTED**

**List of People Consulted**

<b>Person</b>	<b>Affiliation</b>
Natalie McCabe	Review Contract Manager City of Newcastle
Warren Pengilley	Interested Party and Author of Reports/Views on the Proposed Closure
Bruce McFarling	Interested Party and Author of Reports/Views on the Proposed Closure
Len Regan	Local Public Transport Consultant